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Material characterisation in Relation to an Environmental Impact Assessment (EIA)

Undertaking of the permitting activities including environmental impact studies and related actions for the Malta-Italy Gas pipeline interconnection

Technical Report

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1.0 Scope

An Environmental Impact Assessment (EIA) is hereby being presented in relation to PA 08757/17. This application is entitled "*construction of the Malta-Italy gas pipeline EU Project of Common Interest, including a terminal station at DPS, an onshore HDD route through Delimara Peninsula and the laying of an offshore 22" diameter pipeline extending up to Gela, Sicily, Site at Delimara Power Station and offshore route within the Malta Territorial Waters, Delimara, Marsaxlokk, Malta*".

This technical study presents the results of the material characterisation exercise in relation to the Environmental Impact Assessment (EIA) for the proposed gas pipeline between Malta and Sicily.

The project shall connect Malta to the Trans-European Gas Network in Sicily. The primary aim of the project is to import gas from the Italian National Gas network via an approximately 159km long pipeline between Delimara (Malta) and Gela (Sicily) of which approximately 151km is subsea.[1] The length of the onshore pipeline section in Delimara is about 700m and will be connected to a new Terminal Plant by means of a trenchless construction method with the exit target point at approximately 42m below mean sea level. Although the preferred construction method is still under evaluation, the Front-End Engineering Designers (FEED) have determined that the microtunnelling solution is the preferred option. A degree of preliminary trenching is required at the target exit point to facilitate the entry of the pipeline from the seafloor into the trenchless borehole. The seabed shall be reinstated after the 22" pipeline installation is completed. The water depth of the marine portion of the project ranges from 42m (at the exit) to 158m along the offshore route.

Once the project is implemented, the gas pipeline would provide a more reliable source to supply natural gas to Malta, eliminating the need for the Floating Storage Unit (FSU) recently installed to supply natural gas to the reciprocating internal combustion engine plant and the new gas turbines at the Delimara Power Station. The project will contribute to market integration and thus boost competitiveness. Use of sustainable energy will be supported by the project and will contribute towards the reduction of GHG emissions primarily from the LNG shipping and regasification process which currently take place as part of the FSU system.

The gas pipeline project shall be designed to operate in bidirectional mode with the first phase supplying gas from Sicily to Malta and depending on market developments, can in the future be used to supply gas from Malta to Italy. The phase 1 of the pipeline project shall

[1] The project was confirmed as a "project of common interest" (PCI) and re-confirmed in the 2nd, 3rd and 4th PCI lists.

have an estimated capacity of approximately 1.2 billion standard cubic meters per year, with a guaranteed maximum flow of 141,000 Sm^3/hour.

The pipe will make contact with land in Malta on the eastern side of the Delimara peninsula at a depth of approximately 42m below sea level. It will then transect the peninsula and connect to the Delimara Power Station via a trenchless excavation method. The Power Station needs to be extended in order to accommodate the additional infrastructures required for the operation of the pipeline. In order to do this, it is necessary to reclaim an area of 8,000m^2 from the sea.

The Sicilian terminal station will be constructed within the Gela municipality at 37°04'51.80" N; 14° 19'01.00" E. The onshore pipeline route in Sicily is expected to be 7km long, and confined within the Gela municipality. Since the pipeline shall cross two railway lines, a number of roads and the Gela-Ragusa ethylene pipeline, three block valve stations shall be installed onshore Sicily to isolate the pipeline sections as required by Italian legislation requirements.

On the Sicilian shore, several construction methodologies, including HDD are being considered by the FEED (Front End Engineer Design) contractor, Techfem/SPS. For protection purposes, the underwater pipeline shall be covered when passing through waters shallower than 30m, while in deeper waters, the pipeline shall be laid on the seabed. The pipeline route is located in relatively shallow waters on the Malta-Sicily underwater ridge. Such a route minimises stresses on the pipeline during both the laying of the pipe as well as during the operation of the pipeline itself.

The proposed development, subject to the EIA and hereinafter referred to as the "Scheme", involves the following interventions (Figure 1):

- Construction of a 22" diameter gas pipeline between Delimara, Malta and Gela Sicily
- The construction of a terminal station (land reclamation) at Delimara Power Station
- Onshore tunnel route across the Delimara Peninsula

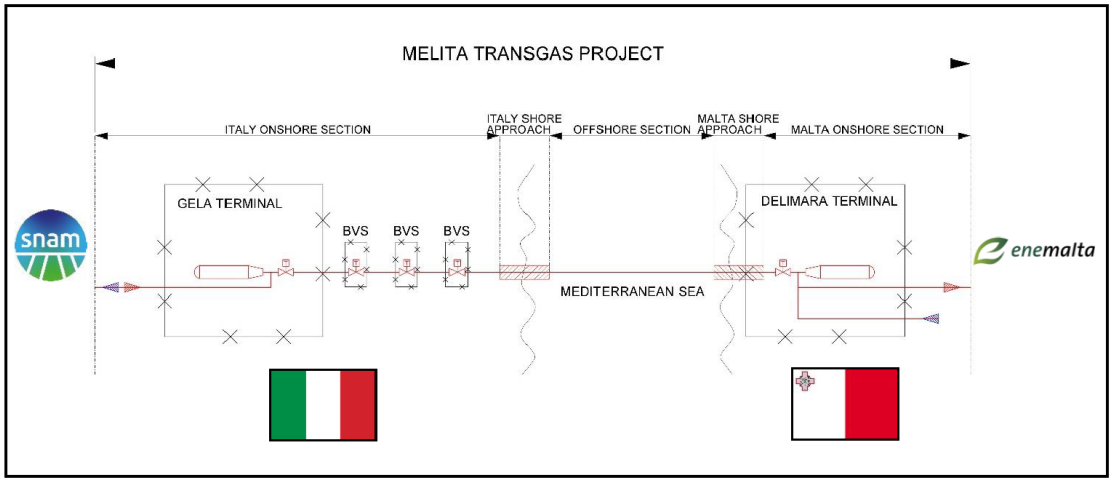

Figure 1: Project schematic

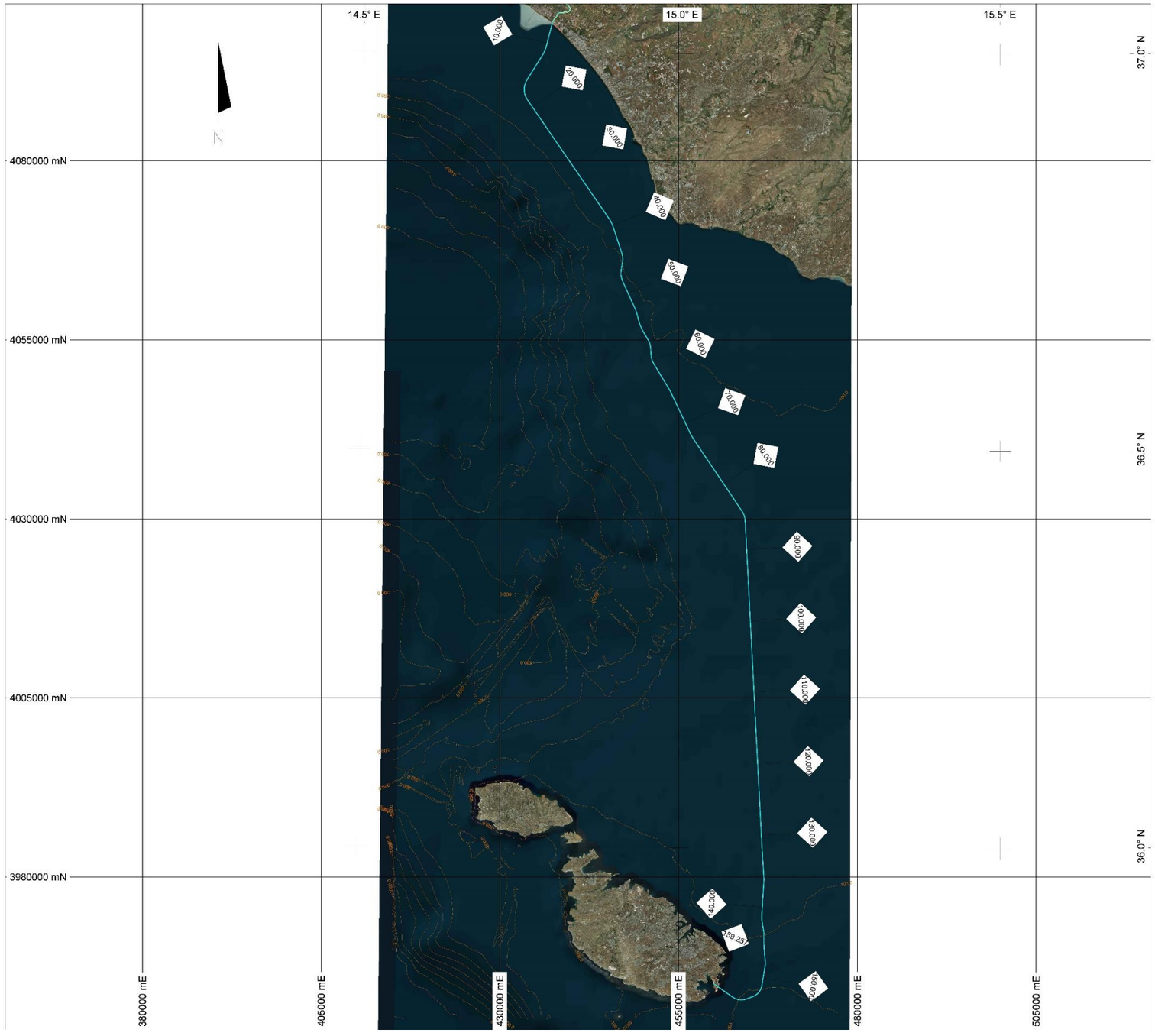

Figure 2: Site plan showing the offshore route corridor

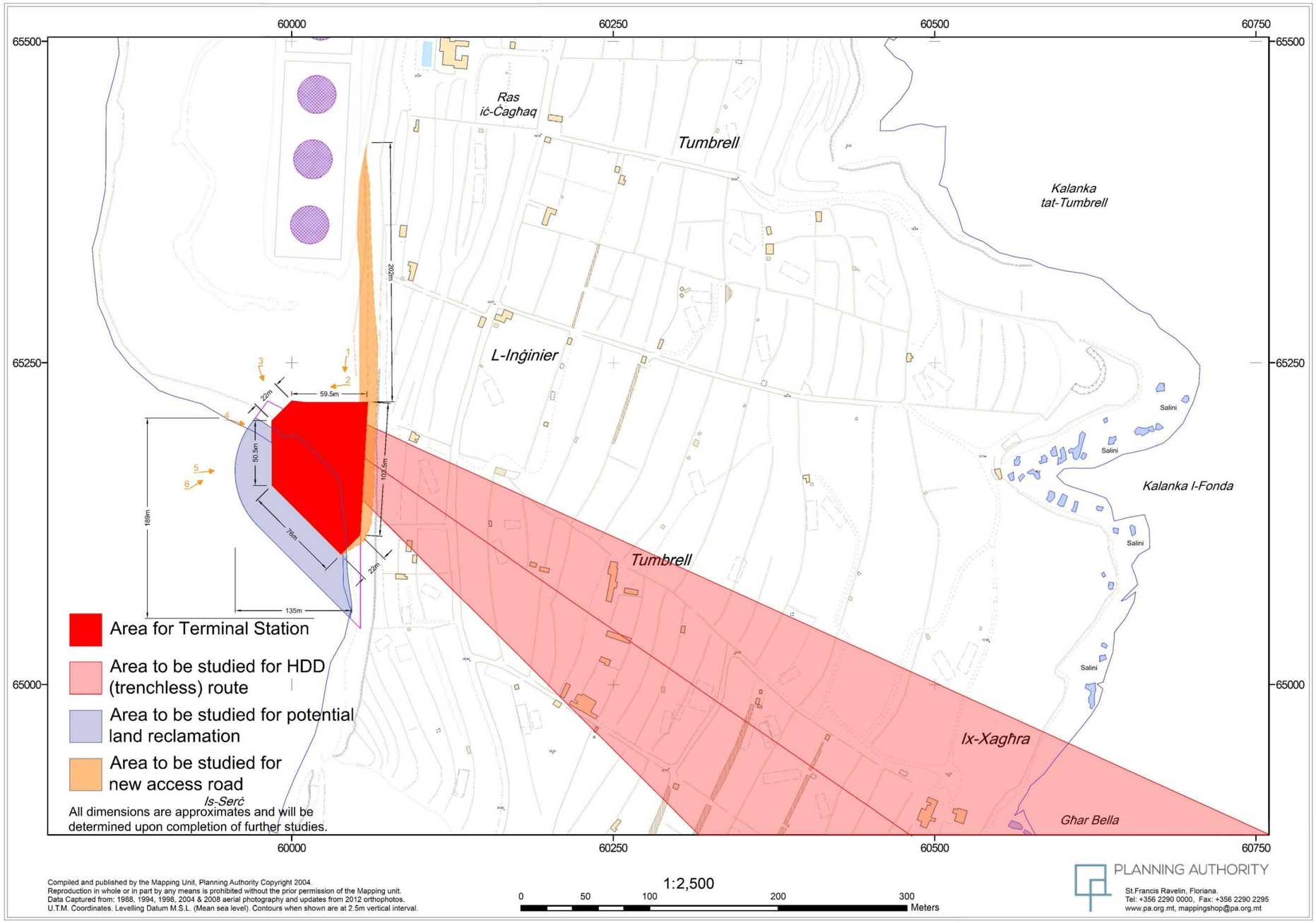

Figure 3: Site plan showing the areas for the terminal station, land reclamation study area and onshore trenchless study area

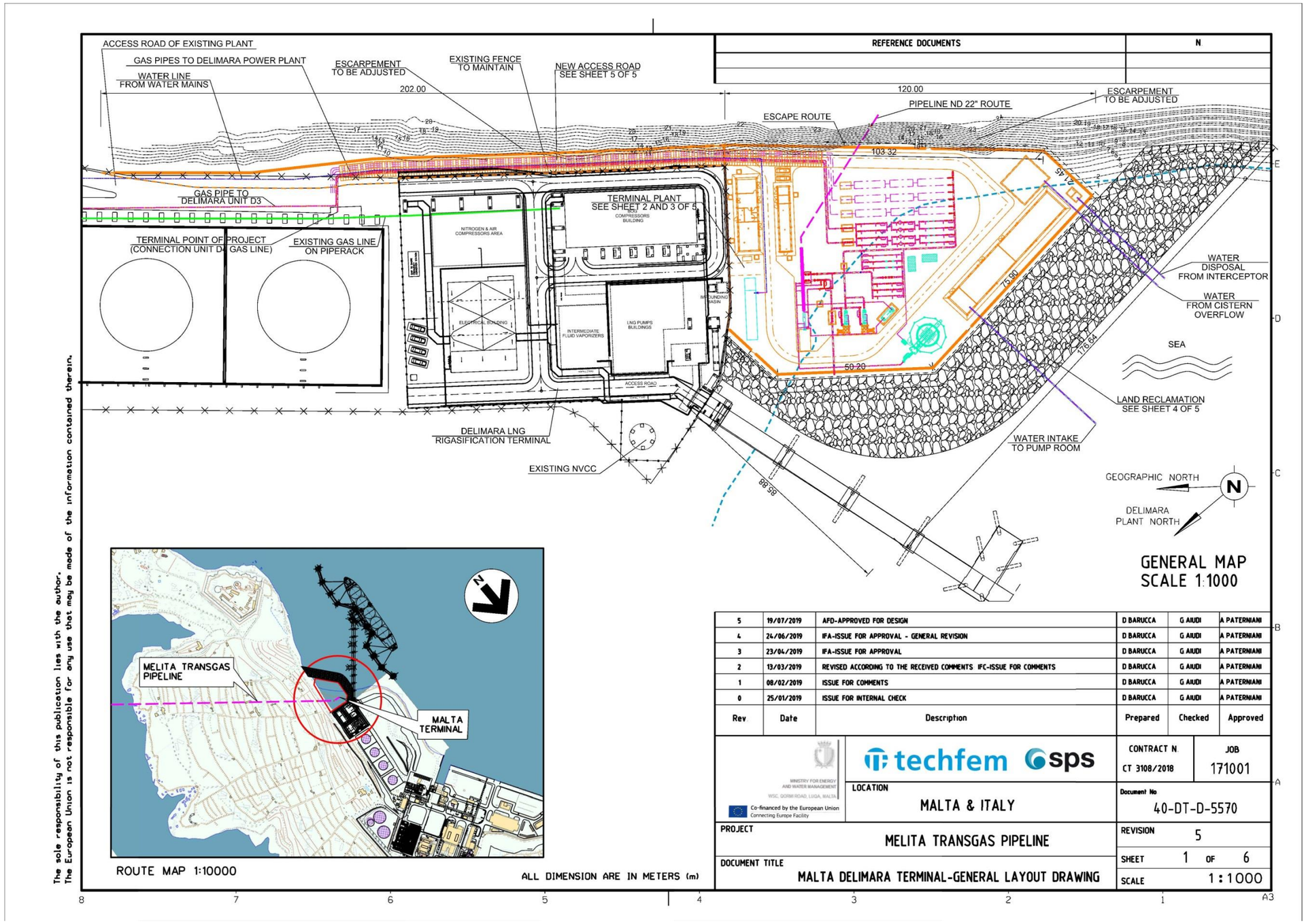

Figure 4: Site plan for the proposed Malta terminal and land reclamation area

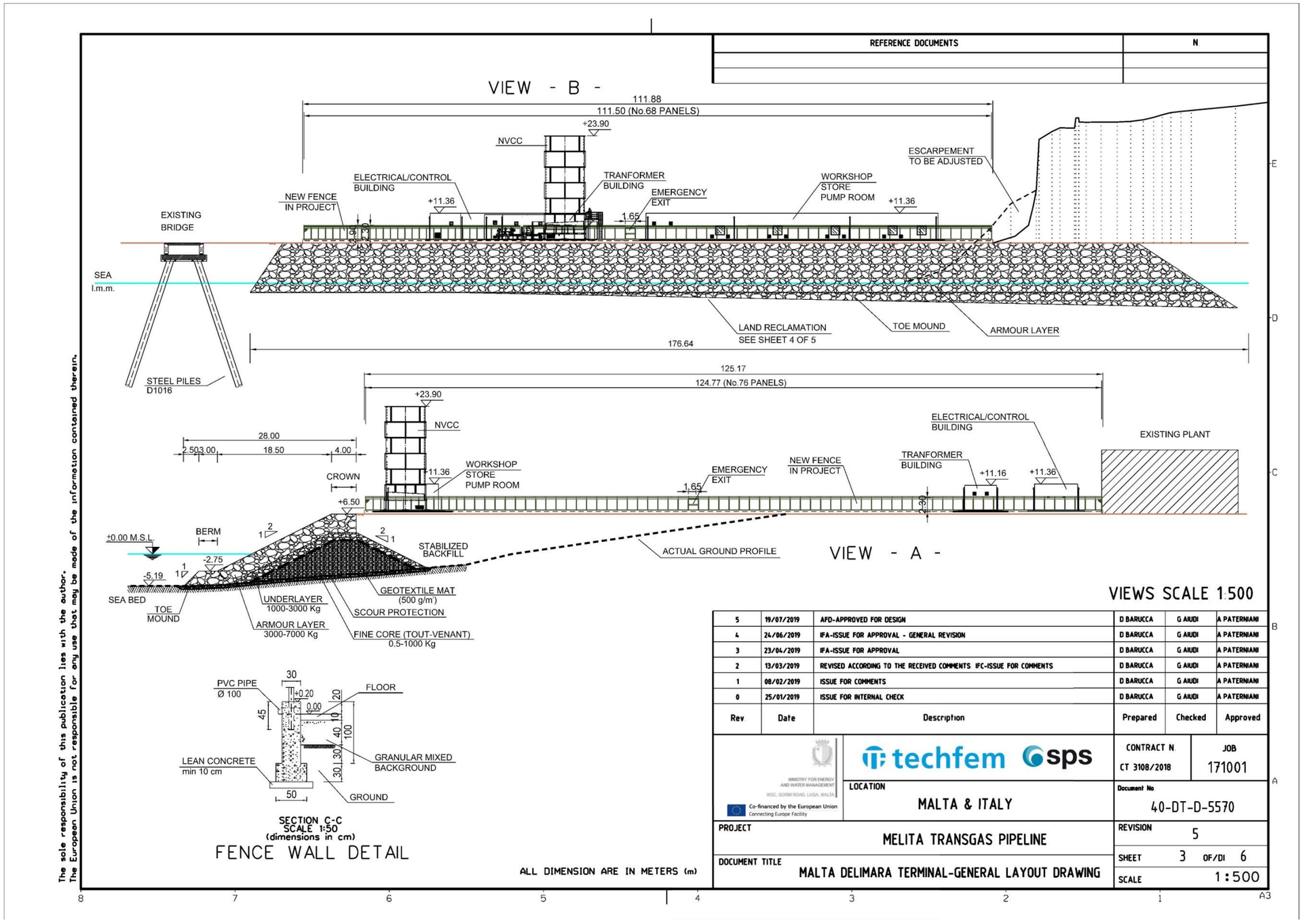

Figure 5: Sections for the proposed Malta terminal

2.0 Terms of Reference

The Terms of Reference related to the material characterisation study issued by ERA are:

Terms of Reference to determine the Nature of Waste

The standards listed in Commission technical guidance (2018/C 124/01), and their respective amendments, are to be utilized for the basic characterisation of waste to determine the total content in the material (mg/kg), including any digestion of raw waste if required.

Moreover, should there be any parameters for which the laboratory is proposing an alternative method it must be ensured that the proposed method is validated against the above required methodology.

It is to be highlighted that, information derived from chemical analyses of waste that can be used for the classification of waste should be compositional data. Results from leaching tests are not useful for the hazard classification of waste.

Following a compositional analysis on the material as indicated above, the applicant or a third party acting on his behalf, is requested to determine the nature of the waste (i.e. whether it is of a hazardous or non-hazardous nature). A reasonable worst-case compound for each element identified from the compositional analysis, shall then be determined and for each of the said worst-case compound, the hazardous property and its related hazard statement shall be identified. The related hazard statements for the identified worst-case compounds shall be assessed and determined in line with the criteria laid down in Regulation (EC) No 1272/2008 (hereinafter referred to as the CLP Regulation). According to the CLP Regulation, a hazard statement means a code assigned to a hazard class and category that describes the nature of the hazards of a hazardous substance or mixture, including, where appropriate, the degree of hazard.

In simple terms, each worst-case compound identified has a related hazard statement that can be obtained from the CLP Regulation and the said hazard statement is in turn related to a hazardous property referred to in Schedule 3 of S.L. 549.63 - the Waste Regulations as per the table below.

Example of harmonised classification of hazardous substances pursuant to Regulation (EC) No 1272/2008.

Element	Worst-case compound	Hazard Class	Hazard Statement	Hazard Property
Arsenic	Diarsenic trioxide	Carc. 1A Acute Tox. 2 * Skin Corr. 1B Aquatic Acute 1 Aquatic Chronic 1	H350 H300 H314 H400 H410	HP 7 HP 6 HP 4 HP 14 HP 14

Once the compositional analysis is carried out, and the worst case compound, hazard statement and hazardous property of every parameter tested are identified, the applicant or a third party acting on his behalf shall determine the concentration of the compound of the respective element/parameter which constitutes a worst-case and then compare this determined concentration to the thresholds stipulated in Schedule 3 of S.L. 549.63 - the Waste Regulations. The waste would be classified as hazardous if it meets the conditions and/or exceeds the concentrations limits referred in Schedule 3 (as per definition provided above).

If chemical analysis results for a parameter under study:

(i) Exceeds the concentration limits for all the identified hazard statements, the material is classified as hazardous;

(ii) Does not exceed any concentration limits of the identified hazard statements, the material is classified as non-hazardous; and

(iii) Exceeds the concentration limits for at least one of the identified hazard statement, the material is classified as hazardous for its related hazardous property.

The compositional analysis together with the HP criteria assessment shall then determine the method of disposal for the tested excavated waste material.

In the case that the client intends to dispose of the material in a landfill, sampling and testing of such waste must fulfil the requirements of the Council Decision 2003/33/EC to properly characterize the waste and demonstrate that the waste is acceptable for disposal at a specific class of landfill site (as per EN 12457-2:2002).

3.0 Methodology

3.1 Waste characterisation

Basic characterisation of waste was carried out in accordance with *Commission notice on technical guidance on the classification of waste* (2018/C 124/01). In this case, only one waste type was identified, i.e. discarded construction material. Since the origin of the material is unknown, the classification of "absolute hazardous" and "absolute non-hazardous" is unreasonable. The material was therefore considered as "mirror hazardous/non-hazardous" and chemical analysis was undertaken as described in Section 3.3.

In order to confirm whether the material is hazardous or not, chemical analyses was performed to confirm its characteristics and its ultimate disposal location. Samples were collected and analysed according to the parameters determined by an ISO 17025 certified laboratory, as described in the following sections.

3.2 Sampling location

The samples were taken from the mound of material that is currently deposited in the area where the proposed terminal facility shall be constructed. The waste material that has been identified for relocation was characterised in line with MSA/BS EN 14899:2005 *Characterisation of waste. Sampling of waste materials. Framework for the preparation and application of a sampling plan.*

Figure 6: Sample locations considered by Techfem/SPS

Preliminary geo-technical surveys carried out by Techfem/SPS as shown in Figure 6, have shown that Stations B, C and D are located at a height of approximately 14m, 15.5m and 11m above mean sea level (MSL), respectively. Given that the material to be shifted lies

6.5m above the mean sea level, no material will be shifted from Stations F and G as they are situated at heights below 6.5m. Therefore, the total depth of material to be shifted at Stations B, C and D are 7.5m, 9m and 4.5m, respectively.

Table 1: Topography of sampling stations

Station	Current height	Depth of material to be shifted
B	14m above MSL	7.5m
C	15.5m above MSL	9.0m
D	11m above MSL	4.5m

Samples were collected from Stations B, C and D (in line with the approved method statement) as these are considered to be sufficient and representative of the total area that needs to be investigated. Two (2) replicate samples were taken from two (2) sampling depths:

- Surface point at Stations B, C and D (<1m from surface)
- Mid-point at Stations B, C and D (1-3m from surface)

Since sampling could only be done down to 3m depth, the deepest sampling points (>4m from surface) could not be sampled at the EIA stage. The deepest points will be sampled once the surface and mid-point levels are shifted and the deeper layers of the material are exposed by the EPC contractor. The same methodology proposed for the sampling of surface and mid-point samples will be used for the sampling at the deepest point.

In order to avoid cross-contamination, the equipment was washed in between samples, and the samples were stored and sealed in clean environments. Manual handling of samples was avoided. The samples were stored in plastic or glass containers as required by the laboratory. All samples were photographed and kept in a cool environment at a temperature <8°C. Samples were shipped to an ISO 17025 accredited laboratory for analysis within 24 hours. All samples were kept refrigerated at a temperature of 4°C.

Analysis was carried out on the fine fraction sample (<2mm) for the parameters tested and the results were presented as concentrations of dry sediment on weight basis. Laboratory accreditation certificates can be found in Appendix 2.

3.3 Chemical analysis

Chemical analysis was carried out on the fine fraction sample (<2mm) since this is the fraction in which contaminants tend to be concentrated. The sediment chemical analysis was carried out at a laboratory accredited to EN ISO/IEC 17025. The results fulfil the minimum analytical performance criteria in Article 4 of Directive 2009/90/EC, as transposed in the WATER POLICY FRAMEWORK (AMENDMENT) REGULATIONS, 2011 (S.L. 549.100).

The laboratory carried out chemical analysis on the parameters listed in the ERA guidelines as indicated in Table 2.

Table 2: Chemical parameters with approved methodologies and LODs

Parameter	LOD	u.o.m	Method
Heavy metals			
Arsenic (As)	0.1	mg/kg	UNI EN ISO 13657:2004 + UNI CEN TS 16170:2016
Cadmium (Cd)	0.1	mg/kg	
Copper (Cu)	0.1	mg/kg	
Mercury (Hg)	0.1	mg/kg	
Zinc (Zn)	0.1	mg/kg	
Chromium (Cr)	0.1	mg/kg	
Lead (Pb)	0.1	mg/kg	
Nickel (Ni)	0.1	mg/kg	
Anions			
Chloride	1	mg/kg	EPA 300.0 1999
Sulphate	2	mg/kg	
Polyaromatic Hydrocarbons (PAHs):			
Benzo(a)pyrene	0.01	mg/kg	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018
Benzo(e)pyrene	0.01	mg/kg	
Benzo(b)fluoranthene	0.01	mg/kg	
Benzo(k)fluoranthene	0.01	mg/kg	
Benzo(g,h,i)-perylene	0.01	mg/kg	
Benz(a)anthracene	0.01	mg/kg	
Dibenzo(a,h)pyrene	0.01	mg/kg	
Dibenzo(a,l)pyrene	0.01	mg/kg	
Dibenzo(a,e)pyrene	0.01	mg/kg	
Dibenzo(a,i)pyrene	0.01	mg/kg	
Dibenz(a,h)anthracene	0.01	mg/kg	
Pyrene	0.01	mg/kg	
Indeno(1,2,3-cd)-pyrene	0.01	mg/kg	
Fluoranthene	0.01	mg/kg	
Napthalene	0.01	mg/kg	
Acenaphthylene	0.01	mg/kg	
Acenaphthene	0.01	mg/kg	
Fluorene	0.01	mg/kg	
Phenanthrene	0.01	mg/kg	
Anthracene	0.01	mg/kg	
Chrysene	0.01	mg/kg	
Polychlorinated biphenyls (PCBs):			
Polychlorinated Biphenyl (PCB – IUPAC numbers (Sum of 7 PCB congeners: 28, 52, 101, 118, 138, 153 and 180)	0.005	mg/kg	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2017 (low resolution)
Aromatic Hydrocarbons:			
Benzene	0.01	mg/kg	EPA 5021A 2014 + EPA 8260D 2018
Toluene	0.01	mg/kg	
Ethylbenzene	0.01	mg/kg	
m,p-xylene	0.01	mg/kg	
o-xylene	0.01	mg/kg	
Styrene	0.01	mg/kg	
Hydrocarbons:			

Parameter	LOD	u.o.m	Method
Hydrocarbons C>12	1	mg/kg	EPA 3541 1994 + EPA 3620C 2014+ EPA 8015C 2007
Other contaminants:			
Load of Organic Matter (as Total Organic Carbon)	500	mg/kg	UNI EN 13137:2002
Tributyl tin compounds (TBT/DBT/MBT)	0.01	mg/kg Sn	UNI EN ISO 23161:2011
Asbestos	100	mg/kg	DM 06/09/1994 GU SO n°288 10/12/1994 All.to 1
Loss of ignition	n/a	% s.s.	UNI EN 15169:2007

3.3.1 HP criteria assessment

To determine whether the material to be removed is hazardous or non-hazardous waste, the laboratory analyses results were evaluated in line with the HP criteria listed in Schedule 3 of the WASTE REGULATIONS (S.L.549.63). If the limit values established by the HP criteria are exceeded, the waste is classified as hazardous for that specific HP criterion.

Schedule 3 of these guidelines provides a list of properties of waste which render it hazardous, by defining a total of 15 HP standard criteria that are necessary to be compared to the waste material that is being assessed. HP criteria refer to substances which may be the basic element or compounds of that element, and their corresponding hazard statement code. The hazard statement code is laid down in the CLP Regulations (EC 1272/2008) on classification, labelling and packaging of substances and mixtures.

Hazard Statements (H) are defined as a “phrase assigned to a hazard class and category that describes the nature of hazards of a hazardous substance or mixture, including, where appropriate, the degree of hazard” (MSDS Europe). Such hazard statements are obtained by analysing EC Regulation 1272/2008, depending on the suspected identity of the contaminants detected in the lab.

When dealing with cationic and anionic parameters, the level of contamination for each parameter reflects the total mixtures and compounds present in all of their chemical forms, not just in their pure elemental form. Therefore, AIS subsequently determined the identity of the suspected chemical compound based on the contamination pressures within the area of study (construction and demolition waste). This was performed through literature searches on contaminants which can be generally associated with each of the parameters listed, as outlined in Table 3.

Table 3: Identification of most likely marine compounds

Element		Compound		Source/justification
Name	**RAM**	**Name**	**RMM**	
Arsenic	75	Arsenic acid and its salts	142 (avg)	Preservative, glass production and forestry products
Cadmium	112	Cadmium oxide	112	Pigments in paint

Element		Compound		Source/justification
Name	RAM	Name	RMM	
Chromium	52	Chromium (III) chromate	52	Metal coatings and castings
Mercury	201	Dimethyl mercury	231	All aquatic forms of mercury are likely to convert to dimethyl mercury
Nickel	59	Nickel monoxide	75	Fuel cells and batteries
Lead	207	Lead alkyls	323	Fuel and anti-knocking
Copper	64	Copper (I) oxide	143	Antifouling, fungicide, pigment
Zinc	65	Zinc oxide	81	Pigments, coatings
Tributyltin	580	Tributyltin oxide	596	Wood preservative, anti-fouling agent
Chloride	35.5	Chlorine dioxide	67.5	Biocide used by Delimara power station
Sulphate	96	Calcium sulfate dihydrate (gypsum)	136	Construction material
Monobutyl tin	176	Monobutyltin trichloride	282	Plastic stabiliser
Dibutyl tin	233	Dibutyltin dilaurate	632	Plastic stabiliser

Once the identity of the contaminated metal compound was determined, its molar mass was used to convert the mg/kg concentration of the metal form (as presented by the lab) into the % concentration of the suspected metal compound. The respective hazard class and hazard statement of the compound was also determined from EC Regulation 1272/2008 and compared to Schedule 3 of SL 549.63 (WASTE REGULATIONS) to identify the properties of waste which render it hazardous. The workings for this assessment are enclosed as Appendix 1.

3.3.2 Selection of disposal location

DLVs are used to determine whether the non-hazardous material can be disposed at sea or whether alternate disposal options should be considered. For the tier screening assessment approach, the concentrations shall refer to the assessment for each individual parameter. If the concentration of at least one parameter is greater than the Level 1 DLV, then the material is classified as Category II or III, as applicable (vide Table 5). Otherwise, the material is considered as Category I. Although two replicates were taken from each station, these were pooled as six “replicates” and the worst case identified from all six, since all samples were obtained from the same mound.

Once the chemical analysis was completed, an evaluation of the Dumping Limit Values (DLVs) was carried out. The DLVs are guidelines provided by the ERA which determine whether disposal at sea can be considered or otherwise (Table 4).

Table 4: Chemical parameters and respective DLVs

No.[2]	Parameter[3]	Level 1 DLVs (mg/kg dry weight)	Level 2 DLVs (mg/kg dry weight)
1	Arsenic	30	150
2	Cadmium	1	5
3	Copper	100	400
4	Mercury	0.6	3
5	Zinc	500	3000
6	Chromium	200	1000
7	Lead	120	600
8	Nickel	100	400
9	Polyaromatic Hydrocarbons (PAHs)[4]	1	3
10	Tributyltin compounds (TBT)[5]	0.06	
11	Polychlorinated Biphenyl (PCB)[6]	0.1	

For the tier screening assessment approach, if the concentration of at least one parameter was greater than Level 1, then the material was classified as Category II or III, as applicable (Table 5). Otherwise the material is considered as Category I and may be disposed at sea.

Table 5: Categorisation of the waste material to be disposed

Category	Concentrations	Disposal option
I	Lower than Level 1 DLV	Disposal at sea may be permitted
II	Between Level 1 and 2 DLV	Further assessment shall be requested by ERA
III	Above Level 2 DLV	Disposal at sea is not considered, alternative disposal required

3.3.3 Leachate testing

If the results from the assessment of Section 3.3.2 conclude that the material generated should be landfilled, leachate testing will be required. The parameters to be analysed are listed in Section 2 of Council Decision 2003/33/EC. The consultant is proposing the limit values for the non-hazardous waste sampling outlined in Table 6, in accordance with the EN 12457: LEACHING-COMPLIANCE TEST STANDARD AND EQUIVALENT TESTS FOR LEACHING OF GRANULAR WASTE MATERIALS AND SLUDGES.

[2] Parameter (1) limit values have been obtained from action levels established by Germany. All other limit values have been obtained from the action levels established by Spain. In the case of Parameter (1) the values established by Spain were deemed to be not sufficiently protective towards the marine environment.

[3] CAS numbers for each parameter are provided in Annex III.

[4] Sum of total of 6 PAH compounds: fluoranthene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene.

[5] For parameters (10) and (11) only the level 2 dumping limit value are provided, since the limit 1 values for these substances cannot be detected by the available standard analytical methods on the market.

[6] Sum of 7 PCB congeners: 28, 52, 101, 118, 138, 153 and 180.

Table 6: Leachate test parameters and methodologies

Parameter	LOD	u.o.m	Method
Arsenic (As)	0.0001	mg/kg	UNI EN 12457-2:2004 + UNI EN ISO 17294-02:2016
Barium (Ba)			
Cadmium (Cd)			
Chromium total (Cr)			
Copper (Cu)			
Mercury (Hg)			
Molybdenum (Mo)			
Nickel (Ni)			
Antimony (Sb)			
Selenium (Se)			
Zinc (Zn)			
Lead (Pb)			
Chloride (Cl^-)	0.1	mg/kg	UNI EN ISO 10304:2009
Fluoride (F^-)	0.05		
Sulphate (SO_4^{2-})	0.1		
Dissolved organic Carbon (DOC)	0.1	mg/kg	UNI EN 12457-2:2004 + UNI EN 1484:1999
Total Dissolved Solids (TDS)	20	mg/kg	UNI EN 12457-2:2004 + APAT CNR IRSA 2090 A, Man 29 2003
Phenol Index	0.01	mg/kg	UNI EN 12457-2:2004 + UNI EN 16192:2012 + ISO6439:1990
Acid Neutralisation Capacity (ANC)	0.01	mol/kg	UNI CEN/TS 15364:2006
pH	0.1	unit	UNI EN 12547-2:2004 + APAT CNR IRSA 2060 Man 29 2003

4.0 Results

4.1 HP criteria assessment

The test accreditation certificates of the results from the laboratory analysis of the marine sample are enclosed as Appendix 2. Based on the lab analysis of the samples and the characterisation of waste according to Schedule 3 of SL 549.63 (WASTE REGULATIONS), the samples have been categorised as shown in Table 7 (workings included in Appendix 1). Since material from a depth exceeding 3m was not sampled during this exercise, the reuse of the material is subject to the conclusions from the analyses of the material exceeding this depth. It should be noted that the mound will be cleared to 6.5m above mean sea level to bring the entire site level.

Table 7: Material characterisation results (Station B)

Code	Description	Classification (B)[7]				Interpretation
		Surface		Middle		
		Rep 1	Rep 2	Rep 1	Rep 2	
HP1	Explosive	NH	NH	NH	NH	Not applicable, since no compounds with H200, H201, H202, H203, H204, H240 and H241 are present.
HP2	Oxidising	NH	NH	NH	NH	It was determined that despite the presence of H270 through chlorine dioxide and H271 through chromium (III) chromate, characterising the waste as hazardous for HP2 is unrealistic, since: 1. Assuming that all chlorides are present as chlorine dioxide, the concentration does not exceed 0.10% (w/w), which is extremely low; 2. Assuming that all metallic chromium is present as chromium (III) chromate, the concentration does not exceed 0.02% (w/w), which is extremely low; and 3. Other chloride and chromium compounds are likely to be present, meaning the aforementioned concentrations would be even lower.
HP3	Flammable	NH	NH	NH	NH	It was determined that despite the presence of H225 through benzene, ethylbenzene, toluene and o-xylene and H226 through styrene, m,p-xylene and o-xylene, characterising the waste as hazardous for HP3 is unrealistic, since the concentrations of the aforementioned analytes did not exceed the LoDs. Although the LoDs were used in the assessment, the concentrations of these chemicals are likely to be lower or not present at all.
HP4	Irritant	NH	NH	NH	NH	Not hazardous, since the total concentrations of compounds with H314, H318 and H315 and H319 do not exceed the threshold values.
HP5	Specific target organ toxicity	NH	NH	NH	NH	Not hazardous, since the total concentrations of compounds with H370, H371, H335, H372, H373 and H304 do not exceed the threshold values.
HP6	Acute toxicity	NH	NH	NH	NH	Not hazardous, since the total concentrations of compounds with H300, H310, H330, H301, H311, H331, H302, H312 and H332 do not exceed the threshold values.

[7] *H = hazardous and N = non-hazardous*

Code	Description	Classification (B)[7]				Interpretation
		Surface		Middle		
		Rep 1	Rep 2	Rep 1	Rep 2	
HP7	Carcinogenic	NH	NH	NH	NH	It was determined that although the concentration of parameters with H350 exceeds the threshold limit (0.1%) in both replicates, characterising the waste as hazardous for HP7 is unrealistic, since: 1. The concentrations of 14 parameters out of the 21 applicable parameters did not exceed the LoDs. Although the LoDs were used in the assessment, the concentrations of these chemicals are likely to be lower or not present at all, thereby reducing the concentration below the threshold limit; and 2. One of the parameters below LoD in both replicates is asbestos. The LoD of this parameter is 0.1% and the threshold of HP7 is also 0.1%, so the inclusion of this parameter in the calculations has skewed the results. 3. Other metallic compounds are likely to be present, meaning the aforementioned concentrations would be even lower.
HP8	Corrosive	NH	NH	NH	NH	Not hazardous, since the total concentration of compounds with H315 does not exceed the threshold limit (5%).
HP9	Infectious	N/A	N/A	N/A	N/A	Not applicable, since none of the analysed compounds can be considered 'infectious'.
HP10	Toxic for reproduction	NH	NH	NH	NH	Not hazardous, since the total concentration of compounds with H360 and H361 does not exceed the threshold limits (0.3% and 3%, respectively).
HP11	Mutagenic	NH	NH	NH	NH	Not hazardous, since the total concentration of compounds with H340 and H341 does not exceed the threshold limits (0.1% and 1%, respectively).
HP12	Acute toxic gas	NH	NH	NH	NH	Not hazardous, since no compounds with EUH029, EUH031 and EUH032 are present.
HP13	Sensitising	NH	NH	NH	NH	Not hazardous, since the total concentration of compounds with H317 does not exceed the threshold limit (10%).
HP14	Ecotoxic	NH	NH	NH	NH	Not hazardous, since the total concentration of compounds with H400 and H410 does not exceed the threshold limit (25%).
HP15	Hazardous property not displayed in original waste	NH	NH	NH	NH	Not hazardous, since no compounds with H205, EUH001, EUH019 and EUH044 are present.

Table 8: Material characterisation results (Station C)

Code	Description	Classification (C)[7]				Interpretation
		Surface		Middle		
		Rep 1	Rep 2	Rep 1	Rep 2	
HP1	Explosive	NH	NH	NH	NH	Not applicable, since no compounds with H200, H201, H202, H203, H204, H240 and H241 are present.
HP2	Oxidising	NH	NH	NH	NH	It was determined that despite the presence of H270 through chlorine dioxide and H271 through chromium (III) chromate, characterising the waste as hazardous for HP2 is unrealistic, since: 1. Assuming that all chlorides are present as chlorine dioxide, the concentration does not exceed 0.13% (w/w), which is extremely low; 2. Assuming that all metallic chromium is present as chromium (III) chromate, the concentration does not exceed 0.027% (w/w), which is extremely low; and 3. Other chloride and chromium compounds are likely to be present, meaning the aforementioned concentrations would be even lower.
HP3	Flammable	NH	NH	NH	NH	It was determined that despite the presence of H225 through benzene, ethylbenzene, toluene and o-xylene and H226 through styrene, m,p-xylene and o-xylene, characterising the waste as hazardous for HP3 is unrealistic, since the concentrations of the aforementioned analytes did not exceed the LoDs. Although the LoDs were used in the assessment, the concentrations of these chemicals are likely to be lower or not present at all.
HP4	Irritant	NH	NH	NH	NH	Not hazardous, since the total concentrations of compounds with H314, H318 and H315 and H319 do not exceed the threshold values.
HP5	Specific target organ toxicity	NH	NH	NH	NH	Not hazardous, since the total concentrations of compounds with H370, H371, H335, H372, H373 and H304 do not exceed the threshold values.
HP6	Acute toxicity	NH	NH	NH	NH	It was determined that although the concentration of parameters with H300, H310, H330, H301, H311 and H331 exceeds the threshold limit (0.1%) in replicate 2, characterising the waste as hazardous for HP6 is unrealistic, since: 1. The concentrations of 3 parameters out of the 7 applicable parameters did not exceed the LoDs. Although the LoDs were used in the assessment, the

Code	Description	Classification (C)[7]				Interpretation
		Surface		Middle		
		Rep 1	Rep 2	Rep 1	Rep 2	
						concentrations of these chemicals are likely to be lower or not present at all, thereby reducing the concentration below the threshold limit; and 2. Other arsenic, cadmium, mercury, lead and chloride compounds are likely to be present, meaning the aforementioned concentrations would be even lower.
HP7	Carcinogenic	NH	NH	NH	NH	It was determined that although the concentration of parameters with H350 exceeds the threshold limit (0.1%) in both replicates, characterising the waste as hazardous for HP7 is unrealistic, since: 1. The concentrations of 16 parameters out of the 21 applicable parameters did not exceed the LoDs. Although the LoDs were used in the assessment, the concentrations of these chemicals are likely to be lower or not present at all, thereby reducing the concentration below the threshold limit; and 2. One of the parameters below LoD in both replicates is asbestos. The LoD of this parameter is 0.1% and the threshold of HP7 is also 0.1%, so the inclusion of this parameter in the calculations has skewed the results. 3. Other metallic compounds are likely to be present, meaning the aforementioned concentrations would be even lower.
HP8	Corrosive	NH	NH	NH	NH	Not hazardous, since the total concentration of compounds with H315 does not exceed the threshold limit (5%).
HP9	Infectious	N/A	N/A	N/A	N/A	Not applicable, since none of the analysed compounds can be considered 'infectious'.
HP10	Toxic for reproduction	NH	NH	NH	NH	Not hazardous, since the total concentration of compounds with H360 and H361 does not exceed the threshold limits (0.3% and 3%, respectively).
HP11	Mutagenic	NH	NH	NH	NH	Not hazardous, since the total concentration of compounds with H340 and H341 does not exceed the threshold limits (0.1% and 1%, respectively).
HP12	Acute toxic gas	NH	NH	NH	NH	Not hazardous, since no compounds with EUH029, EUH031 and EUH032 are present.
HP13	Sensitising	NH	NH	NH	NH	Not hazardous, since the total concentration of compounds with H317 does not exceed the threshold limit (10%).
HP14	Ecotoxic	NH	NH	NH	NH	Not hazardous, since the total concentration of compounds with H400 and H410 does not exceed the threshold limit (25%).

Code	Description	Classification (C)[7]				Interpretation
		Surface		Middle		
		Rep 1	Rep 2	Rep 1	Rep 2	
HP15	Hazardous property not displayed in original waste	NH	NH	NH	NH	Not hazardous, since no compounds with H205, EUH001, EUH019 and EUH044 are present.

Table 9: Material characterisation results (Station D)

Code	Description	Classification (D)[7]				Interpretation
		Surface		Middle		
		Rep 1	Rep 2	Rep 1	Rep 2	
HP1	Explosive	NH	NH	NH	NH	Not applicable, since no compounds with H200, H201, H202, H203, H204, H240 and H241 are present.
HP2	Oxidising	NH	NH	NH	NH	It was determined that despite the presence of H270 through chlorine dioxide and H271 through chromium (III) chromate, characterising the waste as hazardous for HP2 is unrealistic, since: 1. Assuming that all chlorides are present as chlorine dioxide, the concentration does not exceed 0.62% (w/w), which is extremely low; 2. Assuming that all metallic chromium is present as chromium (III) chromate, the concentration does not exceed 0.024% (w/w), which is extremely low; and 3. Other chloride and chromium compounds are likely to be present, meaning the aforementioned concentrations would be even lower.
HP3	Flammable	NH	NH	NH	NH	It was determined that despite the presence of H225 through benzene, ethylbenzene, toluene and o-xylene and H226 through styrene, m,p-xylene and o-xylene, characterising the waste as hazardous for HP3 is unrealistic, since the concentrations of the aforementioned analytes did not exceed the LoDs. Although the LoDs were used in the assessment, the concentrations of these chemicals are likely to be lower or not present at all.
HP4	Irritant	NH	NH	NH	NH	Not hazardous, since the total concentrations of compounds with H314, H318 and H315 and H319 do not exceed the threshold values.

Code	Description	Classification (D)[7]				Interpretation
		Surface		Middle		
		Rep 1	Rep 2	Rep 1	Rep 2	
HP5	Specific target organ toxicity	NH	NH	NH	NH	Not hazardous, since the total concentrations of compounds with H370, H371, H335, H372, H373 and H304 do not exceed the threshold values.
HP6	Acute toxicity	NH	NH	NH	NH	Not hazardous, since the total concentrations of compounds with H300, H310, H330, H301, H311, H331, H302, H312 and H332 do not exceed the threshold values.
HP7	Carcinogenic	NH	NH	NH	NH	It was determined that although the concentration of parameters with H350 exceeds the threshold limit (0.1%) in both replicates, characterising the waste as hazardous for HP7 is unrealistic, since: 1. The concentrations of 16 parameters out of the 21 applicable parameters did not exceed the LoDs. Although the LoDs were used in the assessment, the concentrations of these chemicals are likely to be lower or not present at all, thereby reducing the concentration below the threshold limit; and 2. One of the parameters below LoD in both replicates is asbestos. The LoD of this parameter is 0.1% and the threshold of HP7 is also 0.1%, so the inclusion of this parameter in the calculations has skewed the results. 3. Other metallic compounds are likely to be present, meaning the aforementioned concentrations would be even lower.
HP8	Corrosive	NH	NH	NH	NH	Not hazardous, since the total concentration of compounds with H315 does not exceed the threshold limit (5%).
HP9	Infectious	N/A	N/A	N/A	N/A	Not applicable, since none of the analysed compounds can be considered 'infectious'.
HP10	Toxic for reproduction	NH	NH	NH	NH	Not hazardous, since the total concentration of compounds with H360 and H361 does not exceed the threshold limits (0.3% and 3%, respectively).
HP11	Mutagenic	NH	NH	NH	NH	Not hazardous, since the total concentration of compounds with H340 and H341 does not exceed the threshold limits (0.1% and 1%, respectively).
HP12	Acute toxic gas	NH	NH	NH	NH	Not hazardous, since no compounds with EUH029, EUH031 and EUH032 are present.
HP13	Sensitising	NH	NH	NH	NH	Not hazardous, since the total concentration of compounds with H317 does not exceed the threshold limit (10%).
HP14	Ecotoxic	NH	NH	NH	NH	Not hazardous, since the total concentration of compounds with H400 and H410 does not exceed the threshold limit (25%).

Code	Description	Classification (D)[7]				Interpretation
		Surface		Middle		
		Rep 1	Rep 2	Rep 1	Rep 2	
HP15	Hazardous property not displayed in original waste	NH	NH	NH	NH	Not hazardous, since no compounds with H205, EUH001, EUH019 and EUH044 are present.

4.2 Selection of disposal location

Following the guidlines established by ERA, the tier screening assessment revealed the results shown in Table 10. The results indicate that the material can be disposed at sea since none of the parameters exceed the respective Level 1 or Level 2 DLVs. The waste is therefore considered as Category I, and may be reused for land reclamation. Since material from a depth exceeding 3m was not sampled during this exercise, the reuse of the material is subject to the conclusions from the analyses of the material exceeding this depth. It should be noted that the mound will be cleared to 6.5m above mean sea level to bring the entire site level.

Table 10: Comparison of results with DLVs

Parameter	Level 1 DLV (mg/kg)	Level 2 DLV (mg/kg)	Worst case replicate (mg/kg)	Level	Conclusion
Arsenic	30	150	6.10	< Level 1 DLV	Category I
Cadmium	1	5	0.48	< Level 1 DLV	
Chromium	200	1000	31	< Level 1 DLV	
Mercury	0.6	3	0.47	< Level 1 DLV	
Nickel	100	400	29	< Level 1 DLV	
Lead	120	600	13	< Level 1 DLV	
Copper	100	400	29	< Level 1 DLV	
Zinc	500	3000	87	< Level 1 DLV	
PAHs	1	3	0.60	< Level 1 DLV	
TBTs	N/A	0.06	0.01	< Level 1 DLV	
PCBs	N/A	0.1	0.04	< Level 1 DLV	

4.3 Leachate testing

This assessment is not applicable since the waste material is not hazardous and the tier screening assessment revealed that the material can be reused on site for land reclamation (refer to Section 4.2). Since material from a depth exceeding 3m was not sampled during this exercise, the reuse of the material is subject to the conclusions from the analyses of the material exceeding this depth.

5.0 Conclusion

The results from the material analyses were assessed in accordance with Schedule 3 of S.L. 549.63 (WASTE REGULATIONS) to determine whether the waste is hazardous/non-hazardous. The replicates collected from the surface and middle of the three sampling points exhibit characteristics that are considered to be non-hazardous in nature, in accordance with this Regulation.

The results have also been compared to the Dumping Limit Values (DLVs). This assessment revealed that the material can be classified as Category I, since none of the parameters exceed Level 1 or Level 2 DLVs. Therefore, the material can be disposed at sea. Since the material can be reused for land reclamation and does not require landfilling, leachate testing was not required.

Bottom material from the mound was not sampled during this exercise, meaning the reuse of the material is subject to the conclusions from the analyses of the bottom layers. Bottom material in this instance refers to the bottom layer of the material that is planned to be shifted i.e. material that is from 6.5 metres above MSL. Material below this level will not be shifted and will remain in-situ and hence out of scope of this exercise.

Appendix 1: Workings

Station B: surface, replicate 1					
Metal			Compound		
Chemical	**RAM**	**Conc (mg/kg)**	**Compound chemical**	**RMM**	**% Conc**
Arsenic	75	3.3	Arsenic acid and its salts	142	0.0006248
Cadmium	112	0.33	Cadmium oxide	128	3.77143E-05
Chromium	52	19	Chromium III chromate	452	0.016515385
Mercury	201	0.1	Dimethyl mercury	231	1.14925E-05
Nickel	59	18	Nickel Monoxide	75	0.002288136
Lead	207	7	Tetraethyl lead	323	0.001092271
Copper	65	17	Copper (I) oxide	143	0.00374
Zinc	64	53	Zinc oxide	81	0.006707813
Benzo(a)pyrene	252	0.01	Benzo(a)pyrene	252	0.000001
Benzo(k)fluoranthene	252	0.01	Benzo(k)fluoranthene	252	0.000001
Benzo (g,h,i) perylene	276	0.01	Benzo (g,h,i) perylene	276	0.000001
Indeno (1,2,3-cd) pyrene	290	0.01	Indeno (1,2,3-cd) pyrene	290	0.000001
Fluoranthene	202	0.03	Fluoranthene	202	0.000003
Total PCB content	1	0.000433	Total PCB content	1	4.33E-08
Total organic carbon	1	1.7	Total organic carbon	1	0.00017
Tributyl tin (TBT)	580	0.01	Tributyltin oxide	596	1.02759E-06
Chloride	35.5	154	Chlorine dioxide	67.5	0.02928169
Sulphate	96	930	Calcium sulfate dihydrate	136	0.13175
Benzene	78	0.01	Benzene	78	0.000001
Ethylbenzene	106	0.01	Ethylbenzene	106	0.000001
Styrene	104	0.01	Styrene	104	0.000001
Toluene	92	0.01	Toluene	92	0.000001
m,p-xylene	106	0.01	m,p-xylene	106	0.000001
o-xylene	106	0.01	o-xylene	106	0.000001
Benz(a)anthracene	228	0.01	Benz(a)anthracene	228	0.000001
Benzo (e) pyrene	252	0.01	Benzo (e) pyrene	252	0.000001
Benzo (b) fluoranthene	252	0.01	Benzo (b) fluoranthene	252	0.000001
Chrysene	228	0.01	Chrysene	228	0.000001
Dibenzo(a,e)pyrene	302	0.01	Dibenzo(a,e)pyrene	302	0.000001
Dibenzo(a,l)pyrene	302	0.01	Dibenzo(a,l)pyrene	302	0.000001
Dibenzo(a,i)pyrene	302	0.01	Dibenzo(a,i)pyrene	302	0.000001
Dibenzo(a,h)pyrene	302	0.01	Dibenzo(a,h)pyrene	302	0.000001
Dibenz(a,h)anthracene	278	0.01	Dibenz(a,h)anthracene	278	0.000001
Pyrene	202	0.03	Pyrene	202	0.000003
Naphthalene	128	0.01	Naphthalene	128	0.000001
Acenaphthene	154	0.01	Acenaphthene	154	0.000001
Acenaphthylene	152	0.01	Acenaphthylene	152	0.000001
Fluorene	166	0.01	Fluorene	166	0.000001
Phenanthrene	178	0.01	Phenanthrene	178	0.000001
Anthracene	178	0.01	Anthracene	178	0.000001
Monobutyl tin	176	0.01	Monobutyltin trichloride	282	1.60227E-06
Dibutyl tin	233	0.01	Dibutyltin dilaurate	632	2.71245E-06
Asbestos	277	1000	Asbestos	277	0.1

Station B: surface, replicate 2					
Metal			Compound		
Chemical	**RAM**	**Conc (mg/kg)**	**Compound chemical**	**RMM**	**% Conc**
Arsenic	75	4	Arsenic acid and its salts	142	0.000757333
Cadmium	112	0.4	Cadmium oxide	128	4.57143E-05
Chromium	52	25	Chromium III chromate	452	0.021730769
Mercury	201	0.1	Dimethyl mercury	231	1.14925E-05
Nickel	59	22	Nickel Monoxide	75	0.00279661
Lead	207	8.6	Tetraethyl lead	323	0.001341932
Copper	65	20	Copper (I) oxide	143	0.0044
Zinc	64	65	Zinc oxide	81	0.008226563
Benzo(a)pyrene	252	0.06	Benzo(a)pyrene	252	0.000006
Benzo(k)fluoranthene	252	0.01	Benzo(k)fluoranthene	252	0.000001
Benzo (g,h,i) perylene	276	0.05	Benzo (g,h,i) perylene	276	0.000005
Indeno (1,2,3-cd) pyrene	290	0.05	Indeno (1,2,3-cd) pyrene	290	0.000005
Fluoranthene	202	0.14	Fluoranthene	202	0.000014
Total PCB content	1	0.000284	Total PCB content	1	2.84E-08
Total organic carbon	1	1.3	Total organic carbon	1	0.00013
Tributyl tin (TBT)	580	0.01	Tributyltin oxide	596	1.02759E-06
Chlorine dioxide	35.5	485	Chlorine dioxide	67.5	0.09221831
Calcium sulfate dihydrate	96	2517	Calcium sulfate dihydrate	136	0.356575
Benzene	78	0.01	Benzene	78	0.000001
Ethylbenzene	106	0.01	Ethylbenzene	106	0.000001
Styrene	104	0.01	Styrene	104	0.000001
Toluene	92	0.01	Toluene	92	0.000001
m,p-xylene	106	0.01	m,p-xylene	106	0.000001
o-xylene	106	0.01	o-xylene	106	0.000001
Benz(a)anthracene	228	0.01	Benz(a)anthracene	228	0.000001
Benzo (e) pyrene	252	0.01	Benzo (e) pyrene	252	0.000001
Benzo (b) fluoranthene	252	0.01	Benzo (b) fluoranthene	252	0.000001
Chrysene	228	0.01	Chrysene	228	0.000001
Dibenzo(a,e)pyrene	302	0.01	Dibenzo(a,e)pyrene	302	0.000001
Dibenzo(a,l)pyrene	302	0.01	Dibenzo(a,l)pyrene	302	0.000001
Dibenzo(a,i)pyrene	302	0.01	Dibenzo(a,i)pyrene	302	0.000001
Dibenzo(a,h)pyrene	302	0.01	Dibenzo(a,h)pyrene	302	0.000001
Dibenz(a,h)anthracene	278	0.01	Dibenz(a,h)anthracene	278	0.000001
Pyrene	202	0.14	Pyrene	202	0.000014
Naphthalene	128	0.01	Naphthalene	128	0.000001
Acenaphthene	154	0.01	Acenaphthene	154	0.000001
Acenaphthylene	152	0.01	Acenaphthylene	152	0.000001
Fluorene	166	0.01	Fluorene	166	0.000001
Phenanthrene	178	0.01	Phenanthrene	178	0.000001
Anthracene	178	0.01	Anthracene	178	0.000001
Monobutyl tin	176	0.01	Monobutyltin trichloride	282	1.60227E-06
Dibutyl tin	233	0.01	Dibutyltin dilaurate	632	2.71245E-06
Asbestos	277	1000	Asbestos	277	0.1

Station C: surface, replicate 1					
Metal			Compound		
Chemical	**RAM**	**Conc (mg/kg)**	**Compound chemical**	**RMM**	**% Conc**
Arsenic	75	3.9	Arsenic acid and its salts	142	0.0007384
Cadmium	112	0.4	Cadmium oxide	128	4.57143E-05
Chromium	52	25	Chromium III chromate	452	0.021730769
Mercury	201	0.1	Dimethyl mercury	231	1.14925E-05
Nickel	59	24	Nickel Monoxide	75	0.003050847
Lead	207	7.8	Tetraethyl lead	323	0.001217101
Copper	65	21	Copper (I) oxide	143	0.00462
Zinc	64	66	Zinc oxide	81	0.008353125
Benzo(a)pyrene	252	0.01	Benzo(a)pyrene	252	0.000001
Benzo(k)fluoranthene	252	0.01	Benzo(k)fluoranthene	252	0.000001
Benzo (g,h,i) perylene	276	0.01	Benzo (g,h,i) perylene	276	0.000001
Indeno (1,2,3-cd) pyrene	290	0.01	Indeno (1,2,3-cd) pyrene	290	0.000001
Fluoranthene	202	0.01	Fluoranthene	202	0.000001
Total PCB content	1	0.000251	Total PCB content	1	2.51E-08
Total organic carbon	1	3.3	Total organic carbon	1	0.00033
Tributyl tin (TBT)	580	0.01	Tributyltin oxide	596	1.02759E-06
Chloride	35.5	485	Chlorine dioxide	67.5	0.09221831
Sulphate	96	2517	Calcium sulfate dihydrate	136	0.356575
Benzene	78	0.01	Benzene	78	0.000001
Ethylbenzene	106	0.01	Ethylbenzene	106	0.000001
Styrene	104	0.01	Styrene	104	0.000001
Toluene	92	0.01	Toluene	92	0.000001
m,p-xylene	106	0.01	m,p-xylene	106	0.000001
o-xylene	106	0.01	o-xylene	106	0.000001
Benz(a)anthracene	228	0.01	Benz(a)anthracene	228	0.000001
Benzo (e) pyrene	252	0.01	Benzo (e) pyrene	252	0.000001
Benzo (b) fluoranthene	252	0.01	Benzo (b) fluoranthene	252	0.000001
Chrysene	228	0.01	Chrysene	228	0.000001
Dibenzo(a,e)pyrene	302	0.01	Dibenzo(a,e)pyrene	302	0.000001
Dibenzo(a,l)pyrene	302	0.01	Dibenzo(a,l)pyrene	302	0.000001
Dibenzo(a,i)pyrene	302	0.01	Dibenzo(a,i)pyrene	302	0.000001
Dibenzo(a,h)pyrene	302	0.01	Dibenzo(a,h)pyrene	302	0.000001
Dibenz(a,h)anthracene	278	0.01	Dibenz(a,h)anthracene	278	0.000001
Pyrene	202	0.01	Pyrene	202	0.000001
Naphthalene	128	0.01	Naphthalene	128	0.000001
Acenaphthene	154	0.01	Acenaphthene	154	0.000001
Acenaphthylene	152	0.01	Acenaphthylene	152	0.000001
Fluorene	166	0.01	Fluorene	166	0.000001
Phenanthrene	178	0.01	Phenanthrene	178	0.000001
Anthracene	178	0.01	Anthracene	178	0.000001
Monobutyl tin	176	0.01	Monobutyltin trichloride	282	1.60227E-06
Dibutyl tin	233	0.01	Dibutyltin dilaurate	632	2.71245E-06
Asbestos	277	1000	Asbestos	277	0.1

Station C: surface, replicate 2					
Metal			Compound		
Chemical	**RAM**	**Conc (mg/kg)**	**Compound chemical**	**RMM**	**% Conc**
Arsenic	75	4.1	Arsenic acid and its salts	142	0.000776267
Cadmium	112	0.4	Cadmium oxide	128	4.57143E-05
Chromium	52	31	Chromium III chromate	452	0.026946154
Mercury	201	0.1	Dimethyl mercury	231	1.14925E-05
Nickel	59	29	Nickel Monoxide	75	0.003686441
Lead	207	12	Tetraethyl lead	323	0.001872464
Copper	65	24	Copper (I) oxide	143	0.00528
Zinc	64	68	Zinc oxide	81	0.00860625
Benzo(a)pyrene	252	0.01	Benzo(a)pyrene	252	0.000001
Benzo(k)fluoranthene	252	0.01	Benzo(k)fluoranthene	252	0.000001
Benzo (g,h,i) perylene	276	0.01	Benzo (g,h,i) perylene	276	0.000001
Indeno (1,2,3-cd) pyrene	290	0.01	Indeno (1,2,3-cd) pyrene	290	0.000001
Fluoranthene	202	0.01	Fluoranthene	202	0.000001
Total PCB content	1	0.000226	Total PCB content	1	2.26E-08
Total organic carbon	1	3.7	Total organic carbon	1	0.00037
Tributyl tin (TBT)	580	0.01	Tributyltin oxide	596	1.02759E-06
Chlorine dioxide	35.5	662	Chlorine dioxide	67.5	0.125873239
Calcium sulfate dihydrate	96	2662	Calcium sulfate dihydrate	136	0.377116667
Benzene	78	0.01	Benzene	78	0.000001
Ethylbenzene	106	0.01	Ethylbenzene	106	0.000001
Styrene	104	0.01	Styrene	104	0.000001
Toluene	92	0.01	Toluene	92	0.000001
m,p-xylene	106	0.01	m,p-xylene	106	0.000001
o-xylene	106	0.01	o-xylene	106	0.000001
Benz(a)anthracene	228	0.01	Benz(a)anthracene	228	0.000001
Benzo (e) pyrene	252	0.01	Benzo (e) pyrene	252	0.000001
Benzo (b) fluoranthene	252	0.01	Benzo (b) fluoranthene	252	0.000001
Chrysene	228	0.01	Chrysene	228	0.000001
Dibenzo(a,e)pyrene	302	0.01	Dibenzo(a,e)pyrene	302	0.000001
Dibenzo(a,l)pyrene	302	0.01	Dibenzo(a,l)pyrene	302	0.000001
Dibenzo(a,i)pyrene	302	0.01	Dibenzo(a,i)pyrene	302	0.000001
Dibenzo(a,h)pyrene	302	0.01	Dibenzo(a,h)pyrene	302	0.000001
Dibenz(a,h)anthracene	278	0.01	Dibenz(a,h)anthracene	278	0.000001
Pyrene	202	0.01	Pyrene	202	0.000001
Naphthalene	128	0.01	Naphthalene	128	0.000001
Acenaphthene	154	0.01	Acenaphthene	154	0.000001
Acenaphthylene	152	0.01	Acenaphthylene	152	0.000001
Fluorene	166	0.01	Fluorene	166	0.000001
Phenanthrene	178	0.01	Phenanthrene	178	0.000001
Anthracene	178	0.01	Anthracene	178	0.000001
Monobutyl tin	176	0.01	Monobutyltin trichloride	282	1.60227E-06
Dibutyl tin	233	0.01	Dibutyltin dilaurate	632	2.71245E-06
Asbestos	277	1000	Asbestos	277	0.1

Station D: surface, replicate 1					
Metal			Compound		
Chemical	**RAM**	**Conc (mg/kg)**	**Compound chemical**	**RMM**	**% Conc**
Arsenic	75	3.7	Arsenic acid and its salts	142	0.000700533
Cadmium	112	0.4	Cadmium oxide	128	4.57143E-05
Chromium	52	20	Chromium III chromate	452	0.017384615
Mercury	201	0.1	Dimethyl mercury	231	1.14925E-05
Nickel	59	23	Nickel Monoxide	75	0.002923729
Lead	207	7	Tetraethyl lead	323	0.001092271
Copper	65	26	Copper (I) oxide	143	0.00572
Zinc	64	80	Zinc oxide	81	0.010125
Benzo(a)pyrene	252	0.01	Benzo(a)pyrene	252	0.000001
Benzo(k)fluoranthene	252	0.01	Benzo(k)fluoranthene	252	0.000001
Benzo (g,h,i) perylene	276	0.01	Benzo (g,h,i) perylene	276	0.000001
Indeno (1,2,3-cd) pyrene	290	0.01	Indeno (1,2,3-cd) pyrene	290	0.000001
Fluoranthene	202	0.01	Fluoranthene	202	0.000001
Total PCB content	1	0.001003	Total PCB content	1	1.003E-07
Total organic carbon	1	2	Total organic carbon	1	0.0002
Tributyl tin (TBT)	580	0.01	Tributyltin oxide	596	1.02759E-06
Chloride	35.5	296	Chlorine dioxide	67.5	0.05628169
Sulphate	96	686	Calcium sulfate dihydrate	136	0.097183333
Benzene	78	0.01	Benzene	78	0.000001
Ethylbenzene	106	0.01	Ethylbenzene	106	0.000001
Styrene	104	0.01	Styrene	104	0.000001
Toluene	92	0.01	Toluene	92	0.000001
m,p-xylene	106	0.01	m,p-xylene	106	0.000001
o-xylene	106	0.01	o-xylene	106	0.000001
Benz(a)anthracene	228	0.01	Benz(a)anthracene	228	0.000001
Benzo (e) pyrene	252	0.01	Benzo (e) pyrene	252	0.000001
Benzo (b) fluoranthene	252	0.01	Benzo (b) fluoranthene	252	0.000001
Chrysene	228	0.01	Chrysene	228	0.000001
Dibenzo(a,e)pyrene	302	0.01	Dibenzo(a,e)pyrene	302	0.000001
Dibenzo(a,l)pyrene	302	0.01	Dibenzo(a,l)pyrene	302	0.000001
Dibenzo(a,i)pyrene	302	0.01	Dibenzo(a,i)pyrene	302	0.000001
Dibenzo(a,h)pyrene	302	0.01	Dibenzo(a,h)pyrene	302	0.000001
Dibenz(a,h)anthracene	278	0.01	Dibenz(a,h)anthracene	278	0.000001
Pyrene	202	0.01	Pyrene	202	0.000001
Naphthalene	128	0.01	Naphthalene	128	0.000001
Acenaphthene	154	0.01	Acenaphthene	154	0.000001
Acenaphthylene	152	0.01	Acenaphthylene	152	0.000001
Fluorene	166	0.01	Fluorene	166	0.000001
Phenanthrene	178	0.01	Phenanthrene	178	0.000001
Anthracene	178	0.01	Anthracene	178	0.000001
Monobutyl tin	176	0.01	Monobutyltin trichloride	282	1.60227E-06
Dibutyl tin	233	0.01	Dibutyltin dilaurate	632	2.71245E-06
Asbestos	277	1000	Asbestos	277	0.1

Station D: surface, replicate 2					
Metal			Compound		
Chemical	**RAM**	**Conc (mg/kg)**	**Compound chemical**	**RMM**	**% Conc**
Arsenic	75	4.1	Arsenic acid and its salts	142	0.000776267
Cadmium	112	0.41	Cadmium oxide	128	4.68571E-05
Chromium	52	27	Chromium III chromate	452	0.023469231
Mercury	201	0.1	Dimethyl mercury	231	1.14925E-05
Nickel	59	25	Nickel Monoxide	75	0.003177966
Lead	207	6.9	Tetraethyl lead	323	0.001076667
Copper	65	24	Copper (I) oxide	143	0.00528
Zinc	64	87	Zinc oxide	81	0.011010938
Benzo(a)pyrene	252	0.01	Benzo(a)pyrene	252	0.000001
Benzo(k)fluoranthene	252	0.01	Benzo(k)fluoranthene	252	0.000001
Benzo (g,h,i) perylene	276	0.01	Benzo (g,h,i) perylene	276	0.000001
Indeno (1,2,3-cd) pyrene	290	0.01	Indeno (1,2,3-cd) pyrene	290	0.000001
Fluoranthene	202	0.01	Fluoranthene	202	0.000001
Total PCB content	1	0.000776	Total PCB content	1	7.76E-08
Total organic carbon	1	1.5	Total organic carbon	1	0.00015
Tributyl tin (TBT)	580	0.01	Tributyltin oxide	596	1.02759E-06
Chlorine dioxide	35.5	329	Chlorine dioxide	67.5	0.062556338
Calcium sulfate dihydrate	96	1299	Calcium sulfate dihydrate	136	0.184025
Benzene	78	0.01	Benzene	78	0.000001
Ethylbenzene	106	0.01	Ethylbenzene	106	0.000001
Styrene	104	0.01	Styrene	104	0.000001
Toluene	92	0.01	Toluene	92	0.000001
m,p-xylene	106	0.01	m,p-xylene	106	0.000001
o-xylene	106	0.01	o-xylene	106	0.000001
Benz(a)anthracene	228	0.01	Benz(a)anthracene	228	0.000001
Benzo (e) pyrene	252	0.01	Benzo (e) pyrene	252	0.000001
Benzo (b) fluoranthene	252	0.01	Benzo (b) fluoranthene	252	0.000001
Chrysene	228	0.01	Chrysene	228	0.000001
Dibenzo(a,e)pyrene	302	0.01	Dibenzo(a,e)pyrene	302	0.000001
Dibenzo(a,l)pyrene	302	0.01	Dibenzo(a,l)pyrene	302	0.000001
Dibenzo(a,i)pyrene	302	0.01	Dibenzo(a,i)pyrene	302	0.000001
Dibenzo(a,h)pyrene	302	0.01	Dibenzo(a,h)pyrene	302	0.000001
Dibenz(a,h)anthracene	278	0.01	Dibenz(a,h)anthracene	278	0.000001
Pyrene	202	0.01	Pyrene	202	0.000001
Naphthalene	128	0.01	Naphthalene	128	0.000001
Acenaphthene	154	0.01	Acenaphthene	154	0.000001
Acenaphthylene	152	0.01	Acenaphthylene	152	0.000001
Fluorene	166	0.01	Fluorene	166	0.000001
Phenanthrene	178	0.01	Phenanthrene	178	0.000001
Anthracene	178	0.01	Anthracene	178	0.000001
Monobutyl tin	176	0.01	Monobutyltin trichloride	282	1.60227E-06
Dibutyl tin	233	0.01	Dibutyltin dilaurate	632	2.71245E-06
Asbestos	277	1000	Asbestos	277	0.1

Station B: middle, replicate 1					
Metal			Compound		
Chemical	RAM	Conc (mg/kg)	Compound chemical	RMM	% Conc
Arsenic	75	5.1	Arsenic acid and its salts	142	0.0009656
Cadmium	112	0.4	Cadmium oxide	128	4.57143E-05
Chromium	52	26	Chromium III chromate	452	0.0226
Mercury	201	0.1	Dimethyl mercury	231	1.14925E-05
Nickel	59	24	Nickel Monoxide	75	0.003050847
Lead	207	10	Tetraethyl lead	323	0.001560386
Copper	65	23	Copper (I) oxide	143	0.00506
Zinc	64	56	Zinc oxide	81	0.0070875
Benzo(a)pyrene	252	0.01	Benzo(a)pyrene	252	0.000001
Benzo(k)fluoranthene	252	0.01	Benzo(k)fluoranthene	252	0.000001
Benzo (g,h,i) perylene	276	0.01	Benzo (g,h,i) perylene	276	0.000001
Indeno (1,2,3-cd) pyrene	290	0.01	Indeno (1,2,3-cd) pyrene	290	0.000001
Fluoranthene	202	0.01	Fluoranthene	202	0.000001
Total PCB content	1	0.035	Total PCB content	1	0.0000035
Total organic carbon	1	0.4	Total organic carbon	1	0.00004
Tributyl tin (TBT)	580	0.01	Tributyltin oxide	596	1.02759E-06
Chloride	35.5	189	Chlorine dioxide	67.5	0.03593662
Sulphate	96	3714	Calcium sulfate dihydrate	136	0.52615
Benzene	78	0.01	Benzene	78	0.000001
Ethylbenzene	106	0.01	Ethylbenzene	106	0.000001
Styrene	104	0.01	Styrene	104	0.000001
Toluene	92	0.01	Toluene	92	0.000001
m,p-xylene	106	0.01	m,p-xylene	106	0.000001
o-xylene	106	0.01	o-xylene	106	0.000001
Benz(a)anthracene	228	0.01	Benz(a)anthracene	228	0.000001
Benzo (e) pyrene	252	0.01	Benzo (e) pyrene	252	0.000001
Benzo (b) fluoranthene	252	0.01	Benzo (b) fluoranthene	252	0.000001
Chrysene	228	0.01	Chrysene	228	0.000001
Dibenzo(a,e)pyrene	302	0.01	Dibenzo(a,e)pyrene	302	0.000001
Dibenzo(a,l)pyrene	302	0.01	Dibenzo(a,l)pyrene	302	0.000001
Dibenzo(a,i)pyrene	302	0.01	Dibenzo(a,i)pyrene	302	0.000001
Dibenzo(a,h)pyrene	302	0.01	Dibenzo(a,h)pyrene	302	0.000001
Dibenz(a,h)anthracene	278	0.01	Dibenz(a,h)anthracene	278	0.000001
Pyrene	202	0.01	Pyrene	202	0.000001
Naphthalene	128	0.01	Naphthalene	128	0.000001
Acenaphthene	154	0.01	Acenaphthene	154	0.000001
Acenaphthylene	152	0.01	Acenaphthylene	152	0.000001
Fluorene	166	0.01	Fluorene	166	0.000001
Phenanthrene	178	0.01	Phenanthrene	178	0.000001
Anthracene	178	0.01	Anthracene	178	0.000001
Monobutyl tin	176	0.01	Monobutyltin trichloride	282	1.60227E-06
Dibutyl tin	233	0.01	Dibutyltin dilaurate	632	2.71245E-06
Asbestos	277	1000	Asbestos	277	0.1

Station B: middle, replicate 2					
Metal			Compound		
Chemical	RAM	Conc (mg/kg)	Compound chemical	RMM	% Conc
Arsenic	75	5.5	Arsenic acid and its salts	142	0.001041333
Cadmium	112	0.45	Cadmium oxide	128	5.14286E-05
Chromium	52	28	Chromium III chromate	452	0.024338462
Mercury	201	0.1	Dimethyl mercury	231	1.14925E-05
Nickel	59	26	Nickel Monoxide	75	0.003305085
Lead	207	8.2	Tetraethyl lead	323	0.001279517
Copper	65	28	Copper (I) oxide	143	0.00616
Zinc	64	61	Zinc oxide	81	0.007720313
Benzo(a)pyrene	252	0.01	Benzo(a)pyrene	252	0.000001
Benzo(k)fluoranthene	252	0.01	Benzo(k)fluoranthene	252	0.000001
Benzo (g,h,i) perylene	276	0.01	Benzo (g,h,i) perylene	276	0.000001
Indeno (1,2,3-cd) pyrene	290	0.01	Indeno (1,2,3-cd) pyrene	290	0.000001
Fluoranthene	202	0.01	Fluoranthene	202	0.000001
Total PCB content	1	0.035	Total PCB content	1	0.0000035
Total organic carbon	1	0.44	Total organic carbon	1	0.000044
Tributyl tin (TBT)	580	0.01	Tributyltin oxide	596	1.02759E-06
Chlorine dioxide	35.5	199	Chlorine dioxide	67.5	0.037838028
Calcium sulfate dihydrate	96	3925	Calcium sulfate dihydrate	136	0.556041667
Benzene	78	0.01	Benzene	78	0.000001
Ethylbenzene	106	0.01	Ethylbenzene	106	0.000001
Styrene	104	0.01	Styrene	104	0.000001
Toluene	92	0.01	Toluene	92	0.000001
m,p-xylene	106	0.01	m,p-xylene	106	0.000001
o-xylene	106	0.01	o-xylene	106	0.000001
Benz(a)anthracene	228	0.01	Benz(a)anthracene	228	0.000001
Benzo (e) pyrene	252	0.01	Benzo (e) pyrene	252	0.000001
Benzo (b) fluoranthene	252	0.01	Benzo (b) fluoranthene	252	0.000001
Chrysene	228	0.01	Chrysene	228	0.000001
Dibenzo(a,e)pyrene	302	0.01	Dibenzo(a,e)pyrene	302	0.000001
Dibenzo(a,l)pyrene	302	0.01	Dibenzo(a,l)pyrene	302	0.000001
Dibenzo(a,i)pyrene	302	0.01	Dibenzo(a,i)pyrene	302	0.000001
Dibenzo(a,h)pyrene	302	0.01	Dibenzo(a,h)pyrene	302	0.000001
Dibenz(a,h)anthracene	278	0.01	Dibenz(a,h)anthracene	278	0.000001
Pyrene	202	0.01	Pyrene	202	0.000001
Naphthalene	128	0.01	Naphthalene	128	0.000001
Acenaphthene	154	0.01	Acenaphthene	154	0.000001
Acenaphthylene	152	0.01	Acenaphthylene	152	0.000001
Fluorene	166	0.01	Fluorene	166	0.000001
Phenanthrene	178	0.01	Phenanthrene	178	0.000001
Anthracene	178	0.01	Anthracene	178	0.000001
Monobutyl tin	176	0.01	Monobutyltin trichloride	282	1.60227E-06
Dibutyl tin	233	0.01	Dibutyltin dilaurate	632	2.71245E-06
Asbestos	277	1000	Asbestos	277	0.1

Station C: middle, replicate 1					
Metal			Compound		
Chemical	**RAM**	**Conc (mg/kg)**	**Compound chemical**	**RMM**	**% Conc**
Arsenic	75	4.8	Arsenic acid and its salts	142	0.0009088
Cadmium	112	0.34	Cadmium oxide	128	3.88571E-05
Chromium	52	25	Chromium III chromate	452	0.021730769
Mercury	201	0.1	Dimethyl mercury	231	1.14925E-05
Nickel	59	23	Nickel Monoxide	75	0.002923729
Lead	207	3.9	Tetraethyl lead	323	0.000608551
Copper	65	29	Copper (I) oxide	143	0.00638
Zinc	64	63	Zinc oxide	81	0.007973438
Benzo(a)pyrene	252	0.01	Benzo(a)pyrene	252	0.000001
Benzo(k)fluoranthene	252	0.01	Benzo(k)fluoranthene	252	0.000001
Benzo (g,h,i) perylene	276	0.01	Benzo (g,h,i) perylene	276	0.000001
Indeno (1,2,3-cd) pyrene	290	0.01	Indeno (1,2,3-cd) pyrene	290	0.000001
Fluoranthene	202	0.01	Fluoranthene	202	0.000001
Total PCB content	1	0.035	Total PCB content	1	0.0000035
Total organic carbon	1	0.25	Total organic carbon	1	0.000025
Tributyl tin (TBT)	580	0.01	Tributyltin oxide	596	1.02759E-06
Chloride	35.5	367	Chlorine dioxide	67.5	0.06978169
Sulphate	96	6334	Calcium sulfate dihydrate	136	0.897316667
Benzene	78	0.01	Benzene	78	0.000001
Ethylbenzene	106	0.01	Ethylbenzene	106	0.000001
Styrene	104	0.01	Styrene	104	0.000001
Toluene	92	0.01	Toluene	92	0.000001
m,p-xylene	106	0.01	m,p-xylene	106	0.000001
o-xylene	106	0.01	o-xylene	106	0.000001
Benz(a)anthracene	228	0.01	Benz(a)anthracene	228	0.000001
Benzo (e) pyrene	252	0.01	Benzo (e) pyrene	252	0.000001
Benzo (b) fluoranthene	252	0.01	Benzo (b) fluoranthene	252	0.000001
Chrysene	228	0.01	Chrysene	228	0.000001
Dibenzo(a,e)pyrene	302	0.01	Dibenzo(a,e)pyrene	302	0.000001
Dibenzo(a,l)pyrene	302	0.01	Dibenzo(a,l)pyrene	302	0.000001
Dibenzo(a,i)pyrene	302	0.01	Dibenzo(a,i)pyrene	302	0.000001
Dibenzo(a,h)pyrene	302	0.01	Dibenzo(a,h)pyrene	302	0.000001
Dibenz(a,h)anthracene	278	0.01	Dibenz(a,h)anthracene	278	0.000001
Pyrene	202	0.01	Pyrene	202	0.000001
Naphthalene	128	0.01	Naphthalene	128	0.000001
Acenaphthene	154	0.01	Acenaphthene	154	0.000001
Acenaphthylene	152	0.01	Acenaphthylene	152	0.000001
Fluorene	166	0.01	Fluorene	166	0.000001
Phenanthrene	178	0.01	Phenanthrene	178	0.000001
Anthracene	178	0.01	Anthracene	178	0.000001
Monobutyl tin	176	0.01	Monobutyltin trichloride	282	1.60227E-06
Dibutyl tin	233	0.01	Dibutyltin dilaurate	632	2.71245E-06
Asbestos	277	1000	Asbestos	277	0.1

Station C: middle, replicate 2					
Metal			Compound		
Chemical	**RAM**	**Conc (mg/kg)**	**Compound chemical**	**RMM**	**% Conc**
Arsenic	75	5.4	Arsenic acid and its salts	142	0.0010224
Cadmium	112	0.4	Cadmium oxide	128	4.57143E-05
Chromium	52	29	Chromium III chromate	452	0.025207692
Mercury	201	0.47	Dimethyl mercury	231	5.40149E-05
Nickel	59	27	Nickel Monoxide	75	0.003432203
Lead	207	4	Tetraethyl lead	323	0.000624155
Copper	65	26	Copper (I) oxide	143	0.00572
Zinc	64	69	Zinc oxide	81	0.008732813
Benzo(a)pyrene	252	0.01	Benzo(a)pyrene	252	0.000001
Benzo(k)fluoranthene	252	0.01	Benzo(k)fluoranthene	252	0.000001
Benzo (g,h,i) perylene	276	0.01	Benzo (g,h,i) perylene	276	0.000001
Indeno (1,2,3-cd) pyrene	290	0.01	Indeno (1,2,3-cd) pyrene	290	0.000001
Fluoranthene	202	0.01	Fluoranthene	202	0.000001
Total PCB content	1	0.035	Total PCB content	1	0.0000035
Total organic carbon	1	0.32	Total organic carbon	1	0.000032
Tributyl tin (TBT)	580	0.01	Tributyltin oxide	596	1.02759E-06
Chlorine dioxide	35.5	396	Chlorine dioxide	67.5	0.075295775
Calcium sulfate dihydrate	96	6889	Calcium sulfate dihydrate	136	0.975941667
Benzene	78	0.01	Benzene	78	0.000001
Ethylbenzene	106	0.01	Ethylbenzene	106	0.000001
Styrene	104	0.01	Styrene	104	0.000001
Toluene	92	0.01	Toluene	92	0.000001
m,p-xylene	106	0.01	m,p-xylene	106	0.000001
o-xylene	106	0.01	o-xylene	106	0.000001
Benz(a)anthracene	228	0.01	Benz(a)anthracene	228	0.000001
Benzo (e) pyrene	252	0.01	Benzo (e) pyrene	252	0.000001
Benzo (b) fluoranthene	252	0.01	Benzo (b) fluoranthene	252	0.000001
Chrysene	228	0.01	Chrysene	228	0.000001
Dibenzo(a,e)pyrene	302	0.01	Dibenzo(a,e)pyrene	302	0.000001
Dibenzo(a,l)pyrene	302	0.01	Dibenzo(a,l)pyrene	302	0.000001
Dibenzo(a,i)pyrene	302	0.01	Dibenzo(a,i)pyrene	302	0.000001
Dibenzo(a,h)pyrene	302	0.01	Dibenzo(a,h)pyrene	302	0.000001
Dibenz(a,h)anthracene	278	0.01	Dibenz(a,h)anthracene	278	0.000001
Pyrene	202	0.01	Pyrene	202	0.000001
Naphthalene	128	0.01	Naphthalene	128	0.000001
Acenaphthene	154	0.01	Acenaphthene	154	0.000001
Acenaphthylene	152	0.01	Acenaphthylene	152	0.000001
Fluorene	166	0.01	Fluorene	166	0.000001
Phenanthrene	178	0.01	Phenanthrene	178	0.000001
Anthracene	178	0.01	Anthracene	178	0.000001
Monobutyl tin	176	0.01	Monobutyltin trichloride	282	1.60227E-06
Dibutyl tin	233	0.01	Dibutyltin dilaurate	632	2.71245E-06
Asbestos	277	1000	Asbestos	277	0.1

Station D: middle, replicate 1					
Metal			Compound		
Chemical	**RAM**	**Conc (mg/kg)**	**Compound chemical**	**RMM**	**% Conc**
Arsenic	75	6.1	Arsenic acid and its salts	142	0.001154933
Cadmium	112	0.47	Cadmium oxide	128	5.37143E-05
Chromium	52	30	Chromium III chromate	452	0.026076923
Mercury	201	0.1	Dimethyl mercury	231	1.14925E-05
Nickel	59	28	Nickel Monoxide	75	0.003559322
Lead	207	13	Tetraethyl lead	323	0.002028502
Copper	65	28	Copper (I) oxide	143	0.00616
Zinc	64	74	Zinc oxide	81	0.009365625
Benzo(a)pyrene	252	0.01	Benzo(a)pyrene	252	0.000001
Benzo(k)fluoranthene	252	0.01	Benzo(k)fluoranthene	252	0.000001
Benzo (g,h,i) perylene	276	0.01	Benzo (g,h,i) perylene	276	0.000001
Indeno (1,2,3-cd) pyrene	290	0.01	Indeno (1,2,3-cd) pyrene	290	0.000001
Fluoranthene	202	0.01	Fluoranthene	202	0.000001
Total PCB content	1	0.035	Total PCB content	1	0.0000035
Total organic carbon	1	0.32	Total organic carbon	1	0.000032
Tributyl tin (TBT)	580	0.01	Tributyltin oxide	596	1.02759E-06
Chloride	35.5	390	Chlorine dioxide	67.5	0.07415493
Sulphate	96	5488	Calcium sulfate dihydrate	136	0.777466667
Benzene	78	0.01	Benzene	78	0.000001
Ethylbenzene	106	0.01	Ethylbenzene	106	0.000001
Styrene	104	0.01	Styrene	104	0.000001
Toluene	92	0.01	Toluene	92	0.000001
m,p-xylene	106	0.01	m,p-xylene	106	0.000001
o-xylene	106	0.01	o-xylene	106	0.000001
Benz(a)anthracene	228	0.01	Benz(a)anthracene	228	0.000001
Benzo (e) pyrene	252	0.01	Benzo (e) pyrene	252	0.000001
Benzo (b) fluoranthene	252	0.01	Benzo (b) fluoranthene	252	0.000001
Chrysene	228	0.01	Chrysene	228	0.000001
Dibenzo(a,e)pyrene	302	0.01	Dibenzo(a,e)pyrene	302	0.000001
Dibenzo(a,l)pyrene	302	0.01	Dibenzo(a,l)pyrene	302	0.000001
Dibenzo(a,i)pyrene	302	0.01	Dibenzo(a,i)pyrene	302	0.000001
Dibenzo(a,h)pyrene	302	0.01	Dibenzo(a,h)pyrene	302	0.000001
Dibenz(a,h)anthracene	278	0.01	Dibenz(a,h)anthracene	278	0.000001
Pyrene	202	0.01	Pyrene	202	0.000001
Naphthalene	128	0.01	Naphthalene	128	0.000001
Acenaphthene	154	0.01	Acenaphthene	154	0.000001
Acenaphthylene	152	0.01	Acenaphthylene	152	0.000001
Fluorene	166	0.01	Fluorene	166	0.000001
Phenanthrene	178	0.01	Phenanthrene	178	0.000001
Anthracene	178	0.01	Anthracene	178	0.000001
Monobutyl tin	176	0.01	Monobutyltin trichloride	282	1.60227E-06
Dibutyl tin	233	0.01	Dibutyltin dilaurate	632	2.71245E-06
Asbestos	277	1000	Asbestos	277	0.1

Station D: middle, replicate 2					
Metal			Compound		
Chemical	**RAM**	**Conc (mg/kg)**	**Compound chemical**	**RMM**	**% Conc**
Arsenic	75	5.5	Arsenic acid and its salts	142	0.001041333
Cadmium	112	0.48	Cadmium oxide	128	5.48571E-05
Chromium	52	31	Chromium III chromate	452	0.026946154
Mercury	201	0.1	Dimethyl mercury	231	1.14925E-05
Nickel	59	29	Nickel Monoxide	75	0.003686441
Lead	207	5.8	Tetraethyl lead	323	0.000905024
Copper	65	27	Copper (I) oxide	143	0.00594
Zinc	64	73	Zinc oxide	81	0.009239063
Benzo(a)pyrene	252	0.01	Benzo(a)pyrene	252	0.000001
Benzo(k)fluoranthene	252	0.01	Benzo(k)fluoranthene	252	0.000001
Benzo (g,h,i) perylene	276	0.01	Benzo (g,h,i) perylene	276	0.000001
Indeno (1,2,3-cd) pyrene	290	0.01	Indeno (1,2,3-cd) pyrene	290	0.000001
Fluoranthene	202	0.01	Fluoranthene	202	0.000001
Total PCB content	1	0.035	Total PCB content	1	0.0000035
Total organic carbon	1	0.34	Total organic carbon	1	0.000034
Tributyl tin (TBT)	580	0.01	Tributyltin oxide	596	1.02759E-06
Chlorine dioxide	35.5	380	Chlorine dioxide	67.5	0.072253521
Calcium sulfate dihydrate	96	5547	Calcium sulfate dihydrate	136	0.785825
Benzene	78	0.01	Benzene	78	0.000001
Ethylbenzene	106	0.01	Ethylbenzene	106	0.000001
Styrene	104	0.01	Styrene	104	0.000001
Toluene	92	0.01	Toluene	92	0.000001
m,p-xylene	106	0.01	m,p-xylene	106	0.000001
o-xylene	106	0.01	o-xylene	106	0.000001
Benz(a)anthracene	228	0.01	Benz(a)anthracene	228	0.000001
Benzo (e) pyrene	252	0.01	Benzo (e) pyrene	252	0.000001
Benzo (b) fluoranthene	252	0.01	Benzo (b) fluoranthene	252	0.000001
Chrysene	228	0.01	Chrysene	228	0.000001
Dibenzo(a,e)pyrene	302	0.01	Dibenzo(a,e)pyrene	302	0.000001
Dibenzo(a,l)pyrene	302	0.01	Dibenzo(a,l)pyrene	302	0.000001
Dibenzo(a,i)pyrene	302	0.01	Dibenzo(a,i)pyrene	302	0.000001
Dibenzo(a,h)pyrene	302	0.01	Dibenzo(a,h)pyrene	302	0.000001
Dibenz(a,h)anthracene	278	0.01	Dibenz(a,h)anthracene	278	0.000001
Pyrene	202	0.01	Pyrene	202	0.000001
Naphthalene	128	0.01	Naphthalene	128	0.000001
Acenaphthene	154	0.01	Acenaphthene	154	0.000001
Acenaphthylene	152	0.01	Acenaphthylene	152	0.000001
Fluorene	166	0.01	Fluorene	166	0.000001
Phenanthrene	178	0.01	Phenanthrene	178	0.000001
Anthracene	178	0.01	Anthracene	178	0.000001
Monobutyl tin	176	0.01	Monobutyltin trichloride	282	1.60227E-06
Dibutyl tin	233	0.01	Dibutyltin dilaurate	632	2.71245E-06
Asbestos	277	1000	Asbestos	277	0.1

Code	Description	Classification SL 549.63	Notes	Classification											
				B_surf_1	B_surf_2	C_surf_1	C_surf_2	D_surf_1	D_surf_2	B_mid_1	B_mid_2	C_mid_1	C_mid_2	D_mid_1	D_mid_2
HP1	Explosive	Presence or absence of H200, H201, H202, H203, H204, H240, H241		NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH
HP2	Oxidising	Presence or absence of H270, H271, H272 and the source is not marine	C&D waste	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH
HP3	Flammable	Presence or absence of H220, H221, H222, H223, H224, H225, H226, H228, H242, H250, H251, H260, H261		NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH
HP4	Irritant	Sum of H314 between 1% and 5% Sum of H318 > 1% Sum of H315, H319 > 10%	If sum of H314 > 5%, then HP8 will apply so HP4 would not apply	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH
HP5	Specific target organ toxicity	STOT SE 1: Sum of H370 > 1% STOT SE 2: Sum of H371 > 10% STOT SE 3: Sum of H335 > 20% STOT SE 1: Sum of H372 > 1% STOT SE 2: Sum of H373 > 10% Asp tox 1: Sum of H304 > 10%		NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH
HP6	Acute toxicity	Acute Tox 1-3: Sum of H300, H310, H330, H301, H311, H331 > 0.1% Acute Tox 4: Sum of H302, H312, H332 > 1%		NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH
HP7	Carcinogenic	Carc. 1: Sum of H350 > 0.1% Carc. 2: Sum of H351 > 1%		NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH
HP8	Corrosive	Sum of H314 >5%	Concentrations between 1 and 5% would be considered as HP4	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH
HP9	Infectious	Containing microorganisms or toxins		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HP10	Toxic for reproduction	Repr. 1: Sum of H360 > 0.3% Repr. 2: Sum of H361 > 3%		NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH
HP11	Mutagenic	Muta 1: Sum of H340 > 0.1% Muta 2: Sum of H341 > 1%		NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH
HP12	Acute toxic gas	Presence or absence of EUH029, EUH031, EUH032		NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH
HP13	Sensitising	Sum of H317, H334 > 10%		NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH
HP14	Ecotoxic	Sum of H400 and H410 > 25%	Immediate or delayed risks for the environment	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH
HP15	Hazardous property not displayed in original waste	Presence or absence of H205, EUH001, EUH019, EUH044		NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH

Parameter	Level 1 DLVs (mg/kg dry weight)	Level 2 DLVs (mg/kg dry weight)	Concentration (mg/kg dry weight)													Category
			B_surf_1	B_surf_2	C_surf_1	C_surf_2	D_surf_1	D_surf_2	B_mid_1	B_mid_2	C_mid_1	C_mid_2	D_mid_1	D_mid_2	Worst case	
Arsenic	30	150	3.30	4.00	3.90	4.10	3.70	4.10	5.10	5.50	4.80	5.40	6.10	5.50	6.10	I
Cadmium	1	5	0.33	0.40	0.40	0.40	0.40	0.41	0.40	0.45	0.34	0.40	0.47	0.48	0.48	I
Chromium	200	1000	19.00	25.00	25.00	31.00	20.00	27.00	26.00	28.00	25.00	29.00	30.00	31.00	31.00	I
Mercury	0.6	3	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.47	0.10	0.10	0.47	I
Nickel	100	400	18.00	22.00	24.00	29.00	23.00	25.00	24.00	26.00	23.00	27.00	28.00	29.00	29.00	I
Lead	120	600	7.00	8.60	7.80	12.00	7.00	6.90	10.00	8.20	3.90	4.00	13.00	5.80	13.00	I
Copper	100	400	17.00	20.00	21.00	24.00	26.00	24.00	23.00	28.00	29.00	26.00	28.00	27.00	29.00	I
Zinc	500	3000	53.00	65.00	66.00	68.00	80.00	87.00	56.00	61.00	63.00	69.00	74.00	73.00	87.00	I
Polyaromatic Hydrocarbons (PAHs)	1	3	0.25	0.60	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.60	I
Tributyltin compounds (TBT)	0.06	0.06	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	I
Polychlorinated Biphenyl (PCB)	0.1	0.1	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04	0.04	0.04	0.04	0.04	I

Appendix 2: Test accreditation certificates

Chimica Applicata Depurazione Acque s.n.c.
di Filippo Giglio & C.

- Autorizzazione Ministero Politiche Agricole Alimentari e Forestali per analisi nel Settore Oleicolo D.M. 06/04/2011 (Rinnovo del 21/03/2019 – G.U. n°92 del 19/04/2019)
- Inserimento nell'Elenco dei "Tecnici Competenti" p.to 7 art. 2 Legge 26/10/95 n°447 "Inquinamento acustico"
- Inserimento nell'Elenco dei Laboratori qualificati ad effettuare analisi amianto – Regione Sicilia (COD n°244SIC2)
- Inserimento nell'Elenco dei laboratori riconosciuti dal MIPAAF per la verifica di conformità dei fertilizzanti di cui all'art.1 d.lgs. n°75/2010 (Decreto n°3734 del 07 marzo 2019)
- Inserimento nell'Elenco dei Laboratori della Regione Sicilia per le attività analitiche di autocontrollo alimentare, di cui al D.D.G. n° 434/17 del 09/03/2017 (ID n°2012/AG002)
- Inserimento nell'Elenco dei Laboratori di prova riconosciuti dal MIPAAF per l'esecuzione di analisi di campioni in agricoltura biologica ai sensi del Decreto Ministeriale n. 2592 del 12 marzo 2014

ACCREDIA L'ENTE ITALIANO DI ACCREDITAMENTO
LAB N° 0439

Test Report n°: **2135937-001**

Description: **Rubble/stone carrot, Station B , Mid-point (1 - 3m); Replica 1. Delimara power station Activities Required by AIS Environment Ltd**

Client:
AIS Environment Ltd
AIS House, 18, St. John Street, Fgura, FGR 1447, Malta
AIS House, Malta

Reception n°: **2135937**
Sampling Date: **11-nov-19**
Sample Reception Date: **11-nov-19** Test Start Date: **11-nov-19**
Test Report Date: **28-nov-19** Test Finish Date: **28-nov-19**
Sampling Method: **Sampled by SUN LAB GROUP Ltd**
Annex: **NO**
Reference for the Limits: ***///***

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
PARAMETRI CHIMICI							
CHEMICAL PARAMETERS							
METALLI							
METALS							
Arsenico	UNI EN 13657:2004 + UNI EN 16170:2016	**5,1**	mg/kg	1,2			
Arsenic							
Cadmio	UNI EN 13657:2004 + UNI EN 16170:2016	**0,4**	mg/kg	0,1			
Cadmium							
Cromo Totale	UNI EN 13657:2004 + UNI EN 16170:2016	**26**	mg/kg	5			
Total Chromium							
Mercurio	UNI EN 13657:2004 + UNI EN 16170:2016	**< 0,1**	mg/kg				
Mercury							
Nichel	UNI EN 13657:2004 + UNI EN 16170:2016	**24**	mg/kg	4			
Nickel							
Piombo	UNI EN 13657:2004 + UNI EN 16170:2016	**10**	mg/kg	2			
Lead							
Rame	UNI EN 13657:2004 + UNI EN 16170:2016	**23**	mg/kg	4			
Copper							

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Continuation of Test Report n°: **2135937-001**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Zinco	UNI EN 13657:2004 + UNI EN 16170:2016	**56**	mg/kg	15			
Zinc							
ANIONI							
ANIONS							
Cloruri	EPA 300.0 1999	**189**	mg/kg	22			
Choloride							
Solfati	EPA 300.0 1999	**3714**	mg/kg	449			
Sulphates							
COMPOSTI ORGANICI AROMATICI							
AROMATIC ORGANIC COMPOUNDS							
Benzene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Benzene							
Etilbenzene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Ethylbenzene							
Stirene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Styrene							
Toluene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Toluene							
m,p-Xilene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
m, p-Xylene							
o-Xilene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
o-Xylene							
Sommatoria composti organici aromatici	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
BTEX (Total Organic Aromatic Compounds)							
IDROCARBURI POLICICLICI AROMATICI							
POLYCYCLIC AROMATIC HYDROCARBONS							
Benzo(a)antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	**< 0,01**	mg/kg				
Benzo (a) anthracene							
Benzo(a)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	**< 0,01**	mg/kg				
Benzo (a) pyrene							

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Continuation of Test Report n°: **2135937-001**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Benzo(e)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/Kg				
Benzo(b)fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (b) fluoranthene							
Benzo(k)fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (k) fluoranthene							
Benzo(g,h,i)perilene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (g, h, i) perylene							
Crisene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Chrysene							
Dibenzo(a,e)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,e) pyrene							
Dibenzo(a,l)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,l) pyrene							
Dibenzo(a,i)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,i) pyrene							
Dibenzo(a,h)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo(a,h)pyrene							
Dibenzo(a,h)antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a, h) anthracene							
Indenopirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Indeno (1,2,3-c,d) pyrene							
Pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Pyrene							
Fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Fluoranthene							
Naftalene (C10)	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Naphthalene							
Acenaftene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Acenaphthene							

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Continuation of Test Report n°: **2135937-001**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Acenaftilene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Acenaftilene							
Fluorene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Fluorene							
Fenantrene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Phenanthrene							
Antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Anthracene							
Sommatoria composti aromatici policiclici	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
PAHs							
POLICLOROBIFENILI							
polychlorinated biphenyls							
(*) PCB28	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB28							
PCB52	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB52							
PCB101	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB101							
PCB118	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB118							
PCB138	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB138							
PCB153	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB153							
PCB180	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB180							
IDROCARBURI							
HYDROCARBONS							
Idrocarburi pesanti C >12 (C12-C40)	EPA 3541 1994 + EPA 3620C 2014 + EPA 8015C 2007	< 1	mg/kg				
Total Petroleum Hydrocarbons							

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Continuation of Test Report n°: **2135937-001**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
COMPOSTI ORGANOSTANNICI							
ORGANOSTANNIC COMPOUNDS							
Monobutilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Monobutyltin							
Dibutilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Dibutyltin							
Tributilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Tributyltin							
AMIANTO							
ASBESTOS							
Amianto	DM 06/09/1994 GU SO n°288 10/12/1994 20/09/1994 + DGR 12/2/2008 n°8/677 BURL n°73 8/4/2008 I° suppl. straordinario	**< 1000**	mg/kg				
Asbestos							
ALTRE SOSTANZE							
Perdita al Fuoco	UNI EN 15169:2007	**3,7**	% s.s.	0,4			
Fire Loss							
TOC	UNI EN 13137:2002	**0,40**	%	0,11			
TOC							

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Continuation of Test Report n°: **2135937-001**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.

Abbreviations:
"L.B." = Lower Bound Criterion for the expression of summation
"U.B." = Upper Bound Criterion for the expression of summation
"M.B." = Medium Bound Criterion for the expression of summation "MDL" = Method Detection Limit
"U.M." = Unity of Measure
"R" = Value of Percentage Recovery Rate, for analysis of traces and residues
"ss" = Dry matter
"TQ" = Wet basis

The sample is stored for two weeks from the date of issue of the test report, unless specific requests are made by the customer.
This test report concerns the sample tested and it cannot be partially reproduced, unless prior written approval by the C.A.D.A s.n.c.
The records concerning the aforementioned sample are kept for a period of not less than 5 years.
In the event that the result of the test is not assessable, for a value lower than MDL, the Laboratory indicates in the field of the result of the test report "<MDL".
The recovery reported was not used in the calculations, unless otherwise specified

For chemical and microbiological tests, the measurement uncertainty is expressed as extended and is calculated using a coverage factor K = 2 and a probability of measurement of 95%.
For microbiological tests on water, the uncertainty is expressed as confidence levels.
For microbiological tests on solid matrices, the estimation of uncertainty is performed according to ISO 19036: 2006 / Amd.1: 2009.
Unless otherwise indicated, summation are calculated using the Lower Bound criterion (L.B.)

(1) Note for tests D. Lgs. 31/01 and ss.mm.ii.
-- "Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g, h, i)perylene, indeno(1,2,3-cd)pyrene"

(2) Note for tests D. Lgs. 152/06 and ss.mm.ii. Tab. 1A/1B
- Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(a)Anthracene, benzo(a)pyrene, benzo(b)Fluoranthene, benzo(k)Fluoranthene, benzo(g, h, i)Perylene, Chrysene, dibenzo(a, e)pyrene, dibenzo(a, l)pyrene, dibenzo(a, i)pyrene, dibenzo(a, h)pyrene ".
- "Summation of Aromatic Organic Solvents" means the "Summation of Ethylbenzene, Styrene, Toluene, Xylene".
- "Summation Aromatic Amines" means "Summation of Aniline, o-Anisidine, m-p-Anisidine, Diphenylamine, p-Toluidine".
- The analytical results are expressed on "ss"

(3) Note for tests D. Lgs. 152/06 and ss.mm.ii. Tab. 2
- "Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(b Fluoranthene, benzo(k)Fluoranthene, benzo(g, h, i)Perylene, indeno(1,2,3-cd)pyrene".
- "Organoalogenated Summation" means the "Sum of Chloromethane, Trichloromethane (Chloroform), Vinyl Chloride, 1,2-Dichloroethane, 1,1-Dichloroethylene, Trichlorethylene, Tetrachlorethylene, Hexachlorobutadiene"

(4) Note for Tests on Wastes
- If not otherwise specified, "Summation" means the "sum of all the analytes listed for the same family on this test report".
- The analytical results are expressed on wet basis, unless otherwise specified in the field of the unit of measurement shown alongside the test.
-"N.A." reported in the result field, means "Not applicable due to the effect of the matrix".
-"N.D." reported in the result field, means "Not determinable due to the absence of the necessary conditions for the execution of the test".
- If "Not determined" is given for the parameter "Hydrocarbons C10 - C40", it means that this parameter, in relation to the test method indicated in the shared note of the ISS n ° 0035653 of 06/08 / 2010, it is not quantified due to the possible interference when the waste sample contains plastic materials, paper and / or materials treated with organic substances. This is because all the aforesaid materials can give unreliable results (high values of heavy hydrocarbons deriving from the characteristics of the materials and not from hydrocarbon contamination) with the purpose of the analysis destined to the "classification" of the waste

Chemical Analisys Manager	Analitycal Division Director
Dott. Giuseppe Rocca Chimico Ordine Interprovinciale dei Chimici della Sicilia Sigillo N.294	**Dott.ssa Margherita Augello** Ordine Nazionale dei Biologi Albo professionale N.036132

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Chimica Applicata Depurazione Acque s.n.c.
di Filippo Giglio & C.

- Autorizzazione Ministero Politiche Agricole Alimentari e Forestali per analisi nel Settore Oleicolo D.M. 06/04/2011 (Rinnovo del 21/03/2019 – G.U. n°92 del 19/04/2019)
- Inserimento nell'Elenco dei "Tecnici Competenti" p.to 7 art. 2 Legge 26/10/95 n°447 "Inquinamento acustico"
- Inserimento nell'Elenco dei Laboratori qualificati ad effettuare analisi amianto – Regione Sicilia (COD n°244SIC2)
- Inserimento nell'Elenco dei laboratori riconosciuti dal MIPAAF per la verifica di conformità dei fertilizzanti di cui all'art.1 d.lgs. n°75/2010 (Decreto n°3734 del 07 marzo 2019)
- Inserimento nell'Elenco dei Laboratori della Regione Sicilia per le attività analitiche di autocontrollo alimentare, di cui al D.D.G. n° 434/17 del 09/03/2017 (ID n°2012/AG002)
- Inserimento nell'Elenco dei Laboratori di prova riconosciuti dal MIPAAF per l'esecuzione di analisi di campioni in agricoltura biologica ai sensi del Decreto Ministeriale n. 2592 del 12 marzo 2014

ACCREDIA L'ENTE ITALIANO DI ACCREDITAMENTO
LAB N° 0439

Test Report n°: **2135937-002**

Description: **Rubble/stone carrot, Station B , Mid-point (1 - 3m); Replica 2. Delimara power station Activities Required by AIS Environment Ltd**

Client:
AIS Environment Ltd
AIS House, 18, St. John Street, Fgura, FGR 1447, Malta
AIS House, Malta

Reception n°: **2135937**
Sampling Date: **11-nov-19**
Sample Reception Date: **11-nov-19** Test Start Date: **11-nov-19**
Test Report Date: **28-nov-19** Test Finish Date: **28-nov-19**
Sampling Method: **Sampled by SUN LAB GROUP Ltd**
Annex: **NO**
Reference for the Limits: ***///***

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
PARAMETRI CHIMICI							
CHEMICAL PARAMETERS							
METALLI							
METALS							
Arsenico	UNI EN 13657:2004 + UNI EN 16170:2016	**5,5**	mg/kg	1,3			
Arsenic							
Cadmio	UNI EN 13657:2004 + UNI EN 16170:2016	**0,45**	mg/kg	0,12			
Cadmium							
Cromo Totale	UNI EN 13657:2004 + UNI EN 16170:2016	**28**	mg/kg	6			
Total Chromium							
Mercurio	UNI EN 13657:2004 + UNI EN 16170:2016	**< 0,1**	mg/kg				
Mercury							
Nichel	UNI EN 13657:2004 + UNI EN 16170:2016	**26**	mg/kg	5			
Nickel							
Piombo	UNI EN 13657:2004 + UNI EN 16170:2016	**8,2**	mg/kg	1,6			
Lead							
Rame	UNI EN 13657:2004 + UNI EN 16170:2016	**28**	mg/kg	5			
Copper							

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Continuation of Test Report n°: **2135937-002**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Zinco	UNI EN 13657:2004 + UNI EN 16170:2016	**61**	mg/kg	16			
Zinc							
ANIONI							
ANIONS							
Cloruri	EPA 300.0 1999	**199**	mg/kg	23			
Choloride							
Solfati	EPA 300.0 1999	**3925**	mg/kg	475			
Sulphates							
COMPOSTI ORGANICI AROMATICI							
AROMATIC ORGANIC COMPOUNDS							
Benzene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Benzene							
Etilbenzene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Ethylbenzene							
Stirene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Styrene							
Toluene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Toluene							
m,p-Xilene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
m, p-Xylene							
o-Xilene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
o-Xylene							
Sommatoria composti organici aromatici	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
BTEX (Total Organic Aromatic Compounds)							
IDROCARBURI POLICICLICI AROMATICI							
POLYCYCLIC AROMATIC HYDROCARBONS							
Benzo(a)antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	**< 0,01**	mg/kg				
Benzo (a) anthracene							
Benzo(a)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	**< 0,01**	mg/kg				
Benzo (a) pyrene							

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Continuation of Test Report n°: **2135937-002**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Benzo(e)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/Kg				
Benzo(b)fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (b) fluoranthene							
Benzo(k)fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (k) fluoranthene							
Benzo(g,h,i)perilene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (g, h, i) perylene							
Crisene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Chrysene							
Dibenzo(a,e)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,e) pyrene							
Dibenzo(a,l)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,l) pyrene							
Dibenzo(a,i)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,i) pyrene							
Dibenzo(a,h)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo(a,h)pyrene							
Dibenzo(a,h)antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a, h) anthracene							
Indenopirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Indeno (1,2,3-c,d) pyrene							
Pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Pyrene							
Fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Fluoranthene							
Naftalene (C10)	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Naphthalene							
Acenaftene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Acenaphthene							

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Continuation of Test Report n°: **2135937-002**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Acenaftilene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Acenaftilene							
Fluorene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Fluorene							
Fenantrene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Phenanthrene							
Antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Anthracene							
Sommatoria composti aromatici policiclici	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
PAHs							
POLICLOROBIFENILI							
polychlorinated biphenyls							
(*) PCB28	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB28							
PCB52	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB52							
PCB101	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB101							
PCB118	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB118							
PCB138	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB138							
PCB153	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB153							
PCB180	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB180							
IDROCARBURI							
HYDROCARBONS							
Idrocarburi pesanti C >12 (C12-C40)	EPA 3541 1994 + EPA 3620C 2014 + EPA 8015C 2007	< 1	mg/kg				
Total Petroleum Hydrocarbons							

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Continuation of Test Report n°: **2135937-002**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
COMPOSTI ORGANOSTANNICI							
ORGANOSTANNIC COMPOUNDS							
Monobutilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Monobutyltin							
Dibutilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Dibutyltin							
Tributilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Tributyltin							
AMIANTO							
ASBESTOS							
Amianto	DM 06/09/1994 GU SO n°288 10/12/1994 20/09/1994 + DGR 12/2/2008 n°8/677 BURL n°73 8/4/2008 I° suppl. straordinario	**< 1000**	mg/kg				
Asbestos							
ALTRE SOSTANZE							
Perdita al Fuoco	UNI EN 15169:2007	**3,7**	% s.s.	0,4			
Fire Loss							
TOC	UNI EN 13137:2002	**0,44**	%	0,12			
TOC							

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Continuation of Test Report n°: **2135937-002**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.

Abbreviations:
"L.B." = Lower Bound Criterion for the expression of summation
"U.B." = Upper Bound Criterion for the expression of summation
"M.B." = Medium Bound Criterion for the expression of summation "MDL" = Method Detection Limit
"U.M." = Unity of Measure
"R" = Value of Percentage Recovery Rate, for analysis of traces and residues
"ss" = Dry matter
"TQ" = Wet basis

The sample is stored for two weeks from the date of issue of the test report, unless specific requests are made by the customer.
This test report concerns the sample tested and it cannot be partially reproduced, unless prior written approval by the C.A.D.A s.n.c.
The records concerning the aforementioned sample are kept for a period of not less than 5 years.
In the event that the result of the test is not assessable, for a value lower than MDL, the Laboratory indicates in the field of the result of the test report "<MDL".
The recovery reported was not used in the calculations, unless otherwise specified

For chemical and microbiological tests, the measurement uncertainty is expressed as extended and is calculated using a coverage factor K = 2 and a probability of measurement of 95%.
For microbiological tests on water, the uncertainty is expressed as confidence levels.
For microbiological tests on solid matrices, the estimation of uncertainty is performed according to ISO 19036: 2006 / Amd.1: 2009.
Unless otherwise indicated, summation are calculated using the Lower Bound criterion (L.B.)

(1) Note for tests D. Lgs. 31/01 and ss.mm.ii.
-- "Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g, h, i)perylene, indeno(1,2,3-cd)pyrene"

(2) Note for tests D. Lgs. 152/06 and ss.mm.ii. Tab. 1A/1B
- Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(a)Anthracene, benzo(a)pyrene, benzo(b)Fluoranthene, benzo(k)Fluoranthene, benzo(g, h, i)Perylene, Chrysene, dibenzo(a, e)pyrene, dibenzo(a, l)pyrene, dibenzo(a, i)pyrene, dibenzo(a, h)pyrene ".
- "Summation of Aromatic Organic Solvents" means the "Summation of Ethylbenzene, Styrene, Toluene, Xylene".
- "Summation Aromatic Amines" means "Summation of Aniline, o-Anisidine, m-p-Anisidine, Diphenylamine, p-Toluidine".
- The analytical results are expressed on "ss"

(3) Note for tests D. Lgs. 152/06 and ss.mm.ii. Tab. 2
- "Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(b Fluoranthene, benzo(k)Fluoranthene, benzo(g, h, i)Perylene, indeno(1,2,3-cd)pyrene".
- "Organoalogenated Summation" means the "Sum of Chloromethane, Trichloromethane (Chloroform), Vinyl Chloride, 1,2-Dichloroethane, 1,1-Dichloroethylene, Trichlorethylene, Tetrachlorethylene, Hexachlorobutadiene"

(4) Note for Tests on Wastes
- If not otherwise specified, "Summation" means the "sum of all the analytes listed for the same family on this test report".
- The analytical results are expressed on wet basis, unless otherwise specified in the field of the unit of measurement shown alongside the test.
-"N.A." reported in the result field, means "Not applicable due to the effect of the matrix".
-"N.D." reported in the result field, means "Not determinable due to the absence of the necessary conditions for the execution of the test".
- If "Not determined" is given for the parameter "Hydrocarbons C10 - C40", it means that this parameter, in relation to the test method indicated in the shared note of the ISS n ° 0035653 of 06/08 / 2010, it is not quantified due to the possible interference when the waste sample contains plastic materials, paper and / or materials treated with organic substances. This is because all the aforesaid materials can give unreliable results (high values of heavy hydrocarbons deriving from the characteristics of the materials and not from hydrocarbon contamination) with the purpose of the analysis destined to the "classification" of the waste

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Dott. Giuseppe Rocca Chimico Ordine Interprovinciale dei Chimici della Sicilia Sigillo N.294	**Dott.ssa Margherita Augello** Ordine Nazionale dei Biologi Albo professionale N.036132

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Chimica Applicata Depurazione Acque s.n.c.
di Filippo Giglio & C.

- Autorizzazione Ministero Politiche Agricole Alimentari e Forestali per analisi nel Settore Oleicolo D.M. 06/04/2011 (Rinnovo del 21/03/2019 – G.U. n°92 del 19/04/2019)
- Inserimento nell'Elenco dei "Tecnici Competenti" p.to 7 art. 2 Legge 26/10/95 n°447 "Inquinamento acustico"
- Inserimento nell'Elenco dei Laboratori qualificati ad effettuare analisi amianto – Regione Sicilia (COD n°244SIC2)
- Inserimento nell'Elenco dei laboratori riconosciuti dal MIPAAF per la verifica di conformità dei fertilizzanti di cui all'art.1 d.lgs. n°75/2010 (Decreto n°3734 del 07 marzo 2019)
- Inserimento nell'Elenco dei Laboratori della Regione Sicilia per le attività analitiche di autocontrollo alimentare, di cui al D.D.G. n° 434/17 del 09/03/2017 (ID n°2012/AG002)
- Inserimento nell'Elenco dei Laboratori di prova riconosciuti dal MIPAAF per l'esecuzione di analisi di campioni in agricoltura biologica ai sensi del Decreto Ministeriale n. 2592 del 12 marzo 2014

ACCREDIA L'ENTE ITALIANO DI ACCREDITAMENTO

LAB N° 0439

Test Report n°: **2135937-003**

Description: **Rubble/stone carrot, Station C , Mid-point (1 - 3m); Replica 1. Delimara power station Activities Required by AIS Environment Ltd**

Client:
AIS Environment Ltd
AIS House, 18, St. John Street, Fgura, FGR 1447, Malta
AIS House, Malta

Reception n°: **2135937**
Sampling Date: **11-nov-19**
Sample Reception Date: **11-nov-19** Test Start Date: **11-nov-19**
Test Report Date: **28-nov-19** Test Finish Date: **28-nov-19**
Sampling Method: **Sampled by SUN LAB GROUP Ltd**
Annex: **NO**
Reference for the Limits: ***///***

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
PARAMETRI CHIMICI							
CHEMICAL PARAMETERS							
METALLI							
METALS							
Arsenico	UNI EN 13657:2004 + UNI EN 16170:2016	**4,8**	mg/kg	1,1			
Arsenic							
Cadmio	UNI EN 13657:2004 + UNI EN 16170:2016	**0,34**	mg/kg	0,09			
Cadmium							
Cromo Totale	UNI EN 13657:2004 + UNI EN 16170:2016	**25**	mg/kg	5			
Total Chromium							
Mercurio	UNI EN 13657:2004 + UNI EN 16170:2016	**< 0,1**	mg/kg				
Mercury							
Nichel	UNI EN 13657:2004 + UNI EN 16170:2016	**23**	mg/kg	4			
Nickel							
Piombo	UNI EN 13657:2004 + UNI EN 16170:2016	**3,9**	mg/kg	0,9			
Lead							
Rame	UNI EN 13657:2004 + UNI EN 16170:2016	**29**	mg/kg	5			
Copper							

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Continuation of Test Report n°: **2135937-003**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Zinco	UNI EN 13657:2004 + UNI EN 16170:2016	**63**	mg/kg	17			
Zinc							
ANIONI							
ANIONS							
Cloruri	EPA 300.0 1999	**367**	mg/kg	43			
Choloride							
Solfati	EPA 300.0 1999	**6334**	mg/kg	766			
Sulphates							
COMPOSTI ORGANICI AROMATICI							
AROMATIC ORGANIC COMPOUNDS							
Benzene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Benzene							
Etilbenzene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Ethylbenzene							
Stirene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Styrene							
Toluene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Toluene							
m,p-Xilene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
m, p-Xylene							
o-Xilene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
o-Xylene							
Sommatoria composti organici aromatici	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
BTEX (Total Organic Aromatic Compounds)							
IDROCARBURI POLICICLICI AROMATICI							
POLYCYCLIC AROMATIC HYDROCARBONS							
Benzo(a)antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	**< 0,01**	mg/kg				
Benzo (a) anthracene							
Benzo(a)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	**< 0,01**	mg/kg				
Benzo (a) pyrene							

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Continuation of Test Report n°: **2135937-003**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Benzo(e)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/Kg				
Benzo(b)fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (b) fluoranthene							
Benzo(k)fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (k) fluoranthene							
Benzo(g,h,i)perilene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (g, h, i) perylene							
Crisene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Chrysene							
Dibenzo(a,e)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,e) pyrene							
Dibenzo(a,l)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,l) pyrene							
Dibenzo(a,i)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,i) pyrene							
Dibenzo(a,h)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo(a,h)pyrene							
Dibenzo(a,h)antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a, h) anthracene							
Indenopirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Indeno (1,2,3-c,d) pyrene							
Pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Pyrene							
Fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Fluoranthene							
Naftalene (C10)	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Naphthalene							
Acenaftene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Acenaphthene							

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Continuation of Test Report n°: **2135937-003**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Acenaftilene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Acenaftilene							
Fluorene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Fluorene							
Fenantrene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Phenanthrene							
Antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Anthracene							
Sommatoria composti aromatici policiclici	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
PAHs							
POLICLOROBIFENILI							
polychlorinated biphenyls							
(*) PCB28	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB28							
PCB52	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB52							
PCB101	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB101							
PCB118	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB118							
PCB138	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB138							
PCB153	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB153							
PCB180	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB180							
IDROCARBURI							
HYDROCARBONS							
Idrocarburi pesanti C >12 (C12-C40)	EPA 3541 1994 + EPA 3620C 2014 + EPA 8015C 2007	< 1	mg/kg				
Total Petroleum Hydrocarbons							

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Continuation of Test Report n°: **2135937-003**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
COMPOSTI ORGANOSTANNICI							
ORGANOSTANNIC COMPOUNDS							
Monobutilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Monobutyltin							
Dibutilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Dibutyltin							
Tributilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Tributyltin							
AMIANTO							
ASBESTOS							
Amianto	DM 06/09/1994 GU SO n°288 10/12/1994 20/09/1994 + DGR 12/2/2008 n°8/677 BURL n°73 8/4/2008 I° suppl. straordinario	**< 1000**	mg/kg				
Asbestos							
ALTRE SOSTANZE							
Perdita al Fuoco	UNI EN 15169:2007	**5,4**	% s.s.	0,6			
Fire Loss							
TOC	UNI EN 13137:2002	**0,25**	%	0,07			
TOC							

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Continuation of Test Report n°: **2135937-003**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.

Abbreviations:
"L.B." = Lower Bound Criterion for the expression of summation
"U.B." = Upper Bound Criterion for the expression of summation
"M.B." = Medium Bound Criterion for the expression of summation "MDL" = Method Detection Limit
"U.M." = Unity of Measure
"R" = Value of Percentage Recovery Rate, for analysis of traces and residues
"ss" = Dry matter
"TQ" = Wet basis

The sample is stored for two weeks from the date of issue of the test report, unless specific requests are made by the customer.
This test report concerns the sample tested and it cannot be partially reproduced, unless prior written approval by the C.A.D.A s.n.c.
The records concerning the aforementioned sample are kept for a period of not less than 5 years.
In the event that the result of the test is not assessable, for a value lower than MDL, the Laboratory indicates in the field of the result of the test report "<MDL".
The recovery reported was not used in the calculations, unless otherwise specified

For chemical and microbiological tests, the measurement uncertainty is expressed as extended and is calculated using a coverage factor K = 2 and a probability of measurement of 95%.
For microbiological tests on water, the uncertainty is expressed as confidence levels.
For microbiological tests on solid matrices, the estimation of uncertainty is performed according to ISO 19036: 2006 / Amd.1: 2009.
Unless otherwise indicated, summation are calculated using the Lower Bound criterion (L.B.)

(1) Note for tests D. Lgs. 31/01 and ss.mm.ii.
-- "Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g, h, i)perylene, indeno(1,2,3-cd)pyrene"

(2) Note for tests D. Lgs. 152/06 and ss.mm.ii. Tab. 1A/1B
- Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(a)Anthracene, benzo(a)pyrene, benzo(b)Fluoranthene, benzo(k)Fluoranthene, benzo(g, h, i)Perylene, Chrysene, dibenzo(a, e)pyrene, dibenzo(a, l)pyrene, dibenzo(a, i)pyrene, dibenzo(a, h)pyrene ".
- "Summation of Aromatic Organic Solvents" means the "Summation of Ethylbenzene, Styrene, Toluene, Xylene".
- "Summation Aromatic Amines" means "Summation of Aniline, o-Anisidine, m-p-Anisidine, Diphenylamine, p-Toluidine".
- The analytical results are expressed on "ss"

(3) Note for tests D. Lgs. 152/06 and ss.mm.ii. Tab. 2
- "Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(b Fluoranthene, benzo(k)Fluoranthene, benzo(g, h, i)Perylene, indeno(1,2,3-cd)pyrene".
- "Organoalogenated Summation" means the "Sum of Chloromethane, Trichloromethane (Chloroform), Vinyl Chloride, 1,2-Dichloroethane, 1,1-Dichloroethylene, Trichlorethylene, Tetrachlorethylene, Hexachlorobutadiene"

(4) Note for Tests on Wastes
- If not otherwise specified, "Summation" means the "sum of all the analytes listed for the same family on this test report".
- The analytical results are expressed on wet basis, unless otherwise specified in the field of the unit of measurement shown alongside the test.
-"N.A." reported in the result field, means "Not applicable due to the effect of the matrix".
-"N.D." reported in the result field, means "Not determinable due to the absence of the necessary conditions for the execution of the test".
- If "Not determined" is given for the parameter "Hydrocarbons C10 - C40", it means that this parameter, in relation to the test method indicated in the shared note of the ISS n ° 0035653 of 06/08 / 2010, it is not quantified due to the possible interference when the waste sample contains plastic materials, paper and / or materials treated with organic substances. This is because all the aforesaid materials can give unreliable results (high values of heavy hydrocarbons deriving from the characteristics of the materials and not from hydrocarbon contamination) with the purpose of the analysis destined to the "classification" of the waste

Chemical Analisys Manager	Analitycal Division Director
Dott. Giuseppe Rocca Chimico Ordine Interprovinciale dei Chimici della Sicilia Sigillo N.294	**Dott.ssa Margherita Augello** Ordine Nazionale dei Biologi Albo professionale N.036132

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Chimica Applicata Depurazione Acque s.n.c.
di Filippo Giglio & C.

- Autorizzazione Ministero Politiche Agricole Alimentari e Forestali per analisi nel Settore Oleicolo D.M. 06/04/2011 (Rinnovo del 21/03/2019 – G.U. n°92 del 19/04/2019)
- Inserimento nell'Elenco dei "Tecnici Competenti" p.to 7 art. 2 Legge 26/10/95 n°447 "Inquinamento acustico"
- Inserimento nell'Elenco dei Laboratori qualificati ad effettuare analisi amianto – Regione Sicilia (COD n°244SIC2)
- Inserimento nell'Elenco dei laboratori riconosciuti dal MIPAAF per la verifica di conformità dei fertilizzanti di cui all'art.1 d.lgs. n°75/2010 (Decreto n°3734 del 07 marzo 2019)
- Inserimento nell'Elenco dei Laboratori della Regione Sicilia per le attività analitiche di autocontrollo alimentare, di cui al D.D.G. n° 434/17 del 09/03/2017 (ID n°2012/AG002)
- Inserimento nell'Elenco dei Laboratori di prova riconosciuti dal MIPAAF per l'esecuzione di analisi di campioni in agricoltura biologica ai sensi del Decreto Ministeriale n. 2592 del 12 marzo 2014

ACCREDIA L'ENTE ITALIANO DI ACCREDITAMENTO
LAB N° 0439

Test Report n°: **2135937-004**

Description: **Rubble/stone carrot, Station C , Mid-point (1 - 3m); Replica 2. Delimara power station Activities Required by AIS Environment Ltd**

Client:
AIS Environment Ltd
AIS House, 18, St. John Street,
Fgura, FGR 1447, Malta
AIS House, Malta

Reception n°: **2135937**
Sampling Date: **11-nov-19**
Sample Reception Date: **11-nov-19** Test Start Date: **11-nov-19**
Test Report Date: **28-nov-19** Test Finish Date: **28-nov-19**
Sampling Method: **Sampled by SUN LAB GROUP Ltd**
Annex: **NO**
Reference for the Limits: ***///***

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
PARAMETRI CHIMICI							
CHEMICAL PARAMETERS							
METALLI							
METALS							
Arsenico	UNI EN 13657:2004 + UNI EN 16170:2016	**5,4**	mg/kg	1,3			
Arsenic							
Cadmio	UNI EN 13657:2004 + UNI EN 16170:2016	**0,4**	mg/kg	0,1			
Cadmium							
Cromo Totale	UNI EN 13657:2004 + UNI EN 16170:2016	**29**	mg/kg	6			
Total Chromium							
Mercurio	UNI EN 13657:2004 + UNI EN 16170:2016	**0,47**	mg/kg	0,19			
Mercury							
Nichel	UNI EN 13657:2004 + UNI EN 16170:2016	**27**	mg/kg	5			
Nickel							
Piombo	UNI EN 13657:2004 + UNI EN 16170:2016	**4**	mg/kg	1			
Lead							
Rame	UNI EN 13657:2004 + UNI EN 16170:2016	**26**	mg/kg	4			
Copper							

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Continuation of Test Report n°: **2135937-004**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Zinco	UNI EN 13657:2004 + UNI EN 16170:2016	**69**	mg/kg	18			
Zinc							
ANIONI							
ANIONS							
Cloruri	EPA 300.0 1999	**396**	mg/kg	46			
Choloride							
Solfati	EPA 300.0 1999	**6889**	mg/kg	834			
Sulphates							
COMPOSTI ORGANICI AROMATICI							
AROMATIC ORGANIC COMPOUNDS							
Benzene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Benzene							
Etilbenzene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Ethylbenzene							
Stirene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Styrene							
Toluene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Toluene							
m,p-Xilene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
m, p-Xylene							
o-Xilene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
o-Xylene							
Sommatoria composti organici aromatici	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
BTEX (Total Organic Aromatic Compounds)							
IDROCARBURI POLICICLICI AROMATICI							
POLYCYCLIC AROMATIC HYDROCARBONS							
Benzo(a)antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	**< 0,01**	mg/kg				
Benzo (a) anthracene							
Benzo(a)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	**< 0,01**	mg/kg				
Benzo (a) pyrene							

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Continuation of Test Report n°: **2135937-004**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Benzo(e)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/Kg				
Benzo(b)fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (b) fluoranthene							
Benzo(k)fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (k) fluoranthene							
Benzo(g,h,i)perilene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (g, h, i) perylene							
Crisene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Chrysene							
Dibenzo(a,e)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,e) pyrene							
Dibenzo(a,l)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,l) pyrene							
Dibenzo(a,i)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,i) pyrene							
Dibenzo(a,h)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo(a,h)pyrene							
Dibenzo(a,h)antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a, h) anthracene							
Indenopirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Indeno (1,2,3-c,d) pyrene							
Pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Pyrene							
Fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Fluoranthene							
Naftalene (C10)	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Naphthalene							
Acenaftene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Acenaphthene							

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Continuation of Test Report n°: **2135937-004**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Acenaftilene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Acenaftilene							
Fluorene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Fluorene							
Fenantrene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Phenanthrene							
Antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Anthracene							
Sommatoria composti aromatici policiclici	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
PAHs							
POLICLOROBIFENILI							
polychlorinated biphenyls							
(*) PCB28	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB28							
PCB52	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB52							
PCB101	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB101							
PCB118	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB118							
PCB138	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB138							
PCB153	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB153							
PCB180	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB180							
IDROCARBURI							
HYDROCARBONS							
Idrocarburi pesanti C >12 (C12-C40)	EPA 3541 1994 + EPA 3620C 2014 + EPA 8015C 2007	< 1	mg/kg				
Total Petroleum Hydrocarbons							

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Continuation of Test Report n°: **2135937-004**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
COMPOSTI ORGANOSTANNICI							
ORGANOSTANNIC COMPOUNDS							
Monobutilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Monobutyltin							
Dibutilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Dibutyltin							
Tributilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Tributyltin							
AMIANTO							
ASBESTOS							
Amianto	DM 06/09/1994 GU SO n°288 10/12/1994 20/09/1994 + DGR 12/2/2008 n°8/677 BURL n°73 8/4/2008 I° suppl. straordinario	**< 1000**	mg/kg				
Asbestos							
ALTRE SOSTANZE							
Perdita al Fuoco	UNI EN 15169:2007	**5,7**	% s.s.	0,7			
Fire Loss							
TOC	UNI EN 13137:2002	**0,32**	%	0,09			
TOC							

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Continuation of Test Report n°: **2135937-004**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.

Abbreviations:
"L.B." = Lower Bound Criterion for the expression of summation
"U.B." = Upper Bound Criterion for the expression of summation
"M.B." = Medium Bound Criterion for the expression of summation "MDL" = Method Detection Limit
"U.M." = Unity of Measure
"R" = Value of Percentage Recovery Rate, for analysis of traces and residues
"ss" = Dry matter
"TQ" = Wet basis

The sample is stored for two weeks from the date of issue of the test report, unless specific requests are made by the customer.
This test report concerns the sample tested and it cannot be partially reproduced, unless prior written approval by the C.A.D.A s.n.c.
The records concerning the aforementioned sample are kept for a period of not less than 5 years.
In the event that the result of the test is not assessable, for a value lower than MDL, the Laboratory indicates in the field of the result of the test report "<MDL".
The recovery reported was not used in the calculations, unless otherwise specified

For chemical and microbiological tests, the measurement uncertainty is expressed as extended and is calculated using a coverage factor K = 2 and a probability of measurement of 95%.
For microbiological tests on water, the uncertainty is expressed as confidence levels.
For microbiological tests on solid matrices, the estimation of uncertainty is performed according to ISO 19036: 2006 / Amd.1: 2009.
Unless otherwise indicated, summation are calculated using the Lower Bound criterion (L.B.)

(1) Note for tests D. Lgs. 31/01 and ss.mm.ii.
-- "Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g, h, i)perylene, indeno(1,2,3-cd)pyrene"

(2) Note for tests D. Lgs. 152/06 and ss.mm.ii. Tab. 1A/1B
- Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(a)Anthracene, benzo(a)pyrene, benzo(b)Fluoranthene, benzo(k)Fluoranthene, benzo(g, h, i)Perylene, Chrysene, dibenzo(a, e)pyrene, dibenzo(a, l)pyrene, dibenzo(a, i)pyrene, dibenzo(a, h)pyrene ".
- "Summation of Aromatic Organic Solvents" means the "Summation of Ethylbenzene, Styrene, Toluene, Xylene".
- "Summation Aromatic Amines" means "Summation of Aniline, o-Anisidine, m-p-Anisidine, Diphenylamine, p-Toluidine".
- The analytical results are expressed on "ss"

(3) Note for tests D. Lgs. 152/06 and ss.mm.ii. Tab. 2
- "Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(b Fluoranthene, benzo(k)Fluoranthene, benzo(g, h, i)Perylene, indeno(1,2,3-cd)pyrene".
- "Organoalogenated Summation" means the "Sum of Chloromethane, Trichloromethane (Chloroform), Vinyl Chloride, 1,2-Dichloroethane, 1,1-Dichloroethylene, Trichlorethylene, Tetrachlorethylene, Hexachlorobutadiene"

(4) Note for Tests on Wastes
- If not otherwise specified, "Summation" means the "sum of all the analytes listed for the same family on this test report".
- The analytical results are expressed on wet basis, unless otherwise specified in the field of the unit of measurement shown alongside the test.
-"N.A." reported in the result field, means "Not applicable due to the effect of the matrix".
-"N.D." reported in the result field, means "Not determinable due to the absence of the necessary conditions for the execution of the test".
- If "Not determined" is given for the parameter "Hydrocarbons C10 - C40", it means that this parameter, in relation to the test method indicated in the shared note of the ISS n ° 0035653 of 06/08 / 2010, it is not quantified due to the possible interference when the waste sample contains plastic materials, paper and / or materials treated with organic substances. This is because all the aforesaid materials can give unreliable results (high values of heavy hydrocarbons deriving from the characteristics of the materials and not from hydrocarbon contamination) with the purpose of the analysis destined to the "classification" of the waste

Chemical Analisys Manager	Analitycal Division Director
Dott. Giuseppe Rocca Chimico Ordine Interprovinciale dei Chimici della Sicilia Sigillo N.294	**Dott.ssa Margherita Augello** Ordine Nazionale dei Biologi Albo professionale N.036132

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Chimica Applicata Depurazione Acque s.n.c.
di Filippo Giglio & C.

- Autorizzazione Ministero Politiche Agricole Alimentari e Forestali per analisi nel Settore Oleicolo D.M. 06/04/2011 (Rinnovo del 21/03/2019 – G.U. n°92 del 19/04/2019)
- Inserimento nell'Elenco dei "Tecnici Competenti" p.to 7 art. 2 Legge 26/10/95 n°447 "Inquinamento acustico"
- Inserimento nell'Elenco dei Laboratori qualificati ad effettuare analisi amianto – Regione Sicilia (COD n°244SIC2)
- Inserimento nell'Elenco dei laboratori riconosciuti dal MIPAAF per la verifica di conformità dei fertilizzanti di cui all'art.1 d.lgs. n°75/2010 (Decreto n°3734 del 07 marzo 2019)
- Inserimento nell'Elenco dei Laboratori della Regione Sicilia per le attività analitiche di autocontrollo alimentare, di cui al D.D.G. n° 434/17 del 09/03/2017 (ID n°2012/AG002)
- Inserimento nell'Elenco dei Laboratori di prova riconosciuti dal MIPAAF per l'esecuzione di analisi di campioni in agricoltura biologica ai sensi del Decreto Ministeriale n. 2592 del 12 marzo 2014

ACCREDIA L'ENTE ITALIANO DI ACCREDITAMENTO
LAB N° 0439

Test Report n°: **2135937-005**

Description: **Rubble/stone carrot, Station D , Mid-point (1 - 3m); Replica 1. Delimara power station Activities Required by AIS Environment Ltd**

Client:
AIS Environment Ltd
AIS House, 18, St. John Street, Fgura, FGR 1447, Malta
AIS House, Malta

Reception n°: **2135937**
Sampling Date: **11-nov-19**
Sample Reception Date: **11-nov-19** Test Start Date: **11-nov-19**
Test Report Date: **28-nov-19** Test Finish Date: **28-nov-19**
Sampling Method: **Sampled by SUN LAB GROUP Ltd**
Annex: **NO**
Reference for the Limits: ***///***

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
PARAMETRI CHIMICI							
CHEMICAL PARAMETERS							
METALLI							
METALS							
Arsenico	UNI EN 13657:2004 + UNI EN 16170:2016	**6,1**	mg/kg	1,4			
Arsenic							
Cadmio	UNI EN 13657:2004 + UNI EN 16170:2016	**0,47**	mg/kg	0,12			
Cadmium							
Cromo Totale	UNI EN 13657:2004 + UNI EN 16170:2016	**30**	mg/kg	6			
Total Chromium							
Mercurio	UNI EN 13657:2004 + UNI EN 16170:2016	**< 0,1**	mg/kg				
Mercury							
Nichel	UNI EN 13657:2004 + UNI EN 16170:2016	**28**	mg/kg	5			
Nickel							
Piombo	UNI EN 13657:2004 + UNI EN 16170:2016	**13**	mg/kg	2			
Lead							
Rame	UNI EN 13657:2004 + UNI EN 16170:2016	**28**	mg/kg	5			
Copper							

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Continuation of Test Report n°: **2135937-005**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Zinco	UNI EN 13657:2004 + UNI EN 16170:2016	**74**	mg/kg	19			
Zinc							
ANIONI							
ANIONS							
Cloruri	EPA 300.0 1999	**390**	mg/kg	46			
Choloride							
Solfati	EPA 300.0 1999	**5488**	mg/kg	664			
Sulphates							
COMPOSTI ORGANICI AROMATICI							
AROMATIC ORGANIC COMPOUNDS							
Benzene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Benzene							
Etilbenzene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Ethylbenzene							
Stirene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Styrene							
Toluene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Toluene							
m,p-Xilene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
m, p-Xylene							
o-Xilene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
o-Xylene							
Sommatoria composti organici aromatici	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
BTEX (Total Organic Aromatic Compounds)							
IDROCARBURI POLICICLICI AROMATICI							
POLYCYCLIC AROMATIC HYDROCARBONS							
Benzo(a)antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	**< 0,01**	mg/kg				
Benzo (a) anthracene							
Benzo(a)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	**< 0,01**	mg/kg				
Benzo (a) pyrene							

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Continuation of Test Report n°: **2135937-005**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Benzo(e)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/Kg				
Benzo(b)fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (b) fluoranthene							
Benzo(k)fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (k) fluoranthene							
Benzo(g,h,i)perilene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (g, h, i) perylene							
Crisene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Chrysene							
Dibenzo(a,e)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,e) pyrene							
Dibenzo(a,l)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,l) pyrene							
Dibenzo(a,i)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,i) pyrene							
Dibenzo(a,h)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo(a,h)pyrene							
Dibenzo(a,h)antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a, h) anthracene							
Indenopirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Indeno (1,2,3-c,d) pyrene							
Pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Pyrene							
Fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Fluoranthene							
Naftalene (C10)	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Naphthalene							
Acenaftene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Acenaphthene							

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Continuation of Test Report n°: **2135937-005**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Acenaftilene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Acenaftilene							
Fluorene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Fluorene							
Fenantrene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Phenanthrene							
Antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Anthracene							
Sommatoria composti aromatici policiclici	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
PAHs							
POLICLOROBIFENILI							
polychlorinated biphenyls							
(*) PCB28	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB28							
PCB52	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB52							
PCB101	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB101							
PCB118	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB118							
PCB138	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB138							
PCB153	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB153							
PCB180	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB180							
IDROCARBURI							
HYDROCARBONS							
Idrocarburi pesanti C >12 (C12-C40)	EPA 3541 1994 + EPA 3620C 2014 + EPA 8015C 2007	< 1	mg/kg				
Total Petroleum Hydrocarbons							

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Continuation of Test Report n°: **2135937-005**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
COMPOSTI ORGANOSTANNICI							
ORGANOSTANNIC COMPOUNDS							
Monobutilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Monobutyltin							
Dibutilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Dibutyltin							
Tributilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Tributyltin							
AMIANTO							
ASBESTOS							
Amianto	DM 06/09/1994 GU SO n°288 10/12/1994 20/09/1994 + DGR 12/2/2008 n°8/677 BURL n°73 8/4/2008 I° suppl. straordinario	**< 1000**	mg/kg				
Asbestos							
ALTRE SOSTANZE							
Perdita al Fuoco	UNI EN 15169:2007	**5,0**	% s.s.	0,6			
Fire Loss							
TOC	UNI EN 13137:2002	**0,32**	%	0,09			
TOC							

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Continuation of Test Report n°: **2135937-005**

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.

Abbreviations:
"L.B." = Lower Bound Criterion for the expression of summation
"U.B." = Upper Bound Criterion for the expression of summation
"M.B." = Medium Bound Criterion for the expression of summation "MDL" = Method Detection Limit
"U.M." = Unity of Measure
"R" = Value of Percentage Recovery Rate, for analysis of traces and residues
"ss" = Dry matter
"TQ" = Wet basis

The sample is stored for two weeks from the date of issue of the test report, unless specific requests are made by the customer.
This test report concerns the sample tested and it cannot be partially reproduced, unless prior written approval by the C.A.D.A s.n.c.
The records concerning the aforementioned sample are kept for a period of not less than 5 years.
In the event that the result of the test is not assessable, for a value lower than MDL, the Laboratory indicates in the field of the result of the test report "<MDL".
The recovery reported was not used in the calculations, unless otherwise specified

For chemical and microbiological tests, the measurement uncertainty is expressed as extended and is calculated using a coverage factor K = 2 and a probability of measurement of 95%.
For microbiological tests on water, the uncertainty is expressed as confidence levels.
For microbiological tests on solid matrices, the estimation of uncertainty is performed according to ISO 19036: 2006 / Amd.1: 2009.
Unless otherwise indicated, summation are calculated using the Lower Bound criterion (L.B.)

(1) Note for tests D. Lgs. 31/01 and ss.mm.ii.
-- "Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g, h, i)perylene, indeno(1,2,3-cd)pyrene"

(2) Note for tests D. Lgs. 152/06 and ss.mm.ii. Tab. 1A/1B
- Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(a)Anthracene, benzo(a)pyrene, benzo(b)Fluoranthene, benzo(k)Fluoranthene, benzo(g, h, i)Perylene, Chrysene, dibenzo(a, e)pyrene, dibenzo(a, l)pyrene, dibenzo(a, i)pyrene, dibenzo(a, h)pyrene ".
- "Summation of Aromatic Organic Solvents" means the "Summation of Ethylbenzene, Styrene, Toluene, Xylene".
- "Summation Aromatic Amines" means "Summation of Aniline, o-Anisidine, m-p-Anisidine, Diphenylamine, p-Toluidine".
- The analytical results are expressed on "ss"

(3) Note for tests D. Lgs. 152/06 and ss.mm.ii. Tab. 2
- "Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(b Fluoranthene, benzo(k)Fluoranthene, benzo(g, h, i)Perylene, indeno(1,2,3-cd)pyrene".
- "Organoalogenated Summation" means the "Sum of Chloromethane, Trichloromethane (Chloroform), Vinyl Chloride, 1,2-Dichloroethane, 1,1-Dichloroethylene, Trichlorethylene, Tetrachlorethylene, Hexachlorobutadiene"

(4) Note for Tests on Wastes
- If not otherwise specified, "Summation" means the "sum of all the analytes listed for the same family on this test report".
- The analytical results are expressed on wet basis, unless otherwise specified in the field of the unit of measurement shown alongside the test.
-"N.A." reported in the result field, means "Not applicable due to the effect of the matrix".
-"N.D." reported in the result field, means "Not determinable due to the absence of the necessary conditions for the execution of the test".
- If "Not determined" is given for the parameter "Hydrocarbons C10 - C40", it means that this parameter, in relation to the test method indicated in the shared note of the ISS n ° 0035653 of 06/08 / 2010, it is not quantified due to the possible interference when the waste sample contains plastic materials, paper and / or materials treated with organic substances. This is because all the aforesaid materials can give unreliable results (high values of heavy hydrocarbons deriving from the characteristics of the materials and not from hydrocarbon contamination) with the purpose of the analysis destined to the "classification" of the waste

Chemical Analisys Manager	Analitycal Division Director
Dott. Giuseppe Rocca Chimico Ordine Interprovinciale dei Chimici della Sicilia Sigillo N.294	**Dott.ssa Margherita Augello** Ordine Nazionale dei Biologi Albo professionale N.036132

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Test Report n°: **2135937-006**

Description: **Rubble/stone carrot, Station D , Mid-point (1 - 3m); Replica 2. Delimara power station Activities Required by AIS Environment Ltd**

Client:
AIS Environment Ltd
AIS House, 18, St. John Street, Fgura, FGR 1447, Malta
AIS House, Malta

Reception n°: **2135937**
Sampling Date: **11-nov-19**
Sample Reception Date: **11-nov-19** Test Start Date: **11-nov-19**
Test Report Date: **28-nov-19** Test Finish Date: **28-nov-19**
Sampling Method: **Sampled by SUN LAB GROUP Ltd**
Annex: **NO**
Reference for the Limits: ***///***

Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
PARAMETRI CHIMICI							
CHEMICAL PARAMETERS							
METALLI							
METALS							
Arsenico	UNI EN 13657:2004 + UNI EN 16170:2016	**5,5**	mg/kg	1,3			
Arsenic							
Cadmio	UNI EN 13657:2004 + UNI EN 16170:2016	**0,48**	mg/kg	0,12			
Cadmium							
Cromo Totale	UNI EN 13657:2004 + UNI EN 16170:2016	**31**	mg/kg	6			
Total Chromium							
Mercurio	UNI EN 13657:2004 + UNI EN 16170:2016	**< 0,1**	mg/kg				
Mercury							
Nichel	UNI EN 13657:2004 + UNI EN 16170:2016	**29**	mg/kg	5			
Nickel							
Piombo	UNI EN 13657:2004 + UNI EN 16170:2016	**5,8**	mg/kg	1,3			
Lead							
Rame	UNI EN 13657:2004 + UNI EN 16170:2016	**27**	mg/kg	4			
Copper							

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Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Zinco	UNI EN 13657:2004 + UNI EN 16170:2016	**73**	mg/kg	19			
Zinc							
ANIONI							
ANIONS							
Cloruri	EPA 300.0 1999	**380**	mg/kg	44			
Choloride							
Solfati	EPA 300.0 1999	**5547**	mg/kg	671			
Sulphates							
COMPOSTI ORGANICI AROMATICI							
AROMATIC ORGANIC COMPOUNDS							
Benzene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Benzene							
Etilbenzene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Ethylbenzene							
Stirene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Styrene							
Toluene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
Toluene							
m,p-Xilene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
m, p-Xylene							
o-Xilene	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
o-Xylene							
Sommatoria composti organici aromatici	EPA 5035A 2002 + EPA 8260D 2018	**< 0,01**	mg/kg				
BTEX (Total Organic Aromatic Compounds)							
IDROCARBURI POLICICLICI AROMATICI							
POLYCYCLIC AROMATIC HYDROCARBONS							
Benzo(a)antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	**< 0,01**	mg/kg				
Benzo (a) anthracene							
Benzo(a)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	**< 0,01**	mg/kg				
Benzo (a) pyrene							

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Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Benzo(e)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/Kg				
Benzo(b)fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (b) fluoranthene							
Benzo(k)fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (k) fluoranthene							
Benzo(g,h,i)perilene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Benzo (g, h, i) perylene							
Crisene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Chrysene							
Dibenzo(a,e)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,e) pyrene							
Dibenzo(a,l)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,l) pyrene							
Dibenzo(a,i)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a,i) pyrene							
Dibenzo(a,h)pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo(a,h)pyrene							
Dibenzo(a,h)antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Dibenzo (a, h) anthracene							
Indenopirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Indeno (1,2,3-c,d) pyrene							
Pirene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Pyrene							
Fluorantene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Fluoranthene							
Naftalene (C10)	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Naphthalene							
Acenaftene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Acenaphthene							

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Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
Acenaftilene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Acenaftilene							
Fluorene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Fluorene							
Fenantrene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Phenanthrene							
Antracene	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
Anthracene							
Sommatoria composti aromatici policiclici	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,01	mg/kg				
PAHs							
POLICLOROBIFENILI							
polychlorinated biphenyls							
(*) PCB28	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB28							
PCB52	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB52							
PCB101	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB101							
PCB118	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB118							
PCB138	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB138							
PCB153	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB153							
PCB180	EPA 3541 1994 + EPA 3630C 1996 + EPA 8270E 2018	< 0,005	mg/kg				
PCB180							
IDROCARBURI							
HYDROCARBONS							
Idrocarburi pesanti C >12 (C12-C40)	EPA 3541 1994 + EPA 3620C 2014 + EPA 8015C 2007	< 1	mg/kg				
Total Petroleum Hydrocarbons							

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Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.
COMPOSTI ORGANOSTANNICI							
ORGANOSTANNIC COMPOUNDS							
Monobutilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Monobutyltin							
Dibutilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Dibutyltin							
Tributilstagno	UNI EN ISO 23161:2019	**< 0,01**	mg/Kg Sn				
Total Tributyltin							
AMIANTO							
ASBESTOS							
Amianto	DM 06/09/1994 GU SO n°288 10/12/1994 20/09/1994 + DGR 12/2/2008 n°8/677 BURL n°73 8/4/2008 I° suppl. straordinario	**< 1000**	mg/kg				
Asbestos							
ALTRE SOSTANZE							
Perdita al Fuoco	UNI EN 15169:2007	**4,8**	% s.s.	0,6			
Fire Loss							
TOC	UNI EN 13137:2002	**0,34**	%	0,10			
TOC							

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Tests	Method	Result	U.O.M.	Uncertainty	Recovery [%]	L.Min.	L.Max.

Abbreviations:
"L.B." = Lower Bound Criterion for the expression of summation
"U.B." = Upper Bound Criterion for the expression of summation
"M.B." = Medium Bound Criterion for the expression of summation "MDL" = Method Detection Limit
"U.M." = Unity of Measure
"R" = Value of Percentage Recovery Rate, for analysis of traces and residues
"ss" = Dry matter
"TQ" = Wet basis

The sample is stored for two weeks from the date of issue of the test report, unless specific requests are made by the customer.
This test report concerns the sample tested and it cannot be partially reproduced, unless prior written approval by the C.A.D.A s.n.c.
The records concerning the aforementioned sample are kept for a period of not less than 5 years.
In the event that the result of the test is not assessable, for a value lower than MDL, the Laboratory indicates in the field of the result of the test report "<MDL".
The recovery reported was not used in the calculations, unless otherwise specified

For chemical and microbiological tests, the measurement uncertainty is expressed as extended and is calculated using a coverage factor K = 2 and a probability of measurement of 95%.
For microbiological tests on water, the uncertainty is expressed as confidence levels.
For microbiological tests on solid matrices, the estimation of uncertainty is performed according to ISO 19036: 2006 / Amd.1: 2009.
Unless otherwise indicated, summation are calculated using the Lower Bound criterion (L.B.)

(1) Note for tests D. Lgs. 31/01 and ss.mm.ii.
-- "Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g, h, i)perylene, indeno(1,2,3-cd)pyrene"

(2) Note for tests D. Lgs. 152/06 and ss.mm.ii. Tab. 1A/1B
- Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(a)Anthracene, benzo(a)pyrene, benzo(b)Fluoranthene, benzo(k)Fluoranthene, benzo(g, h, i)Perylene, Chrysene, dibenzo(a, e)pyrene, dibenzo(a, l)pyrene, dibenzo(a, i)pyrene, dibenzo(a, h)pyrene ".
- "Summation of Aromatic Organic Solvents" means the "Summation of Ethylbenzene, Styrene, Toluene, Xylene".
- "Summation Aromatic Amines" means "Summation of Aniline, o-Anisidine, m-p-Anisidine, Diphenylamine, p-Toluidine".
- The analytical results are expressed on "ss"

(3) Note for tests D. Lgs. 152/06 and ss.mm.ii. Tab. 2
- "Summation of Polycyclic Aromatic Hydrocarbons" means the "Summation of Benzo(b Fluoranthene, benzo(k)Fluoranthene, benzo(g, h, i)Perylene, indeno(1,2,3-cd)pyrene".
- "Organoalogenated Summation" means the "Sum of Chloromethane, Trichloromethane (Chloroform), Vinyl Chloride, 1,2-Dichloroethane, 1,1-Dichloroethylene, Trichlorethylene, Tetrachlorethylene, Hexachlorobutadiene"

(4) Note for Tests on Wastes
- If not otherwise specified, "Summation" means the "sum of all the analytes listed for the same family on this test report".
- The analytical results are expressed on wet basis, unless otherwise specified in the field of the unit of measurement shown alongside the test.
-"N.A." reported in the result field, means "Not applicable due to the effect of the matrix".
-"N.D." reported in the result field, means "Not determinable due to the absence of the necessary conditions for the execution of the test".
- If "Not determined" is given for the parameter "Hydrocarbons C10 - C40", it means that this parameter, in relation to the test method indicated in the shared note of the ISS n ° 0035653 of 06/08 / 2010, it is not quantified due to the possible interference when the waste sample contains plastic materials, paper and / or materials treated with organic substances. This is because all the aforesaid materials can give unreliable results (high values of heavy hydrocarbons deriving from the characteristics of the materials and not from hydrocarbon contamination) with the purpose of the analysis destined to the "classification" of the waste

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