AQUIND Limited

AQUIND INTERCONNECTOR

Environmental Statement – Volume 3 – Appendix 18.1 Preliminary Risk Assessment and Generic Quantitative Risk Assessment

The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(a)

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

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1.1. INTRODUCTION AND OBJECTIVES

1.1.1. AUTHORISATION

1.1.1.1. WSP was instructed by AQUIND Limited ('the Applicant') to undertake a Preliminary Risk Assessment ('PRA') and a Generic Quantitative Risk Assessment ('GQRA') along the route of the Proposed Development.

1.1.2. PROPOSED DEVELOPMENT

1.1.2.1. This report has been prepared on behalf of AQUIND Limited (the 'Applicant') to support an application (the 'Application') for a Development Consent Order ('DCO'). AQUIND Interconnector is a proposed electricity Interconnector between France and the UK. The Application for the DCO is made in respect of the UK elements of AQUIND Interconnector (referred to as the 'Proposed Development').

1.1.2.2. The Proposed Development is described in detail in Chapter 3 (Description of the Proposed Development) of the Environmental Statement ('ES') Volume 1 (document reference 6.1.3).

1.1.2.3. The Onshore Components of the Proposed Development comprise the Converter Station, the Onshore Cable Corridor and the Landfall. The Onshore Cable Corridor has been split into 10 sections for ease of reference.

1.1.3. OBJECTIVES

1.1.3.1. The objectives of the combined PRA and GQRA are to develop a conceptual ground model for the site and to identify potential constraints and opportunities with respect to ground contamination, which may impact on the proposed Onshore Cable Corridor.

1.1.4. INFORMATION SOURCES

1.1.4.1. The following sources of information have been used in the production of this report:

- Landmark Envirocheck Reports (Ref: 121347347_1_1 and 121347331_1_1);
- BGS Map Sheet 316 – Fareham (1:50,000, 1998) and Map 331 – Portsmouth (1: 50,000, 1994);

- BGS Geology of Britain Viewer (accessed October 2018);
- Natural England Multi-Agency Geographic Information for the Countryside (MAGIC) website (accessed June 2018);
- EA website (accessed October 2018);
- Consultation with the Environment Agency ('EA') and local authorities;
- AQUIND – UK Cable Route Detailed Desk Study Route 3D, prepared by WSP dated June 2017;
- AQUIND – UK Cable Route Addendum Desk Study – Route 3D, Deviations, prepared by WSP dated June 2018;
- Environmental Review and Desk Study Report, reference 13578DS prepared by RSA Geotechnics Ltd dated June 2013;
- AQUIND – UK Cable Route Milton Common – Initial Ground Investigation Findings, prepared by WSP dated October 2018;
- AQUIND – UK Converter Station Ground Investigation – Geotechnical Interpretative Design Development Report, prepared by WSP dated May 2019; and
- AQUIND – UK Route, HDD and Landfall Ground Investigation – Geotechnical Interpretative Design Development Report, prepared by WSP dated May 2019.

1.1.5. REGULATORY CONTEXT AND GUIDANCE

1.1.5.1. The Ground Investigation Report ('GIR') has been has been prepared with due regard to Contaminated Land Guidance documents issued by the Department for Environment, Food and Rural Affairs ('DEFRA') including Contaminated Land Report 11 (CLR11) and in general accordance with the British Standard BS EN 10175 "Investigation of potentially contaminated sites – Code of Practice" and BS5930:2015 "Code of Practice for ground investigations". The methods used follow a risk based approach, with the potential environmental risk assessed qualitatively using the 'source-pathway-receptor contaminant linkage' concept to assess risk as introduced in the Environmental Protection Act 1990 (HM Government, 1990).

1.1.5.2. Legislation and guidance on the assessment of potentially contaminated land acknowledges the need for a tiered risk based approach. This assessment represents a GQRA and comprises a comparison of site contaminant levels against generic standards and compliance criteria including an assessment of risk using the source-pathway-receptor model.

1.1.6. CONFIDENTIALITY STATEMENT AND LIMITATIONS

1.1.6.1. This report is addressed to and may be relied upon by the following parties:

- AQUIND Limited

1.1.6.2. This report shall not be relied upon or transferred to any other parties without the express written authorisation of WSP. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party.

1.1.6.3. This report needs to be read and used in full. General limitations of the assessment are included in Appendix B.

1.1.6.4. During the ground investigation completed in 2018 by WSP explosive and radioactive materials were not tested for as these were scoped out of the assessment as begin a negligible risk.

1.1.6.5. Risk arising from Unexploded Ordnance ('UXO') has not been discussed as part of this assessment as this is considered to be a health and safety concern rather than a risk to receptors (humans, controlled waters and below ground services) from

1.1.6.6. contaminated land.

1.1.6.7. Ground stability has been scoped out of this assessment as ground stability does not cause a risk to receptors (humans, controlled waters and below ground services) from contaminated land and has been covered in more detail within the geotechnical reports produced by WSP.

Further details regarding ecology can be found within Chapter 16 (Onshore Ecology) of the ES Volume 1 (document reference 6.1.16) of the ES. Further details on groundwater and surface water can be found within Chapter 19 (Groundwater) and Chapter 20 (Surface Water Resources and Flood Risk) of the ES Volume 1 (document references 6.1.19 and 6.1.20).

2. PREVIOUS REPORTS

2.1.1.1. WSP has obtained previous land quality assessments for the Onshore Cable Corridor. A summary of pertinent information contained in the reviewed reports is provided below.

2.2. MILTON COMMON (SECTION 8)

2.2.1.1. WSP has been provided with information regarding two previous ground investigations conducted at Milton Common (Section 8) during the mid-1990s. Relevant information taken from these are summarised below.

2.2.2. MILTON LAKE GROUND INVESTIGATION AND RISK ASSESSMENT, PARKMAN BUCK LTD. MAY 1994 (REF:11314/OR1/1C

2.2.2.1. Parkman Buck Ltd ('PBL') was commissioned by Portsmouth City Council to undertake an intrusive ground investigation and contamination survey of the 'Milton Lake' site with the aim of gathering information on potential risks posed by landfilled materials to Site users and residents, including risks from landfills gas.

2.2.2.2. The PBL site investigations were carried out between January and March 1994 and included the following:

- 144 mechanically excavated trial pits (41 of which were installed for gas monitoring, including a concrete seal at surface);
- 33 window sampler boreholes (23 of which were installed for gas monitoring).
- 19 gas probes (comprising perforated steel tubing / installations with a cement/bentonite seal at surface);
- An initial ground gas monitoring programme including eight monitoring rounds performed over a 12-week period; and
- Five Gresham tube samples were taken from monitoring locations exhibiting elevated as reading.

Key Results

- Made Ground was identified in all exploratory locations, typically comprising over 4m of 'degrading domestic refuse'.
- The Made Ground was highly variable, including various putrescible materials such as wood, paper, textiles and cardboard, alongside assorted inert substances (brick, glass, plastic, metal, etc.).
- The Made Ground was deeper towards the east of Milton Common.

- The Made Ground was overlain (albeit non-continuously) by a clayey layer containing silty topsoil of thickness 0.2m to 0.4m.
- Groundwater was present within the Made Ground at all exploratory locations.

Ground Gas Monitoring Results

- Methane was detected in the large majority of installations with a measured concentration range of 0.1% v/v to 85% v/v. The geometric mean methane concentration was reported to be less than 0.5% v/v although a significant number of monitoring locations along the northern and western site boundaries recorded methane in excess of 10% v/v. PBL noted that the elevated methane readings may be distorted by the presence of petroleum hydrocarbon vapours within the borehole headspace.
- Carbon dioxide was detected at concentrations ranging from 0% to 19.2% v/v. The geometric mean carbon dioxide concentration was less than 1% v/v.
- It was noted that the higher gas concentrations were typically associated with the window sample holes rather than those monitoring locations within the trial pits.
- The test results from the five Gresham tube samples were reported to be generally consistent with the in-situ gas measurements.
- Gas flows rates were measured at selected locations in the west of the site; the flow rates were reported to range from 'insignificant' (0.1m/s) to 'moderate' (0.6m/s). However, it should be noted that the units of flow measurements in the report cannot be verified.

Soil Sample results

- The analyses of the shallow soil samples (less than 0.5m depth) revealed only minor contamination of the surface soils with copper and zinc and isolated elevated levels of cadmium, nickel and phenol along the eastern margin of the site, adjacent to Langstone Harbour.
- The analyses of the soils at depth (greater than 0.5m depth) indicated more extensive contamination with the phytotoxins - copper and zinc and widespread hydrocarbon contamination with mineral oils and polyaromatic hydrocarbons.
- However, it should be noted that PBL were using the Inter Departmental Committee for the Redevelopment of Contaminated Land ('ICRCL') guidelines which are now outdated and withdrawn from use. As this report was written in 1994 WSP does not consider these results to be necessarily indicative of the contamination at Milton Common today.

Groundwater Results

- The results of the groundwater testing programme recorded significant contamination of the groundwater with phenols, ammonia, sulphide and hydrocarbons.
- These results are typical of leachate from a landfill and the groundwater was considered to be moderately to highly contaminated. PBL mentioned that if any excavations are to take place on Milton Common and groundwater pumped from the excavation would not be allowed to be discharged into any water course or sewers and therefore will require pre-treatment on site prior to discharge into the foul sewer system.
- If excavations were to occur then the contaminated groundwater would post a risk to construction works and adequate care would need to be taken to avoid contact with or ingestion of the groundwater.

Lake Water Results

- Elevated levels of ammonia, mercury, phenols and sulphite together with a high biological oxygen demand were found within the lake water samples. It appears that groundwater is leaching into the three lakes situated on Milton Common.
- PBL recommended that further lake water testing was needed, and that there should be preventative measures put in place to prevent public access to the lake water.

Ground Gas results

- PBL concluded that 'landfill gas was encountered in significant concentrations across the common'. The associated risk assessment identified a significant explosive risk at local residential properties due to observed methane concentrations, although this assessment was considered to be 'very conservative'. In contrast, PBL indicated that the risk of asphyxiation from the build-up of carbon dioxide was 'not a problem at this time'.
- PBL recommended that further gas monitoring be undertaken particularly in area where very high levels of methane and carbon dioxide were encountered.

2.2.3. MILTON LAKE- REPORT ON ADDITIONAL MONITORING, PARKMAN BUCK LTD. MAY 1995 (REF:23052/OR/3E)

2.2.3.1. Parkman Buck Ltd, carried out additional 10 rounds of ground has monitoring across Milton Common during October 1994 and February 1995.

2.2.3.2. This site investigation included:

- Three new monitoring boreholes were drilled to replace previous installations

which could no longer be located.

- Measurement of surface gas emissions was performed across the Site on a 20m grid square pattern using a portable FID.
- Various Gresham tube samples were taken from monitoring locations exhibiting elevated gas readings.

Results

- Localised areas of elevated surface methane emissions (>5,000 ppm) were recorded across the central and western parts of Milton Common. PBL attributed this to gaps within the clay capping material that overlies the landfill.
- As per the 1994 investigation, elevated methane and carbon dioxide were measured around the site perimeter, including the western and north-western boundary.

Conclusions

- PBL concluded that the landfill gas has the potential to migrate through the near surface soil and fill in the areas surrounding the common. However, the deeper materials, being cohesive in nature and the high groundwater levels, will restrict any major gas migration.
- PBL recommended that a venting and barrier trench was constructed along the site boundary.
- PBL recommended that the site capping layer should be repaired in order to prevent uncontrolled gas escape and that continuous gas monitoring should be undertaken.

2.3. ALLOTMENTS (SECTION 9)

2.3.1.1. WSP has been provided with information from a ground investigation conducted at Eastney Lake (allotments) in 1994.

2.3.2. EASTNEY LAKE GROUND INVESTIGATION AND RISK ASSESSMENT, PARKMAN BUCK LTD. MAY 1994 (REF:11314/OR2/1C)

2.3.2.1. PBL was commissioned by Portsmouth City Council to undertake an intrusive ground investigation and contamination survey of the 'Eastney Lake' site with the aim of undertaking a Quantified Risk Assessment on the chemical data if elevated levels were encountered.

2.3.2.2. The investigation was carried out as the site was known to have had a history of land reclamation from the sea by landfilling. This could potentially have given rise to contamination within the area.

2.3.2.3. At the time of the investigation two thirds of the site was in use as allotments or open

space. The remaining area was used for leisure and recreational activities including a makeshift football pitch (Kingsley Road Playing Field).

2.3.2.4. The PBL site investigations were carried out in January 1994 and comprised:

- 58 mechanically excavated trial pits (8 installed for gas monitoring);
- 4 surface samples (taken on and around the allotment plots);
- 45 boreholes (9 installed for gas monitoring);
- 9 gas probes

Ground Conditions

2.3.2.5. The area was underlain by between 1.8m and greater than 3.6m of domestic refuse comprising bricks, concrete, glass, ashes, metal, cloth, shoe leather, polythene with much wood and paper in a silty gravel matrix. Groundwater was encountered between 1.5 and 3.5m below ground level.

2.3.2.6. It was likely that the Made Ground was placed in the area in 1962/63 and newspapers dating from 1963 were discovered within the Made Ground.

2.3.2.7. The fill adjacent to Kinsley Road comprised brick and rubbles with minor amounts of degradable material.

2.3.2.8. The Made Ground along the boundary with the allotment area was generally thinner and comprised typically loose brown or black clayey sand /sandy clay with much gravel and fragments of glass, wood, paper, plastic and some metal.

2.3.2.9. The Eastney Lake Allotments was underlain by between 0.3m and 0.5m of dark grey / black friable gravelly very ashy silt topsoil with occasional fragments of brick and clinker. It was noted that topsoil was very ashy, and that the ash could possibly be associated with either airborne fallout from the refuse destructor or the filling operations of Hope Cottage allotments.

Results

2.3.2.10. 53 soil samples (from Eastney Lake Allotments) were tested. The preliminary results revealed elevated levels of arsenic, lead and mercury. Following this a further 40 topsoil samples were taken from the allotments.

2.3.2.11. The results indicated that the ICRCL threshold trigger levels for domestic gardens and allotments were exceeded in a significant number of samples for the following - arsenic, lead, mercury, copper and zinc and nickel, PAH and cadmium in a few samples.

2.3.2.12. However, it should be noted that PBL were using the Inter Departmental Committee for the Redevelopment of Contaminated Land ('ICRCL') guidelines which are now outdated. As this report was written in 1994 WSP does not consider these results to be necessarily indicative of the contamination today.

2.3.2.13. No asbestos was detected in the soil samples tested although cement sheeting containing asbestos was encountered in the Kingsley Road Landfill.

2.3.2.14. Methane was not encountered in any of the monitoring positions. Carbon dioxide was recorded within the Eastney Lake Allotments varied between 0% and 0.2% by volume, whilst levels within the housing area varied between 0% and 0.8% by volume.

2.3.2.15. Significant quantities of carbon dioxide were encountered on the Kinsley Road Playing Field area. However, little gas was found to be migrating off the site as the landfill appeared to be venting freely to the open air.

Conclusions

2.3.2.16. A detailed Public Health Assessment was carried out and revealed that there was no significant increase in the risk to public health as a result of chemicals encountered at the site. However, due to the sensitive nature of the land use at the allotments and the presence of moderately contaminated Made Ground, it was recommended that a topsoil thickness survey be carried out.

2.3.2.17. No further remedial works were recommended.

2.4. PORTSMOUTH COLLEGE (SECTION 9)

2.4.1.1. WSP has been provided with details of a ground investigation conducted at Portsmouth College, Tangier Road (adjacent west of Eastern Road Section 8) in 1995.

2.4.2. PORTSMOUTH COLLEGE, TANGIER ROAD, PORTSMOUTH – REPORT ON GROUND INVESTIGATION, CONTAMINATION SURVEY AND RISK ASSESSMENT, PARKMAN ENVIRONMENT. DECEMBER 1995 (REF:16241/OR/1B)

2.4.2.1. Parkman Environment ('PE') was commissioned by Portsmouth City Council to undertake a ground investigation and subsequent risk assessment of the Portsmouth College Site Tangier Road, Portsmouth.

2.4.2.2. The Portsmouth College site had been subject to reclamation from its marshy state by filling activities. The fill was thought to have been deposited before the 1930s and was considered to consist predominantly of clinker and ash from the Baffins Waste Destructor.

2.4.2.3. The PBL site investigations occurred in January 1994 and comprise:

- 10 mechanically excavated trial pits
- 8 probe hole boreholes with gas monitoring wells
- 13 probe hole boreholes
- 11 surface soils samples

Ground Conditions

2.4.2.4. The following ground conditions were encountered at the site:

- Reworked Topsoil was encountered within all exploratory holes in the grassed area and general continued to depths ranging from 0.1 to 0.5m below ground level. The topsoil generally comprised a brown sand and silty usually containing some fine gravel and occasional fragments of brick, glass and pottery
- Where encountered, Made Ground was found at depths ranging from 0.2m and 0.5m bgl. The greatest thickness was found to be present under the site's western boundary with an approximate average thickness of 2.0m. The Made Ground
- comprised ash / clinker type material.
- The London Clay Formation was encountered in the south-west corner of the site, it was present as weather soft to stiff orange-brown sandy and silt clay to a depth of 0.8m. It was also encountered in the north-east corner of the site to an approximate depth of 1.5m.
- Bognor Sands were found across the centre of the site to a depth of 0.5m

Results

2.4.2.5. There were some elevated concentrations of some potential contaminants including arsenic, cooper and zinc (for a playing field type usage). The distribution of these potential contaminants was generally limited to the fill material. (However, it should be noted that PE used ICRCL values which are outdated and have been withdrawn from use).

2.4.2.6. Methane was not detected in any of the monitoring wells.

2.4.2.7. The concentrations of carbon dioxide recorded ranged from 0.1% by volume in air to 3.7% by volume in air.

Conclusions

2.4.2.8. The report concluded that no significant health risk exists for a maximally exposed induvial. The investigation has indicated that Portsmouth College is not chemically hazardous and the chemical ground conditions represent no significant risk to its users or structure from chemical attack.

2.4.2.9. No ground gas protection measures were required.

2.4.2.10. However, should the need arise for any excavation to be undertaken within the ashy Made Ground it would be prudent to ensure that anyone working in the material take normal safety precautions by wearing adequate personal protective equipment to prevent skin contact with the fill.

3. HISTORICAL POTENTIALLY CONTAMINATIVE LAND USES

3.1.1.1. Historical mapping supplied in the Envirocheck reports has been reviewed to identify potential historical contaminative land uses on or adjacent to the route. The reviews have been split into each section and are summarised on the constraint drawings in Appendix A.

3.2. SECTION 1 – LOVEDEAN (CONVERTER STATION AREA)

3.2.1.1. Earliest available mapping of the Order Limits (1869) indicated that the Order Limits comprised of agricultural fields with frequent former chalk pits including Greasteds Copse Chalk Pit, Crabdens Copse Chalk Pit, The Crossways Chalk Pit, Merits Farm Chalk Pit, Anmore Dell Chalk Pit, Broadway Farm Chalk Pit, Lovedean Chalk Pit, Hinton Daubney Chalk Pit and Crabdens Row Chalk Pit. Pertinent land uses are summarised in Table 1 and on the constraints drawings in Appendix A.

Table 1 - Section 1 Historical Land uses

Historical Land Use	Dates of Mapping	Position Relation to Onshore Cable Corridor
Denmead Farm Chalk Pit	1868 to 1932	Within Order Limits
Lovedean Substation	1980 to present	Within Order Limits
Stonemere Copse Chalk Pit **Old Chalk Pit**	1868 to 1932 1932 to present	Adjacent to the Order Limits

3.3. SECTION 2 – ANMORE

3.3.1.1. Earliest available mapping of the Order Limits (1869) indicated the Order Limits comprised of agricultural fields with frequent former chalk pits including Denmead Chalk Pit, Merits Farms Chalk Pit and Anmore Dell Chalk Pit and Anmore Dell.

3.4. SECTION 3 – DENMEAD / KINGS POND MEADOW

3.4.1.1. Earliest available mapping of the Order Limits (1869) indicated the Order Limits comprised agricultural fields with an area of forestry. Anmore was developed prior to 1980s.

3.4.1.2. Pertinent land uses are summarised in Table 2 and on the constraints drawings in Appendix A.

Table 2 - Section 3 Historical Land uses

Historical Land Use	Dates of Mapping	Position Relation to Onshore Cable Corridor
Kings Pond	1870 to present	Adjacent to the west of the Order Limits
Denmead Town (residential houses, commercial buildings etc.)	1838 to present Expanded 1980	Within Onshore Cable Corridor / adjacent west of the Order Limits extends to 500 m west

3.5. SECTION 4 – HAMBLEDON ROAD TO BURHAM ROAD

3.5.1.1. Earliest available mapping of the Order Limits (1869) indicates that the Order Limits comprised of agricultural fields until residential developments occurred in the 1930's and 1960s. The northern section of the Order Limits remained undeveloped agricultural fields. The London Road (A3) was present prior to the production of the earliest map.

3.5.1.2. Pertinent land uses are summarised in Table 3 and on the constraints drawings in Appendix A.

Table 3 - Section 4 Historical Land Uses

Historical Land Use	Dates of Mapping	Position Relation to Onshore Cable Corridor
Garage / filling station	1961 to present	Adjacent to the south-east of the Onshore Cable Corridor (northern section)
Agricultural machinery works, depot and Byngs Business Park	1965 to present	Adjacent to the north-east of the Onshore Cable Corridor (northern section)
Electricity substation	1972 to present	10 m north-east of the Onshore Cable Corridor (northern section)
Saw mills **Residential houses**	1897 to 1982 1982 to present	15 m south-east of the Onshore Cable Corridor (northern section)

Historical Land Use	Dates of Mapping	Position Relation to Onshore Cable Corridor
Electricity substation	1965 to present	15 m north-east of the Onshore Cable Corridor (northern section)
Portsmouth water Reservoir **Covered Reservoir**	1898 to 1963 1963 to present	130 m west of the Onshore Cable Corridor (southern section)
Smithy **Unknown** **Car park** **Superstore**	1897 to 1932 1932 to 1972 1972 to 1973 1977 to present	55 m east of the Onshore Cable Corridor (northern section)
Electrical substation	1977 to present	55 m east of the Onshore Cable Corridor (northern section)
Engineering works / industrial estate	1977 to present	95 m east of the Onshore Cable Corridor (northern section)
Havant and Waterlooville Sewage Works **Builders yard** **Industrial estate**	1909 to 1953 1953 to 1993 1993 to present	200 m east of the Onshore Cable Corridor (northern section)
Fort Purbrook	1933 to present	200 m north of the Onshore Cable Corridor (southern section)

3.6. SECTION 5 – FARLINGTON

3.6.1.1. Earliest available mapping of the Order Limits (1869) indicates that the Order Limits comprised of agricultural fields until residential developments occurred from 1910.

3.6.1.2. Pertinent land uses are summarised in Table 4 and on the constraints drawings in Appendix A.

Table 4 - Section 5 Historical Land uses

Historical Land Use	Dates of Mapping	Position Relation to Onshore Cable Corridor
Pumping Station **School**	1932 to 2000 2000 to present	155m east of the Onshore Cable Corridor
Reservoir **Covered reservoir**	1869 to 1932 1932 to present	15m east of the Onshore Cable Corridor
Portsdown Hill reservoirs /filtration works	1898 to present	180m north-east of the Onshore Cable Corridor
Fort Purbrook	1933 to present	200m north of the Onshore Cable Corridor

3.7. SECTION 6 – ZETLAND FIELD AND SAINSBURY'S CAR PARK

3.7.1.1. Earliest available mapping of the Order Limits (1869) indicates that the Order Limits comprised agricultural fields and Farlington Water Works / Sewage Works from 1869 to 1955.

3.7.1.2. Pertinent land uses are summarised in Table 5 and on the constraints drawings in Appendix A.

Table 5 - Section 6 Historical Land uses

Historical Land Use	Dates of Mapping	Position Relation to Onshore Cable Corridor
Electrical substation **Part of Sainsbury's petrol station**	1869 to 1962 1962 to present	Adjacent south of the Onshore Cable Corridor
Railway	1870 to present	Adjacent south of the Onshore Cable Corridor
Factory / works	1962 to present	60m west of the Onshore Cable Corridor
Farlington Water Works / Sewage works **Part of factory / works**	1869 to 1955 1955 to present	65m east of the Onshore Cable Corridor
Works **Superstore**	1963 to 1933 1933 to present	65m east of the Onshore Cable Corridor
Factory / works	1962 to present	70m east of the Onshore Cable Corridor

3.8. SECTION 7 – FARLINGTON JUNCTION TO AIRPORT SERVICE ROAD

3.8.1.1. Earliest available mapping of the Order Limits (1869) indicates that the Order Limits comprised undeveloped fields and marshlands until the 1960s when the extension of Eastern Road and the construction of the Havant bypass was undertaken providing a water and rail crossing point.

3.8.1.2. Pertinent land uses are summarised in Table 6 and on the constraints drawings in Appendix A.

Table 6 - Section 7 Historical Land Uses

Historical Land Use	Dates of Mapping	Position Relation to Onshore Cable Corridor
Racecourse **Factory / works / playing fields**	1898 to 1932 1932 to present	Within the Onshore Cable Corridor
Filling station	1993 to present	Adjacent west of the Onshore Cable Corridor (northern section)
Railway	1870 to present	Adjacent north of the Onshore Cable Corridor (northern section)
Portsmouth City Airport **Later extension of Anchorage Park and residential housing**	1953 to 1983 1983 to present	25m west of the Onshore Cable Corridor (southern section)
Works	1990 to present	35m east of the Onshore Cable Corridor (southern section)
Electrical substation	1983 to present	55m south-west of the Onshore Cable Corridor (northern section)
Factory / works (part of Anchorage Park)	1963 to present	100m south-west of the Onshore Cable Corridor (northern section)
Electrical substation	1989 to present	100m west of the Onshore Cable

Historical Land Use	Dates of Mapping	Position Relation to Onshore Cable Corridor
		Corridor (southern section)
Electrical substation	1978 to present	120m west of the Onshore Cable Corridor (northern section)
Electrical substation	1993 to present	215m west of the Onshore Cable Corridor (northern section)
East Demi Bastion **Part of airfield** **Community centre / playing fields**	1897 to 1953 1953 to 1990 1990 to present	250m west of the Onshore Cable Corridor
Rifle Range **Open fields** **Residential housing**	1897 to 1963 1963 to 2000 2000 to present	250m west of the Onshore Cable Corridor

3.9. SECTION 8 – EASTERN ROAD (ADJACENT TO GREAT SALTERNS GOLF COURSE) TO MOORINGS WAY

3.9.1.1. Earliest available mapping of the Order Limits (1869) indicates that the Order Limits comprised undeveloped agricultural fields and marshland. Eastern Road first appears on mapping in the 1930's. A residential development is noted adjacent west and south of Milton Common from 1932 to 1932 and increasing development noted from 1963. Increasing development south of Milton Common occurred from 1990.

3.9.1.2. Pertinent land uses are summarised in Table 7 and on the constraints drawings in Appendix A.

Table 7 - Section 8 Historical Land Uses

Historical Land Use	Dates of Mapping	Position Relation to Onshore Cable Corridor
Milton Common Landfill with landlocked lakes	1973 to present	Within the Onshore Cable Corridor
Golf courses	1931 to present	Adjacent west of the Onshore Cable Corridor
Refuse destructor **Allotment gardens** **Works** **Undeveloped land**	1931 to 1932 1932 to 1963 1963 to 1973 1973 to present	200m west of the Onshore Cable Corridor
Isolation Hospital **Infectious disease hospital** **St Mary's Hospital**	1911 to 1963 1963 to 1990 1990 to present	500m west of the Onshore Cable Corridor
Sewage Lifting Station **Allotment gardens / works** **Undeveloped land**	1910 to 1932 1932 to 1973 1973 to present	500m west of the Onshore Cable Corridor

3.10. SECTION 9 – MOORINGS WAY TO BRANSBURY ROAD

3.10.1.1. Earliest available mapping of the Order Limits (1869) indicated that the Order Limits comprises undeveloped agricultural land. Increasing development (residential and roads) west of Portsmouth University was noted in the 1950s, 1990s, 2000s, 2006 and 2017. Pertinent land uses are summarised in Table 8 and on the constraints drawings in Appendix A.

Table 8 - Section 9 Historical Land uses

Historical Land Use	Dates of Mapping	Location	Position Relation to Onshore Cable Corridor
Reclaimed Land	1973 to present	Allotments	Within the Onshore Cable Corridor
Allotments	1931 to present	Allotments	Within the Onshore Cable Corridor
Portsmouth University Langstone Campus	1938 to present	Portsmouth University	Adjacent west, east, north and south of the Onshore Cable Corridor
St James Hospital **Expanded to the south**	1870 to 1898 1898 to present	Portsmouth University	200m north of the Onshore Cable Corridor

3.11. SECTION 10 – EASTNEY (LANDFALL)

3.11.1.1. Historical mapping indicates that the route from the Landfall to the junction with Eastern Road passes along existing tracks and roads that have been present prior to the earliest available mapping (1870). The Landfall area has a military history that pre-dates the earliest available maps.

3.11.1.2. Pertinent land uses are summarised in Table 9 and on the constraints drawings in Appendix A.

Table 9 - Section 10 Historical Land uses

Historical Land Use	Dates of Mapping	Position Relation to Onshore Cable Corridor
Riffle Range **Riffle Range disused** **Undeveloped land (northern half), caravan park (southern half) and car park**	1898 to 1973 1973 to 2000 2000 to present	Within / adjacent north and south of the Onshore Cable Corridor
Sea service battery / central gunnery school / Eastney Barracks **Residential housing**	1933 to 1992 1992 to present	Adjacent south of the Onshore Cable Corridor
Sewage pumping station **Open field**	1898 to 1999 1999 to present	Adjacent north of the Onshore Cable Corridor
Musketry hut **Undeveloped land** **Caravan park**	1909 to 1942 1942 to 2000 2000 to present	90m north of the Onshore Cable Corridor
Fraser Range firing range out to sea **Fraser range – abandoned (Defence Research Academy)**	1945 to 2006 2006 to present	100m east of the Onshore Cable Corridor
Riffle range **Caravan Park**	1998 to 1969	100m east of the Onshore Cable

Historical Land Use	Dates of Mapping	Position Relation to Onshore Cable Corridor
		Corridor
Gas Chamber **Part of Fraser Range** **Fraser range – abandoned (Defence Research Academy)**	1933 to 1962 1962 to 2006 2006 to present	150m east of the Onshore Cable Corridor
Fort Cumberland	1740 to present	340m east of the Onshore Cable Corridor

4. ENVIRONMENTAL SETTING

4.1.1.1. The BGS online viewer and map sheets 316 and 331 have been reviewed and the underlying geology for the Onshore Cable Corridor Sections 1 – 10 are described within the following sections. The anticipated geology along the Onshore Cable Corridor is described below along with the EA aquifer designations for the relevant geological units.

4.2. ANTICIPATED GEOLOGY

4.2.1. SUPERFICIAL GEOLOGY

- Head Deposits (Secondary Undifferentiated Aquifers) – gravel, sand and clay
- River Terrace Deposits (Undifferentiated and Second) (Secondary A Aquifer) – Sand silt and clay
- Raised marine Deposits (Secondary Undifferentiated Aquifer) – Sand, gravel, silt and clay commonly charged with organic debris.
- Beach and Tidal Flat Deposits (Secondary Undifferentiated Aquifer) – 'Beach Deposits' shingle, sand, silt and clay and 'Tidal Flat Deposits' commonly silt and clay with sand and gravel layers.

4.2.2. BEDROCK GEOLOGY

- The Wittering Formation (Secondary A Aquifer) – Greyish brown laminated clay
  - Thames Group
    - London Clay Formation (Unproductive Stratum) – Bioturbated or poorly laminated blue grey or grey-brown slightly calcareous silty clay with some layers of sandy clay.
    - Durley Sand Member (formerly Whitecliff Sand Member) (Secondary A Aquifer)
    - Portsmouth Sand Member (Secondary A Aquifer)
    - Bognor Sand Member (Secondary A Aquifer) – Glauconitic bioturbated or cross-bedded fine and medium grained sands, partially cemented.
- The Lambeth Group (Secondary A Aquifer) – Clay with some silty or sandy sand and some sand and gravel with minor limestones and lignite's.
- White Chalk Subgroup (Principle Aquifer)
  - Portsdown Chalk Member – White chalk with marl seams and flint bands.

- Spetisbury Chalk Member – Firm white chalk with regular large flint seams.
- Tarrant Chalk Member – Soft white chalk with relative widely space large sized flints.
- Newhaven Chalk Formation – Soft to medium hard, smooth white chalk with numerous marl seams and flint bands.
- Seaford Chalk Formation – Firm white chalk with nodular and tabular flint seams.
- Lewes Nodular Chalk Formation – Hard nodular chalk with flints.

4.3. SECTION 1 – LOVEDEAN (CONVERTER STATION AREA)

4.3.1. DESIGNATED SITES

4.3.1.1. Two areas of ancient woodland (Crabdens Copse and Stoneacre Copse) are located adjacent to the Converter Station Area.

4.3.2. GEOLOGY

4.3.2.1. As indicated on the BGS online viewer and BGS map sheet 316, the bedrock geology across the Order Limits comprises the Tarrant Chalk Member and is indicated to be close to or at the surface. There is potential for localised Head Deposits to be present overlying the Tarrant Chalk Member towards the centre of the Order Limits.

4.3.3. HYDROGEOLOGY AND HYDROLOGY

4.3.3.1. There are no surface water features within the Converter Station Area.

4.3.3.2. The Order Limits are located within an Environment Agency Source Protection Zone 1 associated with Lovedean Pumping Station, potable water supply. The Order Limits are also located within a Source Protection Zone 1 for public water supply.

4.3.3.3. A covered reservoir is located approximately 500 m west of Lovedean Substation.

4.3.3.4. The Tarrant Chalk Member is designated as a Principle Aquifer and the Head Deposits are designated as a Secondary Undifferentiated Aquifer.

4.3.3.5. Section 1 is located in a Karst Zone 2, Karsts are solution features of which provide fast flowing conduits for groundwaters to travel. Karst Zone 2 is an intermediate area where the clay with flints superficial deposits are present. In this zone, dolines and solution pipes are likely to occur but few hydrologically active stream sinks are present i.e. no flow of water through the system.

4.3.4. RADON

4.3.4.1. The Order Limits are within the lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).

4.3.5. MINERAL EXTRACTION

4.3.5.1. Four historical mineral extraction sites were located within the Order Limits (Crabdens Copse, Hinton Daubney Chalk Pit, Stonemere Copse Chalk Pit and Denmead Farm Chalk Pit. All these pits were recorded as chalk pits, opencast and ceased. Ten historical mineral extraction sites (Greasteds Copse Chalk Pit, the Crossways Chalk Pit, three at Denmead Farm Chalk Pit, two at Broadway Farm Chalk Pit, Lovedean Farm Chalk Pit, Hinton Daubney Chalk Pit and Crabdens Row Chalk Pit) were located within 500m of the Order Limits and were all recorded as chalk pits, opencast and ceased. Crabdens Row Chalk Pit was located adjacent east of the Lovedean Substation. All these pits have the potential to be infilled with Made Ground.

4.3.6. LANDFILLING

4.3.6.1. No current or historical landfills were located within 500 m of the Order Limits..

4.4. SECTION 2 – ANMORE

4.4.1. DESIGNATED SITES

4.4.1.1. James Copse (ancient semi-natural woodland) is located within 500 m of the Order Limits. Yoells Copse Site of Importance for Nature Conservation ('SINC') is located approximately 967 m east of the Order Limits. Yoells Copse is also designated as a statutory Local Nature Reserve.

4.4.2. GEOLOGY

4.4.2.1. As indicated on the BGS online viewer and BGS map sheet 316, the bedrock geology across the Order Limits comprises the Tarrant Chalk Member and is indicated to be close to or at the surface. There is potential for localised Head Deposits to be present overlying the Tarrant Chalk Member towards the centre of the Order Limits.

4.4.3. HYDROGEOLOGY AND HYDROLOGY

4.4.3.1. There are no surface water features within the Order Limits.

4.4.3.2. The Order Limits are located within an Environment Agency Source Protection Zone 1 associated with Lovedean Pumping Station, potable water supply.

4.4.3.3. The Tarrant Chalk Member is designated as a Principle Aquifer and the Head Deposits are designated as a Secondary Undifferentiated Aquifer.

4.4.3.4. Section 2 is located in a Karst Zone 1 and 2. Karst Zone 1 is characterised by frequent stream sinks and dolines associated with the geological boundary between Tertiary (sand and clay) and Cretaceous (chalk) deposits. Stream sinks and dolines are defined as holes in the ground caused by a collapse of a surface layer i.e. chemical dissolution of carbonate rocks has occurred. Karst Zone 2 is an intermediate area where the clay with flints superficial deposits are present. In this zone, dolines and

solution pipes are likely to occur but few hydrologically active stream sinks are present i.e. no flow of water through the system.

4.4.4. RADON

4.4.4.1. The Order Limits are within the lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).

4.4.5. MINERAL EXTRACTION

4.4.5.1. Five historical mineral extraction sites were located within 500 m of the Order Limits (two at Denmead Chalk Pit, Merits Farms Chalk Pit and Anmore Dell Chalk Pit and Anmore Dell. These pits were recorded as chalk pits, opencast and ceased; these have the potential to be infilled with Made Ground.

4.4.6. LANDFILLING

4.4.6.1. Anmore Dell historical landfill was located approximately 270 m east of the Order Limits, deposited waste included inert waste. This landfill was located adjacent to Anmore Dell mineral extraction site and is likely to be associated with this.

4.5. SECTION 3 – DENMEAD / KINGS POND MEADOW

4.5.1.1. The section contains information relating to Option 3a) Kings Pond Meadow, and 3b) Anmore Road.

4.5.2. DESIGNATED SITES

4.5.2.1. The Onshore Cable Corridor Options 3a) Kings Pond Meadow and 3b) Anmore Road run through Kings Pond Meadow which is designated as a SINC.

4.5.3. GEOLOGY

4.5.3.1. As indicated on the BGS online viewer and BGS map sheet 316, the bedrock geology across the Order Limits comprises the London Clay Formation overlying the Lambeth Group and the Tarrant Chalk Member. There is potential for the Head Deposits to be present overlying the bedrock geology.

4.5.3.2. The Order Limits passes through a clay Mineral Safeguard Area as determined by Hampshire County Council.

4.5.4. HYDROGEOLOGY AND HYDROLOGY

4.5.4.1. Kings Pond is located within the Order Limits within Kings Pond Meadow

4.5.4.2. A drain flowing west crosses the Order Limits towards the south and joins up with another drain (flowing south) approximately 150 m west.

4.5.4.3. The Order Limits are located within an Environment Agency Source Protection Zone 1 and Inner Zone 1c relating to subsurface activity only.

4.5.4.4. The Tarrant Chalk Member is designated as a Principal Aquifer, the Lambeth group

as a Secondary A Aquifer, the Head Deposits as a Secondary Undifferentiated Aquifer and the London Clay Formation as Unproductive Stratum.

4.5.4.5. Section 3 is located in a Karst Zone 1. Karst Zone 1 is characterised by frequent stream sinks and dolines associated with the geological boundary between Tertiary (sand and clay) and Cretaceous (chalk) deposits. Stream sinks and dolines are defined as holes in the ground caused by a collapse of a surface layer i.e. chemical dissolution of carbonate rocks has occurred.

4.5.5. RADON

4.5.5.1. The Order Limits are within the lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).

4.5.6. MINERAL EXTRACTION

4.5.6.1. Four historical mineral extraction sites were located within 500 m of the Order Limits. Anmore Gravel Pit was located adjacent west of Mill Road, and was recorded as a sand and gravel pit, opencast and ceased. Anmore Dell Chalk pit was located approximately 200 m east from the Order Limits and was recorded as a chalk pit, opencast and ceased. Anmore Dell was located approximately 250 m east from the Order Limits. Soak Sand Pit was located 300 m east from the Order Limits. and was recorded as a sand pit, opencast and ceased. These all have the potential to be infilled with Made Ground.

4.5.7. LANDFILLING

4.5.7.1. Anmore Dell historical landfill was located approximately 250 m east of the Order Limits. Deposited waste included inert waste. This landfill was located adjacent to Anmore Dell mineral extraction site and is likely to be associated with this.

4.6. SECTION 4 – HAMBLEDON ROAD TO FARLINGTON AVENUE

4.6.1. DESIGNATED SITES

4.6.1.1. Portsdown Site of Special Scientific Interest ('SSSI') is located approximately 450 m west of the southern section of the Order Limits. Four ancient woodlands (Marrelsmoor Coppice, Alsfordmoor Coppice, Piper Hulls Wood and an unnamed wood west of Park Wood) are located within 250 m west and east of the Order Limits.

4.6.2. GEOLOGY

4.6.2.1. As indicated on the BGS online viewer and BGS map sheet 316, the bedrock geology across the Order Limits comprises the Wittering Formation overlying the Thames Group (London Clay Formation, Whitecliff Sand Member, Portsmouth Sand Member, and the Bognor Sand Member). There is potential for Head Deposits to be present particularly around Waterlooville and Soake (towards the northern section of the Order Limits). Around Purbrook there is likely to be localised areas of Head Deposits

associated with existing relic water courses.

4.6.3. HYDROGEOLOGY AND HYDROLOGY

4.6.3.1. A number of drainage ditches are located within 500 m of the Order Limits.

4.6.3.2. Portsdown Hill Reservoir (covered reservoir) was located approximately 150 m east of the southern section of the Order Limits.

4.6.3.3. The majority of the Order Limits are located within an Environment Agency Source Protection Zone Inner Zone 1c relating to subsurface activity only. The southernmost section of the Order Limits is not located within an Environment Agency Source Protection Zone.

4.6.3.4. The underlying geology is designated as Secondary A Aquifers, Secondary Undifferentiated Aquifers and as Unproductive Stratum.

4.6.4. RADON

4.6.4.1. The area if within the lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).

4.6.5. MINERAL EXTRACTION

4.6.5.1. Eight historical mineral extraction sites were located within 250 m of the southern section of the Order Limits. Of these seven are recorded as chalk pit, opencast and ceased (Dell Garden, Belle Isle Chalk Pit, Collgers Pit, Wymering Chalk Pit, Candy's Pit, unnamed chalk pit and Purbrook Park Chalk Pit. The Park Gravel Pit was recorded as a sand and gravel pit, opencast and ceased. Soak Sand Pit was located approximately 350m east of the northern section of the Order Limits and was recorded as a sand pit, opencast and ceased.

4.6.5.2. Privet Coppice Chalk Pit was located approximately 340 m north of Portsdown Hill Road and was recorded as a chalk pit, opencast and ceased. These all have the potential to be infilled with Made Ground.

4.6.6. LANDFILLING

4.6.6.1. Fielders Park landfill was located approximately 50 m east of the northern section of the Order Limits. Deposited waste included household waste.

4.7. SECTION 5 - FARLINGTON

4.7.1. DESIGNATED SITES

4.7.1.1. Farlington Avenue and a Field to West of Gillman Road SINC were located within 250m of the Order Limits. Land to the north and south of Portsdown Hill road SINC is located adjacent north and south of Portsdown Hill Road. The Meadow west of Farlington Avenue is designated as a SINC. There is a proposed Local Wildlife Site ('LWS') at the covered reservoir north of Havant Road.

4.7.1.2. Fort Purbrook including covered-way to east is located approximately 200m north of the Order Limits and is a Scheduled Monument (Two Grade II listed forts). The covered way to the east is also Scheduled.

4.7.2. GEOLOGY

4.7.2.1. As indicated on the BGS online viewer and BGS map sheet 316, the bedrock geology across the Order Limits comprises thick bands of the Portsdown Chalk Formation overlying the Spetisbury Chalk Member, the Tarrant Chalk member, the Newhaven Chalk member, the Seaford Chalk Formation and the Lewes Nodular Chalk Formation in sequence. The Lambeth Group has the potential to be present towards the north of the Order Limits.

4.7.2.2. The superficial deposits across the Order Limits comprise the Head Deposits (towards the north) and the River Terrace Deposits (particularly towards the south). There is potential for the Raised Marine Deposits to outcrop towards the south. The River Terrace Deposits are associated with existing and relic watercourses.

4.7.3. HYDROGEOLOGY AND HYDROLOGY

4.7.3.1. A number of drainage ditches and streams are located within 500 m of the Order Limits.

4.7.3.2. Drayton covered reservoir is located approximately 155 m east of the Farlington Avenue.

4.7.3.3. There is also notable buried water utility infrastructure within the Order Limits.

4.7.3.4. The Order Limits are not located within an Environment Agency Source Protection Zone.

4.7.3.5. The underlying geology is designated as Principal Aquifers, Secondary A Aquifers and Secondary Undifferentiated Aquifers.

4.7.4. RADON

4.7.4.1. The Order Limits is within the lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).

4.7.5. MINERAL EXTRACTION

4.7.5.1. Two historical sand/chalk pit were located 155 m east of Farlington Avenue in the vicinity of Drayton Covered Reservoir.

4.7.6. LANDFILLING

4.7.6.1. Pumping Station historical landfill was located 60 m east of Farlington Avenue. Deposited waste included inert waste.

4.7.6.2. A registered landfill (Pumping Station) was formerly located within the same area as the historical landfill; the license was lapsed/cancelled/surrendered on 1 May 1984 and was authorised to accept excavated natural materials and road making materials.

4.7.6.3. Two waste management facilities (metal recycling sites and a scrapyard) operated by James Huntley and Sons Ltd have been identified approximately 500 m south east of the Order Limits.

4.8. SECTION 6 – ZETLAND FIELD AND SAINSBURY'S CAR PARK

4.8.1. DESIGNATED SITES

4.8.1.1. Farlington Marshes Local Nature Reserve ('LNR') is located approximately 500m east of the Order Limits. Chichester and Langstone Harbours Special Protection Area ('SPA') / Ramsar sites are located approximately 500 m south-east of the Order Limits. Langstone Harbour SSSI is located approximately 500 m south-east of the Order Limits. Solent Maritime Special Area of Conservation ('SAC') is located approximately 500 m south of the Order Limits.

4.8.2. GEOLOGY

4.8.2.1. As indicated on the BGS online viewer and BGS map sheet 316, the bedrock geology across the Order Limits comprises the White Chalk Subgroup particularly the Lewes Nodular Chalk Formation.

4.8.2.2. The superficial deposits across the Order Limits comprise the River Terrace Deposits (Undifferentiated) and the Raised Marine Deposits (towards the east and south).

4.8.3. HYDROGEOLOGY AND HYDROLOGY

4.8.3.1. A number of drainage ditches and streams are located within 500m of the Order Limits (closest) approximately 320 m south)

4.8.3.2. The Order Limits are not located within Environment Agency Source Protection Zone.

4.8.3.3. The underlying geology is designated as Principal Aquifers, Secondary A Aquifers and Secondary Undifferentiated Aquifers.

4.8.4. RADON

4.8.4.1. Section 6 is within the lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).

4.8.5. MINERAL EXTRACTION AND LANDFILLING

4.8.5.1. There are no historical mineral extraction site located within 500 m of the Order Limits.

4.8.5.2. There are no current or historical landfills located within 500 m of the Order Limits.

4.8.5.3. One registered waste treatment tor disposal site was located 238 m north-east of the Order Limits. Tilbury Metals Ltd operated a Scrapyard within a very small (less than 10,000 tonnes per year) max input rate, operational on 20 June 1997.

4.8.5.4. One registered waste transfer site was located 223 m east of the Order Limits. Graham Tatford and Co Ltd operated a transfer site. The transfer site licence is

exempt and was dated 1 Sept 1992, authorised waste included pharmaceutical liquid waste and waste prescription medicines.

4.9. SECTION 7 – FARLINGTON JUNCTION TO AIRPORT SERVICE ROAD

4.9.1. DESIGNATED SITES

4.9.1.1. The Onshore Cable Corridor runs through Farlington Marshes LNR. Chichester and Langstone Harbours SPA/Ramsar sites are located adjacent to Eastern Road. Langstone Harbour SSSI is located adjacent to Eastern Road. Solent and Isle of Wight Lagoons SAC is located 50m east of the Order Limits. Langstone Harbour Royal Society for the Protection of Birds Reserve is located approximately 500 m east of the Order Limits.

4.9.2. GEOLOGY

4.9.2.1. As indicated on the BGS online viewer and BGS map sheet 316, the bedrock geology across the Order Limits comprises the Lambeth Group and the White Chalk Subgroup, particularly the Lewes Nodular Chalk Formation.

4.9.2.2. The superficial deposits across the Order Limits comprise the River Terrace Deposits (Undifferentiated) across the entire Order Limits, Raised Marine Deposits and Beach and Tidal Flat Deposits. The Beach and Tidal Flat Deposits are likely to be present in close proximity to the Broom Channel and across Farlington Marshes.

4.9.2.3. Made Ground is present west and south of Eastern Road (A2030). This is likely associated with a number of historical infilled between 1890s and 1960s.

4.9.3. HYDROGEOLOGY AND HYDROLOGY

4.9.3.1. The Broom Channel runs through the Onshore Cable Corridor just north of Kendall's Wharf. Towards the south of the Order Limits the Broom Channel is located approximately 180m east. A number of lakes are located within 500 m of the Order Limits, including Shut Lake and Sluice Lake. These lakes are associated with Langstone Harbour and Farlington Marshes which are locate adjacent to 500 m east of the south of the Order Limits. A number of drainage ditches and streams are located within the Order Limits and within 500 m of the Order Limits.

4.9.3.2. The Order Limits is not located within Environment Agency Source Protection Zone.

4.9.3.3. The underlying geology is designated as Principal Aquifers, Secondary A Aquifers and Secondary Undifferentiated Aquifers.

4.9.4. RADON

4.9.4.1. Section 7 is within the lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).

4.9.5. MINERAL EXTRACTION AND LANDFILLING

4.9.5.1. Two historical landfills (Kendall's Quay and Sports Field East of Eastern Road) are recorded adjacent east of Eastern Road (A2030). The Onshore Cable Corridor runs through these landfills. Both of these landfills the deposited waste included unknown material. An area of backfilled ground was noted associated with Kendall's Quay historical landfill.

4.9.5.2. Kendall's Wharf mineral extraction site is located approximately 80m east of the south of the Order Limits (130 m east of the Kendall Stadium), the Wharf is active and extracts Marine Deposits (sand and gravel).

4.9.5.3. An area of infilled ground was noted extending beneath the road bridge and to the northern side of Langstone – Chichester Harbour SPA. The backfilled ground extends along the route of the A276 including the roundabout with Eastern Road. This area was progressively backfilled between 1870s and 1980s; the backfill type is unknown.

4.10. SECTION 8 – EASTERN ROAD (ADJACENT TO GREAT SALTERNS GOLF COURSE) TO MOORINGS WAY.

4.10.1. MILTON COMMON

4.10.1.1. An option for the Onshore Cable Corridor is to go through the path that forms part of the existing sea defence towards the east of Milton Common. There are two alternative routes which are discussed below.

Designated Sites

4.10.1.2. Chichester and Langstone Harbours SPA and Ramsar sites, Solent Maritime SAC and Langstone Harbour SSSI are located within 500 m east of the Order Limits. The Onshore Cable Corridor crosses through Milton Common however this is dependent on the option chosen.

Geology

4.10.1.3. As indicated on the BGS online viewer and BGS map sheet 331, the bedrock geology across the Order Limits comprises the London Clay Formation. The Whitecliff Sand Member and the Portsmouth Sand Member may be present towards the south of the Order Limits. The Bognor Sand Member may be present towards the north of the Order Limits.

4.10.1.4. The superficial deposits across the Order Limits comprise, River Terrace Deposits (Undifferentiated and Second), overlying the Raised Marine Deposits (east of the Order Limits). The Beach and Tidal Flat Deposits may be present towards the east of the Order Limits associated with Langston harbour.

Made Ground

4.10.1.5. As indicated on the BGS Online viewer, BGS Map sheet 316 and from WSP Ground

investigations works undertaken at Milton Common dated October 2018, Made Ground / Artificial Ground is present across the entire Milton Common. The twelve window samples undertaken at Milton Common found that the thickness of Made Ground varied across Milton Common, with thinner deposits encountered to the west between 1.20 m and 1.60 m depth. Thicker Made Ground deposits >4 m depth were encountered towards the centre and east of Milton Common. Many of the window samples holes had multiple attempts or stopped short of target depth due to obstructions, possible asbestos or encountering metal objects. Historical photographs show construction waste (e.g. rebar, radiators, pipe work, support beams, roof sheeting, and vehicles (car and military vehicles).

4.10.1.6. The Made Ground is associated with the historical use as a landfill.

Hydrogeology and Hydrology

4.10.1.7. Frog Lake, Duck Lake and Swan Lake are located within Milton Common, approximately adjacent east to 90m east of the Onshore Cable Corridor. Milton Lake (associated with Langstone Harbour) is located approximately 420 m east. Baffin's Pond is located approximately 480 m north-west of the Order Limits.

4.10.1.8. The Order Limits is not located within Environment Agency Source Protection Zone.

4.10.1.9. The underlying geology is designated as Secondary A Aquifers, Secondary Undifferentiated Aquifers and Unproductive Stratum.

Radon

4.10.1.10. Milton Common is within the lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).

Mineral Extraction and Landfilling

4.10.1.11. There are no mineral extraction sites located within 500 m of the Order Limits.

4.10.1.12. The Onshore Cable Corridor passes through the path that forms part of the sea defence at Milton Common (Landfill), however this is dependent on the route option chosen. This area has known to be a landfill, and deposited waste included industrial and household waste. Previous site investigations have noted evidence of landfill waste including glass, paper, plastic, metal, rotting clothes, and cardboard etc. Further details on the landfill and previous investigations are provided in Section 3.

4.10.2. EASTERN ROAD AND MOORING WAY

4.10.2.1. The two alternative routes would continue along Eastern Road and will either run along Eastern Road or the Western Edge of Milton Common to Mooring Way or continue further south along Eastern Road to the junction with Eastern Avenue, where it would continue south-east along Eastern Avenue to Moorings Way.

Designated Sites

4.10.2.2. Chichester and Langstone Harbours SPA and Ramsar sites, Solent Maritime SAC and Langstone Harbour SSSI are located within 500 m east of the Order Limits.

Geology

4.10.2.3. As indicated on the BGS online viewer and BGS map sheet 316 and 331, the bedrock geology across the area comprises the London Clay Formation, Whitecliff Sand Member and the Portsmouth Sand Member (towards the south) and Bognor Sand Member (towards the north), overlying the Lambeth Group towards the north.

4.10.2.4. The superficial deposits across the area comprise, River Terrace Deposits (Undifferentiated) (towards the south), the Raised Marine Deposits (towards the north), and the Beach and Tidal Flat deposits (towards the east).

Hydrogeology and Hydrology

4.10.2.5. Frog Lake, Duck Lake and Swan Lake are located within Milton Common.

4.10.2.6. There are a number of lakes located within 500 m of the Order Limits and are associated with Langstone Harbour and Farlington Marshes.

4.10.2.7. A number of drainage ditches and streams are located within the Order Limits.

4.10.2.8. The Order Limits are not located within Environment Agency Source Protection Zone.

4.10.2.9. The underlying geology is designated as Secondary A Aquifers, Secondary Undifferentiated Aquifers and Unproductive Stratum.

Radon

4.10.2.10. The Order Limits are within the lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).

Mineral Extraction and Landfilling

4.10.2.11. Portsmouth Brickworks (BGS recorded mineral extraction site was located approximately 500m west of the north section of the Order Limits; the site extracted River Terrace Deposits and was recorded as opencast and ceased. An old clay pit and brick works was recorded in the same location on the historical maps from 1898 to 1963.

4.10.2.12. Seven historical landfills are recorded within 500m of the Order Limits (Land South of Burfields Road, Land East of Baffins Pond, Sports Field East of Eastern Road, Great Salterns Quay and Milton Common Lake). All the landfills deposited household waste with Milton Common Lake also depositing industrial waste.

Amey Business Services operated a waste management facilities 65m west of Eastern Road which was surrendered on 11 July 2008. Amey Facilities Management operate a transfer site 65m west of Eastern Road, authorised waste includes metals, paper, plastics, street sweeping debris, trees, bushes, weeds, grass wood and wood products.

4.11. SECTION 9 – MOORINGS WAY TO BRANSBURY ROAD

Designated Sites

4.11.1.1. Chichester and Langstone Harbours SPA and Ramsar sites, Langstone Harbour SSSI and Solent Maritime SAC are located adjacent east of the Order Limits. Milton Common is located adjacent north of the Order Limits.

Geology

4.11.1.2. As indicated on the BGS online viewer and BGS map sheet 331, the bedrock geology across the Order Limits comprises the Wittering Formation (south) overlying the London Clay Formation. The Whitecliff and Portsmouth Sand Member may be present towards the south and the Bognor Sand Member may be present towards the north of the Order Limits.

4.11.1.3. The superficial geology across the Order Limits comprises River Terrace Deposits (Undifferentiated and Second) overlying the Raised Marine Deposits (north), and the Beach and Tidal Flat deposits (east and south), particularly in the vicinity of Bransbury Park.

Hydrogeology and Hydrology

4.11.1.4. Langstone Harbour and associated Eastney Lake, Lock Lake and Langstone Channel are located east of the Order Limits.

4.11.1.5. The Order Limits are not located within Environment Agency Source Protection Zone.

4.11.1.6. The underlying geology is designated as Secondary A Aquifers, Secondary Undifferentiated Aquifers and Unproductive Stratum.

Radon

4.11.1.7. The Order Limits are within the lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).

Mineral Extraction and Landfilling

4.11.1.8. Eastney Lake historical landfill is noted adjacent south-east of the allotments,

deposited waste included industrial, commercial and household waste.

4.11.1.9. Milton Common Lake Landfill is located approximately 206 m north university of Portsmouth Langstone Campus.

4.11.1.10. There are no recorded current or historical mineral extraction sites within 500 m of the Order Limits.

4.12. SECTION 10 – EASTNEY (LANDFALL)

4.12.1. DESIGNATED SITES

4.12.1.1. Chichester and Langstone Harbours SPA and Ramsar sites are located approximately 225m north of the Order Limits.

4.12.1.2. Fort Cumberland SINC is located approximately 340 m east of the Order Limits.

4.12.2. GEOLOGY

4.12.2.1. As indicated on the BGS online viewer and BGS map sheet 331, the bedrock geology across the Order Limits comprises the Wittering Formation overlying the London Clay Formation. The Whitecliff and Portsmouth Sand Member may be present towards the south and the Bognor Sand Member may be present towards the north of the Order Limits.

4.12.2.2. The superficial geology across the Order Limits comprises the River Terrace Deposits (Undifferentiated and Second) Beach and Tidal Flat deposits (east), Tidal Flat Deposits (west), and Storm Beach deposits (south-east).

4.12.3. HYDROGEOLOGY AND HYDROLOGY

4.12.3.1. The Solent is located adjacent south of the Order Limits. Langstone Harbour and Eastney lake are located approximately 370 m north of the Order Limits.

4.12.3.2. The Order Limits is not located within Environment Agency Source Protection Zone.

4.12.3.3. The underlying geology is designated as Secondary A Aquifers, Secondary Undifferentiated Aquifers and Unproductive Stratum.

4.12.4. RADON

4.12.4.1. Section 10 is within the lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).

4.12.5. MINERAL EXTRACTION AND LANDFILLING

4.12.5.1. Eastney Farm Gravel Pit (BGS Recorded Mineral Extraction Site) was located approximately 100 m south and west of the Order Limits; the site extracted River Terrace Deposits 2 and was recorded as opencast and ceased.

4.12.5.2. Four historical Landfills are listed within 500 m of the Order Limits. The Glory Hole historical landfill was located adjacent north of the Order Limits and deposited waste, included industrial, commercial and household waste. Henderson Road Caravan

Park historical landfill was located adjacent north of the Order Limits (north of Fort Cumberland Road), deposited waste included industrial, commercial and household waste. Eastney Lake historical landfill was located adjacent north-west of the Order Limits (north-west of Fort Cumberland Road, deposited waste included industrial, commercial and household waste. Landfill Site B South of Ferry Road historical landfill was located 350m north of the Order Limits (north of Fort Cumberland Road), deposited waste included commercial and household waste.

5. REGULATORY INFORMATION

5.1. LOCAL AUTHORITY POLLUTION PREVENTION AND CONTROLS

5.1.1.1. Local Authority Pollution Prevention and Controls and integrated Pollution Prevention and Control have been identified within 250 m along the Onshore Cable Corridor and are summarised in Table 10.

Table 10 - Local Authority Pollution Prevention and Controls within 250 m

Name	Description	Status	Position in relation to Onshore Cable Corridor
Section 3			
Denmead Service Station	PG/1/14 Petrol filling station	Authorised	260 m west of 3c)
Section 4			
The Laundrette	PG6/46 Dry cleaning	Application not yet authorised	20 m east (northern section)
Waterlooville Service Station (Total)	PG1/14 Petrol filling station	Permitted	70 m west (northern section)
Shell Waterlooville	PG1/14 Petrol filling station	Permitted	38 m south (northern section)
Hopkins Recycling Ltd	Part B processes (no specific reference)	Authorisation certificate surrendered by operator	45 m east (northern section)
Manor Garage	PG1/14 Petrol filling station	Authorisation revoked	15 m west (southern section)
Jet Portsdown Service Station	PG1/14 Petrol filling station	Permitted	25 m west (southern section)

Name	Description	Status	Position in relation to Onshore Cable Corridor
Section 6			
Solent Dry Cleaning	PG6/46 Dry cleaning	Permitted	90 m west
Richmond Cars	PG1/1 waste oil burners, less than 0.4MW net rated thermal input	Permitted	95m east
Apollo Motor Group	PG6/34 respraying of road vehicles	Permitted	140 m south-east
Sainsbury – Fitzherbert Road	PG1/14 petrol filling station	Authorised	Adjacent west / east
CBS Accident Repair Centre Ltd	PG6/34 respraying of road vehicles	Permitted	250 m east
Pall Europe Ltd	PG4/1 Processes for the surface treatment of metals PG6/23 Coating of metal and plastic	Authorisation revoked Application exempt from APC	95 m west
Section 7			
Shell Farlington	PG1/14 Petrol filling station	Authorised	Adjacent west /east (Northern Section)
KRM Works	PG3/1 blending, packing, loading and use of bulk cement	Permitted	30m east (southern section)
Wabco	Part B – general coating process (no specific reference)	Application exempt from APC	144m west (southern section)

5.2. POLLUTION INCIDENTS TO CONTROLLED WATERS

5.2.1.1. Pollution incidents to controlled waters have been identified along the Onshore Cable Corridor within 250 m and are summarised in Table 11.

Table 11 - Pollution Incidents to Controlled Waters within 250 m

Distance and direction	Year	Pollutant	Category	Receiving Water
Section 1				
On-site Lovedean Substation	1998	Oil leak, there was a significant loss of cable insulation oil due to poor operational practice.	Category 3 – Minor Incident	Unknown
Section 3				
On-route (southern section)	1997	Crude sewage – suspected failure of pumping station at Hambledon Road	Category 3 – Minor Incident	Unknown
Adjacent north (Anmore Road)	1993	Surcharged sewage	Category 3 – Minor Incident	Unknown
On-route (southern section)	1992	Crude sewage – lots of dead fish	Category 2 – Significant Incident	Unknown
On-route 3a) and 3b)	1993	Other oil – trade effluent washing down vehicles involving oil	Category 3 – Minor Incident	Unknown
On-route 3a) and 3b)	1997	Rubbish / little or soils	Category 3 – Minor Incident	Unknown
On-route 3a) and 3b)	1993	Other oil	Category 3 – Minor Incident	Unknown
70m south-west	1994	Other sewage	Category 3 – Minor	Unknown

Distance and direction	Year	Pollutant	Category	Receiving Water
(southern section)			Incident	
75m south-west (southern section)	1995	Crude sewage – discharge of sewage, water company: pumping station	Category 2 – Significant Incident	Unknown
90m west (southern section)	1997	Storm sewage	Category 3 – Minor Incident	Unknown
165m west (southern section)	1996	Crude sewage – hydrodynamic separator overflow	Category 3 – Minor Incident	Unknown
Section 4				
15m east (southern section)	1997	Waste oil – oil drums tipped over	Category 3 – Minor Incident	Unknown
81m west (southern section)	1994	Crude sewage	Category 3 – Minor Incident	Unknown
50m west (northern section)	1996 1998	Gas oil Other oil	Category 3 – Minor Incident	Unknown
130m west (northern section)	1993 1996	Gas oil Other oil	Category 3 – Minor Incident	Unknown
Section 6				
250m east	1996	Unknown chemicals	Category 3 – Minor Incident	Unknown
Section 7				
On route (northern section)	1996	Organic chemicals – chemical spillage	Category 2 – Significant Incident	Unknown

Distance and direction	Year	Pollutant	Category	Receiving Water
On route (northern section)	1997	Chemicals – paints / dyes – white discharge in Farlington Marshes	Category 3 – Minor Incident	Unknown
On route (northern section)	1996	Unknown chemicals – white discharge in ditch	Category 3 – Minor Incident	Unknown
160m east (southern section)	1992	Inert suspended solids – unconsented discharge to estuary	Category 3 – Minor Incident	Unknown

5.3. SUSTAINED POLLUTION INCIDENT REGISTER

5.3.1.1. Sustained pollution incidents have been identified along the proposed Onshore Cable Corridor and are summarised in Table 12.

Table 12 - Sustained Pollution Incidents within 250 m

Distance and direction	Year	Pollutant	Water Impact	Air Impact	Land Impact
Section 3					
250m west (southern section)	2004	Oils – diesel (including agricultural)	Category 2 – Significant Incident	Category 4 – No Impact	Category 4 – No Impact

5.4. DISCHARGE CONSENTS

5.4.1.1. There are multiple discharge consent points along the proposed route, discharging into the identified rivers, streams and drains. Further details of the discharge consent points can be found in the Envirocheck report. These are not considered further in this Preliminary Risk Assessment as the risk to the proposed works from discharge consents into local water courses is considered to be low.

6. CONCEPTUAL SITE MODEL

6.1. INTRODUCTION

6.1.1.1. The preliminary Conceptual Site Model ('CSM') is based upon the environmental conditions of the scheme as described in the previous sections.

6.1.1.2. The methods used within this assessment follow a risk-based approach with the potential environmental risk assessed qualitatively using the 'source-pathway-receptor' contaminant linkage concept introduced in the guidance documents (principally the EA's CLR11) on the practical implementation of the Environmental Protection Act 1990.

6.1.1.3. Environmental risk can be defined as the combination of the **consequence** of a harmful effect and the **probability** of its occurrence. The existence of a contaminant linkage is primarily dependant on scheme usage and environmental conditions.

6.1.1.4. The environmental risk assessment has been carried out by identifying and evaluating the significance of the following:

- Potential Sources of Contamination: these include any actual or potentially contaminating materials and activities, located either on or in the vicinity of the scheme;
- Potential Pathways for Contamination Migration: these are the routes or mechanisms by which contaminants may migrate from the source to the receptor; and
- Potential Receptors of Contamination: these include present or future land users, activities or persons at the scheme.

6.1.1.5. The preliminary CSM was developed based on a proposed industrial/commercial end use at the site. A summary of the applicable legislative and planning framework for the assessment is presented in Appendix C.

6.2. POTENTIAL CONTAMINATIVE SOURCES

6.2.1.1. Table 13 identifies the potential sources of contamination and the likely nature of such sources both on-route and surrounding the proposed cable. Pertinent contaminative sources are summarised on the constraints drawings in Appendix A.

Table 13 - Potential Contaminative Sources

Source	Section	Potential Contaminants of Concern
Made Ground associated with infilled land (landfills and historical mineral extraction sites)	All sections	Polyaromatic Hydrocarbons (PAH), cyanide, metals, hydrocarbons, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), asbestos, polychlorinated biphenyls (PCBs), sulphates, phenols and ground gases.
Historical landfills	Sections 4 to 5 Sections 7 to10	Metals, PCBs, hydrocarbons, PAHs, asbestos, VOCs, SVOCs, cyanide, phenols, sulphates and ground gases.
Infilled land associated with historical mineral extraction sites	All sections	Metals, PCBs, hydrocarbons, PAHs, asbestos, VOCs, SVOCs, cyanide, phenols, sulphates and ground gases.
Former industrial land uses	Section 4 – works, saw mills engineering works, sewage works and builders yard Section 5 – pumping station Section 6 – factory / works, water works and sewage works Section 7 – Portsmouth City Airport and riffle range Section 8 – brick works, sewage works, refuse destructor and sewage pumping station Section 9 – old canal, hospital, brickworks and smithy Section 10 – riffle ranges, Military of Defence (MOD) land sewage works, sewage pumping station, gas chamber and Fraser Range.	Metals, PCBs, hydrocarbons, PAHs, asbestos, VOCs, SVOCs, cyanide, phenols, and sulphates. For MOD land potential for explosive residues and radioactive contamination.

Source	Section	Potential Contaminants of Concern
Current land uses	Section 4 – works, depot, covered reservoir and engineering works Section 5 – filtration works and covered reservoir Section 6 – railway and factory / works Section 7 – railway, works and factories Section 8 – golf courses, depot, ambulance stations, and St Mary's Hospital Section 9 – Portsmouth University (Langstone Campus), St James Hospital and allotments Section 10 – Defence Research Academy (Fraser Range)	Metals, PCBs, hydrocarbons, PAHs, asbestos, VOCs, SVOCs, cyanide, phenols, and sulphates.
Petrol stations and garages (historical and current)	Sections 6 to 7 Section 9	PAHs, cyanide, metals, hydrocarbons VOCs and SVOCs
Agricultural land use (historical and current)	Sections 1 to 3	Pesticides

6.3. POTENTIAL RECEPTORS

6.3.1.1. As the Onshore Cable Corridor is going to be buried and the vast majority within roads with an impermeable road surface on top, the potential influence on human health from the cable corridor is restricted to disturbance of contaminated material during initial construction and maintenance.

6.3.1.2. Receptors of potential contamination were identified including:

6.3.2. HUMAN HEALTH

- Workers during construction and maintenance; and
- Surrounding general public during construction and maintenance.

6.3.3. CONTROLLED WATERS

- Shallow groundwater within identified Principal, Secondary (A) and Secondary (Undifferentiated) Aquifers; and
- Identified surface water features.

6.3.4. BELOW GROUND SERVICES

- The cable itself;
- Buried concrete; and
- Potable water supply pipes.

6.4. PLAUSIBLE CONTAMINANT PATHWAYS

6.4.1.1. Plausible contaminant pathways were identified including:

- Human health (Pathway 1):
  - Dermal contact;
  - Direct ingestion;
  - Direct exposure to impacted shallow groundwater and/or surface water; and
  - Consumption of home-grown produce.
- Human health (Pathway 2)
  - Inhalation of particulates/fibres and/or soil/water derived vapours; and
  - Asphyxiation by accumulation of ground gases in internal/confined spaces.
- Groundwater (Pathway 3)
  - Leaching of contaminants through the unsaturated zone and subsequent impact on groundwater; and
  - Lateral migration of impacted groundwater.
- Surface water features/ecologically sensitive areas (Pathway 4)
  - Surface water runoff; and
  - Migration of immiscible contaminants.
- Below ground services (Pathway 5):
  - Direct contact with corrosive substances (e.g. sulphates and hydrocarbons) in the soil and shallow groundwater.

6.4.1.2. The preliminary Conceptual Site Models for each section are in Table 14 to Table 23.

Table 14 - Section 1 (Converter Station) Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Infilled Land	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols and ground gases.	1-5	• There are numerous identified historical mineral extraction sites on-route or within the surrounding area of the Converter Station, the infilled material is unknown. There is the potential for these to be infilled with Made Ground. However only five are on the proposed route. it is unlikely that the proposed route will directly disturb these, therefore the infilled land is unlikely to pose a significant risk. • There are no surface water receptors within 500m of the Order Limits • The FOC infrastructure is likely to be above ground therefore no significant risk.	LOW
Historical and current agricultural land uses	Pesticides	1-5	• It is unknown what chemicals the farmers use or have used. Inorganic pesticides (e.g. containing arsenic) could have been used, however, this is unlikely to cause a significant risk.	LOW
Pollution incidents to controlled waters (oil leak)	PAHs, VOCs, SVOCs, and hydrocarbons	1-5	• The pollution incident occurred in 1998 therefore unlikely to pose a significant risk.	LOW

Table 15 - Section 2 Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Infilled Land Landfill	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols and ground gases.	1-5	• There are five identified historical mineral extraction sites within 500m of the Order Limits; the infill material is unknown. There is the potential for these to be infilled with Made Ground. However, these are not directly on the proposed route and are unlikely to pose a significant risk. • There are no surface water features within 500m of the Order Limits. • Anmore Dell landfill is over 250m east of the Order Limits, it is unlikely to pose a significant risk. • The junction boxes along the route are likely to be above ground therefore unlikely to cause a significant risk due to no ground disturbance.	LOW
Historical and current agricultural land uses	Pesticides	1-5	• It is unknown what chemicals the farmers use or have used. Inorganic pesticides (e.g. containing arsenic) could have been used, however this is unlikely to cause a significant risk.	LOW

Table 16 - Section 3 Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Infilled Land Landfill	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols and ground gases.	1-5	• There are four identified historical mineral extraction sites within 500m of the Order Limits, the infill material is unknown. There is the potential for these to be infilled with Made Ground. However, these are not directly on the proposed route and are unlikely to pose a significant risk. • Anmore Dell landfill is over 250m east of the Order Limits, it is unlikely to pose a significant risk. • There are no significant surface water receptors within 500m of the Order Limits. • The London Clay Formation would prevent vertical migration to underlying Principal Aquifers. • It is likely that the Made Ground will be reused in the backfill material reducing the risk to the cable itself • The junction boxes along the route are likely to be above ground therefore unlikely to cause a significant risk due to no ground disturbance.	LOW
Historical and current agricultural land uses	Pesticides	1-5	• It is unknown what chemicals the farmers use or have used. Inorganic pesticides (e.g. containing arsenic) could have been used, however this is unlikely to cause a significant risk. • The London Clay Formation would prevent vertical migration to underlying Principal Aquifers.	LOW

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Ten pollution incidents to controlled waters	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols and pathogens.	1-5	• The pollution incidents occurred between 1992 and 1997 therefore unlikely to pose a significant risk.	LOW

Table 17 - Section 4 Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Infilled Land Landfill	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols and ground gases.	1-5	• There are eleven identified historical mineral extraction sites within 500m of the Order Limits; the infill material is unknown. There is the potential for these to be infilled with Made Ground. However, these are not directly on the proposed route and are unlikely to pose a significant risk. • Fielders Park landfill is 50m east of the Order Limits, however it is unlikely to pose a significant risk. • The proposed route will follow the main road, so unlikely to pose a significant risk.	LOW

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
			• There are no significant surface water receptors within 500m of the Order Limits. • The London Clay Formation would prevent vertical migration to underlying Aquifers. • It is likely that the Made Ground will be reused in the backfill material reducing the risk to the cable itself.	
Former and current industrial land use including filling station, electricity substation, saw mills, depots, smithy, engineering works and sewage works	Metals, PCBs, hydrocarbons, PAHs, asbestos, VOCs, SVOCs, cyanide, phenols, and sulphates.	1-5	• The proposed route will be following existing roadways and unlikely to be disturbing current or industrial land uses surrounding the site, therefore unlikely to pose a significant risk. • The London Clay Formation would prevent vertical migration to underlying Aquifers. • The junction boxes along the route are likely to be above ground therefore unlikely to cause a significant risk due to no ground disturbance.	LOW
Four pollution incidents to controlled waters	Metals, PCBs, hydrocarbons, PAHs, asbestos, VOCs, SVOCs, cyanide, phenols, and sulphates.	1-5	• The pollution incidents occurred between 1994 and 1998 therefore unlikely to pose a significant risk	LOW

Table 18 - Section 5 Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Infilled Land Landfill	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols and ground gases.	1-5	• There are two identified historical mineral extraction sites within 500m of the Order Limits, the infill material is unknown. There is the potential for these to be infilled with Made Ground. However, these are not directly on the proposed route and are unlikely to pose a significant risk. • Pumping station landfill was located adjacent east / west of the Order Limits. The route is following the main road so unlikely to pose a significant risk also a school has been built in the area of this landfill. • The proposed route will follow the main road, so unlikely to pose a significant risk. • There are no significant surface water receptors within 500m of the area. • It is likely that the Made Ground will be reused in the backfill material reducing the risk to the cable itself.	LOW
Former and current industrial land uses including reservoirs and pumping station	Metals, PCBs, hydrocarbons, PAHs, asbestos, VOCs, SVOCs, cyanide, phenols, and	1-5	• The proposed route will be following existing roadways and unlikely to be disturbing current or industrial land uses surrounding the site; therefore unlikely to pose a significant risk. • The junction boxes along the route are likely to be above ground therefore unlikely to cause a significant	LOW

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
	sulphates.		risk due to no ground disturbance.	

Table 19 - Section 6 Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Current and former industrial land uses including the railway, factory, works, sewage works and petrol station	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, and phenols.	1-5	• The proposed route will be following existing roadways and unlikely to be disturbing current or industrial land uses surrounding the site; therefore unlikely to pose a significant risk. • It is likely that the any Made Ground will be reused in the backfill material reducing the risk to the cable itself.	LOW
Pollution incident to controlled waters for unknown chemicals	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, and phenols.	1-5	• The pollution incident occurred in 1996 and was 250m away from the area therefore unlikely to pose a significant risk.	LOW

Table 20 - Section 7 Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Infilled Land Landfill	PAHs, cyanide, metals,	1-5	• There is one mineral extraction site 130m east of the Order Limits which is currently active, however due to the distance it is unlikely to pose a significant risk.	LOW

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
	hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols and ground gases.		• There are two landfills adjacent east of eastern road, however as the proposed route will likely follow the main road, they are unlikely to pose a significant risk. • It is likely that the any Made Ground will be reused in the backfill material reducing the risk to the cable itself. • There is Made Ground which has been associated with infilled land, however as the route is likely to follow the main road, there is unlikely to be any significant risks. • It is likely that the any Made Ground will be reused in the backfill material reducing the risk to the cable itself	
Former and current industrial land use including racecourse (on-route), petrol filling station, railway, former Portsmouth city airport, works, electrical substations, and riffle range	Metals, PCBs, hydrocarbons, PAHs, asbestos, VOCs, SVOCs, cyanide, phenols, sulphates, explosive residue and radiation.	1-5	• The proposed route will be following existing roadways and unlikely to be disturbing current or industrial land uses surrounding the site, therefore unlikely to pose a significant risk. • The riffle range is now residential housing.	LOW

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Four pollution incidents to controlled waters	Metals, PCBs, hydrocarbons, PAHs, asbestos, VOCs, SVOCs, cyanide, phenols, and sulphates.	1-5	• The pollution incidents occurred between 1992 and 1997 therefore unlikely to pose a significant risk	LOW

Table 21 - Section 8 Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Milton Common				
Milton Common Landfill	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols and ground gases	1-5	• WSP 2018 investigation noted Made Ground was thinner towards the west of the common 1.20 – 1.60m. Thicker Made ground >4m was noted towards the centre and east of the Common. • PBL 1994 investigation noted Made Ground comprised, rotting clothes, wood, paper, glass, cardboard, plastic and metal etc. The Made Ground was noted to be more contaminated towards the east of the Common. • PBL analysis found that the shallow soil samples (less than 0.5m depth) revealed only minor	MODER-ATE

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
			contamination with exceedances for coper, zinc and isolated cadmium, nickel and phenols alongside eastern margin of the common. The analyses of deeper soils indicated more extensive contamination with exceedances of cooper and zinc and, hydrocarbons including PAH. • PBL investigation found exceedances for phenols, ammonia, sulphide and hydrocarbons in the groundwater indicating the potential for leaching. • PBL report found exceedances for ammonia, mercury and phenols in the lake water samples. • PBL report 1994 and 1995 indicated elevated carbon dioxide and methane levels across the Common, however a gas trench has been built to mitigate this pathway. • If excavation was to occur along the proposed route by the seawall, mitigation will need to be in place, for example including clay stanks to stop migration of gas along the trench and a new landfill cover • system to replace the disturbed areas. This would reduce the risk to low. • London Clay Formation would prevent vertical migration to underlying aquifers.	

Table 22 - Section 9 Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Infilled Land Landfill	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols and ground gases.	1-5	• There is one historical mineral extraction site 364m east of the Order Limits, however due to the distance it is unlikely to pose a significant risk. • There is one landfill adjacent south-west of the Order Limits associated with the reclaimed land and the current allotment gardens. Previous investigation by PE in (add Date) identified Made Ground between 1.8 and 3.6m bgl, and the Made Ground comprises brick, concrete, glass, ashes, metal, cloth, shore leather and wood. However, the investigation highlighted no methane concentrations were recorded and carbo dioxide levels between 0 and 0.8% by volume. The investigation found exceedances (ICRCL) of arsenic, lead, mercury, cooper, zinc, nickel, PAH and cadmium in the samples, however the report concluded that there was not a significant risk to human health, but did recommended a topsoil thickness survey. The Made Ground along the border of the allotments and the housing estate was generally thinner. The proposed route will likely follow the existing roads however if it needs to cross the allotments it will likely follow the edges to minimise the disturbance, therefore unlikely to pose a significant risk. • Milton Common Landfill is located 206m north of Portsmouth University Langstone Campus, due to the	LOW

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
			distance it is unlikely to pose a significant risk. • It is likely that the any Made Ground will be reused in the backfill material reducing the risk to the cable itself.	
Former and current industrial land uses including allotments, old canal, smithy, brickworks and St James Hospital	Metals, PCBs, hydrocarbons, PAHs, asbestos, VOCs, SVOCs, cyanide, phenols, and sulphates.	1-5	• The proposed route will likely be following existing roadways apart from the potentially the allotments east of the area and land at Portsmouth University east of the area. Therefore, unlikely to be disturbing current or industrial land uses surrounding the site. It is likely that the route will go around the edge of the allotment and Portsmouth University. Therefore, unlikely to pose a significant risk.	LOW

Table 23 - Landfall Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Infilled Land Landfill	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols	1-5	• There is one historical mineral extraction site 100m south / west of the Order Limits, however due to the distance it is unlikely to pose a significant risk. • There are three historical landfills adjacent north / north-west of Fort Cumberland Road, however as the proposed route will likely follow the main road, they are unlikely to pose a significant risk.	LOW

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
	and ground gases.		• There is one historical landfills located 350m north of the Order Limits, however due to the distance it is unlikely to pose a significant risk. • It is likely that the any Made Ground will be reused in the backfill material reducing the risk to the cable itself. • The London Clay Formation will prevent vertical migration to underlying aquifers.	
Former and current industrial land uses including, former Military of Defence Land, riffle ranges, sea service battery / central gunnery school, sewage pumping station, Fraser Range – firing range and a gas chamber.	Metals, PCBs, hydrocarbons, PAHs, asbestos, VOCs, SVOCs, cyanide, phenols, sulphates, explosive residues and radiation.	1-5	• The proposed route will likely be following existing roadways • Therefore, unlikely to be disturbing current or industrial land uses surrounding the site, so unlikely to pose a significant risk. • The junction boxes along the route are likely to be above ground therefore unlikely to cause a significant risk due to no ground disturbance. • Majority of the area has been redeveloped to include residential housing, leisure centre and a caravan park. • FOC infrastructure at Landfall is likely to be above ground therefore unlikely to cause a significant risk due to minimal / no ground disturbance.	LOW

6.5. RISK SUMMARY

6.5.1. CONSTRUCTION / MAINTENANCE WORKS / DECOMMISSION

6.5.1.1. The risk to construction and maintenance workers along all sections excluding Milton Common, has been categorised a generally a LOW risk (i.e., possible that harm could arise to a receptor, however such harm at worst would normally be mild). For the most part, the proposed Cable Route is likely to follow existing roadways therefore unlikely to disturb ground of current or historical industrial land uses, mineral extraction sites and landfills. In areas of Made Ground excavation the risk could increase however could be mitigated by the use of appropriate Personal Protective Equipment ('PPE'), monitoring equipment and personal hygiene.

6.5.1.2. The risk to construction and maintenance works at Section 8 Milton Common, has been categorised as generally MODERATE (i.e., possible that harm could arise to a receptor, but low likelihood that such harm would be severe, harm is likely to be mild however some remedial works may be required in the long-term) due to Made Ground, contamination and landfill gas present at the common. If excavation was to occur in this area, the risk could be mitigated by the use of appropriate PPE, monitoring equipment and personal hygiene.

6.5.2. SURROUNDING GENERAL PUBLIC DURING CONSTRUCTION / MAINTENANCE / DECOMMISSION

6.5.2.1. The risk to the general public along all sections have been categorised as generally a LOW risk apart from Section 8 Milton Common. For the most part, the proposed route is likely to follow existing roadways therefore unlikely to disturb ground of current or historical industrial land uses, mineral extraction sites and landfills. Work areas would be fenced off and exposure limited to inhalation of dust and vapours, which would be in open air and brief and subject to construction controls. Excavated Made Ground material should be covered or removed from the work area thereby further reducing potential contact with neighbouring human health receptors.

6.5.2.2. Section 8 Milton Common, has been categorised as generally MODERATE, due to Made Ground, contamination and ground gases found at the Common. If excavation was to occur along the proposed route by the seawall, mitigation will need to be put in place, for example including clay stanks to prevent migration of gas along the trench, disposal of waste arisings offsite and the installation of a replacement landfill capping in disturbed areas. This would then reduce the residual risk to LOW.

6.5.3. CONTROLLED WATERS

6.5.3.1. The risk to controlled waters along all sections of the route excluding Section 8 Milton Common have been categorised as LOW. For the Sections towards the north there are no significant surface water features. For some sections the London Clay

Formation would prevent any vertical migration to underlying Aquifers. For most part, the proposed route is likely to follow existing roadways therefore unlikely to disturb ground of current or historical industrial land uses, mineral extraction sites and landfills.

6.5.3.2. Section 8 Milton Common, has been categorised as generally MODERATE, due to Made Ground, potential for leaching to groundwater, contamination in groundwater and surface water samples. However, it is unlikely that due to the shallow excavation depths groundwater will be encountered. Water removed from any excavations will be disposed of or discharged in accordance with Environment Agency requirements.

6.5.4. CABLE

6.5.4.1. To protect future maintenance workers, it is proposed that contaminated or otherwise chemically unsuitable Made Ground excavated in the construction of the cable trench will not be reused in the backfill material. Therefore, only chemically suitable, validated backfill will be used during the installation of the cable. This will result in a LOW risk to the cable materials from backfill soils. Contaminated groundwater along the route or from adjacent land in high risk areas may migrate into the cable trench during or following construction. However, in general, groundwater along the route alignment is below the soffit of the trench and therefore, the risk of impact to the cable materials from potentially contaminated groundwater is also considered to be LOW.

7. SITE INVESTIGATION AND ASSESSMENT RATIONALE

7.1. FIELDWORKS

7.1.1.1. A ground investigation was carried out by WSP in 2018 to investigate potential contamination sources identified in the desk study stage. The ground investigation works were split into two phases. Phase 1 comprised the proposed Converter Station Area and Phase 2 comprised the Onshore Cable Corridor, Landfall and horizontal directional drilling ('HDD') locations. Phase 1 ground investigation was undertaken by Geotechnics Ltd in April and May 2018. The majority of the Phase 2 ground investigation works were undertaken between July and October 2018, with some undertaken during April and May 2018.

7.1.1.2. This GQRA summarises the reports on the findings of the preliminary ground investigation works undertaken in 2018 focusing on the contamination results. Further details of the ground investigation can be found within the following reports:

- Aquind – UK Converter Station Ground Investigation – Geotechnical Interpretative Design Development Report, prepared by WSP dated May 2019; and
- Aquind – UK Route, HDD and Landfall Ground Investigation – Geotechnical Interpretative Design Development Report, prepared by WSP dated May 2019.

7.1.1.3. The Phase 1 investigation consisted of:

- 10 boreholes (5 at Option A: Southwest of Lovedean Substation and 6 at Option B: West of Lovedean Substation),
- 15 trial pits (4 at each potential Converter Station, and 7 for the potential HVAC route and access track).

7.1.1.4. However it should be noted that Option B is the selected option (the Converter Station Area) and will be the one reflected in this report.

7.1.1.5. Phase 2 investigation consisted of:

- 24 boreholes;
- 52 window samples;
- 4 trial pits;
- 11 groundwater monitoring installations; and
- Chemical laboratory testing

7.1.1.6. The Results of the ground investigation are presented in the following Factual Reports:

- Geotechnics Ltd, 2018, UK - France HVDC Interconnector Onshore Work Package 1 (Option South), PE181480.
- Geotechnics Ltd, 2018, UK - France HVDC Interconnector Onshore Work Package 1A (Option West and Access Track), PE181477.
- Geotechnics Ltd, 2019, UK - France HVDC Interconnector Onshore Work Package 2, PE181481.
- Geotechnics Ltd, 2019, UK - France HVDC Interconnector Onshore Work Package 3, PE181482.

7.1.1.7. Plans showing the location of exploratory holes carried out as part of the Phase 1 ground investigation are included within the Factual Reports.

7.2. SAMPLING AND LABORATORY CHEMICAL ANALYSIS

7.2.1. CHEMICAL ANALYSIS

7.2.1.1. All analysis was undertaken at United Kingdom Accreditation Service ('UKAS') accredited laboratory of Derwentside Environmental Testing Services and field sampling was undertaken in accordance with industry guidance. The results and analysis are presented within Section 8. Laboratory certificates are presented in Appendix E.

Soils

7.2.1.2. The sampling was undertaken in areas of potential concern e.g. petrol filling stations, landfills, and industrial land uses, etc. 104 soil samples were tested. Chemical laboratory analysis comprised metals, cyanide, phenols, asbestos identification, hexavalent chromium, total petroleum hydrocarbons ('TPH'), polyaromatic hydrocarbons ('PAH'), PCBs, VOC, SVOC, sulphate, pH, and soil organic matter ('SOM').

Leachate

7.2.1.3. 70 soils samples from across the route within varying strata were schedule for leachate analysis. Chemical laboratory analysis comprised metals, PAH, TPH, VOC, SVOC and pH.

Groundwater

7.2.1.4. Six groundwater samples were scheduled for analysis, laboratory analysis comprised pH, filtered metals, TPH, PAH, PCBs, sulphate, VOCs, SVOCs, cyanide, nitrite, nitrate, ammoniacal nitrogen, phenols, hexavalent chromium, and mercury.

8. GROUND CONDITIONS SUMMARY

8.1.1.1. Detailed information on the ground conditions encountered along the route can be found in (the Geotechnical Interpretative Design Development Reports prepared by WSP in May 2019) The following information summarises the typical ground conditions that are likely to be encountered at each section along the route based on the WSP 2018 ground investigation.

8.2. SECTION 1 – LOVEDEAN (CONVERTER STATION AREA)

8.2.1.1. The Converter Station Area was found to be directly underlain by Head Deposits consist predominantly of gravelly Clays; sometimes becoming clayey Gravel. Generally underlying the Head Deposits was Structureless Grade D Chalk predominately described as Grade Dm with occasional interbedded layers of Dc. Below the Structureless Grade D Chalk, Chalk quality and grade broadly improved with depth becoming Structure Chalk Grades C to A. Two Karsts were found in the Ground Penetrating Radar Survey.

8.3. SECTION 2 - ANMORE

8.3.1.1. All exploratory holes encountered topsoil, which varied from 0.10-0.30 m in thickness. Generally, the Topsoil overlaid Head Deposits, which varied from 1.10m-2.90m in thickness. However, in BH38 topsoil overlaid Made Ground (soft to firm brown orange gravelly clay, with angular to subangular fine to coarse brick, chert, flint and occasional cobbles of brick and flint), which was 1.20 m thick and overlaid Head Deposits. Head Deposits were commonly overlying Tarrant Chalk bedrock apart from at BH38 where it overlay Lambeth Group (Clay), which was 3.60 m thick. Tarrant Chalk bedrock underlaid the Lambeth Group (Clay) at BH38.

8.4. SECTION 3 – DENMEAD/KINGS POND MEADOW

8.4.1.1. Topsoil was encountered in three exploratory holes (WS54, WS26 and BH40) and ranged from 0.20 m to 0.40 m thickness. Made Ground was present at six exploratory locations (BH38, WS29, WS28, WS27 WS54, WS53) and was commonly found at surface or underlaying Topsoil and ranged from 0.40m to 2.10m in thickness. The Made Ground generally comprised soft to firm dark brown orange gravelly clay, with angular to subangular fine to coarse brick, chert, flint and occasional cobbles of brick and flint (anticipated reworked Head Deposits). BH38 comprised a subangular fine to coarse gravel of chert with occasional cobbles at 1.00 m bgl.

8.4.1.2. Seven exploratory holes (BH38, WS30, WS29, WS27, WS26, BH40, BH07) encountered Head Deposits, which generally underlaid the Topsoil and/or Made

Ground, the Head Deposits ranged from 0.40-3.00 m in thickness. Lambeth Group was encountered in all exploratory holes expect for WS53 as this hole terminated relatively shallow. The Lambeth group underlaid the entirety of the site, generally thickening towards the south, recorded thickness ranged from 2.00 m to >13.70 m. Underlaying the Lambeth Group is the Tarrant Chalk bedrock.

8.5. SECTION 4 – HAMBLEDON ROAD TO FARLINGTON AVENUE

8.5.1.1. The exploratory positions either encountered topsoil 0.1 m to 0.4 m thick or Made Ground (slightly to very sandy very clayey gravel and slightly gravelly slightly silty sand, with chalk, flint and chert gravel) 0.35 m to 1.7 m thick (locally up to 5.0m thick in WS56, encountered as 'Possible Made Ground' (medium dense light greyish brown slightly gravelly silty to very silty fine sand) from 2.2 m to 5.0 m bgl).

8.5.1.2. The topsoil and Made Ground overlie Head Deposits between WS26-WS32 and BH11-WS21, Head Deposits ranged from 0.7 m to 2.85 m in thickness. Topsoil and Made Ground overlie the Wittering Formation at WS22, WS33 and BH11, ranging between 2.3 m to >4.7 m in thickness. Made Ground overlies the Whitecliff Sand Member at WS55 and is 0.8 m thick. To the north superficial deposits overlie a bedrock of Lambeth Group, as recorded in BH08 from 1.4 m bgl. Centrally superficial deposits overlie a bedrock of London Clay, as recorded in WS25A to WS32 and WS55 to BH11 from 1.4m to 5.5m bgl. London Clay was not encountered between WS22-WS56; this is considered to be due to exploratory hole not achieving sufficient depth to encounter bedrock. The base of the Lambeth Group or the London Clay was not encountered, it is considered both are underlain by Chalk bedrock. In BH12 – BH14 the Topsoil and Made Ground strata were underlain by structured chalk. The base of the structured chalk was not encountered (>5.30 m bgl in BH13).

8.6. SECTION 5 - FARLINGTON

8.6.1.1. Topsoil was encountered to the north in BH14 and was 0.3 m thick. The other two exploratory holes (WS01 and WS02) encountered Made Ground (soft for firm dark light to dark brown slightly sandy slightly gravelly clay, with angular to subangular fine to coarse chert, brick and concrete with rare pieces of metal) which varied from 0.40m to 0.90m in thickness. Topsoil overlaid Chalk bedrock and the Made Ground overlaid Head Deposits (predominantly clayey angular to subangular fine to coarse chert gravel) which were 0.30 m to 1.30 m thick. Head Deposits overlaid River Terrace Deposits at WS02 and were 1.8 m thick. All exploratory holes were underlain by Chalk bedrock, the base of the Structured Chalk was not encountered (>4.70 m bgl in BH14).

8.7. SECTION 6 – ZETLAND FIELD AND SAINSBURY'S CAR PARK

8.7.1.1. All exploratory holes encountered Made Ground (Soft to firm dark light to dark brown slightly sandy slightly gravelly clay Gravel is angular to subangular fine to coarse chert, brick and concrete with rare pieces of metal). BH15 encountered asphalt top layer approximately 10cm thick, with brownish grey angular to subangular fine to coarse gravel with high cobble content. Gravel and cobbles were concrete, brick, asphalt and limestone. The Made Ground varied from 0.70-0.90 m in thickness. Generally, the Made Ground overlaid River Terrace Deposits, which were 1.70m to 3.10 m thick, apart from WS02 where the Made Ground overlaid Head Deposits which were 0.30 m thick which overlaid River Terrace Deposits. River Terrace Deposits were overlying Chalk bedrock.

8.8. SECTION 7 – FARLINGTON JUNCTION TO AIRPORT SERVICE ROAD

8.8.1.1. Two exploratory holes encountered topsoil (BH18 and BH19), which was 0.10 m and 0.90 m thick. Topsoil commonly overlaid Made Ground. The Made Ground varied from 0.65 m to 2.70 m thick. The Made Ground consisted of firm grey orangish slightly sandy slightly gravely silty clay, with subangular to subrounded fine to coarse chert, chalk gravels and occasional flint and brick cobbles. The organic content in the Made Ground generally increased with depth.

8.8.1.2. In BH35, WS04 and WS05 the Made Ground comprised stiff grey brown slightly sandy slightly gravelly silty clay with subangular to subrounded fine to coarse chert, chalk gravels, and occasional fragments of metal, glass, pottery, plastic, flint and brick cobbles.

8.8.1.3. The Made Ground overlaid River Terrace Deposits at four locations and Beach and Tidal Flat Deposits at three locations; River Terrace Deposits ranged from 3.2m to >4.3m and the Beach and Tidal Flat Deposits 1.60m to 2.50m in thickness. Made Ground was not located at one location (BH18), this is the only location Raised Marine Deposits and were 0.7m thick. The Made Ground, River Terrace Deposits or Beach and Tidal Flat Deposits overlay the Chalk bedrock.

8.9. SECTION 8 – EASTERN ROAD (ADJACENT TO GREAT SALTERNS GOLF COURSE) TO MOORINGS WAY

8.9.1.1. All exploratory holes encountered Made Ground which varied from >0.3->5.00m in thickness. The Made Ground generally comprised of firm grey brown orangish slightly sandy slightly gravelly silty Clay. Gravel subangular to subrounded fine to coarse chert, chalk and occasional flint, pottery, glass, metal and brick cobbles. It should be noted that all the locations apart from those along Eastern Road North were within historical landfill therefore numerous locations encountered asbestos,

plastic, brick, metals, glass, hydrocarbons and other human waste and contamination. The thicker Made Ground was noted towards the east of the Milton Common Landfill.

8.9.1.2. The Made Ground either overlaid the River Terrace Deposits or the Beach and Tidal Flat Deposits. The River Terrace Deposits ranged from 0.8 - >2.3m and the Beach and Tidal Flat Deposits 1.80m to >3.40m in thickness. The Made Ground, River Terrace Deposits or Beach and Tidal Flat Deposits overlay the London Clay Formation at 3 locations (WS08, WS09 and WS10) and Lambeth Group at one location (WS19).

8.9.1.3. Milton Common is a recorded historical landfill. Hydrocarbons odours were identified within the Made Ground within Milton Common (WS18). Milton Common exploratory holes were commonly abandoned short of the 5m target due to obstructions or underground metallic anomalies identified as part of the UXO screening exercise.

8.10. SECTION 9 – MOORINGS WAT TO BRANSBURY ROAD

8.10.1.1. Topsoil was encountered at two exploratory locations (WS60 and WS41), ranging from 0.1 m to 0.2 m in thickness. All exploratory holes apart from one (BH33) encountered Made Ground which varied from 0.80m to >3.00m in thickness.

8.10.1.2. The Made Ground generally comprises dark brown slightly sandy gravelly clay, gravel was angular to subrounded fine to coarse, chert, brick and concrete. WS40 encountered tarmac underlain by concrete. BH34 (Milton Allotments) was located at a historical landfill and there was notably higher concretions of plastic and waste materials present e.g. glass, textiles and metals.

8.10.1.3. The Made Ground overlaid River Terrace Deposits at eighteen locations and Beach and Tidal Flat Deposits at BH39 location; River Terrace Deposits ranged from 0.30m to >4.00m and the Beach and Tidal Flat Deposits 0.80 m to >1.50 m in thickness. The Made Ground, River Terrace Deposits or Beach and Tidal Flat Deposits overlay Wittering Formation or the Member at eight locations and Whitecliff and Portsmouth Sand at one location (BH39).

8.10.1.4. Milton Piece Garden Allotments and the recreational land to the south is a recorded historical landfill. Hydrocarbons odours were identified within the Made Ground within Milton Common (WS18). Milton Piece Garden Allotments exploratory holes were commonly abandoned short of the 5m target due to metallic anomalies identified as part of the UXO screening exercise, and window samples in the road networks due to obstruction.

8.11. SECTION 10 – EASTNEY (LANDFALL)

8.11.1.1. BH21 encountered Topsoil and was 0.10 m thick. All exploratory locations encountered Made Ground. The Made Ground varied but generally comprised – Firm to stiff brown slightly sandy slightly gravelly Clay or gravel and silts. Gravel was

angular to rounded fine to coarse of brick, chert, plastic, title, clinker fragments and flint. Occasional cobbles of brick and concrete. BH24 encountered reddish brown clayey very gravelly fine to coarse Sand. Gravel is angular to sub-rounded of flint and fine grained igneous rock. BH26 encountered Brown very gravelly slightly silty medium and coarse Sand. Gravel is angular to subrounded fine to coarse of quartzite, flint, brick, metal and concrete. Cobbles and boulders up to 500mm. Steel girders present within the Made Ground. The Made Ground varied from 0.30m to 2.80m in thickness.

8.11.1.2. The Made Ground overlaid River Terrace Deposits at two locations (BH21 and BH22) and the Wittering Formation at one location (WS16) and Storm Beach Deposits at 3 locations (BH24, BH25 and BH26). River Terrace Deposits were 1.00-2.5m thick and Storm Beach Deposits were 3.70 m to 6.40 m thick. Tidal Flat Deposits were only located in BH24 underlaying the Storm Beach Deposits and were 0.40m thick. The wittering formation underlaid all superficial deposits and was recorded between 20.10 m to 21.20 m in thickness.

9. GENERIC QUANTITATIVE RISK ASSESSMENT

9.1. HUMAN HEALTH GQRA

9.1.1.1. In order to undertake a GQRA (Stage 2) on the supplementary data, contaminant concentrations need to be compared to appropriate Generic Assessment Criteria ('GAC'). Current UK industry practice is to use, as first preference, UK soil guideline values ('SGVs') which are GAC published by the EA and derived using the Contaminated Land Exposure Assessment ('CLEA') model. Where these are not available and in order to provide a consistent methodology for the assessment of various contaminants a series of GAC screening values have been calculated by WSP using CLEA V1.071, a computer modelling tool designed to assess human health related risks posed by contaminated soil.

9.1.1.2. The contaminant concentrations have also been screened against Category 4 Screening Levels (C4SL) as outlined by Defra. The C4SLs provide a less conservative toxicological/exposure assumption. The impact assessment was agreed during the revision of the Part 2A Statutory Guidance and was developed on the basis that C4SLs could be used under the planning regime as well as within Part 2A.

9.1.1.3. The WSP Human Health assessment methodology is presented in Appendix D.

9.1.2. COMPLIANCE CRITIERIA

9.1.2.1. The soil contaminant concentrations have been compared against SGV/GAC/C4SL for a commercial based on the end use. Where the proposed Onshore Cable Corridor goes through areas of Public Open Space the soil contaminant concentrations have been compared against SGV/GAC/C4SL for Public Open Space Park 9Milton Common Section 7). Where the proposed Onshore Cable Corridor goes through allotments (Section 9) the soil contaminant concentrations have been compared against SGV/GAC/C4SL for Allotments.

9.1.2.2. 80 soil samples were tested for SOM. The SOM content varied, with values typically ranging from <0.1 to 9.2%. The average SOM is 1.79%. As a result, the samples have been compared to the values relating to a conservative SOM of 1%.

9.1.3. ANALYSIS OF DATA

9.1.3.1. A direct comparison of the GAC/SGV to the analytical results of the selected soils samples has been undertaken. Laboratory certificates are attached in **Appendix E**. Exceedances identified are summarised in Table 24.

9.1.3.2. There were no exceedances identified for the selected soil samples at Milton Common which were compared against SGV/GAC/C4SL for a Public Open Space Park Land Use.

Table 24 - Exceedances of soil GAC

Analyte	Exploratory hole	Depth	Result	Threshold GAC	Threshold C4SLs	Units	Stratum
Commercial Land Use							
Arsenic	WS51 – Section 9 (The Haven)	0.3	650	635	640	mg/kg	Made Ground
Lead	WS38 – Section 9 (reclaimed land)	0.3	17000	1390	2330	mg/kg	Made Ground
Benzo(a) pyrene	WS19 – Section 8 (Petrol filling station eastern Road)	0.6	54	38	76	mg/kg	Made Ground
Allotments (Section 9)							
Lead	BH33	0.3	720	65	80	mg/kg	Made Ground
	WS36	0.3	1300				
	WS37	0.5	550				
	WS57	0.3	73.0				
	WS57	1	92				

Seven samples tested positive for asbestos. The results are presented in Table 25 and Appendix E.

Table 25 - Summary of Asbestos in Soils

Exploratory Hole	Depth (m bgl)*	Stratum	Type
WS454A – Section 3 (Anmore Road)	0.50	Made Ground	Amosite and Chrysotile present as bundles of fibres
BH26 – Section 10 Landfall (Fraser Range)	0.50	Made Ground	Chrysotile present as bundles of fibres
WS19 – Section 8 (petrol filling station Eastern Road)	0.60	Made Ground	Chrysotile present as bundles of fibres
WS41 – Section 9 (west of the allotments)	0.2 – 0.60	Made Ground	Chrysotile present in cement fragments
WS35 – Section 9 (Portsmouth University Langstone Campus)	0.30	Made Ground	Chrysotile present as small bundles
WS04 – Section 7 (Kendall's Wharf)	1.00 – 1.20	Made Ground	Chrysotile present in bundles
WS17 – Section 8 (Milton Common East)	0.60	Made Ground	Chrysotile present as bundles of fibres

9.2. CONTROLLED WATERS GQRA

9.2.1.1. In accordance with the Water Framework Directive (2000/60/EC) and the identified receptors, the following Water Quality Standards ('WQS') have been applied to the groundwater data:

- UK Drinking Water Quality Standards ('DWQS') 2000 (amended 2004);
- Guidelines for Drinking Water Quality, Fourth Edition, Volume 1, World Health

Organisation, 2011;

- World Health Organisation ('WHO') Petroleum Products in Drinking Water;
- CL:AIRE Petroleum Hydrocarbons in Groundwater Guidance, V1.1, 2017; and
- Environmental Quality Standards, Directive, 2008/105/EC.

9.2.1.2. The WSP Controlled Waters assessment methodology is presented in Appendix D. Analytical leachate and groundwater results have been compared to screening values applicable to groundwater and surface water receptors.

9.2.1.3. Chemical analysis was undertaken on 70 leachate samples and six groundwater samples.

9.2.1.4. Laboratory certificates are presented in Appendix E. Exceedances of the assessment criteria in the leachate samples are presented in Table 26 and Table 27. and the groundwater samples are presented in Table 28 and Table 29. The majority of the samples were tested in Made Ground, where they were tested in the natural this is shown in tables.

Table 26 - Leachate soil exceedances Groundwater

Analyte	Point ID	Depth (m)	Result	Criteria Source	Threshold	Units	Stratum
General Chemistry							
pH	WS44 – Section 9 (Locksway Road)	0.5	11.3	UK DWS[b]	10	pH Units	Made Ground
	WS51 Section 9 (The Haven)	0.30	11.0				Made Ground
Metals							
Antimony	BH34 – Section 9 (reclaimed land)	0.20 – 0.50 0.20 - 1	7.00 7.60	UK DWS[b]	5.00	ug/l	Made Ground
Arsenic	WS37 – Section 9 (Allotments)	1.00	11.0	UK DWS[b]	0.10	ug/l	Made Ground

Key:

[b] The Water Supply (Water Quality) Regulations, 2016

Table 27 - Leachate soil exceedances Surface Water

Analyte	Sample No	Max Result (ug/l)	EQS 2015[a]	Exceedances ug/l and location
Copper	**12**	**9.30**	**3.76**	BH19[7] – 5.80 BH20[9] – 4.30 BH33[9 allotments] – 9.30 BH38[3 Kings Pond] – 4.20 BH26[10] – 6.40 WS27[3] – 4.60 WS36[9 allotments] – 7.10 WS37[9 allotments] – 4.90, 7.50 WS38[9 allotments] – 5.80 WS43[9 allotments] – 4.10 **WS44[9 allotments] – 6.30**
Lead	**17**	**7.90**	**1.30**	BH15[6] – 2.00 BH35[7] – 2.50 WS26[3] – 5.10 WS27[3] – 1.50 WS34[9 PU] – 1.80 WS35[9 PU] – 1.50 , 2.20 WS36[9 allotments] – 6.80, 2.90[RT] WS41[9 allotments] – 3.40 WS49 [9 the Haven] – 2.50, 1.70, 2.30 WS53[3] – 1.50 WS57[9 allotments] – 2.30, 1.50 **WS60[8b] – 2.90**

Analyte	Sample No	Max Result (ug/l)	EQS 2015[a]	Exceedances ug/l and location
Zinc	**9**	**20**	**6.80**	BH19[7] – 20.0 BH33[9 allotments] – 13.0, 8.80 BH34[9 PU] – 13.0 BH38[3 Kings Pond] – 14.0 WS36[9 allotments] – 13.0 **WS37[9 allotments] – 7.0, 12.0, 14.0**

Key:
[a] The Water Framework Directive (Standards and Classification) Directions (England and Wales), 2015
RT – River Terrace Deposits
3 – Section 3
4 – Section 4
7 – Section 7
8 – Section 8
8b – Section 8 - Moorings Way
9 – Section 9
9 PU – Section 9 Portsmouth University (Langstone Campus)

Table 28 - Groundwater exceedances Surface Water

Analyte	Sample No	Max Result (ug/l)	EQS 2015[a]	Exceedances ug/l and location
Metals				
Copper	8	14.0	3.76	BH06[2] – 4.30 BH16[6] – 6.00, 14.0 BH19[7] – 4.40 – 6.20 BH25[10 car park] – 5.20 BH33[9 allotments] – 4.40, 5.30
Lead	2	2.10	1.30	BH16[6] – 2.10 BH19[7] – 1.50
Nickel	5	16.0	8.60	BH06[2] – 12.0

Analyte	Sample No	Max Result (ug/l)	EQS 2015[a]	Exceedances ug/l and location
				BH33[9 allotments] – 9.40 BH34[9 PU] – 14, 16 BH36[7] – 12.0
Zinc	19	44	6.80	BH06[2] – 59.0 BH15A[6] – 7.60, 10 BH16[6] – 13, 21 BH18[7] – 7.40 BH19[7] – 7.80, 26.0 BH25[10 car park] – 11, 17 BH26 [10 Fraser Range] – 18 BH33[9 allotments] – 30.0 BH34[9 PU] – 38, 44 BH35[7] – 12 BH36[7] – 28, 11, 14 BH39[9 allotments] – 13, 16
PAH				
Fluoranthene	2	1.10	0.006	BH06[2] – 1.10 BH16[6] – 0.020
Naphthalene	1	4.70	2.00	BH06[2] – 4.70
Phthalates				
Bis (2-ethylhexyl) phthalate	2	7.40	1.30	BH06[2] – 7.40 BH25[10 car park] – 2.60
Key: ***[a] The Water Framework Directive (Standards and Classification) Directions (England and Wales), 2015*** ***2 – Section 2***				

Analyte	Sample No	Max Result (ug/l)	EQS 2015[a]	Exceedances ug/l and location
3 – Section 3				
4 – Section 4				
6 – Section 6				
7 – Section 7				
8 – Section 8				
8b – Section 8, Moorings Way				
9 – Section 9				
9 PU – Section 9 Portsmouth University (Langstone Campus)				
10 – Section 10 Landfall				

Table 29 - Groundwater exceedances

Analyte	Sample No	Max Result (ug/l)	UK DWS[b]	Exceedances ug/l and location
General Chemistry				
Electrical conductivity	10	30500	2500	BH25[10] car park – 14800, 23500 BH26[10] Fraser Range – 25600 BH34[9] PU – 12000, 13700 BH36[7]– 30500, 2690, 2750 BH39[9] allotments – 11800, 12300
Inorganics				
Ammoniacal Nitrogen as N	13	19000	389	BH06[2] – 580 BH15A[6] – 790, 1000 BH16[6] – 1300 BH18[7] – 19000 BH25[10] car park – 390 , 620 BH26[10] Fraser Range – 1300 BH34[9] PU – 1700, 3500 BH35[7] – 3100 BH36[7] – 2200, 990, 1100
Chloride	10	1100,00,00	250,000	BH16[6] – 350,000 BH25[10] car park – 400,00,00 BH26[10] Fraser Range – 1100,00,00 BH33[9] allotments – 270,000, 540,000 BH34[9] PU – 3300,000 BH36[7]– 1000, 000, 00

				BH39[9 allotments] – 300,000

Key:
[b] The Water Supply (Water Quality) Regulations, 2016
2 – Section 2
3 – Section 3
4 – Section 4
6 – Section 6
7 – Section 7
8 – Section 8
8b – Section 8 , Moorings Way
9 – Section 9
9 PU – Section 9 Portsmouth University (Langstone Campus)
10 – Section 10 Landfall

9.3. CONTAMINATION ASSESSMENT SUMMARY

9.3.1. SOILS

9.3.1.1. No Exceedances were identified to be elevated above the GAC/SGV for Public Open Space Park (Section 8 – Milton Common).

9.3.1.2. Minor exceedances were identified to be elevated above the GAC/SGV for commercial within the Made Ground in WS51 (Section 9 – Haven road).

9.3.1.3. Exceedances were identified to be elevated above the GAC/SGV for commercial comprising lead within the Made Ground at WS38 (Section 9 – reclaimed land).

9.3.1.4. Exceedances were identified to be elevated above the GAC/SGV for commercial comprising benzo(a)pyrene within the Made Ground IN ws19 (Section 8 – petrol filling station Eastern Road), however this sample did not exceed the C4SL value for commercial land use.

9.3.1.5. Exceedances were identified to be elevated above the GAC/SGV for allotments comprising lead within the Made Ground in BH33, WS36, WS37, WS57 (Section 9 – allotments), however WS57 soil sample at 0.3m bgl did not exceed the C4SL value.

9.3.1.6. Asbestos was identified within the Made Ground within WS454A (Section 3), BH26 (Section 10), WS19 (Section 8), WS41 (Section 9), WS35 (Section 9), WS04 (Section 7) and WS17 (Section 8). The asbestos identified ranged from Amosite and Chrysotile bundles of fibres and Chrysotile cement fragments.

9.3.2. LEACHATE

9.3.2.1. Leachate concentrations within soil samples were compared against drinking water and surface water standards.

9.3.2.2. Concentrations above drinking water standards:

- pH

- Metals comprising arsenic and antimony

9.3.2.3. Concentrations above surface water standards:

- Metals including copper, lead and zinc

9.3.3. GROUNDWATER

9.3.3.1. Groundwater samples were screened against water quality standards (WQS) for drinking water and surface water.

9.3.3.2. Concentrations above drinking water standards:

- Electrical conductivity
- Ammoniacal nitrogen as N
- Chloride

9.3.3.3. Concentrations above surface water standards:

- Metals including cooper, lead, nickel and zinc
- PAHs including fluoranthene and naphthalene
- Phthalate including bis(2-ethylhexyl)phthalate

10. REVISED CONCEPTUAL SITE MODEL

10.1.1.1. Plausible contaminant pathways were identified including: (numbers in brackets relate to the contaminant source potential pathway.

- Human health (Pathway 1):
  - Dermal contact;
  - Direct ingestion;
  - Direct exposure to impacted shallow groundwater and/or surface water; and
  - Consumption of home-grown produce.
- Human health (Pathway 2)
  - Inhalation of particulates/fibres and/or soil/water derived vapours; and
  - Asphyxiation by accumulation of ground gases in internal/confined spaces.
- Groundwater (Pathway 3)
  - Leaching of contaminants through the unsaturated zone and subsequent impact on groundwater; and
  - Lateral migration of impacted groundwater.
- Surface water features/ecologically sensitive areas (Pathway 4)
  - Surface water runoff; and
  - Migration of immiscible contaminants.
- Below ground services (Pathway 5):
  - Direct contact with corrosive substances (e.g. sulphates and hydrocarbons) in the soil and shallow groundwater.

10.1.1.2. The preliminary conceptual site models available in Section 6 has been revised based on the data collected during the ground investigation. The revised CSMs are available in Table 30 to Table 39.

Table 30 - Converter Station Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Infilled Land	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols and ground gases.	1-5	• There are no surface water receptors within 500m of the Order Limits • The FOC infrastructure is likely to be above ground therefore no significant risk. • No exceedances were identified in the soil or groundwater samples.	LOW
Historical and current agricultural land uses	Pesticides	1-5	• It is unknown what chemicals the farmers use or have used. Inorganic pesticides (e.g. containing arsenic) could have been used, however, this is unlikely to cause a significant risk. • No exceedances were identified in the soil or groundwater samples.	LOW

Table 31 - Section 2 Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Infilled Land **Landfill**	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols and ground gases.	1-5	• There were exceedances for surface water of cooper, nickel, zinc, fluoranthene, naphthalene and bis(2-ethylhexyl)phthalate however there are no surface water features within 500m of the Order Limits, therefore unlikely to pose a significant risk.	LOW

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
			• The junction boxes along the route are likely to be above ground therefore unlikely to cause a significant risk due to no ground disturbance. • No elevated concentrations were detected within the soil samples. • An isolated groundwater exceedance for ammoniacal nitrogen was identified.	
Historical and current agricultural land uses	Pesticides	1-5	• It is unknown what chemicals the farmers use or have used. Inorganic pesticides (e.g. containing arsenic) could have been used, however this is unlikely to cause a significant risk.	LOW

Table 32 - Section 3 Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Infilled Land **Landfill**	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols and ground gases.	1-5	• There are no significant surface water receptors within 500m of the Order Limits. • The London Clay Formation would prevent vertical migration to underlying Principal Aquifers. • It is likely that the Made Ground will be reused in the backfill material reducing the risk to the cable	Human Health and Below Ground Services LOW

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
			itself • Amosite and Chrysotile was identified within one borehole. • Exceedances for surface water of cooper, lead and zinc have been identified within the leachate samples within the Made Ground.	Controlled Waters LOW to MODERATE
Historical and current agricultural land uses	Pesticides	1-5	• It is unknown what chemicals the farmers use or have used. Inorganic pesticides (e.g. containing arsenic) could have been used, however this is unlikely to cause a significant risk. • The London Clay Formation would prevent vertical migration to underlying Principal Aquifers.	LOW

Table 33 - Section 4 Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Infilled Land **Landfill**	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols and ground gases.	1-5	• The proposed route will follow the main road, so unlikely to pose a significant risk. • There are no significant surface water receptors within 500m of the Order Limits. • The London Clay Formation would prevent vertical migration to underlying Aquifers.	LOW

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
			• It is likely that the Made Ground will be reused in the backfill material reducing the risk to the cable itself. • No elevated concentrations were detected within the soil or groundwater samples.	
Former and current industrial land use including filling station, electricity substation, saw mills, depots, smithy, engineering works and sewage works	Metals, PCBs, hydrocarbons, PAHs, asbestos, VOCs, SVOCs, cyanide, phenols, and sulphates.	1-5	• The proposed route will be following existing roadways and unlikely to be disturbing current or industrial land uses surrounding the site, therefore unlikely to pose a significant risk. • The London Clay Formation would prevent vertical migration to underlying Aquifers. • No elevated concentrations were detected within the soil or groundwater samples.	LOW

Table 34 - Section 5 Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Infilled Land Landfill	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols and ground gases.	1-5	• The proposed route will follow the main road, so unlikely to pose a significant risk. • There are no significant surface water receptors within 500m of the Order Limits. • It is likely that the Made Ground will be reused in the backfill material reducing the risk to the cable itself. • No elevated concentrations were detected within the soil or groundwater samples.	LOW
Former and current industrial land uses including reservoirs and pumping station	Metals, PCBs, hydrocarbons, PAHs, asbestos, VOCs, SVOCs, cyanide, phenols, and sulphates.	1-5	• The proposed route will be following existing roadways and unlikely to be disturbing current or industrial land uses surrounding the site, therefore unlikely to pose a significant risk. • No elevated concentrations were detected within the soil or groundwater samples.	LOW

Table 35 - Section 6 Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Current and former industrial land uses including the railway, factory, works, sewage works and petrol station	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, and phenols.	1-5	• The proposed route will be following existing roadways and unlikely to be disturbing current or industrial land uses surrounding the site, therefore unlikely to pose a significant risk. • It is likely that the any Made Ground will be reused in the backfill material reducing the risk to the cable itself. • Exceedances for surface water of lead have been identified within one the leachate samples. • Minor concentrations above the surface water standards have been identified for cooper, lead, zinc, and fluoranthene. • Elevated concentrations above the drinking water standards have been identified for ammoniacal nitrogen and chloride.	Human Health and below ground services LOW Controlled Waters LOW to MODERATE

Table 36 - Section 7 Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Infilled Land Landfill Former and current industrial land use including racecourse (on-route), petrol filling station, railway, former Portsmouth city airport, works, electrical substations,	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols and ground gases. Explosive resides and radiation for riffle range.	1-5	• It is likely that any Made Ground will be reused in the backfill material reducing the risk to the cable itself. • There is Made Ground which has been associated with infilled land, however as the route is likely to follow the main road, there is unlikely to be any significant risks. • It is likely that the any Made Ground will be reused in the backfill material reducing the risk to the cable itself. • The proposed route will be following existing roadways and unlikely to be disturbing current or industrial land uses surrounding the site, therefore unlikely to pose a significant risk. • The riffle range is now residential housing. • Chrysotile was identified within one borehole at Kendall's Wharf. • No elevated concentrations were detected within the soil samples. • Exceedances for surface water of lead, copper and zinc have been identified within the leachate samples.	Human Health and below ground services LOW Controlled Waters LOW to MODERATE

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
and riffle range			• Minor concentrations above the surface water standards have been identified for cooper, lead, and nickel with elevated zinc concentrations. • Elevated concentrations above the drinking water standards have been identified for ammoniacal nitrogen and chloride.	

Table 37 - Section 8 Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Milton Common				
Milton Common Landfill	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols and ground gases	1-5	• Extensive Made Ground exists across Milton Common. The Made ground includes rotting clothes, wood, paper, metal and glass etc. • Chrysotile was identified within one exploratory towards the east of Milton Common. • There were no elevated concentrations detected within the soil and groundwater samples in regards to Public Open Space	MODERATE

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
			(Park) land use, however due to the Made Ground risk and site history there is still a risk to human health, controlled waters and below ground structurers. • London Clay Formation would prevent vertical migration to underlying aquifers.	

Table 38 - Section 9 Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Infilled Land Landfill Former and current industrial land uses including allotments, old canal, smithy, brickworks and St James	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates, phenols and ground gases.	1-5	**The Haven Road** • Minor exceedances for arsenic above the GAC/SGV for commercial land use were identified in one sample. • Elevated concentrations for pH were identified above the groundwater standards within one leachate sample. • Elevated concentrations of lead were identified above the surface water standards. • This area of the Order Limits used to be a historical landfill and is now residential housing, unlikely to cause a significant risk as the proposed Onshore	LOW

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Hospital			Cable Corridor is not going through this area. **Allotments** • Chrysotile was identified within two soil samples, as bundles of fibres and as cement fragments. • Elevated concentrations for lead were identified above the GAC/SGV for allotments at four locations. • Elevated concentration for arsenic above the groundwater standards for arsenic have been identified in the leachate samples. • Elevated concentrations for copper and lead above the surface water standards have been identified in the leachate samples. • Elevated concentrations above the surface water standards for copper and zinc have been identified with minor concentrations for nickel. • Elevated concentrations above the groundwater standards for electrical conductivity, ammoniacal nitrogen and chloride have been identified. This area of the Order Limits historical use was an historical landfill / reclaimed land, due to the contamination found at this site there is a potential risk to controlled waters receptors. **Portsmouth University (Langstone Campus)**	Human Health and Below Ground Services LOW to MODERATE Controlled Waters MODERATE Human Health and

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
			• Elevated concentrations above the surface water standards for lead was identified within two leachate samples, and zinc within one leachate samples. • Minor concentrations above the surface water standards for nickel was identified, and elevated concentrations were identified for zinc. • Elevated concentrations above the groundwater standards for electrical conductivity, ammoniacal nitrogen and chloride have been identified. **Other Areas of Section 9** • major exceedance for lead was identified	Below Ground Services LOW to MODERATE Controlled Waters LOW to MODERATE LOW to MODERATE

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
			above the SGV for allotments at the exploratory hole located on the reclaimed land (west of the allotments). • Minor exceedances above the groundwater standards for antimony was identified in two leachate samples within the area of the reclaimed land. • Exceedances above the groundwater standards for Ph was identified within one sample from Locksway Road. • The proposed route will likely be following existing roadways therefore these exceedances are unlikely to pose a significant risk.	

Table 39 - Landfall Conceptual Site Model

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
Infilled Land Landfill Former and	PAHs, cyanide, metals, hydrocarbons, VOCs, SVOCs, asbestos, PCBs, sulphates,	1-5	• It is likely that the any Made Ground will be reused in the backfill material reducing the risk to the cable itself. • The London Clay Formation will prevent vertical migration to underlying aquifers.	LOW

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
current industrial land uses including, former Military of Defence Land, riffle ranges, sea service battery / central gunnery school, sewage pumping station, Fraser Range – firing range and a gas chamber.	phenols and ground gases.		• The proposed route will likely be following existing roadways • Therefore, unlikely to be disturbing current or industrial land uses surrounding the site, so unlikely to pose a significant risk. • The junction boxes along the route are likely to be above ground therefore unlikely to cause a significant risk due to no ground disturbance. • Majority of the area has been redeveloped to include residential housing, leisure centre and a caravan park. • FOC infrastructure at Landfall is likely to be above ground therefore unlikely to cause a significant risk due to minimal / no ground disturbance. • Chrysotile was identified within one exploratory at Fraser Range. • No elevated concentrations were detected within the soil samples. • Exceedances for surface water for copper have been identified within the leachate samples at one location. • Minor concentrations above the surface water standards have been identified for cooper, with elevate concentrations identified for zinc, and	

Source	Potential Contaminants	Pathways	Comment on Hazard Realisation	Risk Rating
			bis(2-ethylhexyl)phthalate (car park). • Elevated concentrations above drinking water stands have been identified for ammoniacal nitrogen and chloride both at Fraser Range and the car park. • Even though there are elevation concentrations above both the drinking water and surface standards the proposed route is not likely to disturb these areas, and HDD is proposed which would mitigate against these risks to controlled waters.	

11. CONCLUSIONS AND RECOMMENDATIONS

11.1. CONTAMINATION CONCLUSIONS

11.1.1.1. WSP makes the following conclusions with regard to identified land contamination constraints and potential contaminant linkages at the site in the context of the proposed development.

11.1.2. SOIL CHEMICAL CONTAMINATION

11.1.2.1. No Exceedances were identified to be elevated above the GAC/SGV for Public Open Space Park (Section 8 – Milton Common).

11.1.2.2. Minor exceedances were identified to be elevated above the GAC/SGV for commercial within the Made Ground in WS51 (Section 9 – Haven road). Exceedances were identified to be elevated above the GAC/SGV for commercial comprising lead within the Made Ground at WS38 (Section 9 – reclaimed land). Exceedances were identified to be elevated above the GAC/SGV for commercial comprising benzo(a)pyrene within the Made Ground IN ws19 (Section 8 – petrol filling station Eastern Road), however this samples did not exceed the C4SL value for commercial land use.

11.1.2.3. Exceedances were identified to be elevated above the GAC/SGV for allotments comprising lead within the Made Ground in BH33, WS36, WS37, WS57 (Section 9 – allotments), however WS57 soil sample at 0.3m bgl did not exceed the C4SL value.

11.1.2.4. Asbestos was identified within the Made Ground within WS454A (Section 3), BH26 (Section 10), WS19 (Section 8), WS41 (Section 9), WS35 (Section 9), WS04 (Section 7) and WS17 (Section 8). The asbestos identified ranged from Amosite and Chrysotile bundles of fibres and Chrysotile cement fragments.

11.1.2.5. Based on this the majority of the Onshore Cable Corridor represents a **Low** risk to Human Health receptors (construction and maintenance workers and adjacent site users). However, Section 8c (Milton Common) has been given a **Moderate** risk rating due to extensive Made Ground and risks associated with landfill waste. Without mitigation 8c) Milton Common excavation could give rise to contaminants that could adversely affect human health receptors.

11.1.3. CONTROLLED WATERS

11.1.3.1. Exceedances above drinking water standards and surface water standards in both leachate and groundwater samples have been identified in a number of different sections of the route for pH, arsenic, antimony, copper, lead, zinc, chloride,

ammoniacal nitrogen as n, electrical conductivity, fluoranthene, naphthalene and bis(2-ethylhexyl)phthalate. For the majority of the sections the risk represents a **Low** risk to controlled waters, as the Onshore Cable Corridor is likely to follow the main existing roadways. In addition, for some areas (e.g. Section 1 and 2) there are no surface water receptors within 500m of the Order Limits.

11.1.3.2. Section 3, 6, and 7 represent a **Low to Moderate** risk due to exceedances above both drinking water and surface water standards. However, if mitigation such as HDD were implemented this could reduce / remove hydraulic linkages reducing the risk to **Low**.

11.1.3.3. Section 8c) Milton Common represents a **Moderate** risk due to the extensive Made Ground and potential for contamination to migrate to controlled water receptors. However, this could be reduced with mitigation including replacing the landfill cover layer after excavation.

11.1.3.4. Section 9 allotments and Portsmouth University represent a **Moderate** risk to controlled waters. However, this risk could be reduced to **Low** with mitigation such as HDD at the allotments.

11.1.4. BELOW GROUND STRUCTURES

11.1.4.1. The soil and groundwater testing undertaken to date does not indicate elevated levels of contaminants that would represent a risk to potable water supply pipes and the cable itself and therefore the risk is considered to be **Low**.

11.2. RECOMMENDATIONS

11.2.1.1. WSP recommends that the following work is undertaken as a result of the conclusions of this report following DCO Consent:

- If excavated soils are to be reused on site or removed off-site then a Material Management Plan (MMP') will need to be created to track and record soils movements;
- A watching brief for contamination should be undertaken during below ground works. If unforeseen contamination is identified, works should cease and consultation undertaken with an appropriately qualified environmental consultant regarding mitigation measures;
- Application of appropriate mitigation measures in the Construction Environmental Management Plan ('CEMP') and the design development to mitigate the identified risks; and
- Further targeted ground investigation after the submission of the ES to further assess the risks to human health and controlled waters along specific lengths of the route where elevated risks have been identified.

REFERENCES

Geotechnics Ltd. (2018). *UK - France HVDC Interconnector Onshore Work Package 1.* Exeter: Geotechnics Ltd.

Geotechnics Ltd. (2018). *UK-France HVDC Interconnector, Onshore Work Packages 1A.* Exeter: Geotechnics Ltd.

Geotechnics Ltd. (2019). *UK - France HVDC Interconnector Onshore Work Package 2 (PE181481).* Exeter: Geotechnics Ltd.

Geotechnics Ltd. (2019). *UK - France HVDC Interconnector Onshore Work Package 3 (PE181482).* Exeter: Geotechnics Ltd.

HM Government. (1990). Environmental Protection Act.

Appendix A – Constraints Drawings

CONSTRAINTS DRAWINGS

1.1.1.1 Please refer to the Environmental Statement ('ES') Volume 2 for Constraint Drawings. Drawing references are as follows:

- Figure 18.1 UK Cable Corridor Constraints Sheet 1 of 5 of the ES Volume 2 (document reference 6.2.18.1), Drawing No. EN020022-ES-18.1-Sheet 1
- Figure 18.2 UK Cable Corridor Constraints Sheet 2 of 5 of the ES Volume 2 (document reference 6.2.18.2), Drawing No. EN020022-ES-18.2-Sheet 2
- Figure 18.3 UK Cable Corridor Constraints Sheet 3 of 5 of the ES Volume 2 (document reference 6.2.18.3), Drawing No. EN020022-ES-18.3-Sheet 3
- Figure 18.4 UK Cable Route Constraints Sheet 4 of 5 of the ES Volume 2 (document reference 6.2.18.4), Drawing No. EN020022-ES-18.4-Sheet 4
- Figure 18.5 UK Cable Route Constraints Sheet 5 of 5 of the ES Volume 2 (document reference 6.2.18.5), Drawing No. EN020022-ES-18.5-Sheet 5

Appendix B – Reporting Limitations

REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

GENERAL

1. WSP UK Limited has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed and outlined in the body of the report.

2. Unless explicitly agreed otherwise, in writing, this report has been prepared under WSP UK Limited standard Terms and Conditions as included within our proposal to the Client.

3. Project specific appointment documents may be agreed at our discretion and a charge may be levied for both the time to review and finalise appointments documents and also for associated changes to the appointment terms. WSP UK Limited reserves the right to amend the fee should any changes to the appointment terms create an increase risk to WSP UK Limited.

4. The report needs to be considered in the light of the WSP UK Limited proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

PHASE 1 GEO ENVIRONMENTAL AND PRELIMINARY RISK ASSESSMENTS

Coverage: *This section covers reports with the following titles or combination of titles: phase 1; desk top study; geo environmental assessment; development appraisal; preliminary environmental risk assessment; constraints report; due diligence report; geotechnical development review; environmental statement; environmental chapter; project scope summary report (PSSR), program environmental impact report (PEIR), geotechnical development risk register; and, baseline environmental assessment.*

5. The works undertaken to prepare this report comprised a study of available and easily documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the Site and correspondence with relevant authorities and other interested parties. Due to the short timescales associated with these projects responses may not have been received from all parties. WSP UK Limited cannot be held responsible for any disclosures that are provided post production of our report and will not automatically update our report.

6. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only for the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, WSP UK Limited reserves the right to review such information and, if warranted, to modify the opinions accordingly.

7. It should be noted that any risks identified in this report are perceived risks based on the information reviewed. Actual risks can only be assessed following intrusive investigations of the site.

8. WSP UK Limited does not warrant work / data undertaken / provided by others.

INTRUSIVE INVESTIGATION REPORTS

Coverage: *The following report titles (or combination) may cover this category of work: geo environmental site investigation; geotechnical assessment; GIR (Ground Investigation reports); preliminary environmental and geotechnical risk assessment; and, geotechnical risk register.*

REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

9. The investigation has been undertaken to provide information concerning either:

- **i.** The type and degree of contamination present at the site in order to allow a generic quantitative risk assessment to be undertaken; or
- **ii.** Information on the soil properties present at the site to allow for geotechnical development constraints to be considered.

10. The scope of the investigation was selected on the basis of the specific development and land use scenario proposed by the Client and may be inappropriate to another form of development or scheme. If the development layout was not known at the time of the investigation the report findings may need revisiting once the development layout is confirmed.

11. For contamination purposes, the objectives of the investigation are limited to establishing the risks associated with potential contamination sources with the potential to cause harm to human health, building materials, the environment (including adjacent land), or controlled waters.

12. For geotechnical investigations the purpose is to broadly consider potential development constraints associated with the physical property of the soils underlying the site within the context of the proposed future or continued use of the site, as stated within the report.

13. The amount of exploratory work, soil property testing and chemical testing undertaken has necessarily been restricted by various factors which may include accessibility, the presence of services; existing buildings; current site usage or short timescales. The exploratory holes completed assess only a small percentage of the area in relation to the overall size of the Site, and as such can only provide a general indication of conditions.

14. The number of sampling points and the methods of sampling and testing do not preclude the possible existence of contamination where concentrations may be significantly higher than those actually encountered or ground conditions that vary from those identified. In addition, there may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.

15. The inspection, testing and monitoring records relate specifically to the investigation points and the timeframe that the works were undertaken. They will also be limited by the techniques employed. As part of this assessment, WSP UK Limited has used reasonable skill and care to extrapolate conditions between these points based upon assumptions to develop our interpretation and conclusions. The assumption made in forming our conclusions is that the ground and groundwater conditions (both chemically and physically) are the same as have been encountered during the works undertaken at the specific points of investigation. Conditions can change between investigation points and these interpretations should be considered indicative.

16. The risk assessment and opinions provided are based on currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values. Specific assumptions associated with the WSP UK Limited risk assessment process have been outlined within the body or associated appendix of the report.

17. Additional investigations may be required in order to satisfy relevant planning conditions or to resolve any engineering and environmental issues.

18. Where soil contamination concentrations recorded as part of this investigation are used for commentary on potential waste classification of soils for disposal purposes, these should be classed as indicative only. Due consideration should be given to the variability of contaminant concentrations taken from targeted samples versus bulk excavated soils and the potential variability of contaminant concentrations between sampling locations. Where major waste disposal operations are considered, targeted waste classification investigations should be designed.

19. The results of the asbestos testing are factually reported and interpretation given as to how this relates to the previous use of the site, the types of ground encountered and site conceptualisation. This does not however constitute a formal asbestos assessment. These results should be treated cautiously and should not be relied

upon to provide detailed and representative information on the delineation, type and extent of bulk ACMs and / or trace loose asbestos fibres within the soil matrix at the site.

20. If costs have been included in relation to additional site works, and / or site remediation works these must be considered as indicative only and must be confirmed by a qualified quantity surveyor.

EUROCODE 7: GEOTECHNICAL DESIGN

21. On 1st April 2010, BS EN 1997-1:2004 (Eurocode 7: Geotechnical Design – Part 1) became the mandatory baseline standard for geotechnical ground investigations.

22. In terms of geotechnical design for foundations, slopes, retaining walls and earthworks, EC7 sets guidance on design procedures including specific guidance on the numbers and spacings of boreholes for geotechnical design, there are limits to methods of ground investigation and the quality of data obtained and there are also prescriptive methods of assessing soil strengths and methods of design. Unless otherwise explicitly stated, the work has not been undertaken in accordance with EC7. A standard geotechnical interpretative report will not meet the requirements of the Geotechnical Design Report (GDR) under Eurocode 7. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. The report is likely to represent a Ground Investigation Report (GIR) under the Eurocode 7 guidance.

DETAILED QUANTITATIVE RISK ASSESSMENTS AND REMEDIAL STRATEGY REPORTS

23. These reports build upon previous report versions and associated notes. The scope of the investigation, further testing and monitoring and associated risk assessments were selected on the basis of the specific development and land use scenario proposed by the Client and may not be appropriate to another form of development or scheme layout. The risk assessment and opinions provided are based on currently available approaches in the generation of Site Specific Assessment Criteria relating to contamination concentrations and are not considered to represent a risk in a specific land use scenario to a specific receptor. No liability can be accepted for the retrospective effects of any future changes or amendments to these values, associated models or associated guidance.

24. The outputs of the Detailed Quantitative Risk Assessments are based upon WSP UK Limited manipulation of standard risk assessment models. These are our interpretation of the risk assessment criteria.

25. Prior to adoption on site they will need discussing and agreeing with the Regulatory Authorities prior to adoption on site. The regulatory discussion and engagement process may result in an alternative interpretation being determined and agreed. The process and timescales associated with the Regulatory Authority engagement are not within the control of WSP UK Limited. All costs and programmes presented as a result of this process should be validated by a quantity surveyor and should be presumed to be indicative.

GEOTECHNICAL DESIGN REPORT (GDR)

26. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. All the relevant information needs to be provided to allow for a GDR to be produced.

MONITORING (INCLUDING REMEDIATION MONITORING REPORTS)

27. These reports are factual in nature and comprise monitoring, normally groundwater and ground gas and data provided by contractors as part of an earthworks or remedial works.

28. The data is presented and will be compared with assessment criteria.

Appendix C – Legislative and Planning Framework

THE REGULATORY FRAMEWORK FOR OUR ASSESSMENT

Our assessment is made within the framework of the Contaminated Land Regime defined by Part 2A of the Environmental Protection Act and the Contaminated Land Statutory Guidance 2012. We have considered the contaminated land guidance documents issued by the Department for Environment, Food and Rural Affairs (DEFRA) including Model Procedures for the Management of Land Contamination (CLR11) (Environment Agency 2004a).

Our method is to create a clear conceptual model of the potential Pollutant Linkages present on site, consider the Sources (potential contaminants on site) which may cause harm, via Pathways, to Receptors such as human health (e.g. that of site users), the water environment (groundwater, surface water) and the built environment (buildings, services). Contaminated Land has a precise definition, and does not include all land which contains contaminants, but only land where there is a Pollutant Linkage causing (or giving rise to a significant risk of) a degree of harm.

Our approach to the assessment of risks to Human Health is consistent with that established in CLR11. This establishes a tiered approach including:

- Preliminary Risk Assessment (e.g. the establishment of potential pollutant linkages) – normally through desk based work;
- Generic Quantitative Risk Assessment (GQRA) (e.g. the comparison of contaminant concentrations against Soil Guideline Values (SGV) or other Generic Assessment Criteria (GAC)); and,
- Detailed Quantitative Risk Assessment (DQRA) (e.g. the comparison of contaminant concentrations against site specific assessment criteria).

Appendix D – Assessment Approach

Methodology- Preliminary Risk Assessment

The preliminary CSM is based upon the environmental conditions of the site as described in the previous sections.

The methods used within this assessment follow a risk-based approach; with the potential environmental risk assessed qualitatively using the 'source-pathway-receptor' contaminant linkage concept introduced in the guidance documents (principally the EA's CLR11) on the practical implementation of the Environmental Protection Act 1990.

Environmental risk can be defined as the combination of the consequence of a harmful effect and the probability of its occurrence. The existence of a contaminant linkage is primarily dependant on site usage and environmental conditions.

The environmental risk assessment has been carried out by identifying and evaluating the significance of the following:

- Potential Sources of Contamination: these include any actual or potentially contaminating materials and activities, located either on or in the vicinity of the site;
- Potential Pathways for Contamination Migration: these are the routes or mechanisms by which contaminants may migrate from the source to the receptor; and
- Potential Receptors of Contamination: these include present or future land users, activities or persons at the site.

The identification of potential "pollutant linkages" is a key aspect of the evaluation of potentially contaminated land. An approach based on the UK CIRIA report C552 (Contaminated Land Risk Assessment: A Guide to Good Practice, 2001) has been adopted within this report. For each of the pollutant linkages, an estimate is made of:

- The potential severity of the risk; and
- The likelihood of the risk occurring.

Table B-1 presents the classification of the severity of the risk:

Table B-1 Severity of Risk

Severe	Acute risks to human health; Major pollution of controlled waters (watercourses or groundwater)
Medium	Chronic (long-term) risk to human health; Pollution of sensitive controlled waters (surface waters or aquifers)
Mild	Pollution of non-sensitive water resources.
Minor	Requirement for protective equipment during site works to mitigate health effects; Damage to non-sensitive ecosystems or species

The probability of the risk occurring is classified by criteria given in Table B-2

Table B-2 Probability of Risk Occurring

High Likelihood	Pollutant linkage may be present, and risk is almost certain to occur in the long term, or there is evidence of harm to the receptor.
Likely	Pollutant linkage may be present, and it is probable that the risk will occur over the long term.
Low Likelihood	Pollutant linkage may be present and there is a possibility of the risk occurring, although there is no certainty that it will do so.
Unlikely	Pollutant linkage may be present but the circumstances under which harm would occur are improbable.

An overall evaluation of the level of risk is gained from a comparison of the severity and probability as presented in Table B-3.

Table B-3 Comparison of Severity and Probability

		Severity			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**High Likelihood**	Very high risk	High risk	Moderate risk	Moderate / low risk
	Likely	High risk	Moderate risk	Moderate/ low risk	Low risk
	Low Likelihood	Moderate risk	Moderate/ low risk	Low risk	Very low risk
	Unlikely	Moderate / low risk	Low risk	Very low risk	Very low risk

Table B-4 then provides a description of the typical consequences and potential actions required following each risk definition

Table B-4 Qualitative Risk Assessment – Classification of Consequence

Classification	Definition
Very High Risk	Severe harm to a receptor may already be occurring, or a high likelihood severe harm will arise to a receptor, unless immediate remedial works / mitigation measures are undertaken.
High Risk	Harm is likely to arise to a receptor, and is likely to be severe, unless appropriate remedial actions / mitigation measures are undertaken. Remedial works may be required in the short-term, but likely to be required over the long-term.
Moderate Risk	Possible that harm could arise to a receptor, but low likelihood that such harm would be severe. Harm is likely to be mild. Some remedial works may be required in the long-term.
Moderate / Low Risk	Possible that harm could arise to a receptor, but where a combination of likelihood and consequence results in a risk that is above low, but is not of sufficient concern to be classified as mild. Limited further investigation may be required to clarify the risk. If necessary, remediation works are likely to be limited in extent.
Low Risk	Possible that harm could arise to a receptor. Such harm, at worst, would normally be mild.
Very Low Risk	Low likelihood that harm could arise to a receptor. Such harm is unlikely to be any worse than mild.

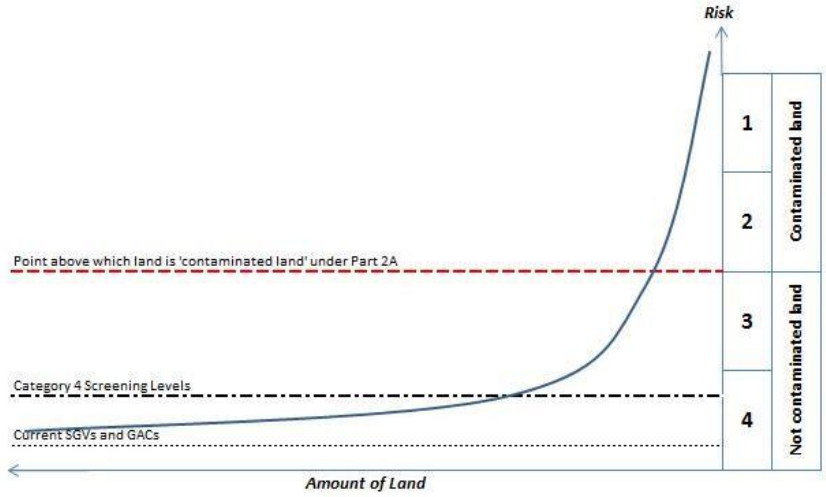
METHODOLOGY FOR THE DERIVATION OF GENERIC QUANTITATIVE ASSESSMENT CRITERIA TO EVALUATE RISKS TO HUMAN HEALTH FROM SOIL & GROUNDWATER CONTAMINATION

UK APPROACH

In the UK, the potential risks to human health from contamination in the ground are usually evaluated through a generic quantitative risk assessment (GQRA) approach. This allows generic and conservative exposure assumptions to be readily applied to risk assessments and can be a useful tool for rapidly screening data and to identify those contaminants or scenarios that could benefit from further investigation and/or site-specific detailed quantitative risk assessment (DQRA). Current industry good practice is to use the approach presented in the Environment Agency (EA) publications SR2[1] and SR3[2]. This approach allows the derivation of Generic Assessment Criteria (GACs), primarily for chronic exposure.

In April 2012, the Department of Environment, Food and Rural Affairs (Defra) published updated statutory guidance[3] which introduced a four category approach to determining whether land in England and Wales is contaminated or not on the grounds of significant possibility of significant harm (SPOSH). **Figure 1** presents a graphical representation of the categories.

Figure 1: Four Categories for Determining if Land Represent a SPOSH



Cases classified as Category 1 are considered to be SPOSH based on actual evidence or an unacceptably high probability of harm existing. Category 4 cases are those where there is no risk, or a low risk of SPOSH.

[1] Environment Agency '*Human Health Toxicological Assessment of Contaminants in Soil',* Report SC050021/SR2. January 2009.
[2] Environment Agency '*Updated Technical Background to the CLEA Model*,' Report SC050021/SR3. January 2009.
[3] Defra '*Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance'.* April 2012.

GACs represent a minimal risk level, well within Category 4. A 2014 publication by Contaminated Land: Applicatons in Real Environments (CL:AIRE),SP1010[4] and endorsed by Defra[5] provided an approach to determine Category 4 Screening Levels (C4SLs) which are higher than the GACs whilst being "more pragmatic but still strongly precautionary". It also provided C4SLs for six contaminants of concern. Although the C4SLs were designed to support Part 2A assessments to determine 'contaminated land' they are specifically mentioned, along with reference to the Part 2A statutory guidance, by the Department for Communities and Local Government (DCLG) for use in a planning context[6].

An updated version the Contaminated Land Exposure Assessment (CLEA) Workbook (v1.071) was released by the EA in September 2015 to take into account the publication of SP1010. The updates comprised: additional toxicity data for the six chemicals for which C4SLs were derived; two new public open space land use scenarios; updated exposure parameters; options to run the model using C4SL exposure assumptions; and increased functionality. There were no changes to algorithms, so it is still possible to replicate the withdrawn SGVs using the input parameters held within v1.071.

It should be noted that the four category approach has not been adopted in Scotland under Part 2A or the planning regime. The Part 2A statutory guidance applicable in Scotland (Paper SE/2006/44 dated May 2006) does not reflect the changes introduced by Defra in April 2012 which allow for the use of C4SLs within Part 2A risk assessments. Additionally, it is considered that the principal of 'minimal risk' should still apply under planning in Scotland, based on current guidance.

WSP APPROACH

Following the withdrawal of the SGVs, and in the absence of an industry-wide, accepted set of GACs it is down to individual practitioners to derive their own soil assessment criteria. WSP has used the approach provided within SR2, SR3, SP1010, CLEA Workbook v1.071and SR4[7] to produce a set of minimal risk GACs. The chemical-specific data within two key publications were considered during their production: CL:AIRE 2010[8] and LQM 2015[9]. Both documents provide comprehensive sets of GACs for different contaminants of concern.

The LQM Suitable For Use Levels (S4ULs) have selected exposure parameters someway between those of the SR3 land uses and the C4SL exposure scenarios. This approach was rejected by WSP as not representing minimal risk, however, the LQM S4UL document was critically reviewed and the approach and chemical input parameters were utilised where considered to be appropriate.

An industry-led C4SL Working Group is in the process of deriving a larger set of C4SLs in the near future, for approximately 20 contaminants. This will include a critical review of the chemical input data for all selected substances, and may therefore lead to further amendments to the chemical input data used in the WSP in-house screening values. It is considered likely that the contaminant list will

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[4] CL:AIRE *'Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination'* SP1010, Final Project Report (Revision 2). September 2014.
[5] Defra 'SP1010: *Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document'*. December 2014.
[6] DCLG Planning Practice Guidance '*Land Affected by Contamination'*, particularly Paragraphs 001 and 007. Ref IDs: 33-001-20140306 & 33-007-20140612.
[7] Environment Agency '*CLEA Software (Version 1.05) Handbook (and Software)',* Report SC050021/SR4. September 2009.
[8] CL:AIRE 'The EIC/AGS/CL:AIRE *Soil Generic Assessment Criteria for Human Health Risk Assessment'.* ISBN 978-1-05046-20-1. January 2010.
[9] Nathanail et al '*The LQM/CIEH S4ULs for Human Health Risk Assessment*', Land Quality Press, ISBN 978-0-9931084-0-2. 2015.

crossover with the current CL:AIRE GACs. As such, this document was not critically reviewed by WSP.

WSP's current approach to the assessment of risks to human health is to continue to evaluate minimal risk through the use of in-house derived GACs, and to use the published C4SLs as a secondary tier of assessment until such time as additional C4SLs are published and/or in-house values are derived.

EXPOSURE MODELS

LAND USES

WSP has largely adopted the exposure assumptions of the generic land use scenarios included within SR3, with two additional public open space scenarios included from within SP1010:

- Residential with homegrown produce consumption;
- Residential without homegrown produce consumption;
- Allotments;
- Commercial;
- Public open space near residential housing (POS_{resi}); and
- Public park (POS_{park}).

Exceptions are described in the following Sections.

SOIL PROPERTIES

SR3 assumes a sandy loam soil with a pH of 7 and a Soil Organic Matter (SOM) content of 6% for its generic land uses, based on the geographical spread of topsoils in the UK. WSP has adopted these default values. In addition, GACs based on an SOM of 1% and 2.5% have been derived, based on common experience of the nature of Made Ground and lack of topsoil on many brownfield sites.

RECEPTOR CHARACTERISTICS AND BEHAVIOURS

SP1010 provides some updated exposure parameters for long-term inhalation rates[10] and the consumption rates for homegrown produce[11] compared to those provided in SR3. This data was used to derived WSP's GACs.

The changes in inhalation rates do not apply to the allotment generic land use scenario, as these are based on the breathing rates for short-term exposure of light to moderate intensity activity which were derived from a study that was not updated in USEPA 2011, so the SR3 rates were retained.

[10] USEPA, National Centre for Environmental Assessment '*Exposure Factors Handbook: 2011 Edition*' EPA/600/R-09/052F. September 2011.
[11] National Diet and Nutrition Survey 2008/2009 to 2010/2011.

CHEMICAL DATA

PHYSICO-CHEMICAL PARAMETERS

Physico-chemical properties for the contaminants for which GACs have been derived have been obtained following critical review of the following hierarchy of data sources:

1. Environment Agency/Defra SGV reports where available.
2. Environment Agency '*Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values*', Report SC050021/SR7, November 2008.
3. Published fate and transport reviews within Nathanail et. al 2015 and CL:AIRE 2010.

Where appropriate, and where sufficient data is available, values were adjusted to reflect a UK soil temperature of 10ºC (e.g. K_{aw}).

TOXICOLOGICAL DATA

Toxicological data for the derivation of minimal risk Health Criteria Values (HCV) for each contaminant was selected with due regard to the approach presented in SR2. Where appropriate, the following hierarchy of data sources was used:

1. UK toxicity reviews published by authoritative bodies including:
   - EA;
   - Public Health England (PHE);
   - Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment (COT); and
   - Committee on Carcinogenicity of Chemicals in Food, Consumer Products and the Environment (COC).
2. Authoritative European sources such as European Food Standards Agency (EFSA)
3. International organisations including:
   - World Health Organisation (WHO); and
   - Joint FAO/WHO Expert Committee on Food Additives (JECFA).
4. Authoritative country-specific sources including:
   - United States Environmental Protection Agency (USEPA);
   - US Agency for Toxic Substances and Disease Registry (ATSDR);
   - US Integrated Risk Information System (IRIS); and
   - Netherlands National Institute for Public Health and the Environment (RIVM).

Factors such as the applicability of the data to human health (e.g. epidemiological vs. animal studies), the quality of the data, the level of uncertainty in the results and the age of the data were also taken into account in the final selection. Details for specific substances are available on request.

MEAN DAILY INTAKES

Estimations of background exposure for each threshold substance have been updated. In line with the SR2 approach, the exposure from non-threshold substances in the soil does not take into account exposure from other sources, and as such GACs were derived without consideration of the Mean Daily Intake (MDI) for those substances.

The data published by the EA in its series of TOX reports between 2002 and 2009 was evaluated to determine whether the values were considered to remain valid today. Values from these current UK published sources were not amended unless they were considered to be significantly different so that the GACs remained as comparable as possible with the revoked SGVs.

ORAL MEAN DAILY INTAKES

Oral MDI were generally estimated as the sum of exposure via the ingestion of food and drinking water using the default adult physiological parameters presented in Table 3.3 of SR2.

Data on the exposure of substances from food ingestion was generally obtained from UK Total Diet Studies (TDS) published by the Food Standards Agency (FSA) and its predecessor the Ministry of Agriculture, Fisheries and Food (MAFF) and from studies commissioned by COT. Where no UK-specific data was available, MDI were derived from the European Food Safety Authority (EFSA), Health Canada and US sources. This was a rare occurrence, and in these instances, the data was evaluated to determine its applicability to the UK.

Data on the concentrations of substances in tap water was obtained from a variety of sources. UK data was used where available, with preference given to Drinking Water Inspectorate (DWI) 2014 data from water company tap water testing (LOD, 1st and 99th percentile data is available). Where the substance was not included in tap water testing, other UK sources of information were considered including:

- à DWI data from water company tap water testing from previous years;
- à COT; and
- à FSA.

Where UK data was not available, a number of other data sources were considered, largely WHO International Programme on Chemical Safety (IPCS) Concise International Chemical Assessment Documents (CICADs) and background documents for the development of Guidelines for Drinking Water Quality, using professional judgement on the relevance of the data to the UK. The final decision on the MDI from drinking water was made using professional judgement on the balance of relevance and probability, taking into account the detection limit where not detected, Koc and solubility, reduction in use of the substance, banned substances, tight controls (e.g. on explosives) and with due consideration to the SR2 instruction that “if no data or information in background exposure are available, background exposure should be assumed to be negligible and the MDI set to zero….”.

Data from other countries was generally not used because it was considered that the hydrogeology of these countries along with industrial practices were unlikely to be reflective of the UK.

INHALATION MEAN DAILY INTAKES

Inhalation MDIs were based on estimates of average daily exposure by the inhalation pathway and calculated using the default adult physiological parameters presented in Table 3.3 of SR2.

The inhalation MDIs were generally estimated using background exposure data from the UK, derived from Defra's UK-AIR: Air Information Resource[12], which provides ambient air quality data from a number of sites forming a UK-wide monitoring network. The MDIs for heavy metals were based on rolling annual average metal mass concentration data from Defra's UK Heavy Metals Monitoring Network from the period October 2009 to September 2010[13].

Information for some substances was obtained from UK sources including Environment Agency TOX reports and data from the UK Expert Panel on Air Quality Standards (EPAQS). Where recent UK data was not available, data was sourced from the International Programme on Chemical Safety (IPCS), the World Health Organisation (WHO), the Agency for Toxic Substances and Diseases Registry (ATSDR), Health Canada, and various other peer-reviewed sources summarised by LQM/CIEH[14].

For other substances, where no data or information on background exposure was available, background exposure was assumed to be negligible and the MDI set at 0.5*TDI in accordance with guidance in SR2.

PLANT UPTAKE

Soil to plant concentration factors are available in CLEA v1.071 for arsenic, cadmium, hexavalent chromium, lead, mercury, nickel and selenium. For all remaining inorganic chemicals, concentration factors were obtained using the PRISM model. Substance-specific correction factors have been selected in accordance with the guidance established within SR3. This is consistent to the approach utilised in the derivation of the LQM S4UL values and the EIC/AGS/CL:AIRE GAC.

Where there is a lack of appropriate data to enable the derivation of specific soil to plant concentrations factors for organic chemicals, plant uptake was modelled within CLEA v1.071 using the generic equations recommended within SR3, as follows:

- Green Vegetables – Ryan et al. (1988);
- Root Vegetables – Trapp (2002);
- Tuber Vegetables – Trapp et al. (2007); and
- Tree Fruit – Trapp et al. (2003).

There are no suitable models available for modelling uptake for herbaceous fruit or shrub fruit. Exposure is considered negligible.

[12] Crown 2016 copyright Defra via uk-air.defra.gov.uk, licenced under the Open Government Licence (OGL).
[13] Defra, 2013 Spreadsheet of historic data for multiple years for the Metals network. Available online at: http://uk-air.defra.gov.uk/data/metals-data. [Accessed 13/03/2016].
[14] LQM/CIEH, 2015. The LQM/CIEH S4ULs for Human Health Risk Assessment.

SOIL SATURATION LIMITS

GACs are not limited to their theoretical soil saturation within CLEA, although where either the aqueous or the vapour-based saturation is exceeded, this is highlighted within the Workbook (compared with the lower of the two values). This affects pathways which depend on partitioning calculations so in reality this only affects the vapour pathways and is relevant to organic substances and other substances, such as elemental mercury, that have a significant volatile component. However, the Workbook highlights saturation for direct contact pathways to indicate to the user where further qualitative consideration of free phase contamination at surface may be required.

Where the lower of the two saturation limits is exceeded and the vapour pathway is the only exposure route being considered, the chronic risks to human health are likely to be negligible. Further evaluation could be undertaken using an alternative model suitable for evaluating non-aqueous phase liquids (NAPLs), such as the Johnson & Ettinger (J&E) approach described in USEPA 2003. However, WSP considers that if NAPLs are suspected, given the known limitations and over-simplifications of J&E, soil vapour monitoring is a more accurate way of assessing potential risks.

Where the lower saturation limit is exceeded for the vapour pathway and a number of exposure routes are being considered, then the contribution from the NAPL via vapour inhalation to the overall exposure can be evaluated using the procedure provided in SR4. WSP would evaluate this as part of a DQRA process or through soil vapour monitoring on-site to determine site-specific soil vapour concentrations.

CHEMICAL SPECIFIC ASSUMPTIONS

CYANIDES

Cyanide has high acute toxicity, and short term exposure is an important consideration when assessing the risks from soils contaminated with cyanide. The primary risk to human receptors from free cyanide in soils is an acute risk.

There is no current UK guidance available for calculating acute risks from free cyanide. Consequently, GAC for acute exposure were derived using the algorithms presented in MADEP 1992[15] and assuming a one-off ingestion of 10g of soil (this conservative value has been taken as an upper bound estimate for a one-off soil ingestion rate amongst children). Receptor body weights have been selected according to the critical receptor for each exposure scenario. The lowest of the chronic and acute GAC for each land use scenario were adopted by WSP. Brinckerhoff.

LEAD

The SGV for lead was withdrawn by the EA in 2009, and in 2011 the EA withdrew their published TOX report in light of new scientific evidence. The C4SL for lead was derived using the latest scientific evidence from a large human dataset. As such, no chemical-specific margin was applied in the derivation of the C4SL for lead. It may be possible for WSP to derive a GAC for lead using the same dataset and applying a chemical-specific margin, but the value is likely to be lower than UK natural background concentrations. Therefore, WSP has adopted the toxicological data used to derive the C4SLs in deriving the GAC for lead until such time as alternative GACs are published by an authoritative body. The relative bioavailability was set at 100% in line with the approach taken for other GACs, whereas the C4SL assumes 60% for soil and 64% for airborne dust. Thus, the WSP GAC are lower than the C4SLs.

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[15] MADEP '*Background Documentation for the Development of an "Available Cyanide" Benchmark Concentration'* 1992. http://www.mass.gov/dep/toxics/cn_soil.htm

POLYCYCLIC AROMATIC HYDROCARBONS

WSP's approach to the assessment of polycyclic aromatic hydrocarbons (PAHs) uses the surrogate marker approach. BaP was used as a surrogate marker for all genotoxic PAHs in line with the Health Protection Agency 2010[16] recommendations and SP1010. This assumes that the PAH profile of the data is similar to that of the coal tars used in the Culp *et al* oral carcinogenicity study from which the toxicity data for BaP was produced. In reality, this profile has been shown by HPA to be applicable on the majority of contaminated sites based on assessment of sites across the country.

The alternative is the Toxic Equivalency Factor (TEF) approach which uses a reference compound and assigns TEFs for other compounds based on estimates of potency. Key uncertainties with this approach include the assumption that all compounds have the same toxic mechanism of action within the body and that no compounds with a greater potency than the reference compound are present. It is considered by the HPA that the TEF approach is likely to under predict the true carcinogenicity of PAHs and therefore favours the surrogate marker approach.

For these reasons, WSP considers that the adoption of BaP as a surrogate marker for genotoxic PAHs as opposed to the TEF approach is reasonable, even in cases where the PAH profile may differ from that of the Culp *et al* study. In addition, WSP has derived a GAC for naphthalene, which is commonly a risk driver due to its high volatility, relative to other PAH compounds, as an indicator compound for threshold PAHs.

TRIMETHYLBENZENES

The GAC for trimethylbenzenes can be used for the assessment of any individual isomer (1,2,3-trimethylbenzene, 1,2,4-trimethylbenzene or 1,3,5-trimethylbenzene), or a mixture of the three isomers.

CHEMICAL GROUPS

For a number of chemical groups, the available toxicity data is for combinations of chemicals. Given that the physico-chemical parameters may differ between the chemicals, the GACs for the chemicals within the groups have been calculated and then the lowest GAC selected to represent the entire group. This was the approach taken by the EA for m-, o- and p-xylenes, and has also been adopted by WSP for:

- 2-chlorophenol, 2,4-dichlorophenol, 2,4,6-trichlorophenol and 2,3,4,6-tetrachlorophenol;
- 2-, 3- and 4-methylphenol (total cresols);
- aldrin and dieldrin; and
- α- and β-endosulphan.

[16] HPA Contaminated Land Information Sheet '*Risk Assessment Approaches for Polycyclic Aromatic Hydrocarbons (PAHs)* 2010

EXPOSURE TO VAPOURS

INHALATION OF MEASURED VAPOURS

WSP has derived a set of soil vapour GACs (GAC_{sv}) that allow for the assessment of measured site soil vapour concentrations, using J&E, in order to establish potential risks via indoor inhalation of vapours. This methodology enables a more robust assessment of exposure via the inhalation of soil vapours indoors than using CLEA-derived soil GAC, as it is based upon measured soil vapour concentrations beneath the site. It also allows for the assessment of vapours from all source terms (i.e. groundwater, soil or NAPL). Outdoor inhalation was not included. WSP considers that the indoor inhalation pathway is the significantly dominant risk-driver.

The generic land use scenarios within CLEA (residential and commercial) that were used to derive the soil GAC were used to define the receptor and building characteristics for the soil vapour GAC. Only residential and commercial generic land use scenarios include the indoor inhalation of vapours pathway.

The GAC_{sv} were derived for three different soil types; sand, sandy loam and clay, reflecting the importance of this parameter within the J&E model. A depth to contamination of 0.85 m below the base of the building foundation was assumed (i.e. 1 m below ground level). This differs from the depth assumed for the soil GAC (0.5 m bgl), but was selected by WSP as a reasonable worst case scenario.

It is acknowledged that the J&E commonly over-predicts indoor vapour concentrations. In particular, it will significantly over-predict vapour concentrations for suspended floor slabs, which many new builds are constructed with, it does not take into account lateral migration and assumes an infinite source of contamination at steady state conditions. In addition, it is common for soil gas/vapour wells to be installed with at least 1 m of plain riser at the surface and this equates to a total depth of 0.85 m below the building foundation plus a 0.15 m thick foundation, and so is more representative of the depth that samples will be taken from.

The TDSIs and IDs for each substance were converted from $\mu gkg^{-1}{}_{bw}day^{-1}$ to μgm^{-3} using the standard conversions quoted in Table 3.3 of SR2, thereby replacing the need to model C_{air} in the equation:

$$C_{air} = \alpha . C_{vap} . 1{,}000{,}000 cm^3 m^{-3}$$

Where:

C_{air} is the concentration of vapours within the building, mg^{-3}

α is the steady state attenuation coefficient between soil and indoor air, dimensionless

C_{vap} is the soil vapour concentration, $mgcm^{-3}$

The target concentrations within indoor air for each substance (C_{air}) are a function of receptor inhalation rates and occupancy periods, as defined by the site conceptual exposure model (assuming standard CLEA occupancy periods and receptors).

The attenuation factor was calculated using J&E (Equation 10.4 in SR3) and the resulting C_{vap} is equivalent to the GAC_{sv} for the modelled exposure scenario.

Where the calculated GAC_{sv} for a substance exceeds the vapour saturation limit, no GAC_{sv} has been proposed.

INHALATION OF GROUNDWATER-DERIVED VAPOURS

The CLEA model does not have the capacity to derive GACs to assess vapours derived from dissolved phase contamination. WSP has derived a set of groundwater GACs (GAC_{gw}) to evaluate the potential risks through the indoor inhalation of groundwater-derived vapours by first applying the approach described above for the derivation of the WSP GAC_{sv} to determine the acceptable concentration in soil vapour directly above the water table.

The depth to groundwater was assumed to be 1 m bgl (i.e. 0.85 m below the base of the building foundation). This depth was considered to be more representative of commonly encountered groundwater conditions than the 0.5 m below the base of the building foundation (i.e. 0.65 m bgl) that is used by CLEA for an unsaturated source present in the overlying soil.

The GAC_{gw} was then back-calculated from the GAC_{sv} using the air-water partition coefficient (K_{aw}) for each substance.

Where the calculated GAC_{gw} for a substance exceeds the solubility limit, no GAC_{gw} has been proposed.

UK APPROACH

THE LEGISLATION

OVERVIEW OF POINTS PERTINENT TO CONTROLLED WATERS RISK ASSESSMENT

The EU Water Framework Directive 2000/60/EC (WFD) is designed to:

- Protect, improve and enhance the status and to prevent further deterioration of aquatic ecosystems and associated wetlands which depend on the aquatic ecosystems.
- Promote the sustainable use of water.
- Reduce and reverse all pollution of water, especially by 'priority' and 'priority hazardous' substances.

River Basin Management (RBM) Plans are part of the WFD strategic framework and are based on detailed analysis of the impacts of human activity on the water environment. They are designed to protect and improve the quality of our water environment and are reviewed and updated every six years. They include improvement measures to progress all ground and surface water bodies to 'Good' status by 2021. The latest system of standards and classification are set out in the 2015 Directions for England and Wales[1] and Scotland[2&3], and also listed for Scotland in WAT-SG-53[4].

The EU Groundwater Daughter Directive 2006/118/EC (GWDD) further protects groundwater. It states that hazardous substances must be prevented from entering groundwater and that non-hazardous substances should be limited from entering groundwater to concentrations that do not cause pollution.

The Environmental Quality Standards Directive (EQSD), also known as the Priority Substances Directive 2008/105/EC (PSD) as amended by 2013/39/EU, further protects surface waters and defines Environmental Quality Standards for hazardous and non-hazardous substances in surface waters.

GROUNDWATER BODY CLASSIFICATION

Groundwater bodies are classified on their quantitative and chemical status. The quantitative status is not generally relevant to controlled waters risk assessments The chemical status requires analytical data collected by the Environment Agency (EA), Natural Resources Wales (NRW) and the Scottish Environment Protection Agency (SEPA) across the water body to be evaluated against five sets of Threshold Values which are used by the regulators to decide if further, specific evaluation is required. They are not used to classify the groundwater bodies' chemical status and the 2014 and 2015 Standards Directions state that they should not be used as part of site-specific investigations.

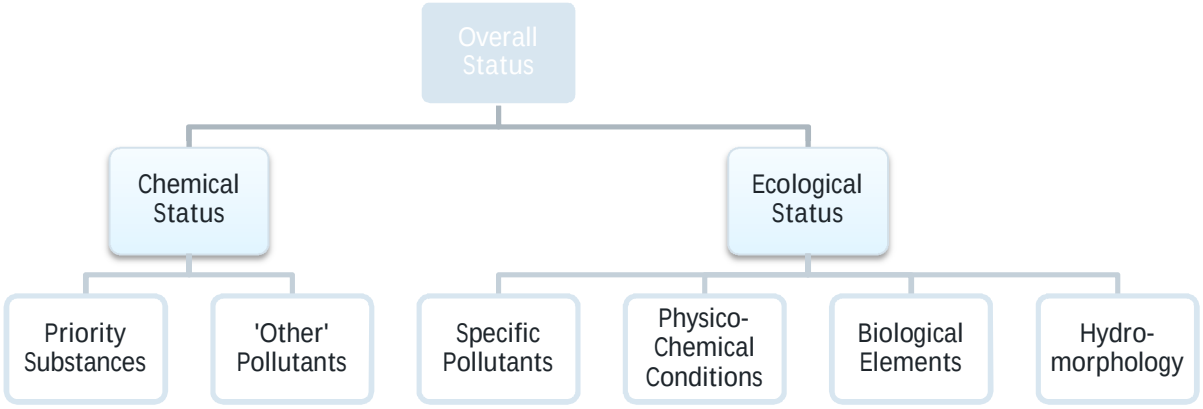
[1] The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015
[2] The Scotland River Basin District (Standards) Directions 2014
[3] The Scotland River Basin District (Standards) Amendment Directions 2015
[4] SEPA '*Supporting Guidance (WAT-SG-53): Environmental Quality Standards and Standards for Discharges to Surface Waters'* v6. December 2015

SURFACE WATER BODY CLASSIFICATION

Environmental Quality Standards (EQSs) are used by the EA, NRW and SEPA to characterise, monitor and classify water bodies and to help these regulators establish measures to progress all water bodies to 'Good' status. For surface water bodies the following applies:

- Chemical status is determined on a 'Good' or 'Fail' basis.
- Ecological status is determined on a scale of 'High', 'Good', 'Moderate', 'Poor' and 'Bad'.
- The overall ecological status is determined by the lowest classification of all the parameters that are assessed.
- For an overall 'Good' status both ecological and chemical status must be at least 'Good' (see **Figure 1**).

Figure 1 – Elements of Water Body Status Classification



Priority substances – are defined by the European Commission (EC) and are reviewed every six years to ensure they stay relevant and that EQSs are up to date.

Other pollutants – not priority substances, but defined by the EC and the EQSs are identical to those laid down in legislation applied prior to 13 January 2009.

Specific pollutants - European Union (EU) Member states are required to identify nationally significant pollutants to support the assessment of 'Good' ecological status.

Physico-chemical conditions - includes parameters such as dissolved oxygen, pH, ammonia and phosphate that define the general chemistry of the surface water body and may influence the degree to which an aquatic ecosystem can thrive.

Biological elements – the condition and abundance of fish and invertebrates within the surface water body including the presence of invasive species.

Hydromorphology – includes water flow, sediment composition and the structure of the habitat and its ability to support an aquatic ecosystem.

GUIDANCE ON THE SELECTION OF ASSESSMENT CRITERIA

The Remedial Targets Methodology (RTM)[5] is the framework for controlled waters risk assessment which is used in England and Wales. The equivalent document used for the water environment in Scotland is WAT-PS-10-01[6]. Although the RTM preceded the formal adoption of the WFD in England and Wales, the document was cognisant of the requirements of the forthcoming WFD i.e. no discernible entry of hazardous substances into groundwater bodies, and no new pollution by non-hazardous substances. The methodology for the selection of assessment criteria in both documents states that where a hazardous substance is present in the soil beneath the site but is yet to enter groundwater, no discernible entry of that hazardous substance into groundwater is allowed. This effectively requires the allowable concentration of the contaminant of concern within the groundwater body to be either background or the limit of detection. The EA and SEPA use a published set of Minimum Reporting Values (MRVs) to support the assessment of 'discernible entry'.

With respect to groundwater, where a hazardous substance has already entered the groundwater body to a discernible level, the regulators generally allow appropriate quality standards to be used to quantify the risk to allow pragmatic remedial targets and to take into account the requirements of other legislation such as Part 2A and NPPF.

Where non-hazardous pollutants enter groundwater, no new pollution (or substantial risk of pollution) of groundwater is allowable and quality standards are generally an acceptable concentration.

Where the receptor is a surface water body or groundwater-dependent terrestrial ecosystem quality standards are acceptable irrespective of whether the substance is hazardous or non-hazardous.

Both RTM and WAT-PS-10-01 state that any standard used should be relevant to the current or intended use of the aquifer and that they should be 'fit for purpose' in terms of the specific period of time over which they should be measured.

[5] EA *'Remedial Targets Methodology: Hydrogeological Risk Assessment for Land Contamination'* 2006.
[6] SEPA *'Position Statement (WAT-PS-10-01): Assigning Groundwater Assessment Criteria for Pollutant Inputs'* v3.0, August 2014.

WSP APPROACH

OVERVIEW

WSP follows the RTM approach in England and Wales and the WAT-PS-10-01 approach in Scotland to assess the potential or actual risks to water bodies on sites that it investigates. In deriving a hierarchy of assessment concentrations with which to quantify the risks, WSP uses relevant EU and UK legislation and World Health Organisation (WHO) guidance, considers the background quality of the water resources and takes account of the current and feasible future uses of the resource. In Scotland the assessment concentrations are referred to as '*assessment limits'* and in England as *'target concentrations'*.

For all substances that are detected in groundwater, the quantitative risk assessment is undertaken by comparing the modelled or actual concentration in water to an appropriate published standard where one is available; this is the target concentration / assessment limit. The selection of the standards is described in further detail in the following Sections.

Where hazardous substances are either detected in soil leachates or are calculated using theoretical partitioning equations, an evaluation is undertaken to determine if discernible concentrations have entered the groundwater. This information is used to determine the most appropriate target concentration / assessment limit to adopt with which to evaluate the potential risks from the contaminants in the unsaturated zone. Where no published standards are available, WSP determines on a case-by-case basis whether site-specific or chemical-specific targets should be derived through additional research or studies.

WSP seeks to ensure that the best available limit of detections (LOD) are achieved for analysis that it commissions. Where this is the case and the LOD is greater than a published target standard, WSP will not conclude that a potential risk exists to the relevant water body. This is in line with the approach that the EA and SEPA take in determining the classification status of the water bodies.

APPROACH TO HAZARDOUS SUBSTANCES

For sites in England and Wales, WSP evaluates the soil leachate analytical results or theoretical partitioning calculations for hazardous substances as listed on the EA website[7] (updated 13 January 2017). For sites in Scotland, the MRVs provided in Annex 4 of WAT-PS-10-01 are used and these are the same as those produced by the EA. Where an MRV is not available, the limit of detection is used for hazardous substances.

Where groundwater analytical results are also available these are evaluated alongside the unsaturated concentration data to determine if the hazardous substances have entered the groundwater by a discernible amount (taken to be the MRV or limit of detection). If hazardous substances are detected in the groundwater, then the quantitative risk assessment of the soil concentrations continues using published standards appropriate for drinking water (see *'Impact to Drinking Water'* below). If the hazardous substances have not yet entered the groundwater, then the soil concentrations are evaluated using the MRVs/LODs.

[7] https://www.gov.uk/government/publications/values-for-groundwater-risk-assessments/hazardous-substances-to-groundwater-minimum-reporting-values

IMPACT TO AQUATIC LIFE IN SURFACE WATERS

Although the surface water EQSs are primarily designed to support the EA and SEPA in their programmes of classification and monitoring of the quality of surface water bodies across England, Wales and Scotland under their WFD and EQSD obligations, the EQSs are also commonly used by contaminated land professionals to quantitatively evaluate the potential impact of site-specific ground contamination to surface waters. This approach is also suggested in RTM and WAT-PS-10-01.

The 2014 and 2015 Standards Directions provide EQSs for the assessment of ecological and chemical surface water body status. When quantifying potential impacts to surface waters, WSP's approach is to focus on the chemical status by evaluating the 'priority' and 'other' pollutants that are listed in those Directions. In addition, the 'specific' pollutants, (which are actually part of the evaluation of ecological status), are also assessed. These three classes of pollutants are used by the EA to mark the boundary between a Good status surface water and failing quality. As such, exceedances of these EQSs can be considered to highlight a potential risk that the surface water will not achieve or maintain its 'Good' status, which contravenes the requirements of the WFD. WSP adopts this approach irrespective of whether the EA or SEPA has determined if the surface water body requires an assessment of chemical status or not, so as to ensure that the requirements of the WFD are met for all surface water bodies that it evaluates in the context of ground contamination.

The EQSs are designed to be applied over a specific period of time. WSP selects the annual average or long term mean as the target concentration for each priority substance, specific pollutant and other pollutant. In most cases, the number of groundwater sampling events will be limited and as such, there are limitations to this approach that WSP highlights on a case by case basis.

A number of EQSs do not come into force until 22 December 2018. WSP may use these values because they can be used as an indicator of long term contamination issues that may pose issues for a site in the near future. This is determined on a case-by-case basis.

Maximum Allowable Concentration (MAC) EQSs are designed to assess acute exposure of the aquatic environment to pollutants. As such, WSP does not consider the use of MACs to be appropriate to use as a target concentration in the majority of cases. An exception could be the evaluation of potential ecological risks to a surface water from a one-off catastrophic spill or leak in an emergency response scenario.

WSP does not assess the potential ecological risks posed by physico-chemical quality elements on a regular basis. pH, dissolved oxygen, biological oxygen demand, acid neutralising capacity, phosphorus, temperature and salinity are considered too unstable to be modelled from groundwater to surface water and these parameters are only measured in the receiving surface water body.

Where a published EQS is not available, WSP follows the WAT-PS-10-01 guidance for sites in Scotland and applies non-WFD EQSs. These comprise repealed Dangerous Substances Directive (DSD) substances as well as EQSs from other sources that should be used with caution. For sites in England and Wales, WSP uses the EA's operational environmental quality standards for Environmental Permitting which are essentially the repealed DSD substances that are applied in Scotland. WSP uses the proposed ethylbenzene EQS from R&D Technical Report P2-115/TR4 2002[8] for sites in England and Wales. This is equivalent to the SEPA non-statutory EQS.

[8] EA '*Proposed Environmental Quality Standards for Ethylbenzene in Water*' R&D Technical Report P2-115/TR4. 2002.

With respect to petroleum hydrocarbons, WSP refers to the CL:AIRE 2017 guidance[9] in order to derive alternative assessment criteria. In cases where no equivalent VOC, SVOC or PAH data is available, the following proxy compounds are used:

- Aromatic EC5-EC7 benzene (EC6.5)
- Aromatic >EC6-EC7 benzene (EC6.5)
- Aromatic >EC6-EC8 benzene (EC6.5)
- Aromatic >EC7-EC8 toluene (EC7.6)
- Aromatic >EC8-EC10 ethylbenzene (EC8.5)
- Aromatic >EC10-EC12 naphthalene (EC11.7)
- Aromatic >EC12-EC16 naphthalene (EC11.7)
- Aromatic >EC16-EC21 anthracene (EC19.4)
- Aromatic >EC21-EC35 benzo(a)pyrene (EC31.3)

IMPACT TO DRINKING WATER

ABSTRACTION FOR PUBLIC POTABLE SUPPLY

In line with the RTM and WAT-PS-10-01, WSP uses drinking water quality standards to evaluate the potential risk to aquifers from both the perspective of current abstraction for potable supply and also to evaluate the risk to future resource potential. The sources of drinking water standards are applied by WSP in the following hierarchy with the UK Drinking Water Standards (DWS) as the first tier:

- UK Water Supply (Water Quality) Regulations of England, Wales and Scotland
- EC Drinking Water Directive 1998
- WHO Drinking Water Guidelines 2011
- WHO Petroleum Products in Drinking Water 2008

RTM does not advocate country-specific standards outside the UK.

In Scotland, SEPA's published Resource Protection Values (RPVs) use the published US EPA National Primary Drinking Water Regulations where they are more conservative than the WHO standards. Where no RPV exists, WSP applies the remainder of the WHO standards as a second, non-statutory tier.

ABSTRACTION FOR PRIVATE SUPPLY

The Private Water Supplies Regulations of England, Scotland and Wales prescribe maximum concentrations and values of inorganic and organic constituents as well as radioactivity and bacteria for natural waters intended for private supply. The concentrations and values are the same as those for public potable supply.

ABSTRACTION FOR BOTTLED WATER

The Natural Mineral Water, Spring Water and Bottled Drinking Water Regulations of England, Scotland and Wales prescribe maximum concentrations and values of inorganic and organic constituents as well as radioactivity and bacteria for natural waters intended for sale for human consumption.

[9] CL:AIRE '*Petroleum Hydrocarbons in Groundwater: Guidance on assessing petroleum hydrocarbons using existing hydrogeological risk assessment methodologies'* v1.1 March 2017.

OTHER RECEPTORS

WSP also considers other less common controlled waters receptors, where applicable, including but not limited to:

- *The Bathing Water Regulations 2013* which provides standards for the classification of the quality of bathing waters at specified locations on the basis of intestinal enterococci and *E. coli* levels.
- *WAT-SG-53, Table 9a: Operational Standards for Aquaculture* which provides the operational water quality standards used by SEPA for regulating the use of chemicals in aquaculture.

Appendix E – Laboratory Certificates

Certificate of Analysis

Certificate Number 19-00928

21-Jan-19

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 19-00928

Client Reference PE181482

Order No AUTH-OC19465

Contract Title UK-FRANCE HVDC INTERCONNECTOR - PACKAGE 3

Description 6 Soil samples.

Date Received 18-Jan-19

Date Started 18-Jan-19

Date Completed 21-Jan-19

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By [redacted]

Adam Fenwick
Contracts Manager

UKAS TESTING
2139

Summary of Asbestos Analysis
Soil Samples

Our Ref 19-00928
Client Ref PE181482
Contract Title UK-FRANCE HVDC INTERCONNECTOR - PACKAGE 3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1446483	BH20 0.30	SOIL	NAD	none	Lee Kerridge
1446484	WS40 0.50	SOIL	NAD	none	Lee Kerridge
1446485	WS28 0.50	SOIL	NAD	none	Lee Kerridge
1446486	WS19 0.10-0.50	SOIL	NAD	none	Lee Kerridge
1446487	WS61 0.40-0.60	SOIL	NAD	none	Lee Kerridge
1446488	WS41 0.20-0.60	SOIL	Chrysotile	Chrysotile present in cement fragments	Lee Kerridge

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 19-00928
Client Ref PE181482
Contract UK-FRANCE HVDC INTERCONNECTOR - PACKAGE 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1446483	BH20 0.30 SOIL	16/01/19	PG		
1446484	WS40 0.50 SOIL	16/01/19	PT 1L		
1446485	WS28 0.50 SOIL	16/01/19	PT 1L		
1446486	WS19 0.10-0.50 SOIL	16/01/19	PG		
1446487	WS61 0.40-0.60 SOIL	16/01/19	PG		
1446488	WS41 0.20-0.60 SOIL	16/01/19	PG		

Key: P-Plastic G-Bag T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Certificate of Analysis

Certificate Number	18-09278-1	27-Apr-18
Client	Geotechnics Ltd 7 Pinbrooks Unit Venny Bridge Exeter EX4 8JQ	

Our Reference	18-09278-1
Client Reference	PE181482
Order No	(not supplied)
Contract Title	UK France Interconnector Package 3
Description	3 Soil samples.
Date Received	20-Apr-18
Date Started	20-Apr-18
Date Completed	27-Apr-18
Test Procedures	Identified by prefix DETSn (details on request).
Notes	**This report supersedes 18-09278, report amended** Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By [redacted]

Adam Fenwick
Contracts Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 18-09278-1
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Sample ID	Other ID	Depth	Lab No	Completed	Matrix Description
TP05	1	1.1	1327246	27/04/2018	White CLAY
TP06	1	1.1	1327247	27/04/2018	Brown gravelly,, sandy CLAY
TP08	1	1.2	1327248	27/04/2018	Brown gravelly, sandy CLAY

Summary of Chemical Analysis
Soil Samples

Our Ref 18-09278-1
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1327246	1327247	1327248
			Sample ID	TP05	TP06	TP08
			Depth	1.10	1.10	1.20
			Other ID	1	1	1
			Sample Type	ES	ES	ES
			Sampling Date	10/04/18	11/04/18	11/04/18
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Metals						
Arsenic	DETSC 2301#	0.2	mg/kg	13	2.7	8.1
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	0.9	< 0.1
Chromium	DETSC 2301#	0.15	mg/kg	39	4.4	25
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	22	3.7	13
Lead	DETSC 2301#	0.3	mg/kg	15	2.5	15
Mercury	DETSC 2325#	0.05	mg/kg	0.06	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	47	5.9	20
Zinc	DETSC 2301#	1	mg/kg	96	19	42
Inorganics						
pH	DETSC 2008#			8.0	8.4	8.1
Cyanide, Total	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	0.8	0.1	0.2
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	16	16	< 10
Petroleum Hydrocarbons						
EPH (C10-C40)	DETSC 3311#	10	mg/kg	< 10	< 10	< 10
PAHs						
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10
PCBs						
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-09278-1
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1327246	1327247	1327248
			Sample ID	TP05	TP06	TP08
			Depth	1.10	1.10	1.20
			Other ID	1	1	1
			Sample Type	ES	ES	ES
			Sampling Date	10/04/18	11/04/18	11/04/18
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Phenols						
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3
OCPs						
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-09278-1
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1327246	1327247	1327248
			Sample ID	TP05	TP06	TP08
			Depth	1.10	1.10	1.20
			Other ID	1	1	1
			Sample Type	ES	ES	ES
			Sampling Date	10/04/18	11/04/18	11/04/18
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
VOCs						
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-09278-1
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1327246	1327247	1327248
			Sample ID	TP05	TP06	TP08
			Depth	1.10	1.10	1.20
			Other ID	1	1	1
			Sample Type	ES	ES	ES
			Sampling Date	10/04/18	11/04/18	11/04/18
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
SVOCs						
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-09278-1
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1327246	1327247	1327248
			Sample ID	TP05	TP06	TP08
			Depth	1.10	1.10	1.20
			Other ID	1	1	1
			Sample Type	ES	ES	ES
			Sampling Date	10/04/18	11/04/18	11/04/18
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1

Summary of Asbestos Analysis
Soil Samples

Our Ref 18-09278-1
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1327246	TP05 1 1.10	SOIL	NAD	none	A Christodoulou
1327247	TP06 1 1.10	SOIL	NAD	none	A Christodoulou
1327248	TP08 1 1.20	SOIL	NAD	none	A Christodoulou

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 18-09278-1
Client Ref PE181482
Contract UK France Interconnector Package 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1327246	TP05 1.10 SOIL	10/04/18	GJ 1L, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1327247	TP06 1.10 SOIL	11/04/18	GJ 1L, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1327248	TP08 1.20 SOIL	11/04/18	GJ 1L, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Certificate of Analysis

Certificate Number	18-19702
	24-Aug-18
Client	Geotechnics Ltd 7 Pinbrooks Unit Venny Bridge Exeter EX4 8JQ
Our Reference	18-19702
Client Reference	PE181482
Order No	AUTH-OE09315
Contract Title	UK France Interconnector
Description	6 Soil samples, 11 Leachate samples.
Date Received	17-Aug-18
Date Started	17-Aug-18
Date Completed	24-Aug-18
Test Procedures	Identified by prefix DETSn (details on request).
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By [redacted]

Adam Fenwick
Contracts Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 18-19702
Client Ref PE181482
Contract Title UK France Interconnector

Sample ID	Depth	Lab No	Completed	Matrix Description
BH26	0.5	1380938	24/08/2018	Brown very gravelly SAND
BH11	1	1380939	24/08/2018	Brown gravelly, clayey SAND
WS25a	0.3	1380940	24/08/2018	Brown gravelly, clayey SAND including some rootlets
WS25a	1	1380941	24/08/2018	Brown gravelly, clayey SAND
WS33	0.5	1380942	24/08/2018	Brown gravelly, clayey SAND
WS27	0.5	1380943	24/08/2018	Dark brown very gravelly, clayey SAND

Summary of Chemical Analysis
Soil Samples

Our Ref 18-19702
Client Ref PE181482
Contract Title UK France Interconnector

			Lab No	1380938	1380940	1380941	1380942	1380943
			Sample ID	BH26	WS25a	WS25a	WS33	WS27
			Depth	0.50	0.30	1.00	0.50	0.50
			Other ID					
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	08/08/18	07/08/18	07/08/18	10/08/18	09/08/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
Metals								
Arsenic	DETSC 2301#	0.2	mg/kg	4.7	9.2	6.0	6.6	11
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.1	0.3
Chromium	DETSC 2301#	0.15	mg/kg	5.6	22	20	16	22
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	9.1	12	6.9	15	22
Lead	DETSC 2301#	0.3	mg/kg	150	24	13	18	96
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	0.06
Nickel	DETSC 2301#	1	mg/kg	5.3	13	7.9	5.8	14
Zinc	DETSC 2301#	1	mg/kg	68	61	55	80	69
Inorganics								
pH	DETSC 2008#			9.7	7.0	7.6	7.9	8.0
Cyanide, Total	DETSC 2130#	0.1	mg/kg	< 0.1	0.3	< 0.1	0.1	0.2
Organic matter	DETSC 2002#	0.1	%	0.4	3.1	0.4	1.2	2.9
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	24	45	18	39	15
Petroleum Hydrocarbons								
EPH (C10-C40)	DETSC 3311#	10	mg/kg	56	20	< 10	34	780
PAHs								
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	0.4
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	1.1
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	1.4
Phenanthrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	11
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	3.1
Fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.2	27
Pyrene	DETSC 3301	0.1	mg/kg	< 0.1	0.2	< 0.1	0.2	25
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	14
Chrysene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	15
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	11
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	6.7
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	15
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	9.9
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	2.5
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	9.8
PAH Total	DETSC 3301	1.6	mg/kg	< 1.6	< 1.6	< 1.6	< 1.6	150
PCBs								
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-19702
Client Ref PE181482
Contract Title UK France Interconnector

			Lab No	1380938	1380940	1380941	1380942	1380943
			Sample ID	BH26	WS25a	WS25a	WS33	WS27
			Depth	0.50	0.30	1.00	0.50	0.50
			Other ID					
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	08/08/18	07/08/18	07/08/18	10/08/18	09/08/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenols								
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	0.4	< 0.3
OCPs								
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

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Soil Samples

Our Ref 18-19702
Client Ref PE181482
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			Lab No	1380938	1380940	1380941	1380942	1380943
			Sample ID	BH26	WS25a	WS25a	WS33	WS27
			Depth	0.50	0.30	1.00	0.50	0.50
			Other ID					
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	08/08/18	07/08/18	07/08/18	10/08/18	09/08/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
VOCs								
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-19702
Client Ref PE181482
Contract Title UK France Interconnector

			Lab No	1380938	1380940	1380941	1380942	1380943
			Sample ID	BH26	WS25a	WS25a	WS33	WS27
			Depth	0.50	0.30	1.00	0.50	0.50
			Other ID					
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	08/08/18	07/08/18	07/08/18	10/08/18	09/08/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
SVOCs								
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	0.2
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-19702
Client Ref PE181482
Contract Title UK France Interconnector

			Lab No	1380938	1380940	1380941	1380942	1380943
			Sample ID	BH26	WS25a	WS25a	WS33	WS27
			Depth	0.50	0.30	1.00	0.50	0.50
			Other ID					
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	08/08/18	07/08/18	07/08/18	10/08/18	09/08/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	0.7

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-19702
Client Ref PE181482
Contract Title UK France Interconnector
Sample Id BH26 0.50

Sample Numbers 1380938 1380945 1380946
Date Analysed 24/08/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	< 0.5	3	5	6
DETSC 2003# Loss On Ignition	%	1.0	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	56	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	9.7	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l		Amount Leached* mg/kg		WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
	2:1	8:1	LS2	LS10			
DETSC 2306 Arsenic as As	2.7	0.78	0.005	0.01	0.5	2	25
DETSC 2306 Barium as Ba	0.56	0.4	< 0.02	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.03	< 0.004	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	1.4	0.41	< 0.02	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	6.4	1.4	0.013	0.021	2	50	100
DETSC 2306 Mercury as Hg	0.04	0.04	< 0.0004	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	4.2	2	< 0.02	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.9	< 0.5	< 0.02	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	5.1	2.6	0.01	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	1.1	0.37	< 0.01	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	1	< 0.25	< 0.006	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2.4	1.5	0.005	0.016	4	50	200
DETSC 2055 Chloride as Cl	6800	1700	< 20	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 100	< 0.02	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	3500	1400	< 20	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	62000	25000	124	299	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 100	< 0.2	< 1	1	n/a	n/a
DETSC 2033* Dissolved Organic Carbon	910000	420000	1820	4848.3	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7	7.3
DETSC 2009 Conductivity uS/cm	88.8	35.7
* Temperature*	19	21

Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.119

Stage 1

Volume of Leachant L2*	0.236
Volume of Eluate VE1*	0.157

Stage 2

Volume of Leachant L8*	0.949
Volume of Eluate VE2*	0.78

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-19702
Client Ref PE181482
Contract Title UK France Interconnector
Sample Id BH11 1.00

Sample Numbers 1380939 1380944
Date Analysed 23/08/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	< 0.5	3	5	6
DETSC 2003# Loss On Ignition	%	2.3	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	16	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	2.4	100	n/a	n/a
DETSC2008# pH	pH Units		n/a	>6	n/a
DETS073* Acid Neutralisation Capacity (pH4)	mol/kg		n/a	TBE	TBE
DETS073* Acid Neutralisation Capacity (pH7)	mol/kg		n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.99	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.6	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	1.6	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	0.04	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	3.6	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.7	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.82	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.58	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	4.4	0.04	4	50	200
DETSC 2055 Chloride as Cl	1200	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	140	1.4	10	150	500
DETSC 2055 Sulphate as SO4	2000	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	27000	270	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	3000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.2
DETSC 2009 Conductivity uS/cm	38.7
* Temperature*	22

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.098

Stage 1

Volume of Leachant L2*	0.965
Volume of Eluate VE1*	0.85

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WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-19702
Client Ref PE181482
Contract Title UK France Interconnector
Sample Id WS25a 0.30

Sample Numbers 1380940 1380947 1380948
Date Analysed 24/08/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.5	3	5	6
DETSC 2003# Loss On Ignition	%	8.1	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	20	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.0	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l		Amount Leached* mg/kg		WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
	2:1	8:1	LS2	LS10			
DETSC 2306 Arsenic as As	0.58	0.3	< 0.002	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.7	1.5	< 0.02	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.03	< 0.004	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.87	0.41	< 0.02	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	3.3	1.1	0.007	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	0.04	0.04	< 0.0004	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	2	1.5	< 0.02	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.9	< 0.5	< 0.02	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	1.3	0.44	< 0.01	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.18	< 0.17	< 0.01	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.26	< 0.25	< 0.006	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2.6	1.5	0.005	0.016	4	50	200
DETSC 2055 Chloride as Cl	5600	1500	< 20	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	250	< 100	0.5	0.28	10	150	500
DETSC 2055 Sulphate as SO4	15000	3600	30	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	99000	110000	198	1087.8	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 100	< 0.2	< 1	1	n/a	n/a
* Dissolved Organic Carbon	20000	4700	40	64	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.9	6.9
DETSC 2009 Conductivity uS/cm	142	154
* Temperature*	20	22

Mass of Sample Kg*	0.130
Mass of dry Sample Kg*	0.118

Stage 1

Volume of Leachant L2*	0.224
Volume of Eluate VE1*	0.131

Stage 2

Volume of Leachant L8*	0.944
Volume of Eluate VE2*	0.8

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-19702
Client Ref PE181482
Contract Title UK France Interconnector
Sample Id WS25a 1.00

Sample Numbers 1380941 1380949 1380950
Date Analysed 24/08/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	< 0.5	3	5	6
DETSC 2003# Loss On Ignition	%	3.1	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.6	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l		Amount Leached* mg/kg		WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
	2:1	8:1	LS2	LS10			
DETSC 2306 Arsenic as As	0.6	0.49	< 0.002	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	0.86	1.5	< 0.02	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.03	< 0.004	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.83	0.93	< 0.02	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.2	0.7	< 0.004	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	0.04	0.03	< 0.0004	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	1.7	1.8	< 0.02	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.5	< 0.02	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.88	1.1	< 0.01	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.17	< 0.01	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.32	< 0.25	< 0.006	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 1.3	< 0.002	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	1200	830	< 20	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	220	240	0.44	2.38	10	150	500
DETSC 2055 Sulphate as SO4	5600	2000	< 20	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	170000	55000	340	678.2	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 100	< 0.2	< 1	1	n/a	n/a
* Dissolved Organic Carbon	7700	2700	15.4	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7	7.2
DETSC 2009 Conductivity uS/cm	242	78.4
* Temperature*	21	21

Mass of Sample Kg*	0.130
Mass of dry Sample Kg*	0.117

Stage 1

Volume of Leachant L2*	0.22
Volume of Eluate VE1*	0.13

Stage 2

Volume of Leachant L8*	0.933
Volume of Eluate VE2*	0.76

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-19702
Client Ref PE181482
Contract Title UK France Interconnector
Sample Id WS33 0.50

Sample Numbers 1380942 1380951 1380952
Date Analysed 24/08/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.7	3	5	6
DETSC 2003# Loss On Ignition	%	3.1	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	34	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.9	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l		Amount Leached* mg/kg		WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
	2:1	8:1	LS2	LS10			
DETSC 2306 Arsenic as As	0.43	0.44	< 0.002	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	12	0.8	0.02	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	0.03	< 0.03	< 0.004	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.83	0.36	< 0.02	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	2.7	1.4	0.005	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	0.03	0.02	< 0.0004	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	4.2	< 0.02	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.8	0.5	< 0.02	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.3	0.27	< 0.01	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	1.3	0.84	< 0.01	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.43	0.29	< 0.006	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	5.8	1.4	0.012	0.019	4	50	200
DETSC 2055 Chloride as Cl	3900	2100	< 20	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	430	250	0.86	2.72	10	150	500
DETSC 2055 Sulphate as SO4	21000	4300	42	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	160000	38000	320	531.7	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 100	< 0.2	< 1	1	n/a	n/a
* Dissolved Organic Carbon	23000	4700	46	69.8	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.1	7.3
DETSC 2009 Conductivity uS/cm	227	54.3
* Temperature*	21	20

Mass of Sample Kg*	0.130
Mass of dry Sample Kg*	0.119

Stage 1

Volume of Leachant L2*	0.227
Volume of Eluate VE1*	0.148

Stage 2

Volume of Leachant L8*	0.952
Volume of Eluate VE2*	0.74

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-19702
Client Ref PE181482
Contract Title UK France Interconnector
Sample Id WS27 0.50

Sample Numbers 1380943 1380953 1380954
Date Analysed 24/08/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.9	3	5	6
DETSC 2003# Loss On Ignition	%	4.4	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	780	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	150	100	n/a	n/a
DETSC 2008# pH	pH Units	8.0	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l		Amount Leached* mg/kg		WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
	2:1	8:1	LS2	LS10			
DETSC 2306 Arsenic as As	1.4	0.89	0.003	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	3.1	0.71	< 0.02	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.03	< 0.004	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.86	0.28	< 0.02	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	4.6	2.3	0.009	0.026	2	50	100
DETSC 2306 Mercury as Hg	0.03	0.03	< 0.0004	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	3.9	2.2	< 0.02	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.9	0.6	< 0.02	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	1.5	0.51	< 0.01	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	1.1	0.74	< 0.01	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.43	< 0.25	< 0.006	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2	< 1.3	0.004	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	2000	850	< 20	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	490	190	0.98	2.28	10	150	500
DETSC 2055 Sulphate as SO4	2800	1100	< 20	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	76000	35000	152	401.9	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 100	< 0.2	< 1	1	n/a	n/a
* Dissolved Organic Carbon	6900	3600	13.8	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.2	7.5
DETSC 2009 Conductivity uS/cm	108	49.9
* Temperature*	21	21

Mass of Sample Kg*	0.130
Mass of dry Sample Kg*	0.122

Stage 1

Volume of Leachant L2*	0.237
Volume of Eluate VE1*	0.155

Stage 2

Volume of Leachant L8*	0.979
Volume of Eluate VE2*	0.82

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
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Summary of Asbestos Analysis
Soil Samples

Our Ref 18-19702
Client Ref PE181482
Contract Title UK France Interconnector

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1380938	BH26 0.50	SOIL	Chrysotile	bundle of Chrysotile fibres	Rebecca Burgess
1380940	WS25a 0.30	SOIL	NAD	none	Rebecca Burgess
1380941	WS25a 1.00	SOIL	NAD	none	Rebecca Burgess
1380942	WS33 0.50	SOIL	NAD	none	Rebecca Burgess
1380943	WS27 0.50	SOIL	NAD	none	Rebecca Burgess

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 18-19702
Client Ref PE181482
Contract UK France Interconnector

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1380938	BH26 0.50 SOIL	08/08/18	GJ 250ml, GV, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1380939	BH11 1.00 SOIL	06/08/18	GJ 250ml, GJ 60ml, PT 1L		
1380940	WS25a 0.30 SOIL	07/08/18	GJ 250ml, GJ 60ml, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
1380941	WS25a 1.00 SOIL	07/08/18	GJ 250ml, GJ 60ml, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
1380942	WS33 0.50 SOIL	10/08/18	GJ 250ml, GV, PT 1L x2		
1380943	WS27 0.50 SOIL	09/08/18	GJ 250ml, GV, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
1380944	BH11 1.00 LEACHATE	06/08/18	GJ 250ml, GJ 60ml, PT 1L		
1380945	BH26 0.50 LEACHATE	08/08/18	GJ 250ml, GV, PT 1L x2		
1380946	BH26 0.50 LEACHATE	08/08/18	GJ 250ml, GV, PT 1L x2		
1380947	WS25a 0.30 LEACHATE	07/08/18	GJ 250ml, GJ 60ml, PT 1L		
1380948	WS25a 0.30 LEACHATE	07/08/18	GJ 250ml, GJ 60ml, PT 1L		
1380949	WS25a 1.00 LEACHATE	07/08/18	GJ 250ml, GJ 60ml, PT 1L		
1380950	WS25a 1.00 LEACHATE	07/08/18	GJ 250ml, GJ 60ml, PT 1L		
1380951	WS33 0.50 LEACHATE	10/08/18	GJ 250ml, GV, PT 1L x2		
1380952	WS33 0.50 LEACHATE	10/08/18	GJ 250ml, GV, PT 1L x2		
1380953	WS27 0.50 LEACHATE	09/08/18	GJ 250ml, GV, PT 1L		
1380954	WS27 0.50 LEACHATE	09/08/18	GJ 250ml, GV, PT 1L		

Key: G-Glass P-Plastic J-Jar V-Vial T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Certificate of Analysis

Certificate Number 18-09997

03-May-18

Client Geotechnics Ltd
7 Pinbrooks Unit
Venny Bridge
Exeter
EX4 8JQ

Our Reference 18-09997

Client Reference PE181482

Order No (not supplied)

Contract Title UK France Interconnector Package 3

Description One Water sample.

Date Received 27-Apr-18

Date Started 27-Apr-18

Date Completed 03-May-18

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By [redacted]

Adam Fenwick
Contracts Manager

UKAS TESTING
2139

Summary of Chemical Analysis
Water Samples

Our Ref 18-09997
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1330744
Sample ID	BH06
Depth	5.20
Other ID	
Sample Type	WATER
Sampling Date	16/04/18
Sampling Time	n/s

Test	Method	LOD	Units	
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.20
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.69
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	4.3
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.21
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	12
Zinc, Dissolved	DETSC 2306	1.3	ug/l	59
Inorganics				
Conductivity	DETSC 2009	1	uS/cm	697
pH	DETSC 2008			7.4
Cyanide, Total	DETSC 2130	40	ug/l	< 40
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.58
Chloride	DETSC 2055	0.1	mg/l	27
Nitrate as NO3	DETSC 2055	0.1	mg/l	36
Nitrite as NO2	DETSC 2055	0.1	mg/l	3.6
Sulphate as SO4	DETSC 2055	0.1	mg/l	22
Petroleum Hydrocarbons				
EPH (C10-C40)	DETSC 3311	10	ug/l	1300
PAHs				
Naphthalene	DETSC 3304	0.01	ug/l	0.07
Acenaphthylene	DETSC 3304	0.01	ug/l	0.02
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.10
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.04
Pyrene	DETSC 3304	0.01	ug/l	0.05
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.04	ug/l	0.29
PCBs				
PCB 28 + PCB 31	DETSC 3402	0.3	ug/l	< 0.3
PCB 52	DETSC 3402	0.2	ug/l	< 0.2

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-09997
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1330744
Sample ID	BH06
Depth	5.20
Other ID	
Sample Type	WATER
Sampling Date	16/04/18
Sampling Time	n/s

Test	Method	LOD	Units	
PCB 101	DETSC 3402	0.3	ug/l	< 0.3
PCB 118 + PCB 123	DETSC 3402	0.6	ug/l	< 0.6
PCB 138	DETSC 3402	0.2	ug/l	< 0.2
PCB 153	DETSC 3402	0.2	ug/l	< 0.2
PCB 180	DETSC 3402	0.2	ug/l	< 0.2
PCB 7 Total	DETSC 3402	1	ug/l	< 1.0
Phenols				
Phenol	DETSC 3451*	0.5	ug/l	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-09997
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1330744
Sample ID	BH06
Depth	5.20
Other ID	
Sample Type	WATER
Sampling Date	16/04/18
Sampling Time	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-09997
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1330744
Sample ID	BH06
Depth	5.20
Other ID	
Sample Type	WATER
Sampling Date	16/04/18
Sampling Time	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-09997
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1330744
Sample ID	BH06
Depth	5.20
Other ID	
Sample Type	WATER
Sampling Date	16/04/18
Sampling Time	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	2.2
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	7.4
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Information in Support of the Analytical Results

Our Ref 18-09997
Client Ref PE181482
Contract UK France Interconnector Package 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1330744	BH06 5.20 WATER	16/04/18	GB 1L, GV, PB 1L	Chromium, Hexavalent (4 days), pH/Cond/TDS (2 days), Ammoniacal Nitrogen as N (10 days), Nitrite as NO2 (2 days), Cyanide/Mono pHoh (7 days), SVOC (7 days)	

Key: G-Glass P-Plastic B-Bottle V-Vial

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Certificate of Analysis

Certificate Number	18-20197	31-Aug-18
Client	Geotechnics The Geotechnics Centre 7 Pinbrook Units Vinny Bridge Exeter EX4 8JQ	
Our Reference	18-20197	
Client Reference	PE181482	
Order No	(not supplied)	
Contract Title	UK France Interconnector Package 3	
Description	12 Soil samples, 8 Leachate samples, 1 Water sample.	
Date Received	23-Aug-18	
Date Started	23-Aug-18	
Date Completed	31-Aug-18	
Test Procedures	Identified by prefix DETSn (details on request).	
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.	

Approved By [redacted]

Adam Fenwick
Contracts Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Sample ID	Depth	Lab No	Completed	Matrix Description
BH21	0.6	1383370	31/08/2018	Brown sandy CLAY
BH21	0.9	1383371	31/08/2018	Brown gravelly, sandy CLAY
BH22	2.00-2.20	1383373	31/08/2018	Brown gravelly, sandy CLAY
BH22	0.3	1383374	31/08/2018	Brown gravelly, clayey SAND
BH22	0.8	1383375	31/08/2018	Brown gravelly, clayey SAND
WS26	1	1383377	31/08/2018	Brown sandy CLAY
WS55	0.5	1383378	31/08/2018	White sandy CLAY
WS55	0.8	1383379	31/08/2018	White sandy CLAY
WS55	1.1	1383380	31/08/2018	Dark brown gravelly, sandy CLAY
WS32	0.5	1383381	31/08/2018	White sandy CLAY
WS32	1	1383382	31/08/2018	Brown sandy CLAY
WS26	0.5	1383425	31/08/2018	Brown sandy CLAY

Summary of Chemical Analysis
Soil Samples

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

	Lab No	1383370	1383371	1383373	1383375	1383377	1383378	1383379
	Sample ID	BH21	BH21	BH22	BH22	WS26	WS55	WS55
	Depth	0.60	0.90	2.00-2.20	0.80	1.00	0.50	0.80
	Other ID							
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampling Date	16/08/18	16/08/18	15/08/18	16/08/18	15/08/18	13/08/18	13/08/18
	Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
Metals								
Arsenic	DETSC 2301#	0.2	mg/kg	9.1	8.7	12	12		2.8	2.0
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.1		0.4	0.4
Chromium	DETSC 2301#	0.15	mg/kg	15	21	24	14		4.5	4.4
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	16	12	11	62		3.8	3.5
Lead	DETSC 2301#	0.3	mg/kg	86	16	9.6	220		5.3	4.0
Mercury	DETSC 2325#	0.05	mg/kg	1.0	< 0.05	0.07	0.44		< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	8.8	9.3	7.3	13		4.5	4.1
Zinc	DETSC 2301#	1	mg/kg	39	37	30	120		19	17
Inorganics										
pH	DETSC 2008#			7.9	8.0	8.0	9.6	7.5	8.5	8.5
Cyanide, Total	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.2		< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	1.2	0.4	< 0.1	2.7		0.2	0.3
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	11	13	< 10	51	11	< 10	< 10
Petroleum Hydrocarbons										
EPH (C10-C40)	DETSC 3311#	10	mg/kg	< 10	< 10	< 10	240		< 10	< 10
PAHs										
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.10		< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.22		< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.13		< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.13		< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	2.3		< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	0.03	< 0.03	< 0.03	0.69		< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.08	< 0.03	< 0.03	4.3		0.04	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	0.06	< 0.03	< 0.03	3.7		0.04	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.04	< 0.03	< 0.03	1.7		< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	0.05	< 0.03	< 0.03	1.9		< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.04	< 0.03	< 0.03	2.0		< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.79		< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	1.4		< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.92		< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.23		< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	1.2		< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	0.31	< 0.10	< 0.10	22		< 0.10	< 0.10
PCBs										
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

				Lab No	1383370	1383371	1383373	1383375	1383377	1383378	1383379
				Sample ID	BH21	BH21	BH22	BH22	WS26	WS55	WS55
				Depth	0.60	0.90	2.00-2.20	0.80	1.00	0.50	0.80
				Other ID							
				Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Sampling Date	16/08/18	16/08/18	15/08/18	16/08/18	15/08/18	13/08/18	13/08/18
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**								
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01
Phenols											
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3		< 0.3	< 0.3
OCPs											
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

	Lab No	1383380	1383381	1383382	1383425
	Sample ID	WS55	WS32	WS32	WS26
	Depth	1.10	0.50	1.00	0.50
	Other ID				
	Sample Type	SOIL	SOIL	SOIL	SOIL
	Sampling Date	13/08/18	14/08/18	14/08/18	15/08/18
	Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	8.4		10	9.5
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1		< 0.1	< 0.1
Chromium	DETSC 2301#	0.15	mg/kg	12		35	30
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0		< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	12		12	15
Lead	DETSC 2301#	0.3	mg/kg	43		28	16
Mercury	DETSC 2325#	0.05	mg/kg	0.09		< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	5.6		18	29
Zinc	DETSC 2301#	1	mg/kg	32		45	50
Inorganics							
pH	DETSC 2008#			7.7	8.3	8.1	7.6
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.2		< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.3		0.3	0.5
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	24	< 10	< 10	< 10
Petroleum Hydrocarbons							
EPH (C10-C40)	DETSC 3311#	10	mg/kg	< 10		< 10	< 10
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.05		< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	0.04		< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10		< 0.10	< 0.10
PCBs							
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01		< 0.01	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01		< 0.01	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01		< 0.01	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01		< 0.01	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01		< 0.01	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01		< 0.01	< 0.01

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1383380	1383381	1383382	1383425
			Sample ID	WS55	WS32	WS32	WS26
			Depth	1.10	0.50	1.00	0.50
			Other ID				
			Sample Type	SOIL	SOIL	SOIL	SOIL
			Sampling Date	13/08/18	14/08/18	14/08/18	15/08/18
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01		< 0.01	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01		< 0.01	< 0.01
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3		< 0.3	< 0.3
OCPs							
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1383370 1383383
Sample Id BH21 0.60 *Date Analysed* 30/08/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.3	3	5	6
DETSC 2003# Loss On Ignition	%	3.0	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.9	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.2	0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.1	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.9	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	0.02	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.49	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.21	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.28	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	570	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	4800	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	35000	350	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	2700	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.5
DETSC 2009 Conductivity uS/cm	49.3
* Temperature*	19

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.093

Stage 1

Volume of Leachant L2*	0.924
Volume of Eluate VE1*	0.82

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preperation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1383371 1383384
Sample Id BH21 0.90 *Date Analysed* 30/08/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.7	3	5	6
DETSC 2003# Loss On Ignition	%	2.8	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC2008# pH	pH Units		n/a	>6	n/a
DETS073* Acid Neutralisation Capacity (pH4)	mol/kg		n/a	TBE	TBE
DETS073* Acid Neutralisation Capacity (pH7)	mol/kg		n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.72	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	1.1	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.62	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.6	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.46	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.26	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	520	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	1300	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	27000	270	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.4
DETSC 2009 Conductivity uS/cm	38.6
* Temperature*	19

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.100

Stage 1

Volume of Leachant L2*	0.994
Volume of Eluate VE1*	0.905

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1383374 1383385
Sample Id BH22 0.30 *Date Analysed* 30/08/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	2.7	3	5	6
DETSC 2003# Loss On Ignition	%	4.2	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	63	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	12	100	n/a	n/a
DETSC 2008# pH	pH Units	7.7	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.62	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	1.9	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.3	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.8	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.56	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.25	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	310	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	870	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	21000	210	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.4
DETSC 2009 Conductivity uS/cm	30
* Temperature*	19

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.096

Stage 1

Volume of Leachant L2*	0.951
Volume of Eluate VE1*	0.799

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1383377 1383386
Sample Id WS26 1.00 *Date Analysed* 30/08/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.6	3	5	6
DETSC 2003# Loss On Ignition	%	3.7	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC2008# pH	pH Units		n/a	>6	n/a
DETS073* Acid Neutralisation Capacity (pH4)	mol/kg		n/a	TBE	TBE
DETS073* Acid Neutralisation Capacity (pH7)	mol/kg		n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.45	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.9	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	< 0.4	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	< 0.09	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	170	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	110	1.1	10	150	500
DETSC 2055 Sulphate as SO4	720	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	19000	190	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.4
DETSC 2009 Conductivity uS/cm	27.3
* Temperature*	19

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.097

Stage 1

Volume of Leachant L2*	0.958
Volume of Eluate VE1*	0.78

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3
Sample Id WS55 0.80

Sample Numbers 1383379 1383387
Date Analysed 30/08/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.5	3	5	6
DETSC 2003# Loss On Ignition	%	1.0	n/a	n/a	10
DETSC3321# BTEX	mg/kg		6	n/a	n/a
DETSC3401# PCB's (7 congeners)	mg/kg		1	n/a	n/a
DETSC3311# TPH (C10 - C40)	mg/kg		500	n/a	n/a
DETSC3301/DETSC3303 PAH's	mg/kg		100	n/a	n/a
DETSC2008# pH	pH Units		n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.41	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	4.3	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	< 0.4	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	< 0.09	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	510	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	390	3.9	10	150	500
DETSC 2055 Sulphate as SO4	1400	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	40000	400	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.4
DETSC 2009 Conductivity uS/cm	57.1
* Temperature*	19

Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.100

Stage 1

Volume of Leachant L2*	0.982
Volume of Eluate VE1*	0.982

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WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1383380 1383388
Sample Id WS55 1.10 *Date Analysed* 30/08/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	2.1	3	5	6
DETSC 2003# Loss On Ignition	%	6.6	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC2008# pH	pH Units		n/a	>6	n/a
DETS073* Acid Neutralisation Capacity (pH4)	mol/kg		n/a	TBE	TBE
DETS073* Acid Neutralisation Capacity (pH7)	mol/kg		n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.58	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	4.4	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.1	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.16	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.18	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	360	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	2200	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	59000	590	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.4
DETSC 2009 Conductivity uS/cm	83.7
* Temperature*	19

Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.102

Stage 1

Volume of Leachant L2*	0.997
Volume of Eluate VE1*	0.87

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1383381 1383389
Sample Id WS32 0.50 *Date Analysed* 29/08/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.6	3	5	6
DETSC 2003# Loss On Ignition	%	3.3	n/a	n/a	10
DETSC3321# BTEX	mg/kg		6	n/a	n/a
DETSC3401# PCB's (7 congeners)	mg/kg		1	n/a	n/a
DETSC3311# TPH (C10 - C40)	mg/kg		500	n/a	n/a
DETSC3301/DETSC3303 PAH's	mg/kg		100	n/a	n/a
DETSC2008# pH	pH Units		n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.27	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.8	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.8	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	< 0.09	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	210	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	180	1.8	10	150	500
DETSC 2055 Sulphate as SO4	840	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	59000	590	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8
DETSC 2009 Conductivity uS/cm	84.1
* Temperature*	19

Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.096

Stage 1

Volume of Leachant L2*	0.94
Volume of Eluate VE1*	0.78

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1383382 1383390
Sample Id WS32 1.00 *Date Analysed* 30/08/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	< 0.5	3	5	6
DETSC 2003# Loss On Ignition	%	5.2	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC2008# pH	pH Units		n/a	>6	n/a
DETS073* Acid Neutralisation Capacity (pH4)	mol/kg		n/a	TBE	TBE
DETS073* Acid Neutralisation Capacity (pH7)	mol/kg		n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.43	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	3.4	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	< 0.4	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	1.4	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	< 0.09	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	1.7	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	340	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	1100	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	43000	430	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.8
DETSC 2009 Conductivity uS/cm	61.7
* Temperature*	19

Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.099

Stage 1

Volume of Leachant L2*	0.973
Volume of Eluate VE1*	0.75

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Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1383370	1383371	1383373	1383375	1383378	1383379	1383380
			Sample ID	BH21	BH21	BH22	BH22	WS55	WS55	WS55
			Depth	0.60	0.90	2.00-2.20	0.80	0.50	0.80	1.10
			Other ID							
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	16/08/18	16/08/18	15/08/18	16/08/18	13/08/18	13/08/18	13/08/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
VOCs										
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

	Lab No	1383370	1383371	1383373	1383375	1383378	1383379	1383380
	Sample ID	BH21	BH21	BH22	BH22	WS55	WS55	WS55
	Depth	0.60	0.90	2.00-2.20	0.80	0.50	0.80	1.10
	Other ID							
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampling Date	16/08/18	16/08/18	15/08/18	16/08/18	13/08/18	13/08/18	13/08/18
	Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
SVOCs										
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1383370	1383371	1383373	1383375	1383378	1383379	1383380
			Sample ID	BH21	BH21	BH22	BH22	WS55	WS55	WS55
			Depth	0.60	0.90	2.00-2.20	0.80	0.50	0.80	1.10
			Other ID							
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	16/08/18	16/08/18	15/08/18	16/08/18	13/08/18	13/08/18	13/08/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1383382	1383425
			Sample ID	WS32	WS26
			Depth	1.00	0.50
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	14/08/18	15/08/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1383382	1383425
			Sample ID	WS32	WS26
			Depth	1.00	0.50
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	14/08/18	15/08/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
SVOCs					
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1383382	1383425
			Sample ID	WS32	WS26
			Depth	1.00	0.50
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	14/08/18	15/08/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1383372
Sample ID	BH21
Depth	4.50
Other ID	
Sample Type	WATER
Sampling Date	17/08/18
Sampling Time	n/s

Test	Method	LOD	Units	
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.5
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	4.9
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.46
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.06
Nickel, Dissolved	DETSC 2306	0.5	ug/l	20
Zinc, Dissolved	DETSC 2306	1.3	ug/l	5.9
Inorganics				
Conductivity	DETSC 2009	1	uS/cm	1030
pH	DETSC 2008			7.4
Cyanide, Total	DETSC 2130	40	ug/l	< 40
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	1.5
Chloride	DETSC 2055	0.1	mg/l	140
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.13
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	81
Petroleum Hydrocarbons				
EPH (C10-C40)	DETSC 3311	10	ug/l	420
PAHs				
Naphthalene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.04	ug/l	< 0.04
PCBs				
PCB 28 + PCB 31	DETSC 3402	0.3	ug/l	< 0.3
PCB 52	DETSC 3402	0.2	ug/l	< 0.2

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1383372
Sample ID	BH21
Depth	4.50
Other ID	
Sample Type	WATER
Sampling Date	17/08/18
Sampling Time	n/s

Test	Method	LOD	Units	
PCB 101	DETSC 3402	0.3	ug/l	< 0.3
PCB 118 + PCB 123	DETSC 3402	0.6	ug/l	< 0.6
PCB 138	DETSC 3402	0.2	ug/l	< 0.2
PCB 153	DETSC 3402	0.2	ug/l	< 0.2
PCB 180	DETSC 3402	0.2	ug/l	< 0.2
PCB 7 Total	DETSC 3402	1	ug/l	< 1.0
Phenols				
Phenol	DETSC 3451*	0.5	ug/l	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1383372
Sample ID	BH21
Depth	4.50
Other ID	
Sample Type	WATER
Sampling Date	17/08/18
Sampling Time	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1383372
Sample ID	BH21
Depth	4.50
Other ID	
Sample Type	WATER
Sampling Date	17/08/18
Sampling Time	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1383372
Sample ID	BH21
Depth	4.50
Other ID	
Sample Type	WATER
Sampling Date	17/08/18
Sampling Time	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	3.2
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

				Lab No	1383383	1383384	1383385	1383386	1383387	1383388	1383389	1383390
				Sample ID	BH21	BH21	BH22	WS26	WS55	WS55	WS32	WS32
				Depth	0.60	0.90	0.30	1.00	0.80	1.10	0.50	1.00
				Other ID								
				Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
				Sampling Date	16/08/18	16/08/18	16/08/18	15/08/18	13/08/18	13/08/18	14/08/18	14/08/18
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**									
Preparation												
BS EN 12457 10:1	DETS 036*			Y	Y	Y	Y	Y	Y	Y	Y

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 18-20197
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1383370	BH21 0.60	SOIL	NAD	none	Lee Kerridge
1383371	BH21 0.90	SOIL	NAD	none	Lee Kerridge
1383373	BH22 2.00-2.20	SOIL	NAD	none	Lee Kerridge
1383375	BH22 0.80	SOIL	NAD	none	Lee Kerridge
1383378	WS55 0.50	SOIL	NAD	none	Lee Kerridge
1383379	WS55 0.80	SOIL	NAD	none	Lee Kerridge
1383380	WS55 1.10	SOIL	NAD	none	Lee Kerridge
1383382	WS32 1.00	SOIL	NAD	none	Lee Kerridge
1383425	WS26 0.50	SOIL	NAD	none	Lee Kerridge

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 18-20197
Client Ref PE181482
Contract UK France Interconnector Package 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1383370	BH21 0.60 SOIL	16/08/18	GJ 250ml, GJ 60ml, PT 1L x2		
1383371	BH21 0.90 SOIL	16/08/18	GJ 250ml, GJ 60ml, PT 1L x2		
1383372	BH21 4.50 WATER	17/08/18	GB 1L, GV, PB 1L	Chromium, Hexavalent (4 days), pH/Cond/TDS (2 days), Nitrite as NO2 (2 days), PAH MS (5 days)	
1383373	BH22 2.00-2.20 SOIL	15/08/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1383374	BH22 0.30 SOIL	16/08/18	GJ 250ml, GV, PT 1L x2		
1383375	BH22 0.80 SOIL	16/08/18	GJ 250ml, GV, PT 1L x2		
1383376	WS26 0.50 SOIL	15/08/18	GJ 250ml, GV, PT 1L x2		
1383377	WS26 1.00 SOIL	15/08/18	GJ 250ml, GV, PT 1L x2	pH + Conductivity (7 days)	
1383378	WS55 0.50 SOIL	13/08/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1383379	WS55 0.80 SOIL	13/08/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1383380	WS55 1.10 SOIL	13/08/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1383381	WS32 0.50 SOIL	14/08/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days)	
1383382	WS32 1.00 SOIL	14/08/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1383383	BH21 0.60 LEACHATE	16/08/18	GJ 250ml, GJ 60ml, PT 1L x2		
1383384	BH21 0.90 LEACHATE	16/08/18	GJ 250ml, GJ 60ml, PT 1L x2		
1383385	BH22 0.30 LEACHATE	16/08/18	GJ 250ml, GV, PT 1L x2		
1383386	WS26 1.00 LEACHATE	15/08/18	GJ 250ml, GV, PT 1L x2		
1383387	WS55 0.80 LEACHATE	13/08/18	GJ 250ml, GJ 60ml, PT 1L x2		
1383388	WS55 1.10 LEACHATE	13/08/18	GJ 250ml, GJ 60ml, PT 1L x2		
1383389	WS32 0.50 LEACHATE	14/08/18	GJ 250ml, GJ 60ml, PT 1L x2		
1383390	WS32 1.00 LEACHATE	14/08/18	GJ 250ml, GJ 60ml, PT 1L x2		
1383425	WS26 0.50 SOIL	15/08/18	No containers logged	pH + Conductivity (7 days), VOC (7 days)	Cannot evaluate

Key: G-Glass P-Plastic J-Jar T-Tub B-Bottle V-Vial

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Information in Support of the Analytical Results

Our Ref 18-20197
Client Ref PE181482
Contract UK France Interconnector Package 3

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Certificate of Analysis

Certificate Number	18-21292	14-Sep-18
Client	Geotechnics The Geotechnics Centre 7 Pinbrook Units Vinny Bridge Exeter EX4 8JQ	
Our Reference	18-21292	
Client Reference	PE181482	
Order No	AUTH-OE09340	
Contract Title	UK France Interconnector Package 3	
Description	19 Soil samples, 2 Leachate samples, 3 Water samples.	
Date Received	06-Sep-18	
Date Started	06-Sep-18	
Date Completed	14-Sep-18	
Test Procedures	Identified by prefix DETSn (details on request).	
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.	

Approved By [redacted]

Adam Fenwick
Contracts Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Sample ID	Depth	Lab No	Completed	Matrix Description
WS01	0.5	1388940	14/09/2018	Light brown gravelly, sandy CLAY including odd rootlets
WS01	1	1388941	14/09/2018	Light brown gravelly, sandy CLAY including odd rootlets
WS04	0.3	1388942	14/09/2018	Dark brown gravelly, sandy CLAY including odd rootlets (Made ground - brick)
WS04	0.5	1388943	14/09/2018	Dark brown slightly gravelly, very sandy CLAY including odd rootlets
WS04	1	1388944	14/09/2018	Dark brown gravelly, sandy CLAY including odd rootlets (Possible made ground - brick,coal and glass)
WS05	0.3	1388946	14/09/2018	Light brown slightly gravelly, very sandy CLAY including odd rootlets
WS05	0.5	1388947	14/09/2018	Brown very gravelly, clayey SAND
WS06	0.5	1388948	14/09/2018	Dark brown very gravelly, clayey SAND (Made ground - brick)
WS06	1	1388949	14/09/2018	Dark brown very gravelly, clayey SAND (Made ground - brick)
WS07A	0.9	1388950	14/09/2018	Dark brown very sandy, clayey GRAVEL (Possible made ground - brick) (sample matrix outside MCERTS scope of accreditation)
WS20	0.3	1388951	14/09/2018	Dark brown sandy CLAY including odd rootlets
WS20	0.5	1388952	14/09/2018	Brown, gravelly, sandy and CLAY and odd rootlets
WS039	0.3	1388954	14/09/2018	Brown slightly sandy, very gravelly CLAY including odd rootlets
WS039	0.5	1388955	14/09/2018	Brown slightly gravelly, very sandy CLAY including odd rootlets
WS039	1	1388956	14/09/2018	Brown slightly gravelly, very sandy CLAY
WS52	0.5	1388957	14/09/2018	Brown slightly gravelly, very sandy CLAY
WS52	1	1388958	14/09/2018	Brown slightly gravelly, sandy CLAY
WS61	0.5	1388960	14/09/2018	Dark brown slightly gravelly, sandy CLAY (Possible made ground - brick)
WS61	1	1388961	14/09/2018	Dark brown slightly gravelly, sandy CLAY including numerous rootlets

Summary of Chemical Analysis
Soil Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

	Lab No	1388940	1388941	1388942	1388943	1388946	1388947
	Sample ID	WS01	WS01	WS04	WS04	WS05	WS05
	Depth	0.50	1.00	0.30	0.50	0.30	0.50
	Other ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampling Date	28/08/18	28/08/18	29/08/18	29/08/18	29/08/18	29/08/18
	Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	10			9.4		20
Cadmium	DETSC 2301#	0.1	mg/kg	0.8			0.3		< 0.1
Chromium	DETSC 2301#	0.15	mg/kg	23			12		17
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0			< 1.0		< 1.0
Copper	DETSC 2301#	0.2	mg/kg	15			16		11
Lead	DETSC 2301#	0.3	mg/kg	27			52		20
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05			0.07		< 0.05
Nickel	DETSC 2301#	1	mg/kg	19			7.7		9.8
Zinc	DETSC 2301#	1	mg/kg	66			72		31
Inorganics									
pH	DETSC 2008#			8.0	8.2	8.9	7.6	7.2	7.5
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.2			0.5		0.2
Organic matter	DETSC 2002#	0.1	%	1.2			2.1		0.1
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	41	< 10	150	13	28	17
Petroleum Hydrocarbons									
EPH (C10-C40)	DETSC 3311#	10	mg/kg	63			14		< 10
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03			< 0.03		< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03			< 0.03		< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03			< 0.03		< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03			< 0.03		< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.07			0.10		< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03			< 0.03		< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.15			0.21		< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	0.12			0.19		< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.06			0.09		< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	0.07			0.11		< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.07			0.13		< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03			0.05		< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.04			0.07		< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03			0.08		< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03			< 0.03		< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03			0.09		< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	0.57			1.1		< 0.10
PCBs									
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01			< 0.01		< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01			< 0.01		< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01			< 0.01		< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01			< 0.01		< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01			< 0.01		< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01			< 0.01		< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

				Lab No	1388940	1388941	1388942	1388943	1388946	1388947
				Sample ID	WS01	WS01	WS04	WS04	WS05	WS05
				Depth	0.50	1.00	0.30	0.50	0.30	0.50
				Other ID						
				Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Sampling Date	28/08/18	28/08/18	29/08/18	29/08/18	29/08/18	29/08/18
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01			< 0.01		< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01			< 0.01		< 0.01
Phenols										
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3			< 0.3		< 0.3
OCPs										
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1			< 0.1		< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1			< 0.1		< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1			< 0.1		< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1			< 0.1		< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1			< 0.1		< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1			< 0.1		< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1			< 0.1		< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1			< 0.1		< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1			< 0.1		< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1			< 0.1		< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1			< 0.1		< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1			< 0.1		< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1			< 0.1		< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1			< 0.1		< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1			< 0.1		< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1			< 0.1		< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1			0.1		< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1			< 0.1		< 0.1

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

	Lab No	1388948	1388949	1388950	1388951	1388952	1388954
	Sample ID	WS06	WS06	WS07A	WS20	WS20	WS039
	Depth	0.50	1.00	0.90	0.30	0.50	0.30
	Other ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampling Date	29/08/18	29/08/18	30/08/18	28/08/18	28/08/18	30/08/18
	Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Metals							
Arsenic	DETSC 2301#	0.2	mg/kg	14		59	17		9.5
Cadmium	DETSC 2301#	0.1	mg/kg	0.4		0.2	< 0.1		< 0.1
Chromium	DETSC 2301#	0.15	mg/kg	15		39	24		21
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0		< 1.0	< 1.0		< 1.0
Copper	DETSC 2301#	0.2	mg/kg	74		690	12		27
Lead	DETSC 2301#	0.3	mg/kg	150		950	22		120
Mercury	DETSC 2325#	0.05	mg/kg	0.19		0.09	< 0.05		0.16
Nickel	DETSC 2301#	1	mg/kg	15		55	15		28
Zinc	DETSC 2301#	1	mg/kg	110		380	51		94
Inorganics									
pH	DETSC 2008#			8.0	8.4	8.1	6.9	7.9	5.8
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.2		0.3	0.2		0.3
Organic matter	DETSC 2002#	0.1	%	2.5		1.2	2.0		1.0
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	99	44	360	11	29	13
Petroleum Hydrocarbons									
EPH (C10-C40)	DETSC 3311#	10	mg/kg	330		25	< 10		< 10
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03		< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	0.09		< 0.03	< 0.03		< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	0.14		< 0.03	< 0.03		< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	0.14		< 0.03	< 0.03		< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	2.0		0.08	< 0.03		0.06
Anthracene	DETSC 3303	0.03	mg/kg	0.70		< 0.03	< 0.03		< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	7.9		0.14	< 0.03		0.16
Pyrene	DETSC 3303#	0.03	mg/kg	7.1		0.12	< 0.03		0.15
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	4.0		0.05	< 0.03		0.07
Chrysene	DETSC 3303	0.03	mg/kg	4.0		0.06	< 0.03		0.09
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	5.4		0.05	< 0.03		0.13
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	2.1		< 0.03	< 0.03		0.05
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	4.1		< 0.03	< 0.03		0.07
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	2.2		< 0.03	< 0.03		0.07
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	0.85		< 0.03	< 0.03		< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	2.5		< 0.03	< 0.03		0.09
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	43		0.49	< 0.10		0.93
PCBs									
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01		< 0.01	< 0.01		< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01		< 0.01	< 0.01		< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01		< 0.01	< 0.01		< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01		< 0.01	< 0.01		< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01		< 0.01	< 0.01		< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01		< 0.01	< 0.01		< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1388948	1388949	1388950	1388951	1388952	1388954
			Sample ID	WS06	WS06	WS07A	WS20	WS20	WS039
			Depth	0.50	1.00	0.90	0.30	0.50	0.30
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	29/08/18	29/08/18	30/08/18	28/08/18	28/08/18	30/08/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01		< 0.01	< 0.01		< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01		< 0.01	< 0.01		< 0.01
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3		< 0.3	< 0.3		< 0.3
OCPs									
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1		< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1		< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1		< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1		< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1		< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1		< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1		< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1		< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1		< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1		< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1		< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1		< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1		< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1		< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1		< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1		< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	< 0.1		< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1		< 0.1	0.1		< 0.1

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

	Lab No	1388955	1388956	1388957	1388958	1388960	1388961
	Sample ID	WS039	WS039	WS52	WS52	WS61	WS61
	Depth	0.50	1.00	0.50	1.00	0.50	1.00
	Other ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampling Date	30/08/18	30/08/18	31/08/18	31/08/18	30/08/18	30/08/18
	Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Metals							
Arsenic	DETSC 2301#	0.2	mg/kg		7.7		12		12
Cadmium	DETSC 2301#	0.1	mg/kg		< 0.1		< 0.1		0.2
Chromium	DETSC 2301#	0.15	mg/kg		24		33		16
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0		< 1.0		< 1.0
Copper	DETSC 2301#	0.2	mg/kg		14		17		66
Lead	DETSC 2301#	0.3	mg/kg		18		17		780
Mercury	DETSC 2325#	0.05	mg/kg		< 0.05		< 0.05		0.75
Nickel	DETSC 2301#	1	mg/kg		23		26		15
Zinc	DETSC 2301#	1	mg/kg		50		66		220
Inorganics									
pH	DETSC 2008#			6.2	5.0	7.9	7.9	7.5	7.6
Cyanide, Total	DETSC 2130#	0.1	mg/kg		< 0.1		0.1		0.3
Organic matter	DETSC 2002#	0.1	%		0.5		0.3		1.6
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	18	29	< 10	< 10	28	10
Petroleum Hydrocarbons									
EPH (C10-C40)	DETSC 3311#	10	mg/kg		< 10		< 10		47
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		0.05
Fluorene	DETSC 3303	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		0.57
Anthracene	DETSC 3303	0.03	mg/kg		< 0.03		< 0.03		0.09
Fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		1.2
Pyrene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		1.1
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		0.39
Chrysene	DETSC 3303	0.03	mg/kg		< 0.03		< 0.03		0.49
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		0.43
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		0.15
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		0.26
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		0.18
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		0.23
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg		< 0.10		< 0.10		5.1
PCBs									
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg		< 0.01		< 0.01		< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg		< 0.01		< 0.01		< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg		< 0.01		< 0.01		< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg		< 0.01		< 0.01		< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg		< 0.01		< 0.01		< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg		< 0.01		< 0.01		< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

				Lab No	1388955	1388956	1388957	1388958	1388960	1388961
				Sample ID	WS039	WS039	WS52	WS52	WS61	WS61
				Depth	0.50	1.00	0.50	1.00	0.50	1.00
				Other ID						
				Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Sampling Date	30/08/18	30/08/18	31/08/18	31/08/18	30/08/18	30/08/18
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
PCB 180	DETSC 3401#	0.01	mg/kg		< 0.01		< 0.01		< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg		< 0.01		< 0.01		< 0.01
Phenols										
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg		< 0.3		< 0.3		< 0.3
OCPs										
alpha-BHC	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		0.1
beta-BHC	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		< 0.1
Endrin	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg		< 0.1		< 0.1		< 0.1

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Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

				Lab No	1388940	1388943	1388944	1388947	1388948	1388950	1388951
				Sample ID	WS01	WS04	WS04	WS05	WS06	WS07A	WS20
				Depth	0.50	0.50	1.00	0.50	0.50	0.90	0.30
				Other ID							
				Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Sampling Date	28/08/18	29/08/18	29/08/18	29/08/18	29/08/18	30/08/18	28/08/18
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**								
VOCs											
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1388940	1388943	1388944	1388947	1388948	1388950	1388951
			Sample ID	WS01	WS04	WS04	WS05	WS06	WS07A	WS20
			Depth	0.50	0.50	1.00	0.50	0.50	0.90	0.30
			Other ID							
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	28/08/18	29/08/18	29/08/18	29/08/18	29/08/18	30/08/18	28/08/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	DETSC 3431	0.01	mg/kg			< 0.01				
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
SVOCs										
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	0.1	< 0.1	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1

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Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1388940	1388943	1388944	1388947	1388948	1388950	1388951
			Sample ID	WS01	WS04	WS04	WS05	WS06	WS07A	WS20
			Depth	0.50	0.50	1.00	0.50	0.50	0.90	0.30
			Other ID							
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	28/08/18	29/08/18	29/08/18	29/08/18	29/08/18	30/08/18	28/08/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1		< 0.1	0.3	< 0.1	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1388954	1388956	1388958	1388961
			Sample ID	WS039	WS039	WS52	WS61
			Depth	0.30	1.00	1.00	1.00
			Other ID				
			Sample Type	SOIL	SOIL	SOIL	SOIL
			Sampling Date	30/08/18	30/08/18	31/08/18	30/08/18
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
VOCs							
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1388954	1388956	1388958	1388961
			Sample ID	WS039	WS039	WS52	WS61
			Depth	0.30	1.00	1.00	1.00
			Other ID				
			Sample Type	SOIL	SOIL	SOIL	SOIL
			Sampling Date	30/08/18	30/08/18	31/08/18	30/08/18
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	DETSC 3431	0.01	mg/kg				
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
SVOCs							
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1388954	1388956	1388958	1388961
			Sample ID	WS039	WS039	WS52	WS61
			Depth	0.30	1.00	1.00	1.00
			Other ID				
			Sample Type	SOIL	SOIL	SOIL	SOIL
			Sampling Date	30/08/18	30/08/18	31/08/18	30/08/18
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1388945	1388953	1388959
			Sample ID	WS04	WS20	WS52
			Depth			
			Other ID			
			Sample Type	WATER	WATER	WATER
			Sampling Date	29/08/18	28/08/18	28/08/18
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Metals						
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	3.7	0.20	0.24
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	0.09	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	1.2	1.2	0.42
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	9.6	0.9	2.3
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.23	< 0.09	< 0.09
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.02	0.02	0.02
Nickel, Dissolved	DETSC 2306	0.5	ug/l	8.3	2.4	2.4
Zinc, Dissolved	DETSC 2306	1.3	ug/l	26	9.7	11
Inorganics						
Conductivity	DETSC 2009	1	uS/cm	2450	766	758
pH	DETSC 2008			7.4	7.4	7.3
Cyanide, Total	DETSC 2130	40	ug/l	< 40	< 40	< 40
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	1.1	0.54	0.10
Chloride	DETSC 2055	0.1	mg/l	310	36	42
Nitrate as NO3	DETSC 2055	0.1	mg/l	1.2	23	26
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.12	0.39	0.79
Sulphate as SO4	DETSC 2055	0.1	mg/l	330	45	43
Petroleum Hydrocarbons						
EPH (C10-C40)	DETSC 3311	10	ug/l	< 10	19	49
PAHs						
Naphthalene	DETSC 3304	0.01	ug/l	0.04	0.02	0.02
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	0.04	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.07	< 0.01	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.02	< 0.01
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
PAH Total	DETSC 3304	0.04	ug/l	0.15	< 0.04	< 0.04
PCBs						
PCB 28 + PCB 31	DETSC 3402	0.3	ug/l	< 0.3	< 0.3	< 0.3
PCB 52	DETSC 3402	0.2	ug/l	< 0.2	< 0.2	< 0.2

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1388945	1388953	1388959
			Sample ID	WS04	WS20	WS52
			Depth			
			Other ID			
			Sample Type	WATER	WATER	WATER
			Sampling Date	29/08/18	28/08/18	28/08/18
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
PCB 101	DETSC 3402	0.3	ug/l	< 0.3	< 0.3	< 0.3
PCB 118 + PCB 123	DETSC 3402	0.6	ug/l	< 0.6	< 0.6	< 0.6
PCB 138	DETSC 3402	0.2	ug/l	< 0.2	< 0.2	< 0.2
PCB 153	DETSC 3402	0.2	ug/l	< 0.2	< 0.2	< 0.2
PCB 180	DETSC 3402	0.2	ug/l	< 0.2	< 0.2	< 0.2
PCB 7 Total	DETSC 3402	1	ug/l	< 1.0	< 1.0	< 1.0
Phenols						
Phenol	DETSC 3451*	0.5	ug/l	< 0.50	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1388945	1388953	1388959
			Sample ID	WS04	WS20	WS52
			Depth			
			Other ID			
			Sample Type	WATER	WATER	WATER
			Sampling Date	29/08/18	28/08/18	28/08/18
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
VOCs						
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
2,2-dichloropropane	DETSC 3432	2	ug/l	< 2	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1388945	1388953	1388959
			Sample ID	WS04	WS20	WS52
			Depth			
			Other ID			
			Sample Type	WATER	WATER	WATER
			Sampling Date	29/08/18	28/08/18	28/08/18
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1	< 1
SVOCs						
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1388945	1388953	1388959
			Sample ID	WS04	WS20	WS52
			Depth			
			Other ID			
			Sample Type	WATER	WATER	WATER
			Sampling Date	29/08/18	28/08/18	28/08/18
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1388940	WS01 0.50	SOIL	NAD	none	Keith Wilson
1388943	WS04 0.50	SOIL	NAD	none	Keith Wilson
1388947	WS05 0.50	SOIL	NAD	none	Keith Wilson
1388948	WS06 0.50	SOIL	NAD	none	Keith Wilson
1388950	WS07A 0.90	SOIL	NAD	none	Keith Wilson
1388951	WS20 0.30	SOIL	NAD	none	Keith Wilson
1388954	WS039 0.30	SOIL	NAD	none	Keith Wilson
1388956	WS039 1.00	SOIL	NAD	none	Keith Wilson
1388958	WS52 1.00	SOIL	NAD	none	Keith Wilson
1388961	WS61 1.00	SOIL	NAD	none	Keith Wilson

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1388943 1388962
Sample Id WS04 0.50 *Date Analysed* 14/09/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084* Total Organic Carbon	%	1.2	3	5	6
DETSC 2003# Loss On Ignition	%	4.0	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	14	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.6	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.3	0.01	0.5	2	25
DETSC 2306 Barium as Ba	11	0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	3.8	0.04	2	50	100
DETSC 2306 Mercury as Hg	0.03	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	1.4	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.27	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.77	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.48	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2.5	0.02	4	50	200
DETSC 2055 Chloride as Cl	1200	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	210	2.1	10	150	500
DETSC 2055 Sulphate as SO4	4200	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	130000	1300	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	3600	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.2
DETSC 2009 Conductivity uS/cm	185
* Temperature*	18

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.097

Stage 1

Volume of Leachant L2*	0.952
Volume of Eluate VE1*	0.89

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preperation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-21292
Client Ref PE181482
Contract Title UK France Interconnector Package 3
Sample Id WS20 0.30

Sample Numbers 1388951 1388963
Date Analysed 14/09/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084* Total Organic Carbon	%	1.1	3	5	6
DETSC 2003# Loss On Ignition	%	4.8	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	6.9	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.1	0.01	0.5	2	25
DETSC 2306 Barium as Ba	7.8	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	2.2	0.02	2	50	100
DETSC 2306 Mercury as Hg	0.03	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	1.8	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.8	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	2	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	5	0.05	4	50	200
DETSC 2055 Chloride as Cl	1200	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	210	2.1	10	150	500
DETSC 2055 Sulphate as SO4	1400	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	54000	540	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	2600	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8
DETSC 2009 Conductivity uS/cm	77.3
* Temperature*	18

Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.100

Stage 1

Volume of Leachant L2*	0.985
Volume of Eluate VE1*	0.93

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preperation stage which is unaccredited.*

Information in Support of the Analytical Results

Our Ref 18-21292
Client Ref PE181482
Contract UK France Interconnector Package 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1388940	WS01 0.50 SOIL	28/08/18	GJ 500ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1388941	WS01 1.00 SOIL	28/08/18	GJ 500ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days)	
1388942	WS04 0.30 SOIL	29/08/18	GJ 250ml, GV, PT 1L x2	pH + Conductivity (7 days)	
1388943	WS04 0.50 SOIL	29/08/18	GJ 250ml, GV, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1388944	WS04 1.00 SOIL	29/08/18	GJ 250ml, GV, PT 1L x2	VOC (7 days)	
1388945	WS04 WATER	29/08/18	GB 1L, GV, PB 1L	Chromium, Hexavalent (4 days), pH/Cond/TDS (2 days), Nitrite as NO2 (2 days), PAH MS (5 days), SVOC (7 days)	
1388946	WS05 0.30 SOIL	29/08/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days)	
1388947	WS05 0.50 SOIL	29/08/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1388948	WS06 0.50 SOIL	29/08/18	GJ 250ml, GV, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1388949	WS06 1.00 SOIL	29/08/18	GJ 250ml, GV, PT 1L x2	pH + Conductivity (7 days)	
1388950	WS07A 0.90 SOIL	30/08/18	GJ 250ml, GJ 60ml, PT 1L x2		
1388951	WS20 0.30 SOIL	28/08/18	GJ 500ml, GV, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1388952	WS20 0.50 SOIL	28/08/18	GJ 500ml, GV, PT 1L x2	pH + Conductivity (7 days)	
1388953	WS20 WATER	28/08/18	GJ 500ml, GV, PT 1L x2	Chromium, Hexavalent (4 days), pH/Cond/TDS (2 days), Nitrite as NO2 (2 days), PAH MS (5 days), SVOC (7 days)	
1388954	WS039 0.30 SOIL	30/08/18	GJ 250ml, GV, PT 1L x2		
1388955	WS039 0.50 SOIL	30/08/18	GJ 250ml, GV, PT 1L x2		
1388956	WS039 1.00 SOIL	30/08/18	GJ 250ml, GV, PT 1L x2		
1388957	WS52 0.50 SOIL	31/08/18	GJ 250ml, GJ 60ml, PT 1L x2		
1388958	WS52 1.00 SOIL	31/08/18	GJ 250ml, GJ 60ml, PT 1L x2		
1388959	WS52 WATER	28/08/18	GB 1L, GV, PB 1L	Chromium, Hexavalent (4 days), pH/Cond/TDS (2 days), Nitrite as NO2 (2 days), PAH MS (5 days), SVOC (7 days)	
1388960	WS61 0.50 SOIL	30/08/18	GJ 250ml, GJ 60ml, PT 1L x2		
1388961	WS61 1.00 SOIL	30/08/18	GJ 250ml, GJ 60ml, PT 1L x2		
1388962	WS04 0.50 LEACHATE	29/08/18	GJ 250ml, GV, PT 1L x2		
1388963	WS20 0.30 LEACHATE	28/08/18	GJ 500ml, GV, PT 1L x2		

Key: G-Glass P-Plastic J-Jar T-Tub V-Vial B-Bottle

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Information in Support of the Analytical Results

Our Ref 18-21292
Client Ref PE181482
Contract UK France Interconnector Package 3

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Certificate of Analysis

Certificate Number	18-22276	01-Oct-18
Client	Geotechnics Ltd 7 Pinbrooks Unit Venny Bridge Exeter EX4 8JQ	

Our Reference	18-22276
Client Reference	PE181482
Order No	AUTH-OE09340
Contract Title	UK France Interconnector Package 3
Description	2 Soil samples, 1 Water sample.

Date Received	19-Sep-18
Date Started	19-Sep-18
Date Completed	01-Oct-18
Test Procedures	Identified by prefix DETSn (details on request).
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By [redacted]

Adam Fenwick
Contracts Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 18-22276
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Sample ID	Depth	Lab No	Completed	Matrix Description
WS19	0.3	1394420	01/10/2018	Dark brown gravelly, clayey SAND (Possible made ground - brick)
WS19	0.6	1394421	01/10/2018	Brown gravelly, sandy CLAY

Summary of Chemical Analysis
Soil Samples

Our Ref 18-22276
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1394420	1394421
			Sample ID	WS19	WS19
			Depth	0.30	0.60
			Other ID		
			Sample Type	ES	ES
			Sampling Date	11/09/18	11/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg		23
Cadmium	DETSC 2301#	0.1	mg/kg		0.1
Chromium	DETSC 2301#	0.15	mg/kg		35
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0
Copper	DETSC 2301#	0.2	mg/kg		48
Lead	DETSC 2301#	0.3	mg/kg		180
Mercury	DETSC 2325#	0.05	mg/kg		0.31
Nickel	DETSC 2301#	1	mg/kg		14
Zinc	DETSC 2301#	1	mg/kg		97
Inorganics					
pH	DETSC 2008#			9.1	9.3
Cyanide, Total	DETSC 2130#	0.1	mg/kg		< 0.1
Organic matter	DETSC 2002#	0.1	%		0.5
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	25	53
Petroleum Hydrocarbons					
EPH (C10-C40)	DETSC 3311#	10	mg/kg		47
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg		0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg		0.08
Acenaphthene	DETSC 3303#	0.03	mg/kg		0.03
Fluorene	DETSC 3303	0.03	mg/kg		< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg		0.37
Anthracene	DETSC 3303	0.03	mg/kg		0.16
Fluoranthene	DETSC 3303#	0.03	mg/kg		1.3
Pyrene	DETSC 3303#	0.03	mg/kg		1.6
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg		0.73
Chrysene	DETSC 3303	0.03	mg/kg		0.92
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg		1.3
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg		0.50
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg		1.0
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg		0.61
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg		0.14
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg		0.78
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg		9.6
PCBs					
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg		< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg		< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg		< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg		< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg		< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg		< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-22276
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1394420	1394421
			Sample ID	WS19	WS19
			Depth	0.30	0.60
			Other ID		
			Sample Type	ES	ES
			Sampling Date	11/09/18	11/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
PCB 180	DETSC 3401#	0.01	mg/kg		< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg		< 0.01
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg		< 0.3
OCPs					
alpha-BHC	DETSC 3441*	0.1	mg/kg		< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg		< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg		< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg		< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg		< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg		< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg		< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg		< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg		< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg		< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg		< 0.1
Endrin	DETSC 3441*	0.1	mg/kg		< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg		< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg		< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg		< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg		< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg		< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg		< 0.1

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-22276
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1394421
Sample ID	WS19
Depth	0.60
Other ID	
Sample Type	ES
Sampling Date	11/09/18
Sampling Time	n/s

Test	Method	LOD	Units	
VOCs				
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-22276
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1394421
Sample ID	WS19
Depth	0.60
Other ID	
Sample Type	ES
Sampling Date	11/09/18
Sampling Time	n/s

Test	Method	LOD	Units	
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01
SVOCs				
Phenol	DETSC 3433	0.1	mg/kg	0.3
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	0.5
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	0.2
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	0.4
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	1.4
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-22276
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1394421
Sample ID	WS19
Depth	0.60
Other ID	
Sample Type	ES
Sampling Date	11/09/18
Sampling Time	n/s

Test	Method	LOD	Units	
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	9.2

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-22276
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1394422
Sample ID	WS19
Depth	0.90
Other ID	
Sample Type	W
Sampling Date	11/09/18
Sampling Time	n/s

Test	Method	LOD	Units	
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	8.7
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	2.4
Lead, Dissolved	DETSC 2306	0.09	ug/l	2.9
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	0.5
Zinc, Dissolved	DETSC 2306	1.3	ug/l	9.8
Inorganics				
Conductivity	DETSC 2009	1	uS/cm	581
pH	DETSC 2008			7.2
Cyanide, Total	DETSC 2130	40	ug/l	< 40
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.098
Chloride	DETSC 2055	0.1	mg/l	1400
Nitrate as NO3	DETSC 2055	0.1	mg/l	640
Nitrite as NO2	DETSC 2055	0.1	mg/l	24
Sulphate as SO4	DETSC 2055	0.1	mg/l	1200
Petroleum Hydrocarbons				
EPH (C10-C40)	DETSC 3311	10	ug/l	240
PAHs				
Naphthalene	DETSC 3304	0.01	ug/l	0.11
Acenaphthylene	DETSC 3304	0.01	ug/l	0.02
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.03
Anthracene	DETSC 3304	0.01	ug/l	0.03
Fluoranthene	DETSC 3304	0.01	ug/l	0.10
Pyrene	DETSC 3304	0.01	ug/l	0.13
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	0.09
Chrysene	DETSC 3304	0.01	ug/l	0.14
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.35
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	0.13
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	0.31
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	0.34
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	0.05
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	0.35
PAH Total	DETSC 3304	0.04	ug/l	2.2
PCBs				
PCB 28 + PCB 31	DETSC 3402	0.3	ug/l	< 0.3
PCB 52	DETSC 3402	0.2	ug/l	< 0.2

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-22276
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1394422
Sample ID	WS19
Depth	0.90
Other ID	
Sample Type	W
Sampling Date	11/09/18
Sampling Time	n/s

Test	Method	LOD	Units	
PCB 101	DETSC 3402	0.3	ug/l	< 0.3
PCB 118 + PCB 123	DETSC 3402	0.6	ug/l	< 0.6
PCB 138	DETSC 3402	0.2	ug/l	< 0.2
PCB 153	DETSC 3402	0.2	ug/l	< 0.2
PCB 180	DETSC 3402	0.2	ug/l	< 0.2
PCB 7 Total	DETSC 3402	1	ug/l	< 1.0
Phenols				
Phenol	DETSC 3451*	0.5	ug/l	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-22276
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1394422
Sample ID	WS19
Depth	0.90
Other ID	
Sample Type	W
Sampling Date	11/09/18
Sampling Time	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	2
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-22276
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1394422
Sample ID	WS19
Depth	0.90
Other ID	
Sample Type	W
Sampling Date	11/09/18
Sampling Time	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Water Samples

Our Ref 18-22276
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1394422
Sample ID	WS19
Depth	0.90
Other ID	
Sample Type	W
Sampling Date	11/09/18
Sampling Time	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 18-22276
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1394421	WS19 0.60	SOIL	Chrysotile	small bundle of Chrysotile fibres	Colin Patrick

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 18-22276
Client Ref PE181482
Contract UK France Interconnector Package 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1394420	WS19 0.30 SOIL	11/09/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days)	
1394421	WS19 0.60 SOIL	11/09/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1394422	WS19 0.90 WATER	11/09/18	GB 1L, GV, PB 1L	Chromium, Hexavalent (4 days), pH/Cond/TDS (2 days), Nitrite as NO2 (2 days), PAH MS (5 days), SVOC (7 days)	

Key: G-Glass P-Plastic J-Jar T-Tub B-Bottle V-Vial

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Certificate of Analysis

Certificate Number	18-22445	01-Oct-18
Client	Geotechnics The Geotechnics Centre 7 Pinbrook Units Vinny Bridge Exeter EX4 8JQ	
Our Reference	18-22445	
Client Reference	PE181482	
Order No	AUTH-OE09340	
Contract Title	UK France Interconnector Package 3	
Description	5 Soil samples, 5 Leachate samples.	
Date Received	21-Sep-18	
Date Started	21-Sep-18	
Date Completed	01-Oct-18	
Test Procedures	Identified by prefix DETSn (details on request).	
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.	

Approved By [redacted]

Adam Fenwick
Contracts Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 18-22445
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Sample ID	Depth	Lab No	Completed	Matrix Description
WS56	0.5	1395481	01/10/2018	Dark brown slightly gravelly, sandy CLAY including odd wood
WS54A	0.5	1395482	01/10/2018	Dark brown slightly clayey, gravelly SAND (Made ground - brick) including odd rootlets
WS40	0.5	1395483	01/10/2018	Dark brown gravelly, very sandy CLAY (Made ground - brick)
WS41	1	1395484	01/10/2018	Light brown sandy CLAY
WS29	0.5	1395485	01/10/2018	Brown clayey, sandy GRAVEL (sample matrix outside MCERTS scope of accreditation)

Summary of Chemical Analysis
Soil Samples

Our Ref 18-22445
Client Ref PE181482
Contract Title UK France Interconnector Package 3

	Lab No	1395481	1395482	1395483	1395484	1395485
	Sample ID	WS56	WS54A	WS40	WS41	WS29
	Depth	0.50	0.50	0.50	1.00	0.50
	Other ID					
	Sample Type	ES	ES	ES	ES	ES
	Sampling Date	18/09/18	13/09/18	19/09/18	19/09/18	14/09/18
	Sampling Time	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Metals						
Arsenic	DETSC 2301#	0.2	mg/kg	4.7	7.8	12	30	6.6
Cadmium	DETSC 2301#	0.1	mg/kg	0.1	0.2	0.1	0.2	0.1
Chromium	DETSC 2301#	0.15	mg/kg	9.3	42	14	28	66
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	13	53	100	93	12
Lead	DETSC 2301#	0.3	mg/kg	50	1200	380	250	39
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	0.24	19	15	0.42
Nickel	DETSC 2301#	1	mg/kg	4.1	33	14	19	34
Zinc	DETSC 2301#	1	mg/kg	39	160	130	420	41
Inorganics								
pH	DETSC 2008#			8.3	8.7	8.0	8.4	8.7
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.2	0.3	0.2	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.0	3.2	8.2	0.8	0.8
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	42	55	150	89	< 10
Petroleum Hydrocarbons								
EPH (C10-C40)	DETSC 3311#	10	mg/kg	31	930	< 10	< 10	< 10
PAHs								
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	0.14	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	0.13	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	1.1	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	0.92	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.26	17	0.05	< 0.03	0.09
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	4.8	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	1.2	49	0.09	< 0.03	0.34
Pyrene	DETSC 3303#	0.03	mg/kg	1.1	42	0.08	< 0.03	0.30
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.48	17	0.06	0.03	0.11
Chrysene	DETSC 3303	0.03	mg/kg	0.88	23	0.04	< 0.03	0.20
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.96	24	< 0.03	< 0.03	0.19
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.56	9.6	< 0.03	< 0.03	0.13
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.71	16	< 0.03	< 0.03	0.12
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.48	7.6	< 0.03	< 0.03	0.07
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	0.07	2.1	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.61	8.1	< 0.03	< 0.03	0.09
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	7.3	220	0.28	< 0.10	1.7

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-22445
Client Ref PE181482
Contract Title UK France Interconnector Package 3

	Lab No	1395481	1395482	1395483	1395484	1395485
	Sample ID	WS56	WS54A	WS40	WS41	WS29
	Depth	0.50	0.50	0.50	1.00	0.50
	Other ID					
	Sample Type	ES	ES	ES	ES	ES
	Sampling Date	18/09/18	13/09/18	19/09/18	19/09/18	14/09/18
	Sampling Time	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
PCBs						
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenols								
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.3	< 0.3	< 0.3	< 0.3	< 0.3
OCPs								
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 18-22445
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1395481	1395482	1395483	1395484	1395485
			Sample ID	WS56	WS54A	WS40	WS41	WS29
			Depth	0.50	0.50	0.50	1.00	0.50
			Other ID					
			Sample Type	ES	ES	ES	ES	ES
			Sampling Date	18/09/18	13/09/18	19/09/18	19/09/18	14/09/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
VOCs								
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-22445
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1395481	1395482	1395483	1395484	1395485
			Sample ID	WS56	WS54A	WS40	WS41	WS29
			Depth	0.50	0.50	0.50	1.00	0.50
			Other ID					
			Sample Type	ES	ES	ES	ES	ES
			Sampling Date	18/09/18	13/09/18	19/09/18	19/09/18	14/09/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
SVOCs								
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	0.1	< 0.1	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	0.2	< 0.1	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	0.2	< 0.1	< 0.1	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	0.6	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	0.2	< 0.1	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-22445
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1395481	1395482	1395483	1395484	1395485
			Sample ID	WS56	WS54A	WS40	WS41	WS29
			Depth	0.50	0.50	0.50	1.00	0.50
			Other ID					
			Sample Type	ES	ES	ES	ES	ES
			Sampling Date	18/09/18	13/09/18	19/09/18	19/09/18	14/09/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	2.4	< 0.1	< 0.1	< 0.1

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-22445
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1395481 1395486
Sample Id WS56 0.50 *Date Analysed* 27/09/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC2002#/DETSC2084# Total Organic Carbon	%	1.6	3	5	6
DETSC 2003# Loss On Ignition	%	2.8	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	31	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	3.7	100	n/a	n/a
DETSC 2008# pH	pH Units	8.3	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.7	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	3.8	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	0.04	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.59	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.4	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	0.02	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	1.6	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.6	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.55	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.33	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.83	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2.3	0.02	4	50	200
DETSC 2055 Chloride as Cl	1300	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	6700	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	23000	230	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7
DETSC 2009 Conductivity uS/cm	32.9
* Temperature*	18

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.101

Stage 1

Volume of Leachant L2*	0.998
Volume of Eluate VE1*	0.875

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preperation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-22445
Client Ref PE181482
Contract Title UK France Interconnector Package 3
Sample Id WS54A 0.50
Sample Numbers 1395482 1395487
Date Analysed 27/09/2018

Test Results On Waste

Determinand and Method Reference	Units	Result
DETSC2002#/DETSC2084# Total Organic Carbon	%	2.1
DETSC 2003# Loss On Ignition	%	3.6
DETSC 3321# BTEX	mg/kg	< 0.04
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01
DETSC 3311# TPH (C10 - C40)	mg/kg	930
DETSC 3301 PAHs	mg/kg	160
DETSC 2008# pH	pH Units	8.7
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1

WAC Limit Values		
Inert Waste	SNRHW	Hazardous Waste
3	5	6
n/a	n/a	10
6	n/a	n/a
1	n/a	n/a
500	n/a	n/a
100	n/a	n/a
n/a	>6	n/a
n/a	TBE	TBE
n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg
	10:1	LS10
DETSC 2306 Arsenic as As	< 0.16	< 0.01
DETSC 2306 Barium as Ba	< 0.26	< 0.1
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02
DETSC 2306 Chromium as Cr	< 0.25	< 0.1
DETSC 2306 Copper as Cu	< 0.4	< 0.02
DETSC 2306 Mercury as Hg	0.01	< 0.002
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1
DETSC 2306 Nickel as Ni	< 0.5	< 0.1
DETSC 2306 Lead as Pb	< 0.09	< 0.05
DETSC 2306 Antimony as Sb	< 0.17	< 0.05
DETSC 2306 Selenium as Se	< 0.25	< 0.03
DETSC 2306 Zinc as Zn	< 1.3	< 0.01
DETSC 2055 Chloride as Cl	1700	< 100
DETSC 2055* Fluoride as F	100	1
DETSC 2055 Sulphate as SO4	2000	< 100
DETSC 2009* Total Dissolved Solids	51000	510
DETSC 2130 Phenol Index	< 100	< 1
* Dissolved Organic Carbon	2200	< 50

WAC Limit Values		
Limit values for LS10 Leachate		
Inert Waste	SNRHW	Hazardous Waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15,000	25,000
10	150	500
1000	20,000	50,000
4000	60,000	100,000
1	n/a	n/a
500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.4
DETSC 2009 Conductivity uS/cm	72.7
* Temperature*	18

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.100

Stage 1

Volume of Leachant L2*	0.986
Volume of Eluate VE1*	0.876

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preperation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-22445
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1395483 1395488
Sample Id WS40 0.50 *Date Analysed* 27/09/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC2002#/DETSC2084# Total Organic Carbon	%	4.5	3	5	6
DETSC 2003# Loss On Ignition	%	7.7	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	8.4	100	n/a	n/a
DETSC 2008# pH	pH Units	8.0	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.5	0.02	0.5	2	25
DETSC 2306 Barium as Ba	4.3	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.5	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	0.05	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	3.2	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.56	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.38	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.94	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	1.5	0.02	4	50	200
DETSC 2055 Chloride as Cl	1600	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	13000	130	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	68000	680	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	2400	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.2
DETSC 2009 Conductivity uS/cm	97.8
* Temperature*	18

Mass of Sample Kg*	0.130
Mass of dry Sample Kg*	0.100

Stage 1

Volume of Leachant L2*	0.967
Volume of Eluate VE1*	0.85

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-22445
Client Ref PE181482
Contract Title UK France Interconnector Package 3
Sample Id WS41 1.00

Sample Numbers 1395484 1395489
Date Analysed 27/09/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC2002#/DETSC2084# Total Organic Carbon	%	2.5	3	5	6
DETSC 2003# Loss On Ignition	%	4.3	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.4	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.9	0.02	0.5	2	25
DETSC 2306 Barium as Ba	1	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.46	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	2.8	0.03	2	50	100
DETSC 2306 Mercury as Hg	0.07	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	3.4	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	3.4	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	1.4	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.61	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	4.7	0.05	4	50	200
DETSC 2055 Chloride as Cl	2200	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	360	3.6	10	150	500
DETSC 2055 Sulphate as SO4	7300	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	45000	450	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	2700	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.2
DETSC 2009 Conductivity uS/cm	63.8
* Temperature*	18

Mass of Sample Kg*	0.140
Mass of dry Sample Kg*	0.100

Stage 1

Volume of Leachant L2*	0.965
Volume of Eluate VE1*	0.862

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-22445
Client Ref PE181482
Contract Title UK France Interconnector Package 3
Sample Id WS29 0.50

Sample Numbers 1395485 1395490
Date Analysed 27/09/2018

Test Results On Waste

Determinand and Method Reference	Units	Result
DETSC2002#/DETSC2084# Total Organic Carbon	%	1.2
DETSC 2003# Loss On Ignition	%	2.0
DETSC 3321# BTEX	mg/kg	< 0.04
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10
DETSC 3301 PAHs	mg/kg	< 1.6
DETSC 2008# pH	pH Units	8.7
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1

WAC Limit Values		
Inert Waste	SNRHW	Hazardous Waste
3	5	6
n/a	n/a	10
6	n/a	n/a
1	n/a	n/a
500	n/a	n/a
100	n/a	n/a
n/a	>6	n/a
n/a	TBE	TBE
n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg
	10:1	LS10
DETSC 2306 Arsenic as As	0.43	< 0.01
DETSC 2306 Barium as Ba	1.3	< 0.1
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02
DETSC 2306 Chromium as Cr	0.35	< 0.1
DETSC 2306 Copper as Cu	0.9	< 0.02
DETSC 2306 Mercury as Hg	0.02	< 0.002
DETSC 2306 Molybdenum as Mo	1.8	< 0.1
DETSC 2306 Nickel as Ni	< 0.5	< 0.1
DETSC 2306 Lead as Pb	0.29	< 0.05
DETSC 2306 Antimony as Sb	< 0.17	< 0.05
DETSC 2306 Selenium as Se	0.38	< 0.03
DETSC 2306 Zinc as Zn	1.5	0.02
DETSC 2055 Chloride as Cl	460	< 100
DETSC 2055* Fluoride as F	< 100	< 0.1
DETSC 2055 Sulphate as SO4	1200	< 100
DETSC 2009* Total Dissolved Solids	32000	320
DETSC 2130 Phenol Index	< 100	< 1
* Dissolved Organic Carbon	< 2000	< 50

WAC Limit Values Limit values for LS10 Leachate		
Inert Waste	SNRHW	Hazardous Waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15,000	25,000
10	150	500
1000	20,000	50,000
4000	60,000	100,000
1	n/a	n/a
500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.1
DETSC 2009 Conductivity uS/cm	45.3
* Temperature*	18

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.092

Stage 1

Volume of Leachant L2*	0.912
Volume of Eluate VE1*	0.81

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
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Summary of Asbestos Analysis
Soil Samples

Our Ref 18-22445
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1395481	WS56 0.50	SOIL	NAD	none	Lee Kerridge
1395482	WS54A 0.50	SOIL	Chrysotile Amosite	Amosite and Chrysotile present in bundles	Lee Kerridge
1395483	WS40 0.50	SOIL	NAD	none	Lee Kerridge
1395484	WS41 1.00	SOIL	NAD	none	Lee Kerridge
1395485	WS29 0.50	SOIL	NAD	none	Lee Kerridge

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 18-22445
Client Ref PE181482
Contract UK France Interconnector Package 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1395481	WS56 0.50 SOIL	18/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1395482	WS54A 0.50 SOIL	13/09/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1395483	WS40 0.50 SOIL	19/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1395484	WS41 1.00 SOIL	19/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1395485	WS29 0.50 SOIL	14/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1395486	WS56 0.50 LEACHATE	18/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1395487	WS54A 0.50 LEACHATE	13/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1395488	WS40 0.50 LEACHATE	19/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1395489	WS41 1.00 LEACHATE	19/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1395490	WS29 0.50 LEACHATE	14/09/18	GJ 250ml, GJ 60ml, PT 1L x2		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Certificate of Analysis

Certificate Number 18-22861

03-Oct-18

Client Geotechnics Ltd
7 Pinbrooks Unit
Venny Bridge
Exeter
EX4 8JQ

Our Reference 18-22861

Client Reference PE181482

Order No AUTH-OE09340

Contract Title UK France Interconnector Package 3

Description 2 Soil samples, 2 Leachate samples.

Date Received 26-Sep-18

Date Started 26-Sep-18

Date Completed 03-Oct-18

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By [redacted]

Adam Fenwick
Contracts Manager

UKAS TESTING
2139

Summary of Chemical Analysis
Soil Samples

Our Ref 18-22861
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1397633	1397634
			Sample ID	WS21	WS21
			Depth	0.30	1.00
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	18/09/18	18/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	7.3	9.9
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	< 0.1
Chromium	DETSC 2301#	0.15	mg/kg	18	27
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	27	22
Lead	DETSC 2301#	0.3	mg/kg	110	16
Mercury	DETSC 2325#	0.05	mg/kg	0.07	< 0.05
Nickel	DETSC 2301#	1	mg/kg	17	29
Zinc	DETSC 2301#	1	mg/kg	91	66
Inorganics					
pH	DETSC 2008#			8.0	8.2
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.3	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.6	0.3
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	16	14
Petroleum Hydrocarbons					
EPH (C10-C40)	DETSC 3311#	10	mg/kg	15	< 10
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.09	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.34	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	0.32	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.16	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	0.22	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.29	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.11	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.21	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.14	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	0.04	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.18	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	2.1	< 0.10
PCBs					
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-22861
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1397633	1397634
			Sample ID	WS21	WS21
			Depth	0.30	1.00
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	18/09/18	18/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3
OCPs					
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-22861
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1397633	1397634
Sample ID	WS21	WS21
Depth	0.30	1.00
Other ID		
Sample Type	SOIL	SOIL
Sampling Date	18/09/18	18/09/18
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-22861
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1397633	1397634
			Sample ID	WS21	WS21
			Depth	0.30	1.00
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	18/09/18	18/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
SVOCs					
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-22861
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1397633	1397634
			Sample ID	WS21	WS21
			Depth	0.30	1.00
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	18/09/18	18/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	0.7	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-22861
Client Ref PE181482
Contract Title UK France Interconnector Package 3
Sample Id WS21 0.30

Sample Numbers 1397633 1397635
Date Analysed 02/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result
DETSC2002#/DETSC2084# Total Organic Carbon	%	3.1
DETSC 2003# Loss On Ignition	%	5.4
DETSC 3321# BTEX	mg/kg	< 0.04
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01
DETSC 3311# TPH (C10 - C40)	mg/kg	15
DETSC 3301 PAHs	mg/kg	3.4
DETSC 2008# pH	pH Units	8.0
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1

WAC Limit Values		
Inert Waste	SNRHW	Hazardous Waste
3	5	6
n/a	n/a	10
6	n/a	n/a
1	n/a	n/a
500	n/a	n/a
100	n/a	n/a
n/a	>6	n/a
n/a	TBE	TBE
n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg
	10:1	LS10
DETSC 2306 Arsenic as As	2.8	0.03
DETSC 2306 Barium as Ba	3.1	< 0.1
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02
DETSC 2306 Chromium as Cr	< 0.25	< 0.1
DETSC 2306 Copper as Cu	1.8	< 0.02
DETSC 2306 Mercury as Hg	< 0.01	< 0.002
DETSC 2306 Molybdenum as Mo	1.2	< 0.1
DETSC 2306 Nickel as Ni	< 0.5	< 0.1
DETSC 2306 Lead as Pb	0.75	< 0.05
DETSC 2306 Antimony as Sb	< 0.17	< 0.05
DETSC 2306 Selenium as Se	< 0.25	< 0.03
DETSC 2306 Zinc as Zn	< 1.3	< 0.01
DETSC 2055 Chloride as Cl	4200	< 100
DETSC 2055* Fluoride as F	180	1.8
DETSC 2055 Sulphate as SO4	7200	< 100
DETSC 2009* Total Dissolved Solids	40000	400
DETSC 2130 Phenol Index	< 100	< 1
* Dissolved Organic Carbon	< 2000	< 50

WAC Limit Values Limit values for LS10 Leachate		
Inert Waste	SNRHW	Hazardous Waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15,000	25,000
10	150	500
1000	20,000	50,000
4000	60,000	100,000
1	n/a	n/a
500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.3
DETSC 2009 Conductivity uS/cm	56.7
* Temperature*	17

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.093

Stage 1

Volume of Leachant L2*	0.917
Volume of Eluate VE1*	0.86

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preperation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-22861
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1397634 1397636
Sample Id WS21 1.00 *Date Analysed* 02/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result
DETSC2002#/DETSC2084# Total Organic Carbon	%	2.5
DETSC 2003# Loss On Ignition	%	4.4
DETSC 3321# BTEX	mg/kg	< 0.04
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10
DETSC 3301 PAHs	mg/kg	< 1.6
DETSC 2008# pH	pH Units	8.2
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1

WAC Limit Values		
Inert Waste	SNRHW	Hazardous Waste
3	5	6
n/a	n/a	10
6	n/a	n/a
1	n/a	n/a
500	n/a	n/a
100	n/a	n/a
n/a	>6	n/a
n/a	TBE	TBE
n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg
	10:1	LS10
DETSC 2306 Arsenic as As	0.88	< 0.01
DETSC 2306 Barium as Ba	2.1	< 0.1
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02
DETSC 2306 Chromium as Cr	< 0.25	< 0.1
DETSC 2306 Copper as Cu	0.6	< 0.02
DETSC 2306 Mercury as Hg	< 0.01	< 0.002
DETSC 2306 Molybdenum as Mo	1.5	< 0.1
DETSC 2306 Nickel as Ni	< 0.5	< 0.1
DETSC 2306 Lead as Pb	0.21	< 0.05
DETSC 2306 Antimony as Sb	< 0.17	< 0.05
DETSC 2306 Selenium as Se	< 0.25	< 0.03
DETSC 2306 Zinc as Zn	< 1.3	< 0.01
DETSC 2055 Chloride as Cl	4200	< 100
DETSC 2055* Fluoride as F	300	3
DETSC 2055 Sulphate as SO4	1900	< 100
DETSC 2009* Total Dissolved Solids	48000	480
DETSC 2130 Phenol Index	< 100	< 1
* Dissolved Organic Carbon	< 2000	< 50

WAC Limit Values Limit values for LS10 Leachate		
Inert Waste	SNRHW	Hazardous Waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15,000	25,000
10	150	500
1000	20,000	50,000
4000	60,000	100,000
1	n/a	n/a
500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.3
DETSC 2009 Conductivity uS/cm	69
* Temperature*	17

Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.096

Stage 1

Volume of Leachant L2*	0.938
Volume of Eluate VE1*	0.89

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Summary of Asbestos Analysis
Soil Samples

Our Ref 18-22861
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1397633	WS21 0.30	SOIL	NAD	none	Lee Kerridge
1397634	WS21 1.00	SOIL	NAD	none	Lee Kerridge

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 18-22861
Client Ref PE181482
Contract UK France Interconnector Package 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1397633	WS21 0.30 SOIL	18/09/18	GJ 250ml x2, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1397634	WS21 1.00 SOIL	18/09/18	GJ 250ml x2, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1397635	WS21 0.30 LEACHATE	18/09/18	GJ 250ml x2, PT 1L x2		
1397636	WS21 1.00 LEACHATE	18/09/18	GJ 250ml x2, PT 1L x2		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Certificate of Analysis

Certificate Number	18-22893
	05-Oct-18
Client	Geotechnics Ltd 7 Pinbrooks Unit Venny Bridge Exeter EX4 8JQ
Our Reference	18-22893
Client Reference	PE181482
Order No	AUTH-OE09389
Contract Title	UK France Interconnector Package 3
Description	5 Soil samples, 5 Leachate samples.
Date Received	27-Sep-18
Date Started	27-Sep-18
Date Completed	05-Oct-18
Test Procedures	Identified by prefix DETSn (details on request).
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By [redacted]

Adam Fenwick
Contracts Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 18-22893
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Sample ID	Depth	Lab No	Completed	Matrix Description
BH20	0.3	1397810	05/10/2018	Dark brown gravelly, clayey SAND
BH20	1	1397811	05/10/2018	Dark brown gravelly, clayey SAND
BH12	0.5	1397812	05/10/2018	White gravelly, clayey SAND
BH08	0.3	1397813	05/10/2018	Dark brown gravelly, sandy CLAY including some rootlets
BH08	0.5	1397814	05/10/2018	Brown sandy CLAY

Summary of Chemical Analysis
Soil Samples

Our Ref 18-22893
Client Ref PE181482
Contract Title UK France Interconnector Package 3

	Lab No	1397810	1397811	1397812	1397813	1397814
	Sample ID	BH20	BH20	BH12	BH08	BH08
	Depth	0.30	1.00	0.50	0.30	0.50
	Other ID					
	Sample Type	ES	ES	ES	ES	ES
	Sampling Date	20/09/18	20/09/18	20/09/18	20/09/18	20/09/18
	Sampling Time	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Metals						
Arsenic	DETSC 2301#	0.2	mg/kg	18	9.9	2.3	11	7.6
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.2	0.7	0.2	< 0.1
Chromium	DETSC 2301#	0.15	mg/kg	14	6.5	2.9	25	29
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	130	44	8.2	17	8.8
Lead	DETSC 2301#	0.3	mg/kg	460	200	17	28	13
Mercury	DETSC 2325#	0.05	mg/kg	1.1	5.7	< 0.05	0.06	< 0.05
Nickel	DETSC 2301#	1	mg/kg	15	6.4	3.7	15	9.6
Zinc	DETSC 2301#	1	mg/kg	240	170	29	57	40
Inorganics								
pH	DETSC 2008#			7.3	8.0	8.2	7.6	7.9
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.7	0.7	0.2	0.2	< 0.1
Organic matter	DETSC 2002#	0.1	%	4.2	1.4	2.6	3.7	0.7
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	27	26	11	14	< 10
Petroleum Hydrocarbons								
EPH (C10-C40)	DETSC 3311#	10	mg/kg	88	250	22	< 10	< 10
PAHs								
Naphthalene	DETSC 3303#	0.03	mg/kg	0.05	0.04	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	0.08	0.13	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	0.11	0.05	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	0.06	0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	2.2	0.97	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	0.41	0.34	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	8.5	4.9	0.08	0.04	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	8.2	4.5	0.08	0.04	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	2.9	2.0	0.05	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	4.7	2.8	0.04	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	5.6	3.9	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	2.5	1.6	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	3.9	2.8	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	2.1	1.5	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	0.41	0.29	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	2.5	2.0	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	44	28	0.25	< 0.10	< 0.10
PCBs								
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-22893
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1397810	1397811	1397812	1397813	1397814
			Sample ID	BH20	BH20	BH12	BH08	BH08
			Depth	0.30	1.00	0.50	0.30	0.50
			Other ID					
			Sample Type	ES	ES	ES	ES	ES
			Sampling Date	20/09/18	20/09/18	20/09/18	20/09/18	20/09/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenols								
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.7	0.4	< 0.3	0.6	< 0.3
OCPs								
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 18-22893
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1397810	1397811	1397812	1397813	1397814
			Sample ID	BH20	BH20	BH12	BH08	BH08
			Depth	0.30	1.00	0.50	0.30	0.50
			Other ID					
			Sample Type	ES	ES	ES	ES	ES
			Sampling Date	20/09/18	20/09/18	20/09/18	20/09/18	20/09/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
VOCs								
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-22893
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1397810	1397811	1397812	1397813	1397814
			Sample ID	BH20	BH20	BH12	BH08	BH08
			Depth	0.30	1.00	0.50	0.30	0.50
			Other ID					
			Sample Type	ES	ES	ES	ES	ES
			Sampling Date	20/09/18	20/09/18	20/09/18	20/09/18	20/09/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
SVOCs								
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	0.2	0.3	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-22893
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1397810	1397811	1397812	1397813	1397814
			Sample ID	BH20	BH20	BH12	BH08	BH08
			Depth	0.30	1.00	0.50	0.30	0.50
			Other ID					
			Sample Type	ES	ES	ES	ES	ES
			Sampling Date	20/09/18	20/09/18	20/09/18	20/09/18	20/09/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	0.7	< 0.1	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	0.3	0.1	0.5	< 0.1	< 0.1

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-22893
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1397810 1397815
Sample Id BH20 0.30 *Date Analysed* 04/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC2002#/DETSC2084# Total Organic Carbon	%	3.8	3	5	6
DETSC 2003# Loss On Ignition	%	6.5	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	88	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	16	100	n/a	n/a
DETSC 2008# pH	pH Units	7.3	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.2	0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.8	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	4.3	0.04	2	50	100
DETSC 2306 Mercury as Hg	0.02	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.9	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.83	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.46	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	1.8	0.02	4	50	200
DETSC 2055 Chloride as Cl	1200	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	960	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	27000	270	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.4
DETSC 2009 Conductivity uS/cm	38.6
* Temperature*	21

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.094

Stage 1

Volume of Leachant L2*	0.937
Volume of Eluate VE1*	0.88

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preperation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-22893
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1397811 1397816
Sample Id BH20 1.00 *Date Analysed* 04/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC2002#/DETSC2084# Total Organic Carbon	%	1.6	3	5	6
DETSC 2003# Loss On Ignition	%	2.7	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	250	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	36	100	n/a	n/a
DETSC 2008# pH	pH Units	8.0	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.6	0.02	0.5	2	25
DETSC 2306 Barium as Ba	1.6	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.28	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	3.2	0.03	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	1.1	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	4.5	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	3.4	0.03	4	50	200
DETSC 2055 Chloride as Cl	740	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	1900	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	29000	290	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.4
DETSC 2009 Conductivity uS/cm	42
* Temperature*	21

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.096

Stage 1

Volume of Leachant L2*	0.957
Volume of Eluate VE1*	0.9

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-22893
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1397812 1397817
Sample Id BH12 0.50 *Date Analysed* 04/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC2002#/DETSC2084# Total Organic Carbon	%	1.9	3	5	6
DETSC 2003# Loss On Ignition	%	3.3	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	22	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.2	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	1.7	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.4	0.01	0.5	2	25
DETSC 2306 Barium as Ba	0.73	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.8	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.7	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.23	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.38	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	610	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	660	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	48000	480	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.3
DETSC 2009 Conductivity uS/cm	68.7
* Temperature*	21

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.094

Stage 1

Volume of Leachant L2*	0.921
Volume of Eluate VE1*	0.87

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-22893
Client Ref PE181482
Contract Title UK France Interconnector Package 3
Sample Id BH08 0.30

Sample Numbers 1397813 1397818
Date Analysed 04/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC2002#/DETSC2084# Total Organic Carbon	%	4.5	3	5	6
DETSC 2003# Loss On Ignition	%	7.7	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.6	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.79	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	0.63	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.7	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.25	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	700	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	150	1.5	10	150	500
DETSC 2055 Sulphate as SO4	810	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	35000	350	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.4
DETSC 2009 Conductivity uS/cm	50
* Temperature*	21

Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.102

Stage 1

Volume of Leachant L2*	0.997
Volume of Eluate VE1*	0.93

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-22893
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1397814 1397819
Sample Id BH08 0.50 *Date Analysed* 04/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values Inert Waste	SNRHW	Hazardous Waste
DETSC2002#/DETSC2084# Total Organic Carbon	%	2.5	3	5	6
DETSC 2003# Loss On Ignition	%	4.4	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.9	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values Limit values for LS10 Leachate Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.2	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	0.48	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	< 0.4	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.35	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	540	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	480	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	28000	280	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.5
DETSC 2009 Conductivity uS/cm	39.4
* Temperature*	21

Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.097

Stage 1

Volume of Leachant L2*	0.95
Volume of Eluate VE1*	0.89

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preperation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 18-22893
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1397810	BH20 0.30	SOIL	NAD	none	Colin Patrick
1397811	BH20 1.00	SOIL	NAD	none	Colin Patrick
1397812	BH12 0.50	SOIL	NAD	none	Colin Patrick
1397813	BH08 0.30	SOIL	NAD	none	Colin Patrick
1397814	BH08 0.50	SOIL	NAD	none	Colin Patrick

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 18-22893
Client Ref PE181482
Contract UK France Interconnector Package 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1397810	BH20 0.30 SOIL	20/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1397811	BH20 1.00 SOIL	20/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1397812	BH12 0.50 SOIL	20/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1397813	BH08 0.30 SOIL	20/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1397814	BH08 0.50 SOIL	20/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1397815	BH20 0.30 LEACHATE	20/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1397816	BH20 1.00 LEACHATE	20/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1397817	BH12 0.50 LEACHATE	20/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1397818	BH08 0.30 LEACHATE	20/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1397819	BH08 0.50 LEACHATE	20/09/18	GJ 250ml, GJ 60ml, PT 1L x2		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Certificate of Analysis

Certificate Number	18-23611	12-Oct-18
Client	Geotechnics The Geotechnics Centre 7 Pinbrook Units Vinny Bridge Exeter EX4 8JQ	
Our Reference	18-23611	
Client Reference	PE181482	
Order No	AUTH-OE09397	
Contract Title	UK France Interconnector Package 3	
Description	2 Soil samples, 2 Leachate samples.	
Date Received	05-Oct-18	
Date Started	05-Oct-18	
Date Completed	12-Oct-18	
Test Procedures	Identified by prefix DETSn (details on request).	
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.	

Approved By [redacted]

Adam Fenwick
Contracts Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 18-23611
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Sample ID	Depth	Lab No	Completed	Matrix Description
WS64	0.5	1401718	12/10/2018	Dark brown sandy GRAVEL (sample matrix outside MCERTS scope of accreditation)
WS16	0.5	1401719	12/10/2018	Brown very gravelly SAND

Summary of Chemical Analysis
Soil Samples

Our Ref 18-23611
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1401718	1401719
			Sample ID	WS64	WS16
			Depth	0.50	0.50
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	28/09/18	28/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	8.3	7.9
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	< 0.1
Chromium	DETSC 2301#	0.15	mg/kg	14	9.3
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	32	7.1
Lead	DETSC 2301#	0.3	mg/kg	88	4.4
Mercury	DETSC 2325#	0.05	mg/kg	0.11	< 0.05
Nickel	DETSC 2301#	1	mg/kg	11	6.8
Zinc	DETSC 2301#	1	mg/kg	46	14
Inorganics					
pH	DETSC 2008#			8.5	9.0
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.2	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.1	0.4
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	21	27
Petroleum Hydrocarbons					
EPH (C10-C40)	DETSC 3311#	10	mg/kg	1500	< 10
PAHs					
Naphthalene	DETSC 3301	0.1	mg/kg	< 1.0	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	2.0	< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	1.3	< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	1.5	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	16	< 0.1
Anthracene	DETSC 3301	0.1	mg/kg	6.0	< 0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	41	< 0.1
Pyrene	DETSC 3301	0.1	mg/kg	42	< 0.1
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	25	< 0.1
Chrysene	DETSC 3301	0.1	mg/kg	26	< 0.1
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	27	< 0.1
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	16	< 0.1
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	36	< 0.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	25	< 0.1
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	5.8	< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	22	< 0.1
PAH Total	DETSC 3301	1.6	mg/kg	300	< 1.6
PCBs					
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-23611
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1401718	1401719
			Sample ID	WS64	WS16
			Depth	0.50	0.50
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	28/09/18	28/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3
OCPs					
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-23611
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1401718	1401719
			Sample ID	WS64	WS16
			Depth	0.50	0.50
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	28/09/18	28/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-23611
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1401718	1401719
			Sample ID	WS64	WS16
			Depth	0.50	0.50
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	28/09/18	28/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
SVOCs					
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	0.2	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	0.2	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	0.2	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-23611
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1401718	1401719
			Sample ID	WS64	WS16
			Depth	0.50	0.50
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	28/09/18	28/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	0.3	< 0.1

WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-23611
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1401718 1401720
Sample Id WS64 0.50 *Date Analysed* 11/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.5	3	5	6
DETSC 2003# Loss On Ignition	%	2.1	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	1500	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	300	100	n/a	n/a
DETSC 2008# pH	pH Units	8.5	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.3	0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.7	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.8	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.56	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	490	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	720	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	21000	210	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.7
DETSC 2009 Conductivity uS/cm	30.1
* Temperature*	20

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.097

Stage 1

Volume of Leachant L2*	0.963
Volume of Eluate VE1*	0.91

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preperation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-23611
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1401719 1401721
Sample Id WS16 0.50 *Date Analysed* 11/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	< 0.5	3	5	6
DETSC 2003# Loss On Ignition	%	0.76	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	9.0	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.1	0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.6	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.16	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	1.1	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	630	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	640	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	29000	290	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	2300	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.2
DETSC 2009 Conductivity uS/cm	42.1
* Temperature*	20

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.096

Stage 1

Volume of Leachant L2*	0.958
Volume of Eluate VE1*	0.9

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preperation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 18-23611
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1401718	WS64 0.50	SOIL	NAD	none	Colin Patrick
1401719	WS16 0.50	SOIL	NAD	none	Colin Patrick

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 18-23611
Client Ref PE181482
Contract UK France Interconnector Package 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1401718	WS64 0.50 SOIL	28/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1401719	WS16 0.50 SOIL	28/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1401720	WS64 0.50 LEACHATE	28/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1401721	WS16 0.50 LEACHATE	28/09/18	GJ 250ml, GJ 60ml, PT 1L x2		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Certificate of Analysis

Certificate Number	18-23918	16-Oct-18
Client	Geotechnics The Geotechnics Centre 7 Pinbrook Units Vinny Bridge Exeter EX4 8JQ	
Our Reference	18-23918	
Client Reference	PE181482	
Order No	AUTH-OE09397	
Contract Title	UK France Interconnector Package 3	
Description	9 Soil samples, 9 Leachate samples.	
Date Received	09-Oct-18	
Date Started	09-Oct-18	
Date Completed	16-Oct-18	
Test Procedures	Identified by prefix DETSn (details on request).	
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.	

Approved By [redacted]

Adam Fenwick
Contracts Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 18-23918
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Sample ID	Depth	Lab No	Completed	Matrix Description
WS51	0.5	1403702	16/10/2018	Brown sandy CLAY
WS51	1	1403703	16/10/2018	Brown sandy CLAY
WS42	0.5	1403704	16/10/2018	Brown very gravelly, sandy CLAY
WS44	0.5	1403705	16/10/2018	Brown very gravelly, clayey SAND (Made ground - brick)
WS44	1	1403706	16/10/2018	Brown very gravelly, sandy CLAY
WS22	0.5	1403707	16/10/2018	Brown gravelly SAND
WS41	1.70-2.00	1403708	16/10/2018	Dark grey sandy CLAY
WS43	0.5	1404613	16/10/2018	Dark brown gravelly, sandy CLAY
WS43	1	1404614	16/10/2018	Dark brown gravelly, sandy CLAY

Summary of Chemical Analysis
Soil Samples

Our Ref 18-23918
Client Ref PE181482
Contract Title UK France Interconnector Package 3

	Lab No	1403702	1403703	1403704	1403705	1403706	1403707	1403708
	Sample ID	WS51	WS51	WS42	WS44	WS44	WS22	WS41
	Depth	0.50	1.00	0.50	0.50	1.00	0.50	1.70-2.00
	Other ID							
	Sample Type	ES	ES	ES	ES	ES	ES	ES
	Sampling Date	01/10/18	01/10/18	26/09/18	27/09/18	27/09/18	27/09/18	19/09/18
	Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
Metals								
Arsenic	DETSC 2301#	0.2	mg/kg	10	17	7.9	6.4	12	5.2	17
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1
Chromium	DETSC 2301#	0.15	mg/kg	32	40	11	11	22	12	16
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	22	23	9.8	8.5	7.0	8.2	6.3
Lead	DETSC 2301#	0.3	mg/kg	20	15	13	9.1	9.6	13	28
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	15	26	8.2	7.2	6.9	4.2	16
Zinc	DETSC 2301#	1	mg/kg	44	55	26	110	27	35	42
Inorganics										
pH	DETSC 2008#			8.9	6.5	8.6	11.5	8.1	8.7	7.5
Cyanide, Total	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	0.5	0.3	0.3	0.6	0.3	0.6	0.5
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	120	120	16	65	64	18	77
Petroleum Hydrocarbons										
EPH (C10-C40)	DETSC 3311#	10	mg/kg	33	< 10	< 10	110	< 10	< 10	< 10
PAHs										
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.1	< 0.1	0.2	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.1	< 0.1	0.2	< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	0.1	< 0.1	< 0.1	0.2	< 0.1	0.2	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	0.7	0.2	< 0.1	0.5	< 0.1	0.2	< 0.1
Anthracene	DETSC 3301	0.1	mg/kg	0.3	< 0.1	< 0.1	0.1	< 0.1	0.2	< 0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	2.0	0.4	< 0.1	0.4	< 0.1	0.3	0.2
Pyrene	DETSC 3301	0.1	mg/kg	2.6	0.3	< 0.1	0.3	< 0.1	0.3	0.2
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	1.0	0.2	< 0.1	0.1	< 0.1	0.3	0.2
Chrysene	DETSC 3301	0.1	mg/kg	1.0	0.2	< 0.1	0.2	< 0.1	0.3	0.2
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	0.8	0.2	< 0.1	0.3	< 0.1	0.3	< 0.1
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	0.5	0.2	< 0.1	0.2	< 0.1	0.3	< 0.1
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	1.2	0.2	< 0.1	0.1	< 0.1	0.4	< 0.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	1.0	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	0.2	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	0.7	< 0.1	< 0.1	< 0.1	< 0.1	0.4	< 0.1
PAH Total	DETSC 3301	1.6	mg/kg	12	1.9	< 1.6	2.6	< 1.6	4.3	< 1.6
PCBs										
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-23918
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1403702	1403703	1403704	1403705	1403706	1403707	1403708
			Sample ID	WS51	WS51	WS42	WS44	WS44	WS22	WS41
			Depth	0.50	1.00	0.50	0.50	1.00	0.50	1.70-2.00
			Other ID							
			Sample Type	ES	ES	ES	ES	ES	ES	ES
			Sampling Date	01/10/18	01/10/18	26/09/18	27/09/18	27/09/18	27/09/18	19/09/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenols										
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
OCPs										
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 18-23918
Client Ref PE181482
Contract Title UK France Interconnector Package 3

	Lab No	1403702	1403703	1403704	1403705	1403706	1403707	1403708
	Sample ID	WS51	WS51	WS42	WS44	WS44	WS22	WS41
	Depth	0.50	1.00	0.50	0.50	1.00	0.50	1.70-2.00
	Other ID							
	Sample Type	ES	ES	ES	ES	ES	ES	ES
	Sampling Date	01/10/18	01/10/18	26/09/18	27/09/18	27/09/18	27/09/18	19/09/18
	Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
VOCs								
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-23918
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1403702	1403703	1403704	1403705	1403706	1403707	1403708
			Sample ID	WS51	WS51	WS42	WS44	WS44	WS22	WS41
			Depth	0.50	1.00	0.50	0.50	1.00	0.50	1.70-2.00
			Other ID							
			Sample Type	ES	ES	ES	ES	ES	ES	ES
			Sampling Date	01/10/18	01/10/18	26/09/18	27/09/18	27/09/18	27/09/18	19/09/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
SVOCs										
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

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Soil Samples

Our Ref 18-23918
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			Lab No	1403702	1403703	1403704	1403705	1403706	1403707	1403708
			Sample ID	WS51	WS51	WS42	WS44	WS44	WS22	WS41
			Depth	0.50	1.00	0.50	0.50	1.00	0.50	1.70-2.00
			Other ID							
			Sample Type	ES	ES	ES	ES	ES	ES	ES
			Sampling Date	01/10/18	01/10/18	26/09/18	27/09/18	27/09/18	27/09/18	19/09/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 18-23918
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1404613	1404614
			Sample ID	WS43	WS43
			Depth	0.50	1.00
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	26/09/18	26/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	10	13
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	0.1
Chromium	DETSC 2301#	0.15	mg/kg	15	24
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	30	35
Lead	DETSC 2301#	0.3	mg/kg	160	190
Mercury	DETSC 2325#	0.05	mg/kg	0.56	0.52
Nickel	DETSC 2301#	1	mg/kg	9.8	14
Zinc	DETSC 2301#	1	mg/kg	63	75
Inorganics					
pH	DETSC 2008#			8.2	8.1
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.3	0.2
Organic matter	DETSC 2002#	0.1	%	2.1	1.6
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	88	73
Petroleum Hydrocarbons					
EPH (C10-C40)	DETSC 3311#	10	mg/kg	< 10	< 10
PAHs					
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	0.2	< 0.1
Pyrene	DETSC 3301	0.1	mg/kg	0.1	< 0.1
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Chrysene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
PAH Total	DETSC 3301	1.6	mg/kg	< 1.6	< 1.6
PCBs					
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-23918
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1404613	1404614
			Sample ID	WS43	WS43
			Depth	0.50	1.00
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	26/09/18	26/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3
OCPs					
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-23918
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1404613	1404614
			Sample ID	WS43	WS43
			Depth	0.50	1.00
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	26/09/18	26/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-23918
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1404613	1404614
			Sample ID	WS43	WS43
			Depth	0.50	1.00
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	26/09/18	26/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
SVOCs					
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-23918
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1404613	1404614
			Sample ID	WS43	WS43
			Depth	0.50	1.00
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	26/09/18	26/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-23918
Client Ref PE181482
Contract Title UK France Interconnector Package 3
Sample Id WS43 0.50

Sample Numbers 1404613 1404615
Date Analysed 16/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.8	3	5	6
DETSC 2003# Loss On Ignition	%	4.3	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.2	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.3	0.01	0.5	2	25
DETSC 2306 Barium as Ba	14	0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	4.1	0.04	2	50	100
DETSC 2306 Mercury as Hg	0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	5.8	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.6	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.73	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	2.3	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	1.1	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2.8	0.03	4	50	200
DETSC 2055 Chloride as Cl	1100	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	11000	110	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	71000	710	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	5300	53	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.9
DETSC 2009 Conductivity uS/cm	102
* Temperature*	17

Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.096

Stage 1

Volume of Leachant L2*	0.937
Volume of Eluate VE1*	0.88

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-23918
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1404614 1404616
Sample Id WS43 1.00 *Date Analysed* 16/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.2	3	5	6
DETSC 2003# Loss On Ignition	%	4.5	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.1	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.99	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	6	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.4	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.68	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.63	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.63	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	1.7	0.02	4	50	200
DETSC 2055 Chloride as Cl	420	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	100	1	10	150	500
DETSC 2055 Sulphate as SO4	1100	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	40000	400	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7
DETSC 2009 Conductivity uS/cm	57.7
* Temperature*	17

Mass of Sample Kg*	0.130
Mass of dry Sample Kg*	0.102

Stage 1

Volume of Leachant L2*	0.988
Volume of Eluate VE1*	0.93

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 18-23918
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1403702	WS51 0.50	SOIL	NAD	none	Lee Kerridge
1403703	WS51 1.00	SOIL	NAD	none	Lee Kerridge
1403704	WS42 0.50	SOIL	NAD	none	Lee Kerridge
1403705	WS44 0.50	SOIL	NAD	none	Lee Kerridge
1403706	WS44 1.00	SOIL	NAD	none	Lee Kerridge
1403707	WS22 0.50	SOIL	NAD	none	Lee Kerridge
1403708	WS41 1.70-2.00	SOIL	NAD	none	LK
1404613	WS43 0.50	SOIL	NAD	none	Lee Kerridge
1404614	WS43 1.00	SOIL	NAD	none	Lee Kerridge

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 18-23918
Client Ref PE181482
Contract UK France Interconnector Package 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1403700	WS22 0.50 SOIL	27/09/18	GJ 250ml, GJ 60ml, PT 1L		
1403701	WS22 1.00 SOIL	27/09/18	GJ 250ml, GJ 60ml, PT 1L		
1403702	WS51 0.50 SOIL	01/10/18	GJ 250ml, GJ 60ml, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
1403703	WS51 1.00 SOIL	01/10/18	GJ 250ml, GJ 60ml, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
1403704	WS42 0.50 SOIL	26/09/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1403705	WS44 0.50 SOIL	27/09/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1403706	WS44 1.00 SOIL	27/09/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1403707	WS22 0.50 SOIL	27/09/18	GJ 250ml, GJ 60ml, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
1403708	WS41 1.70-2.00 SOIL	19/09/18	GJ 250ml, GV, PT 1L x2	BTEX (14 days), Naphthalene (14 days), OC Pesticides (14 days), PAH FID (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), SVOC (14 days), EPH/TPH (14 days)	
1403709	WS22 0.50 LEACHATE	27/09/18	GJ 250ml, GJ 60ml, PT 1L		
1403710	WS22 1.00 LEACHATE	27/09/18	GJ 250ml, GJ 60ml, PT 1L		
1403711	WS51 0.50 LEACHATE	01/10/18	GJ 250ml, GJ 60ml, PT 1L		
1403712	WS51 1.00 LEACHATE	01/10/18	GJ 250ml, GJ 60ml, PT 1L		
1403713	WS42 0.50 LEACHATE	26/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1403714	WS44 0.50 LEACHATE	27/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1403715	WS44 1.00 LEACHATE	27/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1403716	WS22 0.50 LEACHATE	27/09/18	GJ 250ml, GJ 60ml, PT 1L		
1403717	WS41 1.70-2.00 LEACHATE	19/09/18	GJ 250ml, GV, PT 1L x2		
1404613	WS43 0.50 SOIL	26/09/18	GJ 250ml, GJ 60ml, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
1404614	WS43 1.00 SOIL	26/09/18	GJ 250ml, GJ 60ml, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
1404615	WS43 0.50 LEACHATE	26/09/18	GJ 250ml, GJ 60ml, PT 1L		
1404616	WS43 1.00 LEACHATE	26/09/18	GJ 250ml, GJ 60ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub V-Vial

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Certificate of Analysis

Certificate Number	18-24139	18-Oct-18
Client	Geotechnics The Geotechnics Centre 7 Pinbrook Units Vinny Bridge Exeter EX4 8JQ	
Our Reference	18-24139	
Client Reference	PE181482	
Order No	(not supplied)	
Contract Title	UK-France HVDC Pack 3	
Description	8 Soil samples, 8 Leachate samples.	
Date Received	11-Oct-18	
Date Started	11-Oct-18	
Date Completed	18-Oct-18	
Test Procedures	Identified by prefix DETSn (details on request).	
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.	

Approved By [redacted]

Adam Fenwick
Contracts Manager

UKAS TESTING
2139

Summary of Chemical Analysis
Soil Samples

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3

			Lab No	1405048	1405049	1405050	1405051	1405052	1405053
			Sample ID	WS51	WS35	WS35	WS38	WS38	WS23
			Depth	0.30	0.30	0.50	0.30	0.50	0.30
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	01/10/18	01/10/18	01/10/18	02/10/18	02/10/18	03/10/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	650	11	13	16	24	9.2
Cadmium	DETSC 2301#	0.1	mg/kg	2.7	0.3	0.9	0.6	0.8	0.2
Chromium	DETSC 2301#	0.15	mg/kg	7.3	19	20	33	43	24
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	27	43	52	78	980	13
Lead	DETSC 2301#	0.3	mg/kg	16	210	270	17000	440	460
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	0.86	0.84	0.36	0.43	< 0.05
Nickel	DETSC 2301#	1	mg/kg	6.1	12	17	28	49	11
Zinc	DETSC 2301#	1	mg/kg	110	250	490	200	490	51
Inorganics									
pH	DETSC 2008#			11.8	8.1	8.8	8.1	8.0	8.1
Cyanide, Total	DETSC 2130#	0.1	mg/kg	< 0.1	1.0	0.3	1.9	3.6	0.2
Organic matter	DETSC 2002#	0.1	%	0.8	4.3	2.9	5.3	5.1	1.1
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	37	26	31	19	19	12
Petroleum Hydrocarbons									
EPH (C10-C40)	DETSC 3311#	10	mg/kg	86	62	43	< 10	94	< 10
PAHs									
Naphthalene	DETSC 3301	0.1	mg/kg	0.6	0.2	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	0.6	0.1	0.1	< 0.1	< 0.1	< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	0.2	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	0.9	0.7	0.7	< 0.1	0.1	0.6
Anthracene	DETSC 3301	0.1	mg/kg	0.1	0.2	0.1	< 0.1	< 0.1	0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	1.1	1.2	1.5	0.2	0.4	0.6
Pyrene	DETSC 3301	0.1	mg/kg	1.5	1.1	1.5	0.2	0.4	0.5
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	0.4	0.5	0.7	< 0.1	0.2	0.2
Chrysene	DETSC 3301	0.1	mg/kg	0.5	0.6	0.8	< 0.1	0.3	0.3
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	0.8	0.5	0.7	< 0.1	0.4	0.2
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	0.4	0.3	0.4	< 0.1	0.2	0.2
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	0.4	0.6	0.9	< 0.1	0.3	0.3
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	0.5	0.6	0.8	< 0.1	< 0.1	0.4
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	0.2	0.2	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	0.5	0.5	0.6	< 0.1	< 0.1	0.2
PAH Total	DETSC 3301	1.6	mg/kg	8.6	7.4	9.3	< 1.6	2.6	3.8
PCBs									
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3

			Lab No	1405048	1405049	1405050	1405051	1405052	1405053
			Sample ID	WS51	WS35	WS35	WS38	WS38	WS23
			Depth	0.30	0.30	0.50	0.30	0.50	0.30
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	01/10/18	01/10/18	01/10/18	02/10/18	02/10/18	03/10/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	0.05	< 0.01
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.9	0.5	< 0.3	< 0.3	< 0.3	< 0.3
OCPs									
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3

	Lab No	1405048	1405049	1405050	1405051	1405052	1405053
	Sample ID	WS51	WS35	WS35	WS38	WS38	WS23
	Depth	0.30	0.30	0.50	0.30	0.50	0.30
	Other ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampling Date	01/10/18	01/10/18	01/10/18	02/10/18	02/10/18	03/10/18
	Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
VOCs							
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3

			Lab No	1405048	1405049	1405050	1405051	1405052	1405053
			Sample ID	WS51	WS35	WS35	WS38	WS38	WS23
			Depth	0.30	0.30	0.50	0.30	0.50	0.30
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	01/10/18	01/10/18	01/10/18	02/10/18	02/10/18	03/10/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
SVOCs									
Phenol	DETSC 3433	0.1	mg/kg	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	0.5	< 0.1	< 0.1	< 0.1	0.2	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	0.4	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3

			Lab No	1405048	1405049	1405050	1405051	1405052	1405053
			Sample ID	WS51	WS35	WS35	WS38	WS38	WS23
			Depth	0.30	0.30	0.50	0.30	0.50	0.30
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	01/10/18	01/10/18	01/10/18	02/10/18	02/10/18	03/10/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	0.6	< 0.1	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.5	4.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3

			Lab No	1405054	1405055
			Sample ID	WS23	BH14(WS
			Depth	0.50	0.30
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	03/10/18	26/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	9.0	8.9
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.4
Chromium	DETSC 2301#	0.15	mg/kg	23	17
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	16	38
Lead	DETSC 2301#	0.3	mg/kg	34	160
Mercury	DETSC 2325#	0.05	mg/kg	0.06	0.46
Nickel	DETSC 2301#	1	mg/kg	10	12
Zinc	DETSC 2301#	1	mg/kg	64	140
Inorganics					
pH	DETSC 2008#			8.0	9.8
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.2	0.2
Organic matter	DETSC 2002#	0.1	%	3.7	3.6
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	23	110
Petroleum Hydrocarbons					
EPH (C10-C40)	DETSC 3311#	10	mg/kg	< 10	160
PAHs					
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	0.2
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1	0.3
Phenanthrene	DETSC 3301	0.1	mg/kg	0.1	2.7
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1	1.1
Fluoranthene	DETSC 3301	0.1	mg/kg	0.3	7.0
Pyrene	DETSC 3301	0.1	mg/kg	0.2	6.4
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	0.1	3.1
Chrysene	DETSC 3301	0.1	mg/kg	< 0.1	3.1
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	0.2	2.3
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	0.1	1.3
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	0.1	3.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	2.2
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	0.4
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	< 0.1	2.1
PAH Total	DETSC 3301	1.6	mg/kg	< 1.6	36
PCBs					
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3

			Lab No	1405054	1405055
			Sample ID	WS23	BH14(WS
			Depth	0.50	0.30
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	03/10/18	26/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3
OCPs					
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3

			Lab No	1405054	1405055
			Sample ID	WS23	BH14(WS
			Depth	0.50	0.30
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	03/10/18	26/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3

			Lab No	1405054	1405055
			Sample ID	WS23	BH14(WS
			Depth	0.50	0.30
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	03/10/18	26/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
SVOCs					
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3

			Lab No	1405054	1405055
			Sample ID	WS23	BH14(WS
			Depth	0.50	0.30
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	03/10/18	26/09/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	0.7
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1

WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3
Sample Id WS51 0.30

Sample Numbers 1405048 1405056
Date Analysed 18/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.6	3	5	6
DETSC 2003# Loss On Ignition	%	4.0	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	86	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	8.6	100	n/a	n/a
DETSC 2008# pH	pH Units	11.8	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.79	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	1.5	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	2.4	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.2	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	17	0.2	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.1	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.24	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	1.7	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	1.3	0.01	4	50	200
DETSC 2055 Chloride as Cl	2000	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	3600	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	180000	1800	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	11
DETSC 2009 Conductivity uS/cm	263
* Temperature*	19

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.097

Stage 1

Volume of Leachant L2*	0.969
Volume of Eluate VE1*	0.91

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3
Sample Id WS35 0.30

Sample Numbers 1405049 1405057
Date Analysed 18/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	2.8	3	5	6
DETSC 2003# Loss On Ignition	%	5.1	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	62	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	7.4	100	n/a	n/a
DETSC 2008# pH	pH Units	8.1	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	2	0.02	0.5	2	25
DETSC 2306 Barium as Ba	1.5	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.36	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	3.4	0.03	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	2.8	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	1.5	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	1.1	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.94	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2.2	0.02	4	50	200
DETSC 2055 Chloride as Cl	1200	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	3000	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	35000	350	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	3900	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.7
DETSC 2009 Conductivity uS/cm	49.7
* Temperature*	18

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.097

Stage 1

Volume of Leachant L2*	0.954
Volume of Eluate VE1*	0.9

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3
Sample Id WS35 0.50

Sample Numbers 1405050 1405058
Date Analysed 17/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result
DETSC 2084# Total Organic Carbon	%	3.5
DETSC 2003# Loss On Ignition	%	5.3
DETSC 3321# BTEX	mg/kg	< 0.04
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01
DETSC 3311# TPH (C10 - C40)	mg/kg	43
DETSC 3301 PAHs	mg/kg	9.3
DETSC 2008# pH	pH Units	8.8
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1

WAC Limit Values		
Inert Waste	SNRHW	Hazardous Waste
3	5	6
n/a	n/a	10
6	n/a	n/a
1	n/a	n/a
500	n/a	n/a
100	n/a	n/a
n/a	>6	n/a
n/a	TBE	TBE
n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg
	10:1	LS10
DETSC 2306 Arsenic as As	1.8	0.02
DETSC 2306 Barium as Ba	0.99	< 0.1
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02
DETSC 2306 Chromium as Cr	0.33	< 0.1
DETSC 2306 Copper as Cu	3.1	0.03
DETSC 2306 Mercury as Hg	< 0.01	< 0.002
DETSC 2306 Molybdenum as Mo	1.3	< 0.1
DETSC 2306 Nickel as Ni	< 0.5	< 0.1
DETSC 2306 Lead as Pb	2.2	< 0.05
DETSC 2306 Antimony as Sb	1.1	< 0.05
DETSC 2306 Selenium as Se	0.72	< 0.03
DETSC 2306 Zinc as Zn	4.4	0.04
DETSC 2055 Chloride as Cl	1100	< 100
DETSC 2055* Fluoride as F	< 100	< 0.1
DETSC 2055 Sulphate as SO4	2600	< 100
DETSC 2009* Total Dissolved Solids	30000	300
DETSC 2130 Phenol Index	< 100	< 1
* Dissolved Organic Carbon	3800	< 50

WAC Limit Values Limit values for LS10 Leachate		
Inert Waste	SNRHW	Hazardous Waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15,000	25,000
10	150	500
1000	20,000	50,000
4000	60,000	100,000
1	n/a	n/a
500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.4
DETSC 2009 Conductivity uS/cm	43.4
* Temperature*	18

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.099

Stage 1

Volume of Leachant L2*	0.978
Volume of Eluate VE1*	0.92

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3
Sample Id WS38 0.30

Sample Numbers 1405051 1405059
Date Analysed 17/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	4.3	3	5	6
DETSC 2003# Loss On Ignition	%	7.7	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.1	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.3	0.01	0.5	2	25
DETSC 2306 Barium as Ba	1.8	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.28	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	5.8	0.06	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	2.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	1.4	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	1.3	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.9	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.47	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2.5	0.02	4	50	200
DETSC 2055 Chloride as Cl	840	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	100	1	10	150	500
DETSC 2055 Sulphate as SO4	1100	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	48000	480	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	4600	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.2
DETSC 2009 Conductivity uS/cm	68.3
* Temperature*	18

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.093

Stage 1

Volume of Leachant L2*	0.924
Volume of Eluate VE1*	0.86

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WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3
Sample Id WS38 0.50

Sample Numbers 1405052 1405060
Date Analysed 17/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	4.9	3	5	6
DETSC 2003# Loss On Ignition	%	9.3	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	0.05	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	94	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	2.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.0	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.3	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	1.7	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.1	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	1.3	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.25	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.3	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	1600	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	250	2.5	10	150	500
DETSC 2055 Sulphate as SO4	2100	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	51000	510	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	2100	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.1
DETSC 2009 Conductivity uS/cm	72.7
* Temperature*	18

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.094

Stage 1

Volume of Leachant L2*	0.936
Volume of Eluate VE1*	0.89

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3
Sample Id WS23 0.30

Sample Numbers 1405053 1405061
Date Analysed 17/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.0	3	5	6
DETSC 2003# Loss On Ignition	%	4.4	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	3.8	100	n/a	n/a
DETSC 2008# pH	pH Units	8.1	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.37	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	0.43	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.7	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	1.2	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.19	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.26	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	570	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	130	1.3	10	150	500
DETSC 2055 Sulphate as SO4	1300	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	40000	400	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.4
DETSC 2009 Conductivity uS/cm	57.1
* Temperature*	18

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.098

Stage 1

Volume of Leachant L2*	0.967
Volume of Eluate VE1*	0.91

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3
Sample Id WS23 0.50

Sample Numbers 1405054 1405062
Date Analysed 18/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result
DETSC 2084# Total Organic Carbon	%	2.4
DETSC 2003# Loss On Ignition	%	7.9
DETSC 3321# BTEX	mg/kg	< 0.04
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10
DETSC 3301 PAHs	mg/kg	< 1.6
DETSC 2008# pH	pH Units	8.0
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1

WAC Limit Values		
Inert Waste	SNRHW	Hazardous Waste
3	5	6
n/a	n/a	10
6	n/a	n/a
1	n/a	n/a
500	n/a	n/a
100	n/a	n/a
n/a	>6	n/a
n/a	TBE	TBE
n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg
	10:1	LS10
DETSC 2306 Arsenic as As	0.52	< 0.01
DETSC 2306 Barium as Ba	1.6	< 0.1
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02
DETSC 2306 Chromium as Cr	< 0.25	< 0.1
DETSC 2306 Copper as Cu	1.8	< 0.02
DETSC 2306 Mercury as Hg	< 0.01	< 0.002
DETSC 2306 Molybdenum as Mo	1.4	< 0.1
DETSC 2306 Nickel as Ni	< 0.5	< 0.1
DETSC 2306 Lead as Pb	0.35	< 0.05
DETSC 2306 Antimony as Sb	< 0.17	< 0.05
DETSC 2306 Selenium as Se	0.47	< 0.03
DETSC 2306 Zinc as Zn	< 1.3	< 0.01
DETSC 2055 Chloride as Cl	1400	< 100
DETSC 2055* Fluoride as F	130	1.3
DETSC 2055 Sulphate as SO4	2400	< 100
DETSC 2009* Total Dissolved Solids	46000	460
DETSC 2130 Phenol Index	< 100	< 1
* Dissolved Organic Carbon	3000	< 50

WAC Limit Values		
Limit values for LS10 Leachate		
Inert Waste	SNRHW	Hazardous Waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15,000	25,000
10	150	500
1000	20,000	50,000
4000	60,000	100,000
1	n/a	n/a
500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.5
DETSC 2009 Conductivity uS/cm	65.5
* Temperature*	18

Mass of Sample Kg*	0.130
Mass of dry Sample Kg*	0.098

Stage 1

Volume of Leachant L2*	0.948
Volume of Eluate VE1*	0.89

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
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WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3 *Sample Numbers* 1405055 1405063
Sample Id BH14(WS) 0.30 *Date Analysed* 17/10/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	2.6	3	5	6
DETSC 2003# Loss On Ignition	%	5.5	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	160	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	36	100	n/a	n/a
DETSC 2008# pH	pH Units	9.8	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.3	0.01	0.5	2	25
DETSC 2306 Barium as Ba	1.3	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.29	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	2.6	0.03	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.81	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.89	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	1100	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	2400	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	47000	470	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	3400	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.9
DETSC 2009 Conductivity uS/cm	67
* Temperature*	19

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.095

Stage 1

Volume of Leachant L2*	0.935
Volume of Eluate VE1*	0.88

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
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Summary of Asbestos Analysis
Soil Samples

Our Ref 18-24139
Client Ref PE181482
Contract Title UK-France HVDC Pack 3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1405048	WS51 0.30	SOIL	NAD	none	A Christodoulou
1405049	WS35 0.30	SOIL	Chrysotile	Chrysotile Present as small bundles	A Christodoulou
1405050	WS35 0.50	SOIL	NAD	none	A Christodoulou
1405051	WS38 0.30	SOIL	NAD	none	A Christodoulou
1405052	WS38 0.50	SOIL	NAD	none	A Christodoulou
1405053	WS23 0.30	SOIL	NAD	none	A Christodoulou
1405054	WS23 0.50	SOIL	NAD	none	A Christodoulou
1405055	BH14(WS) 0.30	SOIL	NAD	none	A Christodoulou

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 18-24139
Client Ref PE181482
Contract UK-France HVDC Pack 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1405048	WS51 0.30 SOIL	01/10/18	GJ 250ml, GJ 60ml, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
1405049	WS35 0.30 SOIL	01/10/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1405050	WS35 0.50 SOIL	01/10/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1405051	WS38 0.30 SOIL	02/10/18	GJ 250ml, GJ 60ml, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
1405052	WS38 0.50 SOIL	02/10/18	GJ 250ml, GJ 60ml, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
1405053	WS23 0.30 SOIL	03/10/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1405054	WS23 0.50 SOIL	03/10/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1405055	BH14(WS) 0.30 SOIL	26/09/18	GJ 250ml, GJ 60ml, PT 1L x2	BTEX (14 days), Naphthalene (14 days), OC Pesticides (14 days), PAH FID (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), SVOC (14 days), EPH/TPH (14 days)	
1405056	WS51 0.30 LEACHATE	01/10/18	GJ 250ml, GJ 60ml, PT 1L		
1405057	WS35 0.30 LEACHATE	01/10/18	GJ 250ml, GJ 60ml, PT 1L x2		
1405058	WS35 0.50 LEACHATE	01/10/18	GJ 250ml, GJ 60ml, PT 1L x2		
1405059	WS38 0.30 LEACHATE	02/10/18	GJ 250ml, GJ 60ml, PT 1L		
1405060	WS38 0.50 LEACHATE	02/10/18	GJ 250ml, GJ 60ml, PT 1L		
1405061	WS23 0.30 LEACHATE	03/10/18	GJ 250ml, GJ 60ml, PT 1L x2		
1405062	WS23 0.50 LEACHATE	03/10/18	GJ 250ml, GJ 60ml, PT 1L x2		
1405063	BH14(WS) 0.30 LEACHATE	26/09/18	GJ 250ml, GJ 60ml, PT 1L x2		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Certificate of Analysis

Certificate Number	18-25507	05-Nov-18
Client	Geotechnics The Geotechnics Centre 7 Pinbrook Units Vinny Bridge Exeter EX4 8JQ	
Our Reference	18-25507	
Client Reference	PE181482	
Order No	AUTH-OE09453	
Contract Title	PE181482 - UK - France HVDC Package 3	
Description	9 Soil samples, 9 Leachate samples.	
Date Received	26-Oct-18	
Date Started	26-Oct-18	
Date Completed	05-Nov-18	
Test Procedures	Identified by prefix DETSn (details on request).	
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.	

Approved By [redacted]

Adam Fenwick
Contracts Manager

UKAS TESTING
2139

Summary of Chemical Analysis
Soil Samples

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3

			Lab No	1412349	1412350	1412351	1412352	1412353	1412354	1412355
			Sample ID	WS36	WS36	WS60	WS60	WS37	WS37	WS37
			Depth	0.30	1.00	0.30	1.00	0.30	0.50	1.00
			Other ID							
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	17/10/18	17/10/18	18/10/18	18/10/18	18/10/18	18/10/18	18/10/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Metals										
Arsenic	DETSC 2301#	0.2	mg/kg	34	7.2	12	10	8.9	21	11
Cadmium	DETSC 2301#	0.1	mg/kg	0.7	< 0.1	0.2	< 0.1	0.8	0.7	< 0.1
Chromium	DETSC 2301#	0.15	mg/kg	26	33	15	27	7.0	17	18
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	320	11	65	16	16	130	13
Lead	DETSC 2301#	0.3	mg/kg	1300	17	230	65	60	550	25
Mercury	DETSC 2325#	0.05	mg/kg	2.3	< 0.05	0.57	< 0.05	0.10	0.69	0.11
Nickel	DETSC 2301#	1	mg/kg	25	12	14	20	6.7	19	9.7
Zinc	DETSC 2301#	1	mg/kg	610	37	120	44	190	560	41
Inorganics										
pH	DETSC 2008#			7.4	7.3	8.4	8.1	8.9	8.5	7.9
Cyanide, Total	DETSC 2130#	0.1	mg/kg	5.0	< 0.1	0.4	< 0.1	< 0.1	0.3	< 0.1
Organic matter	DETSC 2002#	0.1	%	9.2	0.2	2.9	0.3	1.2	5.5	0.3
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	41	15	26	< 10	38	110	20
Petroleum Hydrocarbons										
EPH (C10-C40)	DETSC 3311#	10	mg/kg	39	< 10	190	< 10	< 10	< 10	< 10
PAHs										
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	0.4	< 0.1	0.3	< 0.1	< 0.1	0.3	< 0.1
Anthracene	DETSC 3301	0.1	mg/kg	0.2	< 0.1	0.2	< 0.1	< 0.1	0.1	< 0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	1.6	< 0.1	3.5	0.2	< 0.1	0.7	< 0.1
Pyrene	DETSC 3301	0.1	mg/kg	1.4	< 0.1	4.5	0.2	< 0.1	0.7	< 0.1
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	0.8	< 0.1	2.7	< 0.1	< 0.1	0.4	< 0.1
Chrysene	DETSC 3301	0.1	mg/kg	1.6	< 0.1	2.9	< 0.1	< 0.1	0.5	< 0.1
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	0.9	< 0.1	3.5	< 0.1	< 0.1	0.4	< 0.1
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	0.5	< 0.1	2.0	< 0.1	< 0.1	0.3	< 0.1
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	1.1	< 0.1	5.1	< 0.1	< 0.1	0.5	< 0.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	0.9	< 0.1	3.6	< 0.1	< 0.1	0.4	< 0.1
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	0.2	< 0.1	0.7	< 0.1	< 0.1	0.2	< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	0.8	< 0.1	3.3	< 0.1	< 0.1	0.3	< 0.1
PAH Total	DETSC 3301	1.6	mg/kg	10	< 1.6	33	< 1.6	< 1.6	4.9	< 1.6
PCBs										
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3

			Lab No	1412349	1412350	1412351	1412352	1412353	1412354	1412355
			Sample ID	WS36	WS36	WS60	WS60	WS37	WS37	WS37
			Depth	0.30	1.00	0.30	1.00	0.30	0.50	1.00
			Other ID							
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	17/10/18	17/10/18	18/10/18	18/10/18	18/10/18	18/10/18	18/10/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenols										
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.4	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
OCPs										
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3

			Lab No	1412349	1412350	1412351	1412352	1412353	1412354	1412355
			Sample ID	WS36	WS36	WS60	WS60	WS37	WS37	WS37
			Depth	0.30	1.00	0.30	1.00	0.30	0.50	1.00
			Other ID							
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	17/10/18	17/10/18	18/10/18	18/10/18	18/10/18	18/10/18	18/10/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
VOCs										
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3

			Lab No	1412349	1412350	1412351	1412352	1412353	1412354	1412355
			Sample ID	WS36	WS36	WS60	WS60	WS37	WS37	WS37
			Depth	0.30	1.00	0.30	1.00	0.30	0.50	1.00
			Other ID							
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	17/10/18	17/10/18	18/10/18	18/10/18	18/10/18	18/10/18	18/10/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
SVOCs										
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3

			Lab No	1412349	1412350	1412351	1412352	1412353	1412354	1412355
			Sample ID	WS36	WS36	WS60	WS60	WS37	WS37	WS37
			Depth	0.30	1.00	0.30	1.00	0.30	0.50	1.00
			Other ID							
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	17/10/18	17/10/18	18/10/18	18/10/18	18/10/18	18/10/18	18/10/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	0.1	< 0.1	0.2	< 0.1	< 0.1	0.2	< 0.1

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3

			Lab No	1412356	1412357
			Sample ID	WS57	WS57
			Depth	0.30	1.00
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	17/10/18	17/10/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	5.3	14
Cadmium	DETSC 2301#	0.1	mg/kg	0.6	< 0.1
Chromium	DETSC 2301#	0.15	mg/kg	7.6	16
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	24	18
Lead	DETSC 2301#	0.3	mg/kg	73	92
Mercury	DETSC 2325#	0.05	mg/kg	0.25	0.16
Nickel	DETSC 2301#	1	mg/kg	5.9	9.4
Zinc	DETSC 2301#	1	mg/kg	130	57
Inorganics					
pH	DETSC 2008#			8.4	7.2
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.1	0.1
Organic matter	DETSC 2002#	0.1	%	0.8	1.4
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	25	12
Petroleum Hydrocarbons					
EPH (C10-C40)	DETSC 3311#	10	mg/kg	< 10	< 10
PAHs					
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	0.4	< 0.1
Pyrene	DETSC 3301	0.1	mg/kg	0.4	< 0.1
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	0.1	< 0.1
Chrysene	DETSC 3301	0.1	mg/kg	0.2	< 0.1
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	0.2	< 0.1
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	0.2	< 0.1
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	0.2	< 0.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1
PAH Total	DETSC 3301	1.6	mg/kg	1.7	< 1.6
PCBs					
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3

			Lab No	1412356	1412357
			Sample ID	WS57	WS57
			Depth	0.30	1.00
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	17/10/18	17/10/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3
OCPs					
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3

			Lab No	1412356	1412357
			Sample ID	WS57	WS57
			Depth	0.30	1.00
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	17/10/18	17/10/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3

			Lab No	1412356	1412357
			Sample ID	WS57	WS57
			Depth	0.30	1.00
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	17/10/18	17/10/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
SVOCs					
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3

			Lab No	1412356	1412357
			Sample ID	WS57	WS57
			Depth	0.30	1.00
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	17/10/18	17/10/18
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1

WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3 *Sample Numbers* 1412349 1412358
Sample Id WS36 0.30 *Date Analysed* 05/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	14	3	5	6
DETSC 2003# Loss On Ignition	%	17	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	39	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	10	100	n/a	n/a
DETSC 2008# pH	pH Units	7.4	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.6	0.02	0.5	2	25
DETSC 2306 Barium as Ba	16	0.2	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.55	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	7.1	0.07	2	50	100
DETSC 2306 Mercury as Hg	0.03	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	14	0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.6	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	6.8	0.07	0.5	10	50
DETSC 2306 Antimony as Sb	1.2	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.35	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	13	0.13	4	50	200
DETSC 2055 Chloride as Cl	1200	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	2500	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	36000	360	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.9
DETSC 2009 Conductivity uS/cm	51.9
* Temperature*	15

Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.098

Stage 1

Volume of Leachant L2*	0.962
Volume of Eluate VE1*	0.911

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3
Sample Id WS36 1.00
Sample Numbers 1412350 1412359
Date Analysed 05/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	< 0.5	3	5	6
DETSC 2003# Loss On Ignition	%	4.0	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.3	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.4	0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.2	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	1	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	2.3	0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	6.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	2.9	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.35	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.35	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	3.7	0.04	4	50	200
DETSC 2055 Chloride as Cl	590	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	1300	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	20000	200	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	2300	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.1
DETSC 2009 Conductivity uS/cm	28.2
* Temperature*	14

Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.098

Stage 1

Volume of Leachant L2*	0.962
Volume of Eluate VE1*	0.912

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3
Sample Id WS60 0.30
Sample Numbers 1412351 1412360
Date Analysed 05/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	3.0	3	5	6
DETSC 2003# Loss On Ignition	%	4.4	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	190	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	33	100	n/a	n/a
DETSC 2008# pH	pH Units	8.4	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.8	0.02	0.5	2	25
DETSC 2306 Barium as Ba	3.7	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.45	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	3.6	0.04	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	7.2	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	2.9	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	1	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	3.8	0.04	4	50	200
DETSC 2055 Chloride as Cl	500	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	1100	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	24000	240	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.9
DETSC 2009 Conductivity uS/cm	33.7
* Temperature*	14

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.098

Stage 1

Volume of Leachant L2*	0.97
Volume of Eluate VE1*	0.916

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3
Sample Id WS60 1.00
Sample Numbers 1412352 1412361
Date Analysed 05/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.5	3	5	6
DETSC 2003# Loss On Ignition	%	4.0	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.1	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.6	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	3.9	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.7	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	3	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.56	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.25	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	5.1	0.05	4	50	200
DETSC 2055 Chloride as Cl	750	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	210	2.1	10	150	500
DETSC 2055 Sulphate as SO4	1100	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	27000	270	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.8
DETSC 2009 Conductivity uS/cm	38.8
* Temperature*	14

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.093

Stage 1

Volume of Leachant L2*	0.918
Volume of Eluate VE1*	0.887

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WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3
Sample Id WS37 0.30
Sample Numbers 1412353 1412362
Date Analysed 05/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	2.1	3	5	6
DETSC 2003# Loss On Ignition	%	1.2	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.9	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	2.1	0.02	0.5	2	25
DETSC 2306 Barium as Ba	20	0.2	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.85	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.5	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	10	0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	1.2	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.35	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	7	0.07	4	50	200
DETSC 2055 Chloride as Cl	580	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	2700	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	44000	440	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.7
DETSC 2009 Conductivity uS/cm	62.1
* Temperature*	14

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.095

Stage 1

Volume of Leachant L2*	0.946
Volume of Eluate VE1*	0.895

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WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3
Sample Id WS37 0.50
Sample Numbers 1412354 1412363
Date Analysed 05/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	6.9	3	5	6
DETSC 2003# Loss On Ignition	%	7.1	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	4.9	100	n/a	n/a
DETSC 2008# pH	pH Units	8.5	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.9	0.02	0.5	2	25
DETSC 2306 Barium as Ba	12	0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.61	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	4.9	0.05	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	11	0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	4.6	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	4.3	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	12	0.12	4	50	200
DETSC 2055 Chloride as Cl	620	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	15000	150	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	44000	440	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.4
DETSC 2009 Conductivity uS/cm	63.5
* Temperature*	14

Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.099

Stage 1

Volume of Leachant L2*	0.974
Volume of Eluate VE1*	0.923

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WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3 *Sample Numbers* 1412355 1412364
Sample Id WS37 1.00 *Date Analysed* 05/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.7	3	5	6
DETSC 2003# Loss On Ignition	%	2.1	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.9	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	11	0.11	0.5	2	25
DETSC 2306 Barium as Ba	7.9	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	11	0.1	0.5	10	70
DETSC 2306 Copper as Cu	7.5	0.08	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	12	0.1	0.5	10	30
DETSC 2306 Nickel as Ni	3.2	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	7.9	0.08	0.5	10	50
DETSC 2306 Antimony as Sb	1.6	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	1.2	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	14	0.14	4	50	200
DETSC 2055 Chloride as Cl	490	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	2100	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	20000	200	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	5400	54	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.6
DETSC 2009 Conductivity uS/cm	27.9
* Temperature*	14

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.095

Stage 1

Volume of Leachant L2*	0.931
Volume of Eluate VE1*	0.891

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WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3
Sample Id WS57 0.30
Sample Numbers 1412356 1412365
Date Analysed 05/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	4.1	3	5	6
DETSC 2003# Loss On Ignition	%	1.7	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	1.7	100	n/a	n/a
DETSC 2008# pH	pH Units	8.4	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.8	0.02	0.5	2	25
DETSC 2306 Barium as Ba	3.2	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.39	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	2.2	0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	10	0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	2.3	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.65	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	6	0.06	4	50	200
DETSC 2055 Chloride as Cl	430	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	120	1.2	10	150	500
DETSC 2055 Sulphate as SO4	1600	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	40000	400	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.2
DETSC 2009 Conductivity uS/cm	57.8
* Temperature*	14

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.094

Stage 1

Volume of Leachant L2*	0.937
Volume of Eluate VE1*	0.886

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WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3
Sample Id WS57 1.00
Sample Numbers 1412357 1412366
Date Analysed 05/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.1	3	5	6
DETSC 2003# Loss On Ignition	%	2.9	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.2	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.1	0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.2	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	1	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.7	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	4.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	1.5	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.39	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	4	0.04	4	50	200
DETSC 2055 Chloride as Cl	460	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	2700	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	19000	190	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.3
DETSC 2009 Conductivity uS/cm	27.2
* Temperature*	14

Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.101

Stage 1

Volume of Leachant L2*	0.989
Volume of Eluate VE1*	0.938

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Summary of Asbestos Analysis
Soil Samples

Our Ref 18-25507
Client Ref PE181482
Contract Title PE181482 - UK - France HVDC Package 3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1412349	WS36 0.30	SOIL	NAD	none	Lee Kerridge
1412350	WS36 1.00	SOIL	NAD	none	Lee Kerridge
1412351	WS60 0.30	SOIL	NAD	none	Lee Kerridge
1412352	WS60 1.00	SOIL	NAD	none	Lee Kerridge
1412353	WS37 0.30	SOIL	NAD	none	Lee Kerridge
1412354	WS37 0.50	SOIL	NAD	none	Lee Kerridge
1412355	WS37 1.00	SOIL	NAD	none	Lee Kerridge
1412356	WS57 0.30	SOIL	NAD	none	Lee Kerridge
1412357	WS57 1.00	SOIL	NAD	none	Lee Kerridge

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 18-25507
Client Ref PE181482
Contract PE181482 - UK - France HVDC Package 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1412349	WS36 0.30 SOIL	17/10/18	GJ 250ml, GV, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1412350	WS36 1.00 SOIL	17/10/18	GJ 250ml, GV, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1412351	WS60 0.30 SOIL	18/10/18	GJ 250ml, GV, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1412352	WS60 1.00 SOIL	18/10/18	GJ 250ml, GV, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1412353	WS37 0.30 SOIL	18/10/18	GJ 250ml, GV, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1412354	WS37 0.50 SOIL	18/10/18	GJ 250ml, GV, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1412355	WS37 1.00 SOIL	18/10/18	GJ 250ml, GV, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1412356	WS57 0.30 SOIL	17/10/18	GJ 250ml, GV, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1412357	WS57 1.00 SOIL	17/10/18	GJ 250ml, GV, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1412358	WS36 0.30 LEACHATE	17/10/18	GJ 250ml, GV, PT 1L x2		
1412359	WS36 1.00 LEACHATE	17/10/18	GJ 250ml, GV, PT 1L x2		
1412360	WS60 0.30 LEACHATE	18/10/18	GJ 250ml, GV, PT 1L x2		
1412361	WS60 1.00 LEACHATE	18/10/18	GJ 250ml, GV, PT 1L x2		
1412362	WS37 0.30 LEACHATE	18/10/18	GJ 250ml, GV, PT 1L x2		
1412363	WS37 0.50 LEACHATE	18/10/18	GJ 250ml, GV, PT 1L x2		
1412364	WS37 1.00 LEACHATE	18/10/18	GJ 250ml, GV, PT 1L x2		
1412365	WS57 0.30 LEACHATE	17/10/18	GJ 250ml, GV, PT 1L x2		
1412366	WS57 1.00 LEACHATE	17/10/18	GJ 250ml, GV, PT 1L x2		

Key: G-Glass P-Plastic J-Jar V-Vial T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Certificate of Analysis

Certificate Number	18-26117	13-Nov-18
Client	Geotechnics The Geotechnics Centre 7 Pinbrook Units Vinny Bridge Exeter EX4 8JQ	
Our Reference	18-26117	
Client Reference	PE181482	
Order No	(not supplied)	
Contract Title	UK France Interconnector Package 3	
Description	7 Soil samples, 7 Leachate samples.	
Date Received	02-Nov-18	
Date Started	02-Nov-18	
Date Completed	13-Nov-18	
Test Procedures	Identified by prefix DETSn (details on request).	
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.	

Approved By [redacted]

Adam Fenwick
Contracts Manager

UKAS TESTING
2139

Summary of Chemical Analysis
Soil Samples

Our Ref 18-26117
Client Ref PE181482
Contract Title UK France Interconnector Package 3

	Lab No	1415544	1415545	1415546	1415547	1415548	1415549	1415550
	Sample ID	WS49	WS49	WS49	WS34	WS34	WS30	WS30
	Depth	0.30	0.50	1.00	0.30	0.50	0.30	1.00
	Other ID							
	Sample Type	ES	ES	ES	ES	ES	ES	ES
	Sampling Date	03/09/18	03/09/18	03/09/18	03/09/18	03/09/18	13/09/18	13/09/18
	Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
Metals								
Arsenic	DETSC 2301#	0.2	mg/kg	11	8.4	12	5.4	32	11	16
Cadmium	DETSC 2301#	0.1	mg/kg	0.4	0.3	0.4	0.3	0.6	0.6	0.8
Chromium	DETSC 2301#	0.15	mg/kg	21	12	19	6.8	20	21	27
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	52	24	48	18	330	21	33
Lead	DETSC 2301#	0.3	mg/kg	250	110	240	70	970	94	340
Mercury	DETSC 2325#	0.05	mg/kg	0.44	0.16	0.25	0.16	3.2	0.21	0.24
Nickel	DETSC 2301#	1	mg/kg	17	10	19	6.6	38	14	27
Zinc	DETSC 2301#	1	mg/kg	980	76	200	49	390	84	65
Inorganics										
pH	DETSC 2008#			8.4	8.2	8.0	8.6	8.0	6.8	7.6
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.1	< 0.1	0.1	0.1	< 0.1	0.2	< 0.1
Organic matter	DETSC 2002#	0.1	%	3.6	1.2	3.0	2.7	4.1	3.3	1.2
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	45	14	29	57	160	13	24
Petroleum Hydrocarbons										
EPH (C10-C40)	DETSC 3311#	10	mg/kg	< 100.0	25	< 10	< 10	52	180	< 10
PAHs										
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	< 0.1	0.6	0.2	0.1	0.5	2.2	< 0.1
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1	0.2	< 0.1	< 0.1	0.1	0.6	< 0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	0.2	0.9	0.4	0.3	1.6	6.9	< 0.1
Pyrene	DETSC 3301	0.1	mg/kg	0.2	0.8	0.4	0.3	1.6	6.5	< 0.1
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	0.2	0.4	0.2	0.2	0.9	3.6	< 0.1
Chrysene	DETSC 3301	0.1	mg/kg	0.2	0.4	0.3	0.3	1.1	3.7	< 0.1
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	0.2	0.4	0.4	0.2	1.1	3.2	< 0.1
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	0.2	0.3	0.2	0.2	0.6	2.0	< 0.1
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	0.2	0.4	0.3	0.2	1.4	4.0	< 0.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	0.5	0.5	< 0.1	1.2	2.7	< 0.1
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	0.2	0.2	< 0.1	0.2	0.4	< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	< 0.1	0.5	0.3	< 0.1	1.1	2.6	< 0.1
PAH Total	DETSC 3301	1.6	mg/kg	1.6	5.5	3.5	1.8	12	39	< 1.6

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-26117
Client Ref PE181482
Contract Title UK France Interconnector Package 3

				Lab No	1415544	1415545	1415546	1415547	1415548	1415549	1415550
				Sample ID	WS49	WS49	WS49	WS34	WS34	WS30	WS30
				Depth	0.30	0.50	1.00	0.30	0.50	0.30	1.00
				Other ID							
				Sample Type	ES	ES	ES	ES	ES	ES	ES
				Sampling Date	03/09/18	03/09/18	03/09/18	03/09/18	03/09/18	13/09/18	13/09/18
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**								
PCBs											
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenols											
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.6	< 0.3	< 0.3	< 0.3	0.4	0.4	< 0.3
OCPs											
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-26117
Client Ref PE181482
Contract Title UK France Interconnector Package 3

	Lab No	1415544	1415545	1415546	1415547	1415548	1415549	1415550
	Sample ID	WS49	WS49	WS49	WS34	WS34	WS30	WS30
	Depth	0.30	0.50	1.00	0.30	0.50	0.30	1.00
	Other ID							
	Sample Type	ES	ES	ES	ES	ES	ES	ES
	Sampling Date	03/09/18	03/09/18	03/09/18	03/09/18	03/09/18	13/09/18	13/09/18
	Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
VOCs								
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Summary of Chemical Analysis
Soil Samples

Our Ref 18-26117
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1415544	1415545	1415546	1415547	1415548	1415549	1415550
			Sample ID	WS49	WS49	WS49	WS34	WS34	WS30	WS30
			Depth	0.30	0.50	1.00	0.30	0.50	0.30	1.00
			Other ID							
			Sample Type	ES	ES	ES	ES	ES	ES	ES
			Sampling Date	03/09/18	03/09/18	03/09/18	03/09/18	03/09/18	13/09/18	13/09/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
SVOCs										
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-26117
Client Ref PE181482
Contract Title UK France Interconnector Package 3

			Lab No	1415544	1415545	1415546	1415547	1415548	1415549	1415550
			Sample ID	WS49	WS49	WS49	WS34	WS34	WS30	WS30
			Depth	0.30	0.50	1.00	0.30	0.50	0.30	1.00
			Other ID							
			Sample Type	ES	ES	ES	ES	ES	ES	ES
			Sampling Date	03/09/18	03/09/18	03/09/18	03/09/18	03/09/18	13/09/18	13/09/18
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	1.4	< 0.1	< 0.1	< 0.1	< 0.1	0.8	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	0.3	< 0.1	< 0.1	< 0.1	0.3	< 0.1

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-26117
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1415544 1415551
Sample Id WS49 0.30 *Date Analysed* 09/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	2.9	3	5	6
DETSC 2003# Loss On Ignition	%	5.5	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.4	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.86	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	4	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.26	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.6	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	1.7	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	2.5	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.47	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.81	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	4.8	0.05	4	50	200
DETSC 2055 Chloride as Cl	1000	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	1200	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	34000	340	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	2800	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.1
DETSC 2009 Conductivity uS/cm	48.3
* Temperature*	16

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.098

Stage 1

Volume of Leachant L2*	0.967
Volume of Eluate VE1*	0.9

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
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WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-26117
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1415545 1415552
Sample Id WS49 0.50 *Date Analysed* 09/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.2	3	5	6
DETSC 2003# Loss On Ignition	%	2.6	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	25	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	5.5	100	n/a	n/a
DETSC 2008# pH	pH Units	8.2	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.8	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.2	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.39	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.2	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	1.4	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	1.7	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.23	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.66	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	1.9	0.02	4	50	200
DETSC 2055 Chloride as Cl	660	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	120	1.2	10	150	500
DETSC 2055 Sulphate as SO4	1200	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	32000	320	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	2500	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.2
DETSC 2009 Conductivity uS/cm	45.4
* Temperature*	16

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.094

Stage 1

Volume of Leachant L2*	0.933
Volume of Eluate VE1*	0.86

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-26117
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1415546 1415553
Sample Id WS49 1.00 *Date Analysed* 09/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	5.1	3	5	6
DETSC 2003# Loss On Ignition	%	4.8	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	3.5	100	n/a	n/a
DETSC 2008# pH	pH Units	8.0	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.2	0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.3	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.26	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	2.1	0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	2	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	2.3	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.36	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.53	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2	0.02	4	50	200
DETSC 2055 Chloride as Cl	2200	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	1900	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	34000	340	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	3500	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.2
DETSC 2009 Conductivity uS/cm	47.8
* Temperature*	16

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.098

Stage 1

Volume of Leachant L2*	0.969
Volume of Eluate VE1*	0.87

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-26117
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1415547 1415554
Sample Id WS34 0.30 *Date Analysed* 09/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.6	3	5	6
DETSC 2003# Loss On Ignition	%	2.9	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	1.8	100	n/a	n/a
DETSC 2008# pH	pH Units	8.6	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.7	0.02	0.5	2	25
DETSC 2306 Barium as Ba	1.4	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.41	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	2.6	0.03	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	3.3	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	1.8	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.25	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.43	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	1.8	0.02	4	50	200
DETSC 2055 Chloride as Cl	5200	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	150	1.5	10	150	500
DETSC 2055 Sulphate as SO4	5900	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	79000	790	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	5100	51	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.4
DETSC 2009 Conductivity uS/cm	113
* Temperature*	16

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.098

Stage 1

Volume of Leachant L2*	0.969
Volume of Eluate VE1*	0.85

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-26117
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1415548 1415555
Sample Id WS34 0.50 *Date Analysed* 09/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	14	3	5	6
DETSC 2003# Loss On Ignition	%	12	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	52	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	12	100	n/a	n/a
DETSC 2008# pH	pH Units	8.0	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.33	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	1.2	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.36	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.8	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.5	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.35	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	1.6	0.02	4	50	200
DETSC 2055 Chloride as Cl	43000	430	800	15,000	25,000
DETSC 2055* Fluoride as F	220	2.2	10	150	500
DETSC 2055 Sulphate as SO4	20000	200	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	150000	1500	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	4800	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.3
DETSC 2009 Conductivity uS/cm	212
* Temperature*	17

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.094

Stage 1

Volume of Leachant L2*	0.925
Volume of Eluate VE1*	0.88

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-26117
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1415549 1415556
Sample Id WS30 0.30 *Date Analysed* 09/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	2.6	3	5	6
DETSC 2003# Loss On Ignition	%	7.0	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	180	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	39	100	n/a	n/a
DETSC 2008# pH	pH Units	6.8	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.97	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	1.5	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	1.5	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.7	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.9	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.76	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.3	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2.4	0.02	4	50	200
DETSC 2055 Chloride as Cl	7400	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	3800	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	17000	170	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	3800	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.4
DETSC 2009 Conductivity uS/cm	23.9
* Temperature*	17

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.099

Stage 1

Volume of Leachant L2*	0.979
Volume of Eluate VE1*	0.92

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-26117
Client Ref PE181482
Contract Title UK France Interconnector Package 3 *Sample Numbers* 1415550 1415557
Sample Id WS30 1.00 *Date Analysed* 09/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.0	3	5	6
DETSC 2003# Loss On Ignition	%	3.4	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.6	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.8	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	3.9	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.4	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	2.5	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.21	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.2	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.42	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	1500	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	1100	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	12000	120	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	3100	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.3
DETSC 2009 Conductivity uS/cm	16.4
* Temperature*	17

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.101

Stage 1

Volume of Leachant L2*	0.997
Volume of Eluate VE1*	0.92

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 18-26117
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1415544	WS49 0.30	SOIL	NAD	none	Lee Kerridge
1415545	WS49 0.50	SOIL	Chrysotile Amosite	Amosite and Chrysotile present in bundles	Lee Kerridge
1415546	WS49 1.00	SOIL	Chrysotile Amosite	Amosite and Chrysotile present in bundles	Lee Kerridge
1415547	WS34 0.30	SOIL	NAD	none	Lee Kerridge
1415548	WS34 0.50	SOIL	NAD	none	Lee Kerridge
1415549	WS30 0.30	SOIL	NAD	none	Lee Kerridge
1415550	WS30 1.00	SOIL	NAD	none	Lee Kerridge

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 18-26117
Client Ref PE181482
Contract UK France Interconnector Package 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1415544	WS49 0.30 SOIL	03/09/18	GJ 250ml, GJ 60ml, PT 1L x2	BTEX (14 days), Naphthalene (14 days), OC Pesticides (14 days), Organic Matter (Auto) (28 days), Organic Matter (Manual) (28 days), PAH FID (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), SVOC (14 days), EPH/TPH (14 days)	
1415545	WS49 0.50 SOIL	03/09/18	GJ 250ml, GJ 60ml, PT 1L x2	BTEX (14 days), Naphthalene (14 days), OC Pesticides (14 days), Organic Matter (Auto) (28 days), Organic Matter (Manual) (28 days), PAH FID (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), SVOC (14 days), EPH/TPH (14 days)	
1415546	WS49 1.00 SOIL	03/09/18	GJ 250ml, GJ 60ml, PT 1L x2	BTEX (14 days), Naphthalene (14 days), OC Pesticides (14 days), Organic Matter (Auto) (28 days), Organic Matter (Manual) (28 days), PAH FID (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), SVOC (14 days), EPH/TPH (14 days)	
1415547	WS34 0.30 SOIL	03/09/18	GJ 250ml, GJ 60ml, PT 1L x2	BTEX (14 days), Naphthalene (14 days), OC Pesticides (14 days), Organic Matter (Auto) (28 days), Organic Matter (Manual) (28 days), PAH FID (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), SVOC (14 days), EPH/TPH (14 days)	
1415548	WS34 0.50 SOIL	03/09/18	GJ 250ml, GJ 60ml, PT 1L x2	BTEX (14 days), Naphthalene (14 days), OC Pesticides (14 days), Organic Matter (Auto) (28 days), Organic Matter (Manual) (28 days), PAH FID (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), SVOC (14 days), EPH/TPH (14 days)	
1415549	WS30 0.30 SOIL	13/09/18	GJ 250ml, GJ 60ml, PT 1L x2	BTEX (14 days), Naphthalene (14 days), OC Pesticides (14 days), Organic Matter (Auto) (28 days), Organic Matter (Manual) (28 days), PAH FID (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), SVOC (14 days), EPH/TPH (14 days)	
1415550	WS30 1.00 SOIL	13/09/18	GJ 250ml, GJ 60ml, PT 1L x2	BTEX (14 days), Naphthalene (14 days), OC Pesticides (14 days), Organic Matter (Auto) (28 days), Organic Matter (Manual) (28 days), PAH FID (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), SVOC (14 days), EPH/TPH (14 days)	
1415551	WS49 0.30 LEACHATE	03/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1415552	WS49 0.50 LEACHATE	03/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1415553	WS49 1.00 LEACHATE	03/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1415554	WS34 0.30 LEACHATE	03/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1415555	WS34 0.50 LEACHATE	03/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1415556	WS30 0.30 LEACHATE	13/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1415557	WS30 1.00 LEACHATE	13/09/18	GJ 250ml, GJ 60ml, PT 1L x2		

Information in Support of the Analytical Results

Our Ref 18-26117
Client Ref PE181482
Contract UK France Interconnector Package 3

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Certificate of Analysis

Certificate Number	18-27030	22-Nov-18
Client	Geotechnics The Geotechnics Centre 7 Pinbrook Units Vinny Bridge Exeter EX4 8JQ	
Our Reference	18-27030	
Client Reference	PE181482	
Order No	(not supplied)	
Contract Title	UK - France HVDC Package 3	
Description	3 Soil samples, 3 Leachate samples.	
Date Received	14-Nov-18	
Date Started	14-Nov-18	
Date Completed	22-Nov-18	
Test Procedures	Identified by prefix DETSn (details on request).	
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.	

Approved By [redacted]

Adam Fenwick
Contracts Manager

UKAS TESTING
2139

Summary of Chemical Analysis
Soil Samples

Our Ref 18-27030
Client Ref PE181482
Contract Title UK - France HVDC Package 3

	Lab No	1420434	1420435	1420436
	Sample ID	WS53	WS53	WS53
	Depth	0.30	0.50	1.00
	Other ID			
	Sample Type	ES	ES	ES
	Sampling Date	12/09/18	12/09/18	12/09/18
	Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Metals						
Arsenic	DETSC 2301#	0.2	mg/kg	7.6	6.8	13
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	< 0.1	0.2
Chromium	DETSC 2301#	0.15	mg/kg	16	39	29
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	13	7.6	15
Lead	DETSC 2301#	0.3	mg/kg	46	12	32
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	9.1	19	12
Zinc	DETSC 2301#	1	mg/kg	49	19	51
Inorganics						
pH	DETSC 2008#			7.9	8.0	7.9
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.2	0.5	1.5
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	< 10	< 10	16
Petroleum Hydrocarbons						
EPH (C10-C40)	DETSC 3311#	10	mg/kg	200	95	31
PAHs						
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	0.1	< 0.1	< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	0.1	< 0.1	< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	0.2	< 0.1	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	1.4	0.5	0.2
Anthracene	DETSC 3301	0.1	mg/kg	0.4	0.1	< 0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	3.9	1.6	0.6
Pyrene	DETSC 3301	0.1	mg/kg	3.6	1.6	0.6
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	1.9	1.0	0.4
Chrysene	DETSC 3301	0.1	mg/kg	2.1	1.2	0.3
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	1.7	0.9	0.4
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	1.1	0.6	0.3
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	2.3	1.2	0.4
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	1.8	1.0	0.3
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	0.4	0.3	< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	1.6	0.9	< 0.1
PAH Total	DETSC 3301	1.6	mg/kg	23	11	3.6
PCBs						
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-27030
Client Ref PE181482
Contract Title UK - France HVDC Package 3

			Lab No	1420434	1420435	1420436
			Sample ID	WS53	WS53	WS53
			Depth	0.30	0.50	1.00
			Other ID			
			Sample Type	ES	ES	ES
			Sampling Date	12/09/18	12/09/18	12/09/18
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Phenols						
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.7	< 0.3	< 0.3
OCPs						
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1	< 0.1	< 0.1

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-27030
Client Ref PE181482
Contract Title UK - France HVDC Package 3

			Lab No	1420434	1420435	1420436
			Sample ID	WS53	WS53	WS53
			Depth	0.30	0.50	1.00
			Other ID			
			Sample Type	ES	ES	ES
			Sampling Date	12/09/18	12/09/18	12/09/18
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
VOCs						
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-27030
Client Ref PE181482
Contract Title UK - France HVDC Package 3

			Lab No	1420434	1420435	1420436
			Sample ID	WS53	WS53	WS53
			Depth	0.30	0.50	1.00
			Other ID			
			Sample Type	ES	ES	ES
			Sampling Date	12/09/18	12/09/18	12/09/18
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
SVOCs						
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-27030
Client Ref PE181482
Contract Title UK - France HVDC Package 3

			Lab No	1420434	1420435	1420436
			Sample ID	WS53	WS53	WS53
			Depth	0.30	0.50	1.00
			Other ID			
			Sample Type	ES	ES	ES
			Sampling Date	12/09/18	12/09/18	12/09/18
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	0.1	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-27030
Client Ref PE181482
Contract Title UK - France HVDC Package 3
Sample Id WS53 0.30

Sample Numbers 1420434 1420437
Date Analysed 22/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.3	3	5	6
DETSC 2003# Loss On Ignition	%	3.5	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	200	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	23	100	n/a	n/a
DETSC 2008# pH	pH Units	7.9	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.71	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	1.1	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.9	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	2.9	0.03	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.6	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	1.2	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2.5	0.02	4	50	200
DETSC 2055 Chloride as Cl	1100	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	310	3.1	10	150	500
DETSC 2055 Sulphate as SO4	1300	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	26000	260	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.8
DETSC 2009 Conductivity uS/cm	36.9
* Temperature*	16

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.094

Stage 1

Volume of Leachant L2*	0.929
Volume of Eluate VE1*	0.87

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-27030
Client Ref PE181482
Contract Title UK - France HVDC Package 3
Sample Id WS53 0.50

Sample Numbers 1420435 1420438
Date Analysed 22/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	< 0.5	3	5	6
DETSC 2003# Loss On Ignition	%	2.0	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	95	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	11	100	n/a	n/a
DETSC 2008# pH	pH Units	8.0	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.3	0.01	0.5	2	25
DETSC 2306 Barium as Ba	1.5	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	2	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	2.2	0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.9	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	1.5	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	3	0.03	4	50	200
DETSC 2055 Chloride as Cl	1900	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	190	1.9	10	150	500
DETSC 2055 Sulphate as SO4	1800	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	25000	250	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.8
DETSC 2009 Conductivity uS/cm	35.1
* Temperature*	17

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.095

Stage 1

Volume of Leachant L2*	0.942
Volume of Eluate VE1*	0.89

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-27030
Client Ref PE181482
Contract Title UK - France HVDC Package 3
Sample Id WS53 1.00

Sample Numbers 1420436 1420439
Date Analysed 22/11/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.7	3	5	6
DETSC 2003# Loss On Ignition	%	3.8	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	31	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	3.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.9	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.58	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	1.1	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.93	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.1	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.81	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2.5	0.02	4	50	200
DETSC 2055 Chloride as Cl	2900	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	120	1.2	10	150	500
DETSC 2055 Sulphate as SO4	3000	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	24000	240	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.8
DETSC 2009 Conductivity uS/cm	34.9
* Temperature*	17

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.094

Stage 1

Volume of Leachant L2*	0.919
Volume of Eluate VE1*	0.86

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 18-27030
Client Ref PE181482
Contract Title UK - France HVDC Package 3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1420434	WS53 0.30	SOIL	NAD	none	Colin Patrick
1420435	WS53 0.50	SOIL	NAD	none	Colin Patrick
1420436	WS53 1.00	SOIL	NAD	none	Colin Patrick

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 18-27030
Client Ref PE181482
Contract UK - France HVDC Package 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1420434	WS53 0.30 SOIL	12/09/18	GJ 250ml, GJ 60ml, PT 1L x2	BTEX (14 days), Naphthalene (14 days), OC Pesticides (14 days), Organic Matter (Auto) (28 days), Organic Matter (Manual) (28 days), PAH FID (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), SVOC (14 days), EPH/TPH (14 days)	
1420435	WS53 0.50 SOIL	12/09/18	GJ 250ml, GJ 60ml, PT 1L x2	BTEX (14 days), Naphthalene (14 days), OC Pesticides (14 days), Organic Matter (Auto) (28 days), Organic Matter (Manual) (28 days), PAH FID (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), SVOC (14 days), EPH/TPH (14 days)	
1420436	WS53 1.00 SOIL	12/09/18	GJ 250ml, GJ 60ml, PT 1L x2	BTEX (14 days), Naphthalene (14 days), OC Pesticides (14 days), Organic Matter (Auto) (28 days), Organic Matter (Manual) (28 days), PAH FID (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), SVOC (14 days), EPH/TPH (14 days)	
1420437	WS53 0.30 LEACHATE	12/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1420438	WS53 0.50 LEACHATE	12/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1420439	WS53 1.00 LEACHATE	12/09/18	GJ 250ml, GJ 60ml, PT 1L x2		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Certificate of Analysis

Certificate Number 18-27469

22-Nov-18

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 18-27469

Client Reference PE181482

Order No AUTH-OC19193

Contract Title UK-FRANCE HVDC INTERCONNECTOR

Description 4 Soil samples.

Date Received 20-Nov-18

Date Started 20-Nov-18

Date Completed 22-Nov-18

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By [redacted]

Adam Fenwick
Contracts Manager

UKAS TESTING
2139

Summary of Asbestos Analysis
Soil Samples

Our Ref 18-27469
Client Ref PE181482
Contract Title UK-FRANCE HVDC INTERCONNECTOR

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1423247	WS05 0.40-0.60	SOIL	NAD	none	Lee Kerridge
1423248	WS06 0.40-0.60	SOIL	NAD	none	Lee Kerridge
1423249	WS04 0.40-0.60	SOIL	NAD	none	Lee Kerridge
1423250	WS04 1.00-1.20	SOIL	Chrysotile	Chrysotile present in bundles	Lee Kerridge

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 18-27469
Client Ref PE181482
Contract UK-FRANCE HVDC INTERCONNECTOR

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1423247	WS05 0.40-0.60 SOIL	29/08/18	PG		
1423248	WS06 0.40-0.60 SOIL	29/08/18	PG		
1423249	WS04 0.40-0.60 SOIL	29/08/18	PG		
1423250	WS04 1.00-1.20 SOIL	29/08/18	PG		

Key: P-Plastic G-Bag

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Certificate of Analysis

Certificate Number	18-28948	17-Dec-18
Client	Geotechnics LTD The Geotechnics Centre 7 Pinbrook Units Vinny Bridge Exeter EX4 8JQ	
Our Reference	18-28948	
Client Reference	PE181482	
Order No	(not supplied)	
Contract Title	UK France Interceptor Package 3	
Description	2 Soil samples, 3 Leachate samples.	
Date Received	10-Dec-18	
Date Started	10-Dec-18	
Date Completed	17-Dec-18	
Test Procedures	Identified by prefix DETSn (details on request).	
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.	

Approved By [redacted]

Adam Fenwick
Contracts Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 18-28948
Client Ref PE181482
Contract Title UK France Interceptor Package 3

Sample ID	Depth	Lab No	Completed	Matrix Description
BH38	0.6	1433597	17/12/2018	Light brown gravelly, sandy CLAY (Possible made ground - brick and coal) including odd rootlets

Summary of Chemical Analysis
Soil Samples

Our Ref 18-28948
Client Ref PE181482
Contract Title UK France Interceptor Package 3

Lab No	1433597
Sample ID	BH38
Depth	0.60
Other ID	
Sample Type	ES
Sampling Date	28/11/18
Sampling Time	n/s

Test	Method	LOD	Units	
Metals				
Arsenic	DETSC 2301#	0.2	mg/kg	10
Cadmium	DETSC 2301#	0.1	mg/kg	0.5
Chromium	DETSC 2301#	0.15	mg/kg	26
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	14
Lead	DETSC 2301#	0.3	mg/kg	24
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05
Nickel	DETSC 2301#	1	mg/kg	26
Zinc	DETSC 2301#	1	mg/kg	68
Inorganics				
pH	DETSC 2008#			8.1
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.3
Organic matter	DETSC 2002#	0.1	%	1.5
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	30
Petroleum Hydrocarbons				
EPH (C10-C40)	DETSC 3311#	10	mg/kg	20
PAHs				
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	< 0.1
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1
Pyrene	DETSC 3301	0.1	mg/kg	< 0.1
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	< 0.1
Chrysene	DETSC 3301	0.1	mg/kg	< 0.1
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	< 0.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	< 0.1
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	< 0.1
PAH Total	DETSC 3301	1.6	mg/kg	< 1.6
PCBs				
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-28948
Client Ref PE181482
Contract Title UK France Interceptor Package 3

Lab No	1433597
Sample ID	BH38
Depth	0.60
Other ID	
Sample Type	ES
Sampling Date	28/11/18
Sampling Time	n/s

Test	Method	LOD	Units	
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01
Phenols				
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3
OCPs				
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1

WASTE ACCEPTANCE CRITERIA TESTING
ANALYTICAL REPORT

Our Ref 18-28948
Client Ref PE181482
Contract Title UK France Interceptor Package 3
Sample Id BH38 0.20

Sample Numbers 1433596 1433598
Date Analysed 14/12/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.3	3	5	6
DETSC 2003# Loss On Ignition	%	6.4	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	30	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	2.5	100	n/a	n/a
DETSC 2008# pH	pH Units	8.0	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.58	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	1.1	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.5	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	2.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.39	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	1600	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	1900	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	34000	340	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	3700	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.7
DETSC 2009 Conductivity uS/cm	47.8
* Temperature*	14

Mass of Sample Kg*	0.130
Mass of dry Sample Kg*	0.102

Stage 1

Volume of Leachant L2*	0.992
Volume of Eluate VE1*	0.93

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-28948
Client Ref PE181482
Contract Title UK France Interceptor Package 3
Sample Id BH38 0.60

Sample Numbers 1433597 1433599 1433600
Date Analysed 14/12/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.0	3	5	6
DETSC 2003# Loss On Ignition	%	4.3	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	20	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.1	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l		Amount Leached* mg/kg		WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
	2:1	8:1	LS2	LS10			
DETSC 2306 Arsenic as As	0.84	0.64	< 0.002	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.6	0.81	< 0.02	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.03	< 0.004	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.35	< 0.25	< 0.02	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	4.2	1	0.008	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.01	< 0.01	< 0.0004	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	4.8	2	< 0.02	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.9	< 0.5	< 0.02	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.39	0.3	< 0.01	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.31	< 0.17	< 0.01	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	0.27	< 0.006	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	14	< 1.3	0.028	0.02	4	50	200
DETSC 2055 Chloride as Cl	2900	840	< 20	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	150	< 100	0.3	0.21	10	150	500
DETSC 2055 Sulphate as SO4	14000	3200	28	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	97000	35000	194	436.8	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 100	< 0.2	< 1	1	n/a	n/a
* Dissolved Organic Carbon	5800	3000	11.6	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.8	7.6
DETSC 2009 Conductivity uS/cm	138	50.3
* Temperature*	13	14

Mass of Sample Kg*	0.140
Mass of dry Sample Kg*	0.116

Stage 1

Volume of Leachant L2*	0.207
Volume of Eluate VE1*	0.162

Stage 2

Volume of Leachant L8*	0.926
Volume of Eluate VE2*	0.86

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-28948
Client Ref PE181482
Contract Title UK France Interceptor Package 3

Lab No	1433597
Sample ID	BH38
Depth	0.60
Other ID	
Sample Type	ES
Sampling Date	28/11/18
Sampling Time	n/s

Test	Method	LOD	Units	
VOCs				
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-28948
Client Ref PE181482
Contract Title UK France Interceptor Package 3

			Lab No	1433597
			Sample ID	BH38
			Depth	0.60
			Other ID	
			Sample Type	ES
			Sampling Date	28/11/18
			Sampling Time	n/s
Test	**Method**	**LOD**	**Units**	
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01
SVOCs				
Phenol	DETSC 3433	0.1	mg/kg	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 18-28948
Client Ref PE181482
Contract Title UK France Interceptor Package 3

Lab No	1433597
Sample ID	BH38
Depth	0.60
Other ID	
Sample Type	ES
Sampling Date	28/11/18
Sampling Time	n/s

Test	Method	LOD	Units	
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 18-28948
Client Ref PE181482
Contract Title UK France Interceptor Package 3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1433597	BH38 0.60	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 18-28948
Client Ref PE181482
Contract UK France Interceptor Package 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1433596	BH38 0.20 SOIL	29/11/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days)	
1433597	BH38 0.60 SOIL	28/11/18	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
1433598	BH38 0.20 LEACHATE	29/11/18	GJ 250ml, GJ 60ml, PT 1L x2		
1433599	BH38 0.60 LEACHATE	28/11/18	GJ 250ml, GJ 60ml, PT 1L x2		
1433600	BH38 0.60 LEACHATE	28/11/18	GJ 250ml, GJ 60ml, PT 1L x2		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Certificate of Analysis

Certificate Number	18-21794-1	02-Apr-19
Client	Geotechnics LTD The Geotechnics Centre 7 Pinbrook Units Vinny Bridge Exeter EX4 8JQ	
Our Reference	18-21794-1	
Client Reference	PE181482	
Order No	AUTH-OE09353	
Contract Title	UK France Interconnector Package 3	
Description	1 Soil sample, 1 Leachate sample.	
Date Received	12-Sep-18	
Date Started	12-Sep-18	
Date Completed	02-Apr-19	
Test Procedures	Identified by prefix DETSn (details on request).	
Notes	**This report supersedes 18-21794, amendments.** Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.	

Approved By [redacted]

Adam Fenwick
Contracts Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 18-21794-1
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Sample ID	Depth	Lab No	Completed	Matrix Description
WS17	0.6	1391543	19/09/2018	Dark brown gravelly, clayey SAND (Possible made ground - brick)

Summary of Chemical Analysis
Soil Samples

Our Ref 18-21794-1
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1391543
Sample ID	WS17
Depth	0.60
Other ID	
Sample Type	ES
Sampling Date	10/09/18
Sampling Time	n/s

Test	Method	LOD	Units	
Metals				
Arsenic	DETSC 2301#	0.2	mg/kg	12
Cadmium	DETSC 2301#	0.1	mg/kg	0.2
Chromium	DETSC 2301#	0.15	mg/kg	16
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	55
Lead	DETSC 2301#	0.3	mg/kg	200
Mercury	DETSC 2325#	0.05	mg/kg	1.2
Nickel	DETSC 2301#	1	mg/kg	14
Zinc	DETSC 2301#	1	mg/kg	120
Inorganics				
pH	DETSC 2008#			8.5
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.2
Organic matter	DETSC 2002#	0.1	%	1.5
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	64
Petroleum Hydrocarbons				
EPH (C10-C40)	DETSC 3311#	10	mg/kg	79
PAHs				
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	0.07
Fluorene	DETSC 3303	0.03	mg/kg	0.06
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.62
Anthracene	DETSC 3303	0.03	mg/kg	0.18
Fluoranthene	DETSC 3303#	0.03	mg/kg	1.3
Pyrene	DETSC 3303#	0.03	mg/kg	1.2
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.53
Chrysene	DETSC 3303	0.03	mg/kg	0.61
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.74
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.30
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.55
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.33
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	0.11
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.43
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	7.0
PCBs				
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg	< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg	< 0.01
PCB 101	DETSC 3401#	0.01	mg/kg	< 0.01
PCB 118	DETSC 3401#	0.01	mg/kg	< 0.01
PCB 153	DETSC 3401#	0.01	mg/kg	< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-21794-1
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1391543
Sample ID	WS17
Depth	0.60
Other ID	
Sample Type	ES
Sampling Date	10/09/18
Sampling Time	n/s

Test	Method	LOD	Units	
PCB 180	DETSC 3401#	0.01	mg/kg	< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg	< 0.01
Phenols				
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3
OCPs				
alpha-BHC	DETSC 3441*	0.1	mg/kg	< 0.1
gamma-BHC (Lindane)	DETSC 3441*	0.1	mg/kg	< 0.1
beta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1
delta-BHC	DETSC 3441*	0.1	mg/kg	< 0.1
Heptachlor	DETSC 3441*	0.1	mg/kg	< 0.1
Aldrin	DETSC 3441*	0.1	mg/kg	< 0.1
Heptachlor epoxide	DETSC 3441*	0.1	mg/kg	< 0.1
gamma-Chlordane	DETSC 3441*	0.1	mg/kg	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3441*	0.1	mg/kg	< 0.1
4,4-DDE	DETSC 3441*	0.1	mg/kg	< 0.1
Dieldrin	DETSC 3441*	0.1	mg/kg	< 0.1
Endrin	DETSC 3441*	0.1	mg/kg	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3441*	0.1	mg/kg	< 0.1
Endrin aldehyde	DETSC 3441*	0.1	mg/kg	< 0.1
4,4-DDT	DETSC 3441*	0.1	mg/kg	< 0.1
Endosulphan sulphate	DETSC 3441*	0.1	mg/kg	< 0.1
Methoxychlor	DETSC 3441*	0.1	mg/kg	< 0.1
Endrin ketone	DETSC 3441*	0.1	mg/kg	< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 18-21794-1
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1391543
Sample ID	WS17
Depth	0.60
Other ID	
Sample Type	ES
Sampling Date	10/09/18
Sampling Time	n/s

Test	Method	LOD	Units	
VOCs				
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 18-21794-1
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1391543
Sample ID	WS17
Depth	0.60
Other ID	
Sample Type	ES
Sampling Date	10/09/18
Sampling Time	n/s

Test	Method	LOD	Units	
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01
SVOCs				
Phenol	DETSC 3433	0.1	mg/kg	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	0.2
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 18-21794-1
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	1391543
Sample ID	WS17
Depth	0.60
Other ID	
Sample Type	ES
Sampling Date	10/09/18
Sampling Time	n/s

Test	Method	LOD	Units	
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	0.2

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 18-21794-1
Client Ref PE181482
Contract Title UK France Interconnector Package 3
Sample Id WS17 0.60

Sample Numbers 1391543 1391544
Date Analysed 19/09/2018

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084* Total Organic Carbon	%	0.9	3	5	6
DETSC 2003# Loss On Ignition	%	4.0	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	79	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	14	100	n/a	n/a
DETSC 2008# pH	pH Units	8.5	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.6	0.02	0.5	2	25
DETSC 2306 Barium as Ba	12	0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.03	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	2.2	0.02	2	50	100
DETSC 2306 Mercury as Hg	0.02	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	2.8	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.5	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.63	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.93	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	1.4	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	36000	360	800	15,000	25,000
DETSC 2055* Fluoride as F	130	1.3	10	150	500
DETSC 2055 Sulphate as SO4	12000	120	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	150000	1500	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
* Dissolved Organic Carbon	3000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.2
DETSC 2009 Conductivity uS/cm	218
* Temperature*	20

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.099

Stage 1

Volume of Leachant L2*	0.982
Volume of Eluate VE1*	0.92

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*
** DETS are accredited for the testing of leachates and not the leachate preperation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 18-21794-1
Client Ref PE181482
Contract Title UK France Interconnector Package 3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1391543	WS17 0.60	SOIL	Chrysotile	bundle of Chrysotile fibres	Rebecca Burgess

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 18-21794-1
Client Ref PE181482
Contract UK France Interconnector Package 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1391543	WS17 0.60 SOIL	10/09/18	GJ 250ml, GJ 60ml, PT 1L x2		
1391544	WS17 0.60 LEACHATE	10/09/18	GJ 250ml, GJ 60ml, PT 1L x2		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Certificate of Analysis

Certificate Number 18-21881

19-Sep-18

Client Geotechnics Ltd
7 Pinbrooks Unit
Venny Bridge
Exeter
EX4 8JQ

Our Reference 18-21881

Client Reference PE181482

Order No AUTH-OE09360

Contract Title UK France Interceptor Package 3

Description 3 Soil samples.

Date Received 13-Sep-18

Date Started 13-Sep-18

Date Completed 19-Sep-18

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By [redacted]

Adam Fenwick
Contracts Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 18-21881
Client Ref PE181482
Contract Title UK France Interceptor Package 3

Sample ID	Depth	Lab No	Completed	Matrix Description
BH37	0.3	1391995	19/09/2018	Dark brown gravelly, sandy CLAY
BH37	0.5	1391996	19/09/2018	Brown gravelly, clayey SAND
BH37	1	1391997	19/09/2018	Brown gravelly, sandy CLAY

Summary of Chemical Analysis
Soil Samples

Our Ref 18-21881
Client Ref PE181482
Contract Title UK France Interceptor Package 3

			Lab No	1391995	1391996	1391997
			Sample ID	BH37	BH37	BH37
			Depth	0.30	0.50	1.00
			Other ID			
			Sample Type	SOIL	SOIL	SOIL
			Sampling Date	22/08/18	22/08/18	22/08/18
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Inorganics						
pH	DETSC 2008#			6.1	7.1	7.4
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	36	20	19

Key: # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Information in Support of the Analytical Results

Our Ref 18-21881
Client Ref PE181482
Contract UK France Interceptor Package 3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1391995	BH37 0.30 SOIL	22/08/18	GJ 500ml, GV, PT 1L x2	pH + Conductivity (7 days)	
1391996	BH37 0.50 SOIL	22/08/18	GJ 500ml, GV, PT 1L x2	pH + Conductivity (7 days)	
1391997	BH37 1.00 SOIL	22/08/18	GJ 500ml, GV, PT 1L x2	pH + Conductivity (7 days)	

Key: G-Glass P-Plastic J-Jar V-Vial T-Tub

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Appendix A - Details of Analysis

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DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.