Site Condition Report (with Baseline Reference Data) Celsa Manufacturing (UK) Ltd Swansea Docks, Lockhead, Kings Dock, Swansea, SA1 1QR Permit No. EPR/AB3891FT

On behalf of:
Celsa Manufacturing (UK) Ltd

Project Reference:
019-1691

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Abbreviations

BGS	British Geological Survey
EA	Environment Agency
EAME	Earth & Marine Environmental Consultants Ltd
EPR	Environmental Permit
GNSS	Global Navigation Satellite System
GPR	Ground Penetrating Radar
NGR	National Grid Reference
NRW	Natural Resources Wales
NVZ	Nitrate Vulnerable Zone
SCR	Site Condition Report
SPZ	Source Protection Zone
WFD	Water Framework Directive

1 Introduction

1.1 Background

This document has been prepared by Celsa Manufacturing (UK) Ltd (Celsa) and its environmental consultant Earth & Marine Environmental Consultants Ltd (EAME) in support of a bespoke (waste operation) environmental permit variation application as required under Regulation 20 of the *Environmental Permitting (England and Wales) Regulations 2016* in relation to activities proposed to be undertaken at Celsa Swansea Scrap Yard, Graigola Wharf, King's Dock, Swansea Docks, Swansea, SA1 8QT, Wales (Permit No. EPR/AB3891FT). The site has been permitted since 27/04/18.

An environmental permit application is required where an operator carries out certain prescribed activities, namely installations that undertake Schedule 1 activities, a waste operation or a mobile plant (carrying out either one of the Schedule 1 activity or a waste operation).

The waste processing and storage activities meet the description of an installation as defined as a Tier 3 bespoke permit for a mixed metal recycling activity[1]:

- R13 Storage of waste pending any of the operations numbered R1 to R12; and
- R4 Recycling/reclamation of metals and metal compounds

A full description of the proposed activities is provided in *Section 4*.

The Site Condition Report (SCR) has been produced in accordance with the Natural Resources Wales (NRW) Guidance Document H5 Site condition report - guidance and templates (Version 5, October 2014) *i.e.* provision of Sections 1 to 3 as outlined in the SCR Template.

The remainder of this document outlines the requirements requested by the NRW to progress the permit variation application.

1 Environment Agency (2015). Regulatory Guidance Series, No. RGN 2 Understanding the meaning of regulated facility, Version 3.1. May 2015.

2 Site Details

The site details are outlined below.

Name of Applicant	Cela Manufacturing (UK) Ltd
Activity Address	Celsa Swansea Scrap Yard, Graigola Wharf, King's Dock, Swansea Docks, Swansea, SA1 8QT, Wales
National Grid Reference (NGR)	Grid Reference (6 figure) – SS 67337 92377 51.614539, -3.9174521
Document reference and dates for Site Condition Report at permit application and surrender	**Original Application (017-1574):** 017-1574 Celsa Swansea Scrap Yard SCR REV00 **Variation 2019 (019-1691):** 019-1691 Celsa Swansea Scrap Yard - SCR REV01
Document references for site plans (including location and boundaries)	**Annex A: Site Plans** Figure A1: Site Location (Ordnance Survey 1:25,000) Figure A2: Installation Boundary (outline in green)

3 Condition of Land at Permit Issue

3.1 Environmental Setting

Desk-based research of the local geology, hydrogeology, hydrology and ecology was carried out to establish the potential for migration of contamination onto or away from the site, and to assess the surface water and groundwater sensitivity of the surrounding area. Information was obtained from several sources, namely:

- examination of published geological maps produced by the British Geological Survey (BGS), inspection of the BGS Geology of Britain Viewer and associated borehole logs[2];
- review of Envirocheck Landmark report (Ref. 138065595_1_1);
- an examination of the EA's on-line aquifer classification[3];
- review of NRW and Joint Nature Conservation Committee (JNCC) on-line environmental data; and
- a review of other online web and other publicly available information.

3.1.1 Geology

According to the BGS viewer and Geological Survey of England and Wales 1:50,000 geological map series (Sheet 247 Swansea, Solid and Drift, 2011), the site is directly underlain by the following deposits:

- **Made Ground** – The key to the BGS map states '*mainly colliery and mineral smelting spoil, also some road and railway embankments*'. Given the Site is within the docks it is highly likely that the excavated dock material (possibly blown Sand or beach and tidal deposits – undifferentiated – sand silt and clay) would have been used to backfill the newly constructed dock walls.
- **Superficial deposits** – Underlying the infilled docks are likely to be either Marine Beach Deposits (Sand) or blown Sand.

2 http://maps.bgs.ac.uk/geologyviewer
3 http://maps.Environment-agency.gov.uk/wiyby/wiybyController

- **Bedrock deposits** – South Wales Middle Coal Measures Formation – Mudstone with coal seams, seatearths and thin sandstone beds up to 240m thick in the Swansea area.

3.1.2 Hydrogeology

The aquifer classification system was updated on 1st April 2010 which provided new aquifer designations to replace the old system of aquifer classifications, such as Major, Minor and Non-Aquifer. This new system is in line with the EA's Groundwater Protection Policy (GP3) and the Water Framework Directive (WFD) and is based on BGS mapping. From a review of the NRW on-line maps, the underlying deposits are classified as:

- **Bedrock Deposits** – The South Wales Middle Coal Measures Formation is classified as a Secondary A Aquifer. These are defined as '*permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers'*.

The groundwater vulnerability has been categorised by the EA/NRW as '*Soils of High Leaching Potential (U) - Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst-case vulnerability classification (H) assumed, until proved otherwise'*.

The EA/NRW have defined Groundwater Source Protection Zones (SPZs) for 2,000 groundwater sources such as wells, boreholes and springs used for public drinking water supply. These zones are designated to protect the location from the risk of contamination from any activities that might cause pollution in the area, *i.e.* the closer the activity, the greater the risk. The SPZs show three main zones; an inner, an outer and the total catchment with a fourth zone of special interest, which the EA/NRW occasionally apply, to a groundwater source. The Site is not within an SPZ.

There are currently no groundwater abstractions associate with the site or within a 2-km radius.

3.1.3 Hydrology

The Site is located within the Port of Swansea (*Figure 3.1*) and is surrounded by surface water on two sides (*i.e.* King's Dock to the north and Queen's Dock to the south).

Figure 3.1: *Surrounding surface water features*

Google Earth Imaging with the permission of Google – Licensed to Earth & Marine Environmental Consultants Ltd.

There are no surface water abstraction licences associated with the Site, and only one abstraction within 500 metres of the Site:

- 109m south (J W Aquaculture Ltd), surface water abstraction from Scherzer Passage, Licence No. 22/69/1/0120, used for aquaculture: fish farm/cress pond throughflow.

Since approximately 2011/12, Thomas Shellfish Limited has been using Queen's Dock to farm rope-grown mussels. The Queen's Dock in Swansea, where they farm, was certified as an Aquaculture Production Site by CEFAS (Centre for Environment, Fisheries and Aquaculture Sciences) in 2011.

3.1.4 Flood Risk

According to the NRW Flood Risk mapping, the Site lies within an area of Low chance of flooding (rivers and seas). Low means that each year, this area has a chance of flooding of between 1 in 1,000 (0.1%) and 1 in 100 (1%) (*Figure 3.2*).

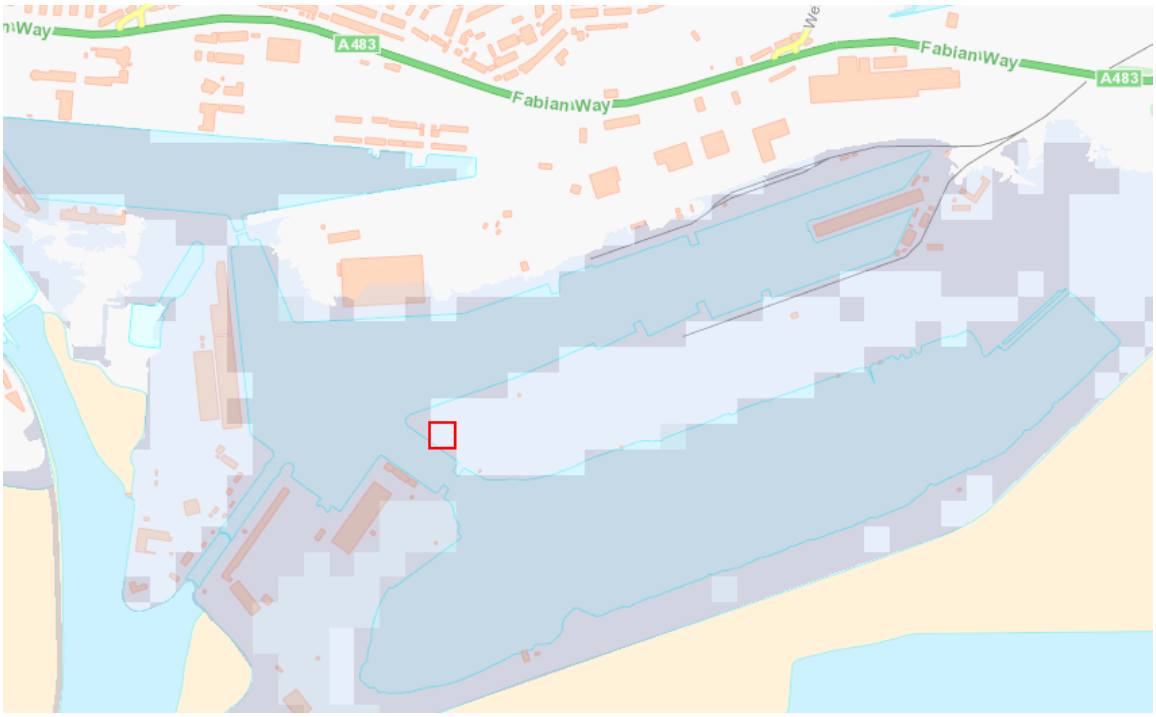

Figure 3.2: *Risk of flooding from Rivers and Sea*

https://maps.cyfoethnaturiolcymru.gov.uk/

The Site is not at risk of flooding due to surface water and there is no reservoir flood risk.

3.1.5 Ecology

NRW data[4] was queried to locate Sites of Special Scientific Interest (SSSI), Special Protection Areas (SPAs) Special Areas of Conservation (SACs), Ramsar Sites, National Nature Reserves, Areas of Outstanding Natural Beauty (AONB), National Parks and Local Nature Reserves in the immediate and wider surrounds of the Site. There are no such designated sites within a 1-km

4 http://lle.gov.wales/

radius of the site. The closest protected site (approximately 1.3-km east) is Crymlyn Bog/Cors Crymlyn SSSI (Ref. 33WWP) and SAC (Ref. UK0012885).

3.1.6 Residential Receptors

The closest residential properties are located 500 metres north on the northern side of the Prince of Wales Dock.

3.1.7 Protected Buildings

The Historic Wales website[5] and NRW data[4] was queried to identify any listed buildings or ancient monuments within 1-km. None were identified. The closest is Swansea Castle 1.77 km north northwest of the Site.

3.2 Pollution History

3.2.1 Pollution incidents that may have affected land

There are no recorded pollution incidents or Substantiated Pollution Incidents associated with the Site. There are, however, nine incidents (within 500 metres) related to various dock related activities (including releases from boats and ships).

There are no records of any current or historic landfill sites associated with the Site or within a 1-km search radius. However, the Site is identified as potentially infilled land. The Site (Dock) was created during the creation of the Port of Swansea.

According to publicly available information part of the Site was previously a licensed waste treatment, transfer and/or disposal site (EPS Alternative Fuels Limited), King's Dock, Ref. AB3194FB, Expired 22nd March 2017). There are three active or expired licences within 300 m of the Site:

- 236m east (Stenor Environmental Limited), Household, Commercial and Industrial Transfer Stations, Graigola Wharf, Ref. JP3198FJ & 34290, Effective 1st March 2017 and 26th June 2007.
- 266m west (Caerleon Treatments Limited), Hazardous waste transfer station, King's Dock, Ref. 34006, Expired 30th March 1978.

5 http://historicwales.gov.uk/

- 291m north (Glass Tech Recycling Limited), Materials recycling facility, King's Dock, Ref. 900140, Issued 4th August 2015.

3.2.2 Historical land-uses and associated contaminants

The earliest available map (1879) indicated that the Site was undeveloped and was depicted as part of the foreshore of Swansea Bay. By the late 1910s, the Site was part of the Port of Swansea and part of the Graigola Merthyr Patent Fuel Works that extended to the east of the Site. The key stages in the development of the Site are:

- **Port of Swansea** – Work began on the King's Dock (north of the Site) in 1905 to meet the growing demand of Tinplate exports from the local area. Construction was complete by 1909. At the same time, the King's Dock was being built, a breakwater was constructed further south of the King's dock which enclosed a large body of water covering 61 ha. This body of water was opened in 1920 as the Queen's Dock after oil handling facilities were built to handle imports for the nearby BP oil refinery at Llandarcy and petrochemical plant at Baglan Bay. Usage of the Queen's Dock reached its peak in the 1950s when oil imports and exports reached around 8 million tonnes per year. Since the closure of the oil plants at Baglan Bay and Llandarcy, the Queen's Dock was rendered obsolete as an oil handling facility (*Figure 2.5*).

- **Graigola Merthyr Patent Fuel Works** – According to the Archives Network Wales[6], Clydach Merthyr Colliery was situated near Clydach in the Swansea Valley. The mine was opened in 1863 by the Graigola Merthyr Company, a member of the Monmouthshire and South Wales Coal Owners' Association. The Graigola seam produced high quality coal which had a very low percentage of ash. This feature meant that 'Graigola Merthyr' patent coal fuel was used by many important foreign rail and steamship companies. The plant was closed in 1958[7]. The plant was a maker of 'patent fuel', or 'preserved coal' - a mixture usually comprising small coal (preferable steam coal) mixed with distilled coal tar pitch and compressed into blocks via moulds (briquetting). According to published information the classic pitch bound block briquette made in South Wales consisted of blending coals. That is steam coal with bituminous, so that the block would tend to cake as it burned and minimised crumbling. A typical briquette would contain Bituminous coal - 25%, Steam coal – 45%, Dry Steam coal – 22% and Pitch – 8%.

6 http://anws.llgc.org.uk/

7 http://www.welshcoalmines.co.uk/forum/read.php?14,29193

- **Coal storage –** Available aerial photographs show that the Site was used for coal storage in 2002 and then again in 2005-2006. The area to the east continued to be used for coal storage until at least 2010/11.

- **Scrap metal storage** – According to the archive photographs from 2010-2011, the Site has previously been used for the storage of scrap metal. It is unclear whether processing of materials was undertaken on-site.

The following potentially contaminative activities have been identified as having taken place on-Site (*Table 3.1*).

Table 3.1: Potential On-site Contamination Sources

Land Use	Description	Potential Contaminants
In-filled docks Historic	Work began on the King's Dock (north of the Site) in 1905 to meet the growing demand of Tinplate exports from the local area. Construction was complete by 1909. The area is composed of infilled/reclaimed land.	Metals and Metalloids, Phenols, chlorides, sulphates, sulphides, Polycyclic Aromatic Hydrocarbons (PAHs), coal/coke, asbestos, cyanides *etc.*
Graigola Merthyr Patent Fuel Works Historic	The plant was located on-site between the late 19th century until the late 1950s. The plant was a maker of 'patent fuel', or 'preserved coal' - a mixture usually comprising small coal (preferable steam coal) mixed with distilled coal tar pitch and compressed into blocks via moulds (briquetting).	Ammoniacal liquors, coal tar, spent oxide, foul lime, metals, coal dust, PAHs, hydrocarbons *etc.*
Railway Lines Historic	A review of the available historic maps shows the presence of railway lines across the Site associated with the Graigola Merthyr Patent Fuel Works.	Possible iron and steel wastes used as fill material. Atrazine and simazine herbicides used as herbicides, PCBs used in transformers. Diesel and other organic hydrocarbons associated with oils, fuel and grease. If ash was used as fill material this may have PAHs, phenols and sulphates associated with it. Asbestos from lagging.

Table 3.1: Potential On-site Contamination Sources		
Land Use	**Description**	**Potential Contaminants**
Metal Waste Storage Historic	Storage of scrap metal.	Metals and metalloids, inorganics, organics, asbestos, radioactive components *etc.*
Coal Storage Historic	Storage of coal.	Metals and metalloids, inorganics, PAHs, pH, sulphate
Waste Storage Historic	Storage of Refuse-derived fuel (RDF) and Solid recovered fuel (SRF).	Since 2015 hundreds of wrapped and partially wrapped (damaged) bales of RDF and SRF (EWC 19 12 10) waste were stored on-site. According to the Gazette EPS Alternative Fuels Limited (Company number: 09177128) was liquated on 05/04/2017. There is anecdotal evidence that the NRW are in correspondence with the Site owner (ABP) to organise for the removal of the waste. All waste will be removed prior to Celsa occupying the Site.

The key stages in the Site's development are shown in *Figure 3.3.* The extended permit site boundary (post variation) is shown in red.

A web-based search of the City and County of Swansea planning records was undertaken on 6th September 2017. Two relevant planning applications, appeals or enforcement records are associated with the Site (from 1st January 2000):

- 2009/0354 | Expansion of existing operations to create a waste reclamation and recycling centre (renewal of planning permission 2006/2728 granted 23rd April 2007) | Waste Reclamation and Recycling Centre, Graigola Wharf, Kings Dock, Swansea. Approved September 2009.
- 2006/2728 | Expansion of existing operations to create a waste reclamation and recycling centre | Waste Reclamation and Recycling Centre, Graigola Wharf, Kings Dock, Swansea. Approved April 2007.

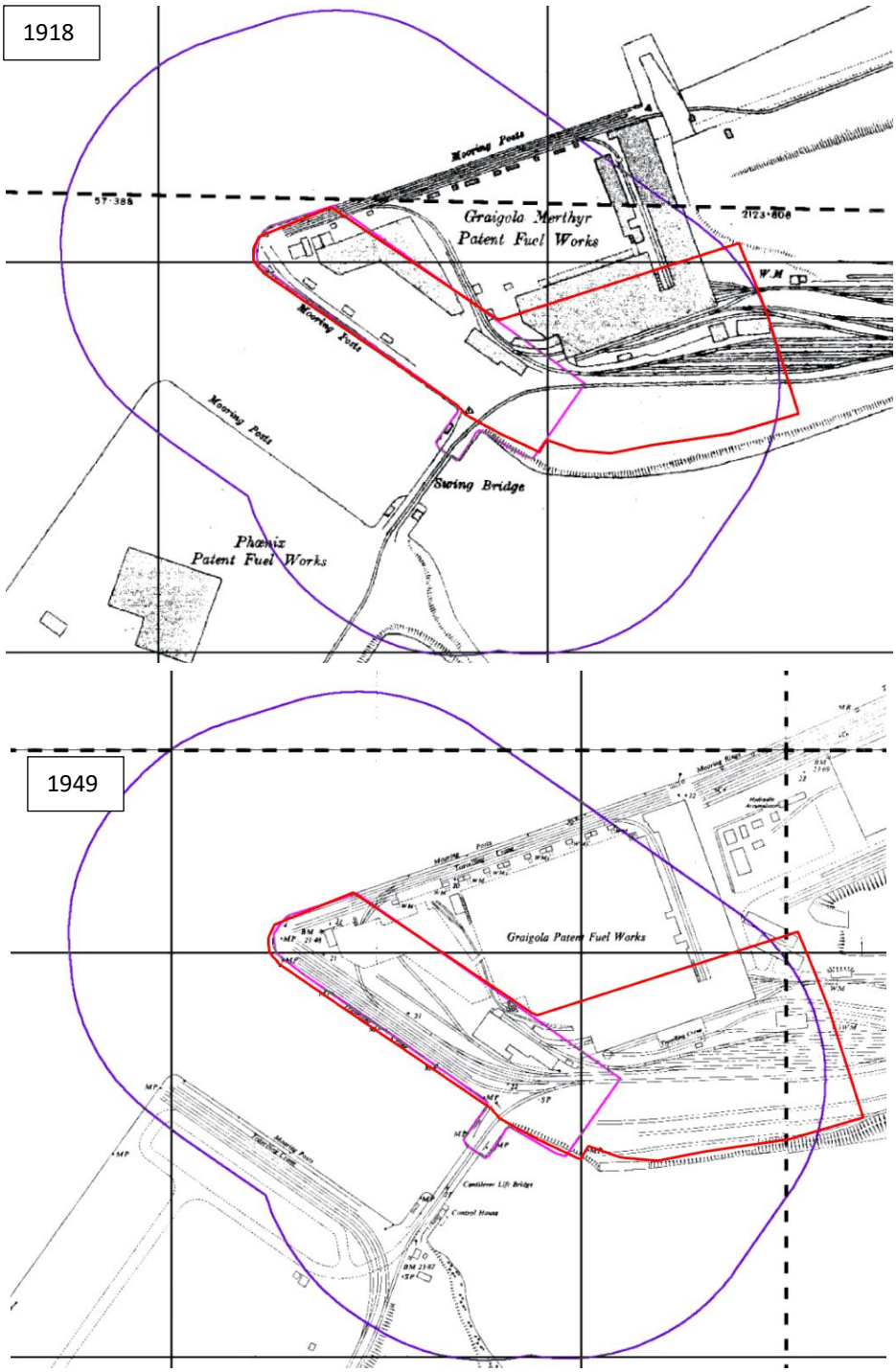

Figure 3.3: *Key stages in the Site Development*

Ordnance Survey 1:2,500 scale maps with the permission of The Controller of Her Majesty's Stationery Office, Crown Copyright Earth & Marine Environmental Consultants Ltd, Licence No. 100050755

3.2.3 Any visual/olfactory evidence of existing contamination

The Site is brownfield and is almost entirely hardstanding except for small areas of vegetation near to the southern, northern and eastern edges of the Site. No buildings are currently on-site.

3.2.4 Evidence of damage to pollution prevention measures

The fall on the hardstanding is designed to capture all drainage from across the Site within the Scherzer Passage drainage gulley before directing the run-off through a Class 1 full retention separator. The drainage is then discharged to King's Dock via a tidal flap **[Emission Point SW1]**.

Celsa will ensure that all waste processing and storage areas are suitably repaired prior to waste acceptance at the Site. The tertiary containment surfaces will be inspected and maintained throughout the life of the permit.

Current site conditions (within the current permitted area) are presented in *Photograph 3.1* - *Photograph 3.4*. The condition of the proposed extension area is outlined within *Photograph 3.5*.

Photograph 3.1: *Scrap handling within current permitted area (March 2019)*

Photograph 3.2: *Scrap storage at edge of* Scherzer Passage drainage gulley *(March 2019)*

Photograph 3.3: *Scrap handling within the current permitted area (March 2019)*

Photograph 3.4: *Weighbridge and waste scanner within current area (March 2019)*

Photograph 3.5: *Tertiary containment surfaces (proposed extension area)*

A full topographic and structural survey of the current Site has been undertaken. The results are outlined in *Annex D*. A visual assessment of the proposed extension will be undertaken and recorded prior to occupation.

3.2.5 Evidence of historic contamination, for example historical site investigation, assessment, remediation and verification reports (where available)

Evidence of a previous intrusive investigation was identified during the Site inspection. Results from this investigation were not made available by the site owner (ABP).

3.2.6 Baseline soil and groundwater reference data

Please refer to *Section 4.*

4 Baseline Soil and Groundwater Data

4.1 Site Application – Baseline Reference Data

The soil and groundwater data presented below is provided as evidence of the baseline conditions at permit issue.

4.1.1 Scope of Works

A targeted intrusive investigation at the Site was undertaken on 6th March 2018 to assess the nature and extent of any existing contamination. The breakdown of the strategy to investigate and assess conditions can be summarised as follows:

- a non-intrusive utility search for the presence of Site services was carried out by obtaining service utility plans and the undertaking of a survey of the Site by an EAME approved service tracing specialist (RP Drilling Ltd);
- the drilling of ten (10) window sample locations to a maximum depth of 5.0 metres below ground level (bgl) by an EAME approved sub-contractor (Cook Ground Investigation Limited);
- the installation of 50mm diameter monitoring wells at four (4) locations to facilitate groundwater monitoring;
- positioning of all intrusive locations using a standalone Leica Global Positioning System (GPS)/Global Navigation Satellite System (GNSS);
- the logging, sampling and on-site screening of soil samples for Volatile Organic Compounds (VOCs) at regular intervals throughout the soil profile using a Photo Ionisation Detector (PID); and
- submission of selected soil and groundwater samples to a UKAS and MCERTS accredited independent laboratory (i2 Analytical Ltd) for the analysis of a range of contaminants, which are likely to be associated with the former/current activities and ground conditions on the Site.

The window sample locations are outlined in *Table 4.1* and *Figure 4.1*. *Figure 4.1* has been revised to show the amended permit boundary (post variation). As the original investigation was rather detailed (for such a small area) combined with the fact that the extended permit boundary has the same (or very similar) historic use no further ground information collection

is proposed *i.e.* it is proposed that the current data (baseline) is representative of the extended permit boundary area.

Figure 4.1: *Window Sample Locations (based on GPS/GNSS Survey)*

Google Earth Imaging with the permission of Google – Licensed to Earth & Marine Environmental Consultants Ltd.

Table 4.1: Window Sample Locations					
EAME Ref.	Easting	Northing	Longitude	Latitude	Elevation (m AOD)
WS01	267388.037	192321.378	-3.916691	51.614051	7.621
WS02	267356.107	192357.14	-3.917166	51.614367	7.017
WS03	267354.883	192375.039	-3.917202	51.614529	6.987
WS04	267334.63	192367.98	-3.917488	51.614452	6.886
WS05	267285.365	192397.049	-3.918206	51.61471	6.298
WS06	267319.083	192401.661	-3.917717	51.614754	6.529
WS07	267315.496	192370.187	-3.917763	51.614474	6.719
WS08	267359.177	192340.249	-3.917117	51.614215	6.753
WS09	267395.428	192342.573	-3.916598	51.614242	7.504
WS10	267295.981	192412.816	-3.918068	51.614847	6.265

4.1.2 Health and Safety

A detailed project specific Health and Safety Plan (HSP) was prepared in advance of the commencement of the investigatory works. The project specific HSP was approved by the Project Director and was provided to all on-site EAME employees. For the avoidance of doubt, EAME staff as a minimum adhere to relevant legislation and best practice, including the Health and Safety Executive Guidance Note HS(G) 47 "Avoiding Danger from Underground Services", and other relevant regulatory and legal requirements *e.g. Health & Safety at Work Act 1974 etc.*

Service tracing and clearance of all Window Sample locations was undertaken by RP Drilling Ltd. All areas were also scanned using Ground Penetrating Radar (GPR) before final sign-off.

4.1.3 Drilling

All drilling and window sample installations were undertaken by Cook Ground Investigation Limited using a small tracked rig (Global Geo Rig). Cook Ground Investigation Limited have over 15 years' experience whilst holding a Level 2 NVQ in land drilling and CSCS Skilled Person qualification.

The well installations were made using <1mm slotted well screen, 1-2mm washed and graded filter gravel and high-quality bentonite sealing materials. All materials were supplied by Cook Ground Investigation Limited. Drilling was undertaken on 6th March 2018.

4.1.4 Headspace Testing

All soil samples were tested by dynamic headspace analysis, for the presence of VOCs using a PID. Dynamic headspace analysis refers to the manual agitation (warming) of a sample to facilitate the volatilisation of organic compounds present in the sample into the headspace above which is then analysed using the PID. The PID screens for a wide range of volatile organic compounds including hydrocarbon compounds and certain chlorinated solvents but does not indicate a specific compound. The measurements obtained by the instrument in parts per million by volume (ppmv) provide a semi-quantitative indication of the concentration of hydrocarbon vapours.

The PID unit used was a MiniRae Lite ATEX supplied by Environmental Science & Technology Ltd (*Table 4.2*).

Table 4.2: PID Details

Criteria	Description
Instrument	MiniRae Lite ATEX
Supplied by	Environmental Science & Technology Ltd
Lamp	10.6 eV gas discharge lamp
Serial No.	595-002379
Results	Isobutylene (Cylinder LOT: GBH-248-100-12), (Span 100ppm), Bump test 99.8 ppm, zero performed using charcoal filter.
Calibration Date	4th March 2018
Certificate No.	10043

The results of the headspace testing are outlined in *Table 4.3*.

Table 4.3: Soil Headspace Testing Results				
Ref.	**Sample Depth**	**Visual and Olfactory Observations**	**PID Reading (ppmv)**	**Laboratory Analysis**
WS01	0.5-0.9m	None	0.0	Suite B, ACM
WS01	1.5-1.9m	None	0.0	Suite B, SVOC, VOC
WS03	0.2-0.6m	None	0.0	Suite B
WS04	1.5-2.0m	None	0.0	Suite B, SOM, SVOC, VOC
WS04	3.5-4.0m	None	0.0	Suite B
WS05	1.0-1.4m	None	0.5	Suite B, SOM, SVOC, VOC
WS05	2.2-2.8m	None	0.4	Suite B
WS06	0.2-0.5m	None	0.0	Suite B, ACM
WS06	1.0-1.4m	None	0.0	Suite B
WS07	1.1-1.2m	None	0.0	Suite B
WS07	2.0-2.5m	None	0.4	Suite B, SVOC, VOC
WS08	0.2-0.4m	None	2.6	Suite B, ACM, SVOC, VOC
WS08	1.2-1.5m	None	0.1	Suite B
WS10	1.0-1.5m	None	0.4	Suite B, ACM
WS10	1.8-1.9m	None	0.7	Suite B, SVOC, VOC
WS10	2.5-3.0m	None	0.7	Suite B

Notes:

Suite B – Arsenic, Cadmium, Chromium, Lead, Mercury, Selenium, Copper, Nickel, Zinc, Vanadium, Beryllium, Water, Soluble Boron, Total Cyanide, Monohydric, Phenols, pH Value, TPH - CWG (C5-35), Aliphatic/Aromatic Split (with CWG banding - Aliphatic C5-6,>6-8,>8-10,>10-12,>12-16,>16-21,>21-35) (Aromatic - >C6-7,>7-8,>8-10,>C10-12,>12-16,>16-21,>21-35), Speciated PAHs (USEPA-16), Sulphate (water soluble).

VOC – Volatile Organic Compounds, SVOC – Semi-Volatile Organic Compounds, SOM – Soil Organic Matter, ASB – Asbestos

The peak reading of 2.6 ppmv does not indicate the presence of significant volatile compounds within the soil. No evidence of any hydrocarbon sheen(s) or olfactory evidence of contamination was noted during the drilling of any of the window sample locations.

4.1.5 Sample Integrity

All collected soil and groundwater samples were submitted to an MCERTS and UKAS (ISO 17025) accredited laboratory (i2 Analytical) for chemical analysis. Discussions were held with the laboratory prior to the commencement of any works to determine the quantity of sample required and the containers to be used.

All samples obtained were placed in the appropriate container for the analysis to be carried out and were immediately put into a temperature regulated cool box with frozen cool packs. All samples were given a unique reference number, dated and the information recorded on an appropriate Chain of Custody (CoC) form for dispatch with the samples to the appropriate laboratory.

4.1.6 Soil and Groundwater Analytical Strategy

The analytical strategy was designed by EAME to provide an assessment of the presence of a common range of potential contaminants likely to be associated with the previous uses of the Site. The analytical suites are outlined in *Table 4.4*.

Table 4.4: Analytical Strategy		
Analytical Suite	**Soils**	**Groundwater**
EAME Suite B Arsenic, Cadmium, Chromium, Lead, Mercury, Selenium, Copper, Nickel, Zinc, Vanadium, Beryllium, Water Soluble Boron, Total Cyanide, Monohydric Phenols, pH Value, Total Petroleum Hydrocarbon TPH - CWG (C5-35) Aliphatic/Aromatic Split (with CWG banding - Aliphatic C5-6,>6-8,>8-10,>10-12,>12-16,>16-21,>21-35) (Aromatic ->C6-7,>7-8,>8-10,>C10-12,>12-16,>16-21,>21-35), Speciated Polycyclic Aromatic Hydrocarbon (PAHs) (USEPA-16), Sulphate (water soluble), benzene, toluene, ethylbenzene, and xylenes (BTEX) and Methyl tert-butyl ether (MTBE)	**16 samples** WS01 (0.5-0.9m) WS01 (1.5-1.9m) WS03 (0.2-0.6m) WS04 (1.5-2.0m) WS04 (3.5-4.0m) WS05 (1.0-1.4m) WS05 (2.2-2.8m) WS06 (0.2-0.5m) WS06 (1.0-1.4m) WS07 (1.1-1.2m) WS07 (2.0-2.5m) WS08 (0.2-0.4m) WS08 (1.2-1.5m) WS10 (1.0-1.5m) WS10 (1.8-1.9m) WS10 (2.5-3.0m)	**3 samples** WS04 WS05 WS06
Volatile Organic Compounds (VOCs) Standard i2 Analytical VOC suite. **Semi Volatile Organic Compounds (SVOCs)** Standard i2 Analytical SVOC suite.	**6 samples** WS01 (1.5-1.9m) WS04 (1.5-2.0m) WS05 (1.0-1.4m) WS07 (2.0-2.5m) WS08 (0.2-0.4m) WS10 (1.8-1.9m)	**3 samples** WS04 WS05 WS06
Asbestos (Screen and ID)	**4 samples** WS01 (0.5-0.9m) WS06 (0.2-0.5m) WS08 (0.2-0.4m) WS10 (1.0-1.5m)	N/A

Table 4.4: Analytical Strategy		
Analytical Suite	**Soils**	**Groundwater**
Soil Organic Matter	**2 sample** WS04 (1.5-2.0m) WS05 (1.0-1.4m)	N/A

4.1.7 Soil Chemical Data

The baseline soil conditions at the Site are outlined within *Annex F*.

4.1.8 Groundwater Chemical Data

The baseline groundwater conditions at the Site are outlined within *Annex G*.

5 Permitted Activities

5.1 Proposed Activity

The waste processing and storage activities meets the description of an installation as defined as a Tier 3 bespoke permit for a mixed metal recycling activity[8]:

- R13 Storage of waste pending any of the operations numbered R1 to R12; and
- R4 Recycling/reclamation of metals and metal compounds

5.1.1 Waste Streams

Waste streams are:

2	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 10	waste metal
12	WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS
12 01	wastes from shaping and physical and mechanical surface treatment of metals and plastics
12 01 01	ferrous metal filings and turnings
12 01 03	non-ferrous metal filings and turnings
15	WASTE PACKAGING, ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01	packaging (including separately collected municipal packaging waste)
15 01 04	metallic packaging
16	WASTES NOT OTHERWISE SPECIFIED IN THE LIST

8 Environment Agency (2015). Regulatory Guidance Series, No. RGN 2 Understanding the meaning of regulated facility, Version 3.1. May 2015.

16 01	end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)
16 01 06	end-of-life vehicles, containing neither liquids nor other hazardous components
16 01 17	ferrous metal
16 01 18	non-ferrous metal
16 01 22	components not otherwise specified
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 04	metals (including their alloys)
17 04 01	copper, bronze, brass
17 04 02	aluminium
17 04 03	lead
17 04 04	zinc
17 04 05	iron and steel
17 04 06	tin
17 04 07	mixed metals
17 04 11	cables other than those mentioned in 17 04 10
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
19 01	wastes from incineration or pyrolysis of waste
19 01 02	ferrous materials removed from bottom ash
19 10	wastes from shredding of metal-containing wastes
19 10 01	iron and steel waste

19 10 02	non-ferrous waste
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 02	ferrous metal
19 12 03	non-ferrous metal
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11 (consisting of metal containing wastes only)
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01	separately collected fractions (except 15 01)
20 01 40	Metals

No hazardous waste is accepted on to, processed or stored at the Site.

There are no directly associated activities.

5.1.2 Waste Volumes

The proposed waste volumes are outlined within *Table 5.1*.

Table 5.1: Proposed waste volumes	
Total Waste Input	120,000 tonnes per annum
Ferrous Recovery	112,800 tonnes per annum
Non-ferrous Recovery	3,600 tonnes per annum
Maximum Storage Capacity (at any time)	7,000 tonnes

5.2 Non-permitted activities undertaken

The Site has minor maintenance activities, welfare, sewage storage (cess pit), office facility and a staff car parking area. These are not to be included within the permitted installation.

5.3 Other requirements

Plans showing activity location and layout are provided in *Annex A*.

The facilities environmental risk assessment is outlined within the main technical document *Ref.* 019-1691 Celsa Swansea Scrap Yard - Normal Variation Report REV00.

Annex A: Figures

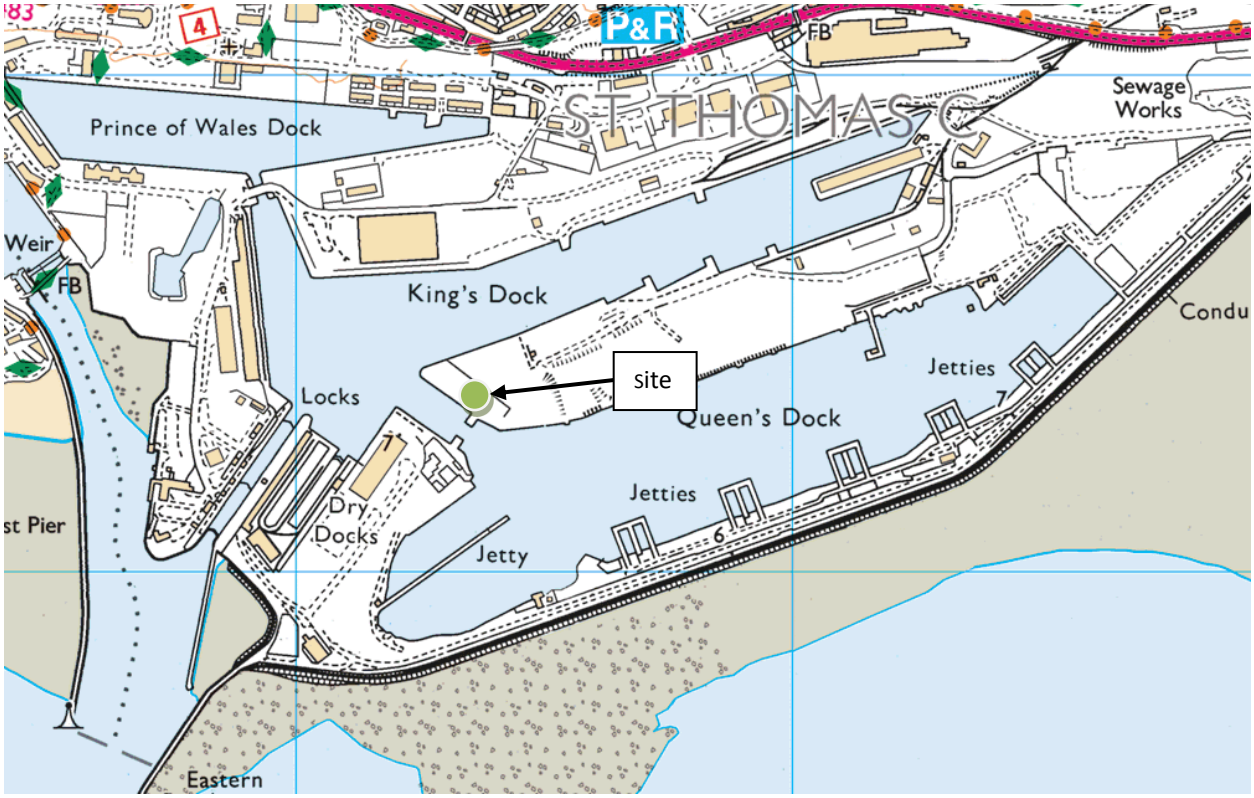

Figure A1: *Site location (Ordnance Survey 1:25,000)*

Ordnance Survey 1: 25,000 scale map with the permission of The Controller of Her Majesty's Stationery Office, Crown Copyright Earth and Marine Environmental Consultants Ltd, Licence No. 100050755

Figure A2: *Installation boundary (outline in green) and surface water outfall, scale as stated*

Google 2019

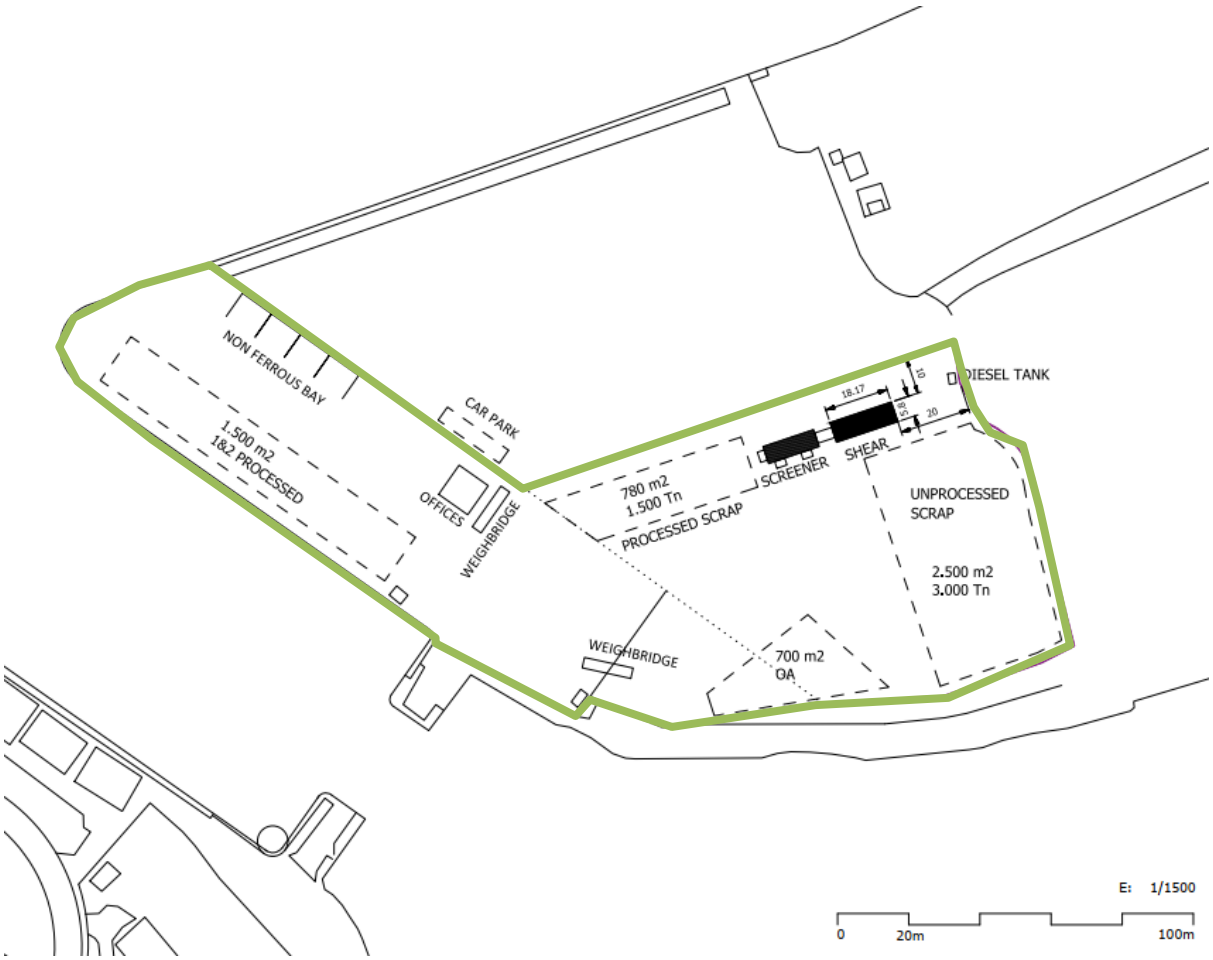

Figure A3: *Installation boundary (outline in green) and layout, scale as stated*

Celsa, 2019

Annex B: Historical Maps

Annex C: Environmental Database

Annex D: Site Surveys (Topographic and Structural)

Annex E: Window Sample Logs

Annex F: Soil Analytical Data

Annex G: Groundwater Analytical Data