Our Ref: 4046-G-LR016 Rev A

Date: 14th February 2021

Mr Craig Kerr Story Homes Story House Lords Way Kingmoor Business Park Carlisle CA6 4SL



North West & Midlands Caledonian House, Tatton Street, Knutsford, Cheshire, WA16 6AG t: 01565 755557

North East & Yorkshire The Stables, Aske Hall, Aske, Richmond North Yorkshire, DL10 5HG t: 01748 889010

Dear Mr Kerr,

Environment Agency Correspondence Reference NO/2020/113153/01-L01 in Respect of Reserved Matters - Outline Planning Application 4/13/2235/0/O1 – Wilson Pit Road/High Road, Whitehaven

We have reviewed the above Environment Agency consultation received by Copeland Borough Council and are pleased to present our comments in the order presented in the Agencies correspondence. A copy of the correspondence is provided in Appendix A to this letter.

Commission & Brief

1.4; We were not appointed to undertake a quantitative controlled waters risk assessment – previous reports by Integra Consulting which relate to the subject site have been submitted to the regulator and, on the basis of their conceptual site model, have not necessitated a quantitative controlled waters risk assessment prior to approval of the previous phases of development. However, we note that we did not present a summary of Integra's PCM, nor did we provide a detailed qualitative discussion of the site's groundwater regime indicated by our exploration findings. In light of the revised conceptual model, we shall be presenting a revised report which provides fuller discussion of the site's groundwater regime and influence of contamination sources.

Site Description & General Development Proposals

2.2.4 & 3.2.8; Acknowledged – further discussion regarding anhydrite waste stockpile is provided below. 4.4.2; Acknowledged, although we note that we incorrectly referenced NX91 NE405 as BH01. It was NX91 NE303.

Preliminary Conceptual Site Model

6.1.4: As stated in IDG Report 4046-G-R019, remediation (delineation and excavation) of the transformer fluids was supervised by Integra Consulting and is presented in Report Post Remediation Validation Report for the Site at the Former TDG Tanker Depot, High Road, Whitehaven Cumbria for Story Land reference 2074 dated June 2010. It is understood that the spillage had accumulated in a 0.2m thick granular made ground directly over natural boulder clay. Approximately 50m3 of material was removed, stockpiled and sampled. Further detail is presented in the copy of Integra's validation report presented in Appendix B.

6.1-6.13-15 & 6.2: Acknowledged – Further assessment of risks to surface water and groundwater presented in 4046-G-R019 Rev B.

7.1.3: Integra's validation report demonstrates that all of the spilled PCBs were removed. In the absence of any further source we do not consider further analysis to be necessary.



Contaminant Sources

13.2.2: Acknowledged.

Made Ground/Hydrocarbon Contamination

13.2.7/ 13.2.10: Any further risk to the secondary aquifer will be undertaken during assessment of the made ground exposed following the concrete slab removal works within the former TDG Depot.

Groundwater

13.2.11: Acknowledged – the groundwater regime is re-assessed in the revised report reference 4046-G-R019 Rev B.

We note that the anhydrite stockpile was granted temporary storage under a Waste Regulations Exemption and that this has now been exceeded. We are carrying out further geotechnical, chemical and mineralogical testing as part of ongoing remediation options appraisal. We have also advised our Client placement of the anhydrite beneath 300mm of soil cover (or anywhere else within the site) should be subject to waste permitting regulations.

Pollutant Linkages

13.3.2: Acknowledged. Further assessment of the anhydrite stockpile is ongoing to determine an appropriate means of re-use or deposition.

Potential Remedial Options

13.5.2/13.5.3/13.5.6/13.5.9 – The correspondence indicates that Waste Permitting or DOWCOP (CL:AIRE Definition of Waste Code of Practice) procedures may apply to relocation of contaminated materials which are regarded as Controlled Waste (i.e. the Anhydrite Stockpile). IDG have corresponded with the Environment Agency (email 20-1-21) and the Environment Agency have confirmed that they will not object to re-use on site in accordance with DoWCoP provided an appropriate Remediation Strategy is provided which fully complies with DoWCoP. A copy of the Environment Agencies response dated 10th February 2021 is presented in Appendix C to this letter.

13.5.4: Acknowledged, see above email comments received from the Environment Agency.

13.5.8: Further investigation to establish the chemistry, mineralogy, potential for gypsification (letter Report 4046-G-LR015) and leachability of the Anhydrite is ongoing to establish the most appropriate means of retention of the Anhydrite within the site.

13.5.11: Acknowledged.

13.5.12: Acknowledged. Further assessment of the potential for mobile/leachable contaminants beneath the TDG Depot will be required during site remediation and preparatory works.

17.7: Acknowledged. Clarification of the requirements for dewatering excavations will be presented in the Remediation Strategy Report.

Further Works

17.10.2/17.10.3/17.10.4: Acknowledged. Confirmation of the satisfactory remediation at the site of the former transformer spillage is provided in Appendix B to this letter.



We trust that the above clarifications are appropriate. Please do not hesitate to contact us if you have any questions.

Yours sincerely,

Am

Nick Ward BSc (Hons), FGS for and on behalf of iD GEOENVIRONMENTAL LIMITED

- Appendix A: Environment Agency Correspondence NO/2020/113153/01-L01
- Appendix B: Integra Validation Report Reference 2074 Rev SS (2010)
- Appendix C : Environment Agency Correspondence dated 10th February 2021

Appendix A

Our ref:NO/2020/113153/01-L01Your ref:4/20/2474/0R1

Copeland Borough Council Development Control The Copeland Centre Catherine Street Whitehaven Cumbria CA28 7SJ

Date:

22 December 2020

Dear Sir/Madam

RESERVED MATTERS APPLICATION (ACCESS, APPEARANCE, LANDSCAPING, LAYOUT AND SCALE) FOR ERECTION OF 335 DWELLINGS INCLUDING ASSOCIATED INFRASTRUCTURE PURSUANT TO OUTLINE PLANNING APPROVAL 4/13/2235/001 LAND BOUND BY WOODHOUSE TO NORTH & HIGH ROAD / WILSON PIT ROAD TO WEST & SOUTH, WHITEHAVEN

Thank you for consulting us on the above application, which we received 2 December 2020.

Environment Agency position

We have no specific comments to make regarding the Reserved Matters application for access, appearance, landscaping, layout or scale.

We have reviewed the supplementary Geoenvironmental Appraisal –Phase 3 Edgehill park, Whitehaven report 4046 –G-RO19 November 2020. We would like to make the following comments and observations, prior to any submission to discharge the contaminated land conditions (Condition 27) for Phase 3.

The comments below relate to the specified sections of the report.

The commission and Brief

1.14 – The agreed scope of works does not appear to include a quantitative risk assessment for Controlled Waters – has this been undertaken?

Site Description and general development proposals

2.2.4 - The 17,000 m3of stockpiled material from the carpark was determined as waste at the time. It was granted temporary storage for a year under the Waste Regulations Exemption, but this has now been exceeded. See 3.4.10

3.2.8 –Integra's proposal to place the geotechnically unsuitable material 300mm below

Environment Agency Lutra House Walton Summit, Bamber Bridge, Preston, PR5 8BX. Customer services line: 03708 506 506 www.gov.uk/environment-agency Cont/d.. POS should comply with waste permitting Regulations.

4.2.2 Importantly one BGS borehole NX91 NE 405 in the tanker depot shows slag infill directly over bedrock, with protective cover of clay.

Preliminary Conceptual Site Model

6.1.4 – potential contamination- There is no detail regarding the remediation of the loss of PCB contaminated oil when the transformer was removed. Further detail is required concerning the excavation of, volume removed and verification/validation of that material.

6.1.13-15 The proximity of the spring discharge (20m) and the limited natural till cover over the aquifer are sufficient evidence to require the revision of the risk to Controlled Waters to 'moderate' sensitivity.

6.2 The conceptual site model has omitted the risk to Surface water and groundwater in the table and should be revised accordingly.

7.1.3 PCB compounds should be included in the list of potential contaminants.

Contaminant Sources

13.2.2 – The re-use of the clay should comply with Waste Regulations or DOWCOP.

Made ground / Hydrocarbon contamination

13.2.7 / 13.2.10– whilst the more recent soil testing did not show any evidence of significant contamination, The EA support the need for further testing following removal of the concrete slab and testing for the presence of anhydrite/gypsum material and hydrocarbons. The thin clay, or lack of clay (see BGS borehole) suggests there is a higher degree of risk of contamination to the underlying aquifer.

Groundwater

13.2.11 – 'No significant groundwater contamination was encountered..' this wording should be revised to reflect the groundwater monitoring that was undertaken, and should specifically address the status of contamination in the different groundwater systems.

Pollutant Linkages

13.3.2 The table for actions beneath the former tanker depot should be revised to reflect the need for further investigation for risk to Controlled Waters. Also the removal of the stockpiles is a necessity for breach of its temporary storage under the Waste Regulations. The fact that the material is geotechnically unsuitable supports the need for its removal. 13.5.11 addresses EA concerns

Potential Remedial options

13.5.2 /13.5.3 / 13.5.6 / 13.5.9 – Waste Permitting or DOWCOP may apply for relocation of contaminated materials which are regarded as a Controlled Waste

13.5.4 – The 2 year timescale to allow weathering of the Anhydrite stockpile is at odds with Waste Regulations for temporary storage of waste.

13.5.8 Retention of contaminants in the clay cell forming the reservoir needs further understanding and environmental assessment from a water quality perspective. The proposal of permeable topsoils and /or subsoils to form the 600mm cap over the reservoir, will need to address impact on the isolated groundwater body within the reservoir and the possible consequence of total saturation /overspill .The benefits of a low permeability cap should be considered.

13.5.11 – EA support this recommendation

13.5.12- covering is acceptable for non/low-soluble organic contaminants. Proposed mitigation is required in the event of free product and soluble contaminants in soils and groundwater.

Cont/d..

17.7 – A contingency plan is required for removal of groundwater from excavations. Most dewatering requires permitting, but under Regulation 5 of water Abstraction and impoundment (exemptions) Regs 2017 there are exemptions if abstraction<6 months and it either discharges to soakaway or <100m3/day (or <50m3/day or less than 500m from a designated site)

Further works

17.10.2 – agree. But this needs to include assessment of hydrocarbon contaminants and mitigation proposals for remediation of mobile contaminants of concern.

17.10.3 – trial pit investigations should undertake total and leachable tests to determine solubility and assess risk.

17.10.4 - agree

Detail of oil remediation in the former transformer should be reviewed and if necessary, further investigative work undertaken

FOR INFORMATION

All surplus contaminated material should be regarded as waste and assessed for disposal under the terms of waste regulatory controls. Re-use of material (in the absence of waste permit or exemption) is acceptable if it complies with requirements CL:AIRE Definition of Waste Code of Practice (DOWCOP) for waste management. Relocation and burial of arsenic contaminated materials under roads for example will need to be compliant with DOWCOP providing geotechnical and geoenvironmental assessments for suitability are acceptable.

The CL:AIRE Definition of Waste: Development Industry Code of Practice (version 2) provides operators with a framework for determining whether or not excavated material arising from site during remediation and/or land development works is waste or has ceased to be waste. Under the Code of Practice:

- excavated materials that are recovered via a treatment operation can be reused on-site providing they are treated to a standard such that they are fit for purpose and unlikely to cause pollution
- treated materials can be transferred between sites as part of a hub and cluster project

• some naturally occurring clean material can be transferred directly between sites Developers should ensure that all contaminated materials are adequately characterised both chemically and physically, and that the permitting status of any proposed on-site operations are clear. If in doubt, the Environment Agency should be contacted for advice at an early stage to avoid any delays.

We recommend that developers should refer to:

the <u>position statement</u> on the Definition of Waste: Development Industry Code of Practice

The <u>waste management</u> page on GOV.UK

Waste to be taken off-site

Contaminated soil that is (or must be) disposed of is waste. Therefore, its handling, transport, treatment and disposal are subject to waste management legislation, which includes:

- Duty of Care Regulations 1991
- Hazardous Waste (England and Wales) Regulations 2005
- Environmental Permitting (England and Wales) Regulations 2016

• The Waste (England and Wales) Regulations 2011

Developers should ensure that all contaminated materials are adequately characterised both chemically and physically in line with British Standard BS EN 14899:2005 'Characterization of Waste - Sampling of Waste Materials - Framework for the Preparation and Application of a Sampling Plan' and that the permitting status of any proposed treatment or disposal activity is clear. If in doubt, the Environment Agency should be contacted for advice at an early stage to avoid any delays. If the total quantity of hazardous waste material produced or taken off-site is 500kg or greater in any 12 month period, the developer will need to register with us as a hazardous waste producer. Refer to the <u>hazardous waste</u> pages on GOV.UK for more information.

Consultation regarding COMAH regulations

This planning permission consultation has also been received by HSE, and passed to the Environment Agency for comment regarding any implications under the COMAH regulations. We have no comment to make concerning this regime.

Yours faithfully

Mrs Liz Locke Sustainable Places Officer

e-mail clplanning@environment-agency.gov.uk

Appendix B

POST REMEDIATION VALIDATION REPORT FOR THE SITE AT THE FORMER TDG TANKER DEPOT, HIGH ROAD, WHITEHAVEN, CUMBRIA FOR STORY LAND

Integra Consulting Engineers Fountain House Fountain Street Manchester M2 2EE

Tel 0161-237-3400 Fax 0161-237-3635 Ref: 2074 Rev: SS

Date: June 2010

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1.0 EXECUTIVE SUMMARY

- 1.1 Integra Consulting Engineers Ltd was instructed by Story Land to undertake a Post Remediation Validation Report at the site of the former TDG Tanker Depot, High Road, Whitehaven, CA28 9QJ. The validation exercise was undertaken following an unauthorised release of transformer insulating oil resulting from the theft of a copper component during October 2007. The Ordnance Survey National Grid reference of the transformer location is approximately Easting: 297030 and Northing: 515580.
- 1.2 The main objective of this report was to validate the remedial works undertaken on site to remove hydrocarbon impacted soils from beneath the former electrical transformer and associated surrounding impacted soils displaying visual or olfactory evidence of hydrocarbon contamination.
- 1.3 The tanker depot is bounded by High Road to the west and arable farmland to the north, east and south. The site is generally flat at an approximate elevation of 90m AOD and is concrete hardstanding. The electrical transformer was located to the rear of the tanker washing shed.
- 1.4 The British Geological Survey indicates that the depot is underlain by Quaternary glacial boulder clay which in turn overlies the Carboniferous Pennine Middle Coal Measures classed as a secondary aquifer with soils of a high leaching potential by the Environment Agency. The nearest surface water feature is situated approximately 260 metres east of the tanker depot and is a small unnamed brook flowing from north to south.

- 1.5 Historically, the tanker washing facility was utilised by the former adjacent Marchon chemical works, prior to its closure in 2005, to provide a washing and refuelling facility for associated road tankers. The depot is currently derelict and has been subject to extensive vandalism.
- 1.6 Remediation at the site has involved the removal and disposal of the defunct electrical transformer and surplus oil by S.J. McGuckin Ltd during April 2010. Integra Consulting Ltd were instructed by Story Land to supervise the removal any impacted soils from beneath the former transformer and the surrounding area which recorded visual or olfactory evidence of hydrocarbon contamination. The hydrocarbon impacted soils were removed from the excavation, stockpiled on impermeable Visqueen sheeting and sampled for testing of relevant chemical contaminants at an MCERTS laboratory. For validation purposes, the envelope of the remaining excavation was also sampled at an MCERTS laboratory for an appropriate chemical testing suite.
- 1.7 MCERTS laboratory chemical test results on samples taken from within the remaining excavation envelope recorded concentrations below allowable Soil Guideline Values and relevant LQM / CIEH Generic Assessment Criteria concentrations for the determinands tested.
- 1.8 The hydrocarbon impacted soils (approximately 50m³⁾ removed from the excavation and stockpiled on the impermeable Visqueen sheets were sampled and chemically analysed for relevant organic contaminants at an MCERTS laboratory. As a result, 1 No. sample (S5) recorded a slightly elevated concentration of Aliphatics > C12 C16 and Aromatics > EC12 EC16 and 2 No. samples (S1 and S5) recorded elevated concentrations of Aromatics > EC16 EC 21. This material should either be disposed of at an appropriately licensed landfill site or remediated insitu.

- 1.9 4 No. trial pits were excavated in close proximity to the former transformer in order to determine the lateral extent of the hydrocarbon contamination beneath the site. MCERTS laboratory analysis chemical test results on samples taken from the trial pits recorded below allowable Soil Guideline Values and relevant LQM / CIEH Generic Assessment Criteria concentrations for all applicable tested determinands. Consequently, it is concluded that the hydrocarbon impacted soils do not appear to have extended laterally beyond these trial pits.
- 1.10 The removal of the impacted soils beneath the location of the former transformer has been successfully completed on the basis that clay samples taken from the base of the excavation did not indicate concentrations above relevant Soil Guideline Values and / or relevant LQM / CIEH Generic Assessment Criteria.
- 1.11 Further remediation of this area of the TDG Depot will ultimately be required on the basis that the intrusive works undertaken indicate that a hydrocarbon contamination plume may extend beneath this entire raised bunded area of the depot (approximately 400m²), possibly originating from more than one hydrocarbon source. It is therefore recommended that this entire area is excavated and the hydrocarbon impacted soils removed prior to the excavation being backfilled with inert, acceptable material.

2.0 INTRODUCTION

2.1 General

A post remediation validation exercise has been undertaken at the site of the former TDG Tanker Depot, High Road, Whitehaven, CA28 9QJ following the removal of a defunct electrical transformer which was vandalised during October 2007 resulting in the spillage of an unknown quantity of viscous insulating oil.

2.2 **Previous Investigations**

URS – Technical Memorandum dated 30th October 2007

URS were instructed by Rhodia UK Limited to conduct a site walkover and preliminary environmental assessment of the TDG Depot following the unauthorised release of transformer insulating oil during October 2007. The spillage of the insulating oil occurred during the theft of the copper component of the electrical transformer which is located to the rear of the tanker washing shed. It was stated that the transformer could hold a maximum volume of 690kg of oil and that it was probably full prior to the incident occurring.

URS report that the oil spillage was evident on the gravel surrounding the transformer (a 3m by 2m area) and staining of the concrete hardstanding was also noted although the extent of the staining was not indicated.

URS concluded that the majority of the spilt oil was likely to have migrated vertically through the gravel into the underlying strata as the transformer area was not bunded below ground.

Integra Consulting Engineers Limited - Phase 2 Environmental Ground Investigation dated June 2009

Integra Consulting Engineers Limited was appointed by Story Land to undertake a Phase 2 Intrusive Site Investigation at the above site in June 2009.

5 No. trial pits were excavated in the vicinity of the transformer within the bunded concrete apron. The trial pits typically indicated a reinforced concrete slab overlying made ground consisting of gravel, sand and stones which in turn overlies natural boulder clay deposits. A relatively thin 0.2m thick layer of coarse gravel / stones coated in a black viscous substance with a strong hydrocarbon odour was noted at depths of between 1.0m and 1.4m below ground level in all the trial pits.

A total of 17 No. solid chemical samples taken from the trial pits including 2 No. samples of the gravel taken from directly beneath the leaking oil tap were tested for hydrocarbon contamination. A sample taken from the trial pit directly opposite the transformer at 1.5m below ground level together with the 2 No. gravel samples indicated elevated concentrations of aliphatic fractions C12 – C35 and aromatic fractions EC12 – EC35. This Phase 2 report recommended that further intrusive work were undertaken in the vicinity of the transformer in order to establish the extent of the contamination.

3.0 BRIEF

The brief was to supervise and direct remedial works associated with the removal of hydrocarbon impacted soils from beneath / local to the former electrical transformer which was removed from the site during April 2010 by S.J. McGuckin.

The brief was to include the following:

- a) Excavate any hydrocarbon impacted soils from beneath the transformer and the surrounding area on the basis of visual / olfactory evidence.
- b) Collection of samples from within the excavation and undertaking appropriate chemical testing in accordance with the latest legal framework to identify the extent of any remaining elevated levels of soil contamination.
- c) Sample the impacted stockpiled material and undertake suitable chemical laboratory MCERTS testing in order to classify the material for off site removal to an appropriately licensed tip.
- d) Excavate 4 No. additional trial pits to delineate extent of contamination to the north and east of the electrical transformer.

4.0 LIMITATIONS OF INVESTIGATIVE WORK AND REPORT

The findings from the sample points relate specifically to the sample point locations and there is no absolute guarantee of the ground conditions and extent of contamination between these locations.

The extent of contaminated soil testing carried out on samples obtained from the excavation has been determined in accordance with the latest legal guidance issued by the government to provide, with reasonable certainty, the probable general levels of contamination present on site that could pose a significant hazard to human health or local natural water resources. The extent of testing has also been limited by reasonable commercial constraints. Although extensive testing of samples has been carried out, the volume of samples taken for testing is a minute fraction of the total volume of soils present within the excavation. Therefore there is a residual risk that pockets of contamination may be present within the excavation envelope situated between testing locations that have not been detected.

This report does not cover the geotechnical characteristics of the site which are provided in a separate Geotechnical Ground Investigation report undertaken by Integra Consulting Engineers Limited during June 2009

5.0 THIRD PARTIES

This report has been prepared for the sole use of Story Land. The report must not be copied or passed onto any third party or used for any purpose other than which it was prepared without the permission of the author. This report is copyright.

6.0 SITE SUMMARY

6.1 Objective

During October 2007 an unknown volume of transformer insulating oil was uncontrollably discharged during the vandalism of the copper components of an electrical transformer located to the rear of the former tanker washing shed. Consequently, during April 2010 S.J McGuckin Ltd was appointed by Story Land to remove the defunct electrical transformer, its surplus oil and transport it to an appropriately licensed waste facility.

S.J McGuckin Ltd's method statement for the removal of the transformer is contained in Appendix 5.

Integra Consulting Ltd was instructed by Story Land, following the removal of the transformer, to delineate the extent of transformer oil in the underlying area of the former electrical transformer. The remedial objectives were to excavate any hydrocarbon impacted soil from beneath the former location of the electrical transformer and the surrounding area which displayed evidence of visual or olfactory hydrocarbon contamination.

The impacted soils associated with the transformer were placed on and covered by impermeable Visqueen sheets in preparation for MCERTS testing and subsequent off site removal to an appropriately licensed landfill.

6.2 Site Location and Description

The electrical transformer was located within the former TDG Tanker depot, off High Road, Whitehaven. The Ordnance Survey national grid reference for the approximate position of the transformer is Easting: 297030 and Northing: 515580. The tanker depot is bounded by High Road to the west and arable farmland to the north, east and south. The site is generally flat at approximate elevation of 90m AOD and is covered by concrete hardstanding. The site plans are contained in Appendix 1.

The tanker washing facility was utilised by the former adjacent Marchon chemical works prior to its closure in 2005 to provide a washing and refuelling facility for associated road tankers. In 1991, Tankfreight Ltd were sub-contracted by Albright and Wilson to provide road tanker transport for the chemical works. The activities of the tanker company included taking delivery of raw products including sulphuric acid, phosphorus acid, oils/organics and the outward delivery of finished products such as soap powders and detergents. After each journey, the tankers were thoroughly washed to remove any residues left by the materials which were being transported. The waste water arising from the chemical tanker washing facility was collected in an underground drainage interceptor where the light non-aqueous phase liquids were skimmed off the surface. The remaining waste water was disposed of via a drain beneath the facility which was connected directly to the general drainage infrastructure. The road tanker facility is currently derelict.

The depot comprises a large steel framed corrugated aluminium clad washing shed which is currently in a poor condition with large sections of the external cladding no longer present. The controls room is located to the rear of the washing shed and is situated on a raised rectangular bunded area covered by reinforced concrete hardstanding which is approximately $400m^2$ in area (approximate dimensions of $25m \times 16m$). The electrical transformer was positioned on the raised bunded area adjacent to the control rooms and was contained within a security fenced enclosure.

It was noted that the general condition of the tanker depot was poor due in part to vandalism and related damage although the infrastructure of the main washing shed did appear to be in relatively good condition.

During remediation works it was noted that 2 No. circular rust stained profiles with an approximate diameter of 2.0m were present on the raised concrete area. The circular profiles, directly adjacent to the transformer, were contained within a 0.5m high blockwork bund. It is considered that these profiles have resulted from the former presence of large tanks which may have contained oil for either heating or refuelling purposes. The aerial photograph contained in Appendix 1 indicates that a further 3 No. large cylindrical tanks were also present in the southern section of the raised bunded area. These were probably utilised for water storage.

A plan of the TDG Tanker Depot indicating the location of the defunct electrical transformer is contained in Appendix 1.

7.0 REMEDIATION STRATEGY

Integra Consulting Engineers Ltd was instructed by Story Land to supervise and direct the removal of any impacted soils from beneath the transformer and the surrounding area. The strata underlying the transformer was excavated to a depth of approximately 1.5m as, at this depth, there was no visual or olfactory evidence of contamination. The dimensions of the excavation were approximately 5.0m by 6.0m. The base / sides of the excavation and the resulting stockpile of material removed from the excavation were sampled and laboratory tested for any potential residual contamination.

This methodology was used in order to ensure the full removal of the contaminated soils associated with the transformer leak which could otherwise provide a potential contamination pathway for future site users.

Photographs of the remediation works and excavation are collated in Appendix 6.

Solid samples were taken from the excavation base and sides, stockpile and trial pits for MCERTS laboratory analyses to further confirm that the contamination source beneath the transformer area had been removed.

7.1 Excavation Envelope

The excavation of the soil from beneath the transformer and surrounding area was undertaken using a JCB 3CX on 11th May 2010. All soils demonstrating visual and / or olfactory evidence of hydrocarbons relating to the transformer spillage were removed from the excavation. It was noted during the excavation that the electrical transformer was positioned on a 0.5m thick rectangular concrete slab approximately 0.5m wide by 1.0m long and the concrete slab was not significantly stained with hydrocarbons. The area surrounding the transformer (approximately 2.0m by 3.0m) was covered by loose coarse gravel and stones. A leaking oil tap was located on the east side of the transformer and the area of gravel directly beneath the leaking oil tap was significantly stained with oil.

During the excavation, a 0.2m thick layer consisting of gravel / stones coated in a black viscous substance with a strong hydrocarbon odour was encountered at a depth of approximately 1.1m below ground level, directly over the natural boulder clay. It is not known whether the electrical transformer is the only source of this hydrocarbon contaminated layer as it was noted in the earlier Integra Consulting Phase 2 Environmental Ground Investigation dated June 2009 that the hydrocarbon impacted soils extended beneath the majority of the raised bunded area. It is also likely that oil storage tanks were present on this area and may be a potential source of hydrocarbon contamination.

A total of 5 No. samples were taken at a range of depths over the full extent of the excavation area (5m x 6m x 1.5m).

7.2 Stockpile Material

The impacted soils excavated from beneath the transformer were stored on impermeable Visqueen sheets and chemically sampled to determine their chemical content prior to potential removal to an appropriately licensed tip.

A total of 5 No. samples were taken from a stockpile of approximately 50m³ of hydrocarbon impacted soils.

7.3 Trial Pits

4 No. trial pits were excavated to the north and east of the electrical transformer in order to delineate the extent of the contamination.

A total of 8 No. samples were taken at depths of 0.5m and 1.5m below ground level in each trial pit for chemical analysis.

The location of the trial pits is shown in the plan contained in Appendix 2 and the trial pit logs are contained in Appendix 7.

7.4 Chemical Contamination Laboratory Tests

During the excavation works, soil samples were collected into sterile sealed containers to allow MCERTS chemical laboratory testing of potential contaminants in the samples. The samples were collected in the following appropriate containers:

- 400g sealed plastic container ALE214 used to analyse inorganic contaminants in soils.
- 250g sealed glass container ALE210 used to analyse PAHs (Polynuclear Aromatic Hydrocarbons) and extractable hydrocarbons in soils.
- 60g sealed glass container ALE215 used to analyse VOCs (Volatile Organic Compounds) and extractable hydrocarbons in soils.

The following suite of environmental testing was undertaken on the solid samples taken from the excavation envelope, the stockpile and the trial pits:

CLEA metals (arsenic, barium, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium. vanadium, water soluble boron and zinc), speciated Polynuclear Aromatic Hydrocarbons (PAH), total and free cyanide, pH, water soluble sulphate, nitrate, Soil Organic Matter (SOM), asbestos, Volatile Organic Compounds (VOC) target list, UK-Criteria Working Group (CWG) C5-C44 Aliphatic / Aromatic split with CWG banding, speciated phenol and poly-chlorinated biphenyl (PCB).

8.0 CHEMICAL TEST RESULTS

Solid samples taken from the stockpile, excavation and trial pits were analysed at an MCERTS accredited laboratory for a range of contaminants and compared to their relevant Soil Guideline Values (SGV) or LQM/CIEH Generic Assessment Criteria (LQM/CIEH GAC). The subsequent test results are summarised below.

8.1 Stockpile

The material removed from the excavation was tested to appropriately classify the material for off site disposal or insitu / exsitu remediation.

Metals, Semi-Metals and Inorganics

All samples taken from the stockpile were analysed in accordance with the CLEA metal testing suite. None of the samples were elevated above their relevant SGV or LQM/CIEH GAC. Free and total cyanide was recorded at concentrations below detection limit in all of the samples.

Polynuclear Aromatic Hydrocarbons (PAH)

All samples taken from the stockpile were tested for speciated PAH and were found to be below the relevant LQM/CIEH GAC.

Total Petroleum Hydrocarbons

All samples taken from within the stockpile were tested using speciated UK-CWG analysis and compared to the relevant LQM/CIEH GAC.

1 No. sample (S5) recorded a slightly elevated concentration of aliphatics > C12 - C16 and aromatics > EC12 - EC16. 2 No. samples (S1 and S5) recorded elevated concentrations of aromatics > EC16 - EC 21.

Phenols Monohydric

All of the samples taken from the stockpiled material were analysed for speciated phenols and all recorded below detection limit concentrations.

Poly-chlorinated biphenyl (PCB)

All samples recorded below detection limit concentrations for all PCBs with the exception of PCB congener 28 which recorded an above detection limit concentration of 45µg/kg in a single stockpile sample.

<u>рН</u>

pH values were recorded between 8.03 and 10.5

Soil Organic Matter (SOM)

SOM was recorded in the range of between <0.35% and 2.41% with an average of 1.52%

8.2 Excavation

Metals, Semi-Metals and Inorganics

All samples taken from within the excavation were analysed in accordance with the CLEA metal testing suite. None of the samples were found to be elevated above their relevant SGV or LQM/CIEH GAC.

Free and total cyanide concentrations were recorded below detection limit in all of the samples.

Polynuclear Aromatic Hydrocarbons

All samples taken from within the excavation were tested for speciated PAH and were found to be below the relevant LQM/CIEH GAC.

Total Petroleum Hydrocarbons

All samples taken from within the excavation envelope were tested using speciated UK-CWG analyses and found to be below the relevant LQM/ CIEH GAC.

Phenols Monohydric

All samples taken from within the excavation were analysed for speciated phenols and were all recorded as having below detection limit concentrations.

Poly-chlorinated biphenyl (PCB)

All samples recorded below detection limit concentrations for all PCBs.

<u>рН</u>

pH values were recorded between 7.31 and 8.01

Soil Organic Matter (SOM)

SOM was recorded in the range of between 1.67% and 2.91% with an average of 2.33%.

8.3 Trial Pits

Metals, Semi-Metals and Inorganics

A sample taken at 1.5m below ground level in TPA recorded a slightly elevated lead concentration of 555mg/kg. The remaining contaminants were not elevated above their relevant SGV or LQM/CIEH GAC.

Free and total cyanide concentrations were recorded below detection limit in all of the samples.

Polynuclear Aromatic Hydrocarbons

All samples taken from the trial pits were tested for speciated PAH and were found to be below the relevant LQM/CIEH GAC.

Total Petroleum Hydrocarbons

All samples taken from the trial pits were tested using speciated UK-CWG analyses and found to be below the relevant LQM/CIEH GAC.

Phenol Monohydric

All of the samples taken from the trial pits were analysed for speciated phenols and were all recorded as having below detection limit concentrations.

Poly-chlorinated biphenyl (PCB)

All samples recorded below detection limit concentrations for all PCBs with the exception of TPD at 1.0m depth which recorded marginally above detection limit concentrations of PCB congener 138 at 6.78µg/kg, PCB congener 153 at 4.25µg/kg and PCB congener 180 at 4.11µg/kg.

pН

pH values were recorded between 7.45 and 11.9

Soil Organic Matter (SOM)

SOM was recorded in the range of between <0.35% and 3.26% with an average of 1.17%.

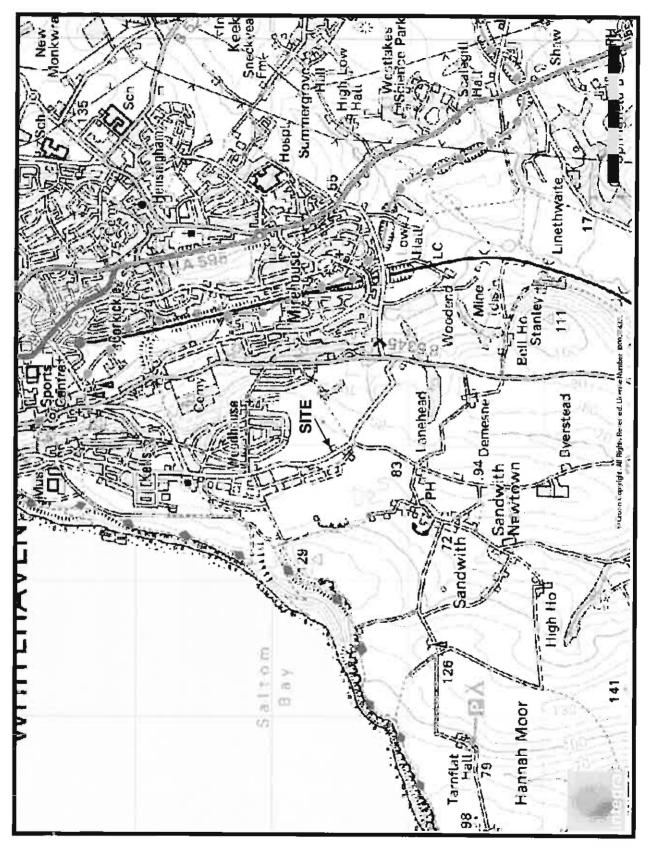
Summary tables of the chemical results for the stockpile, excavation and trial pits are contained in Appendix 3 and MCERTS laboratory results are contained in Appendix 4.

9.0 CONCLUSION

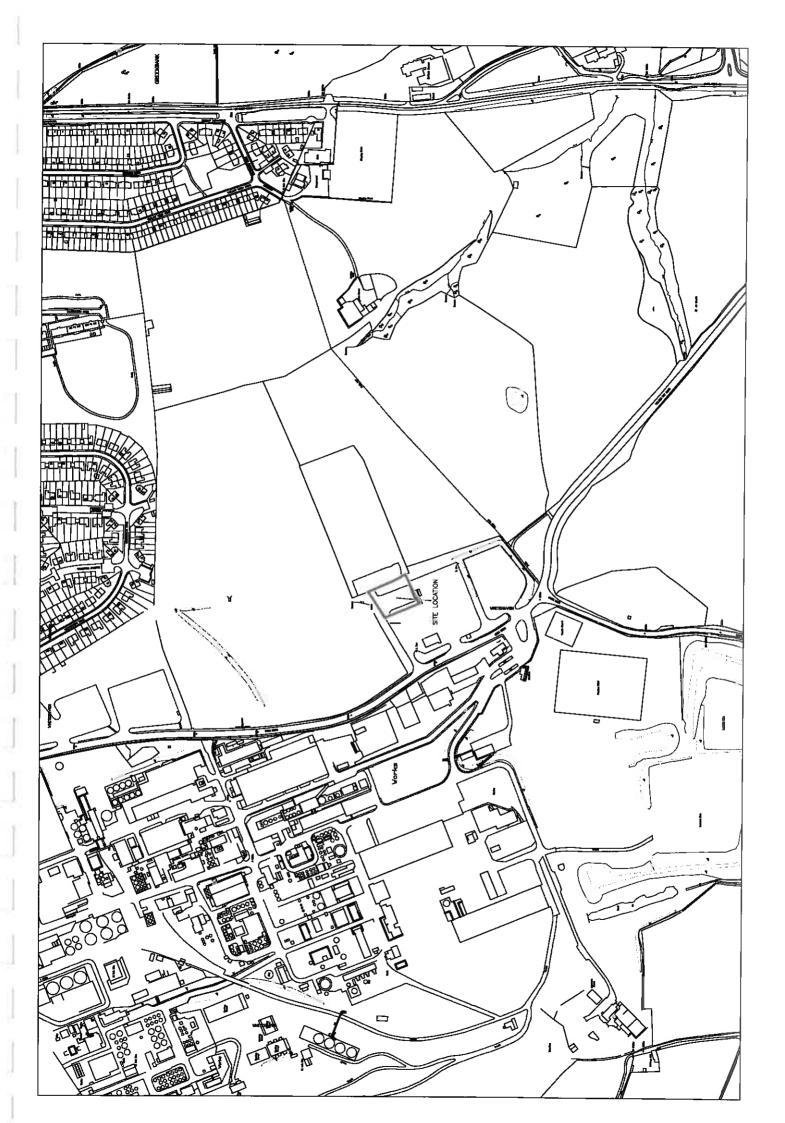
The remediation works undertaken included the removal of hydrocarbon impacted soils from beneath the former electrical transformer and associated surrounding areas which was deemed necessary in order for the site to be developed for its intended use as a residential housing estate. The extent of impacted soils has been verified through MCERTS laboratory analyses demonstrating that remaining soils beneath the area where the transformer was located to be uncontaminated and therefore posing no further risk to either human health or waters.

It should however be noted that further intrusive works and possible remediation may be required in this area of the TDG Depot due to the presence of possible hydrocarbon contaminated soils at a depth of approximately 1.1m below ground level covering an area of upto 400m². It should be noted that this hydrocarbon contamination may have resulted from a number of sources other than the transformer leakage.

APPENDIX 1 SITE LOCATION PLANS AND AERIAL PHOTOGRAPH

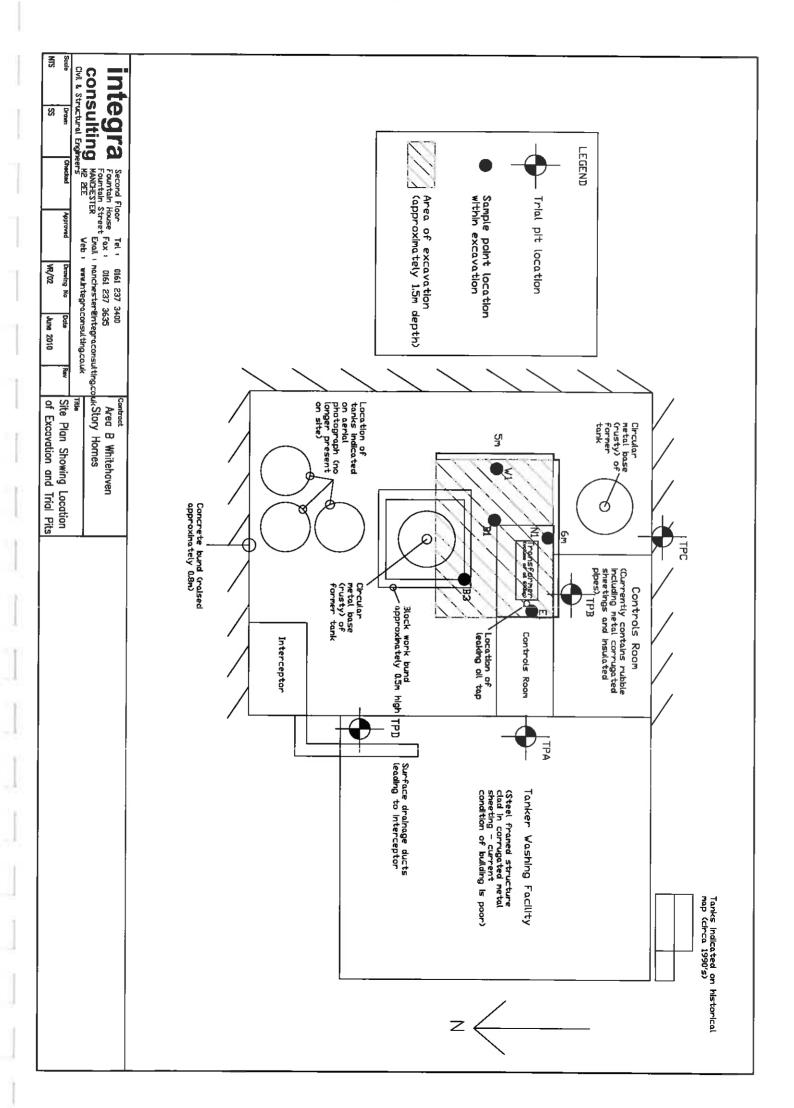


TOWN PLAN





APPENDIX 2 SITE PLAN SHOWING LOCATION OF EXCAVATION AND TRIAL PITS



APPENDIX 3 SUMMARY TABLES OF TEST RESULTS

Solid	Contamination Resul	ts - Excavation		
No. of samples	Range of results	Mean	GAC	No. exceeded
5	8.3 - 18.7	12.4	32(1)	
5		227		· · · · · · · · · · · · · · · · · · ·
5		2.39		
5		0.121		
5	17 - 21.6	18.62		
5	25.5 - 37.4	30.5		
5	14-28.6	21.26	450 ⁽²⁾	
5	<0.14	<0.14	1(1)	·
5	22 - 32.3	28.4	130 ⁽¹⁾	<u> </u>
5	<1 - 1.41	1.082	350(1)	
5	18.2 - 24.3	20	75 ⁽³⁾	-
5	60.1 - 90.7	73.8	3750 ⁽³⁾	
5	<1	<1	291 ⁽³⁾	
		<0.01	420 ⁽¹⁾	
		<0.01		
5	<0.015	<0.015		
		<u> </u>		
			- <u>-</u>	
5	<1	<1		
5	0.0329 - 0.0785	0.0486	-	
5	<1	<1	-	
5	7.31 – 8.01	7.71	-	
5	1.67 – 2.91	2.33	_	
5	No ACM Detected		-	
				· · · · · ·
		÷		
		·		
	<0.003	<0.003		
5	<0.003	<0.003		
<u> </u>				<u> </u>
				<u> </u>
				<u> </u>
			210 ^w	
				<u> </u>
			2300'''	
				<u> </u>
				<u> </u>
			3.1 (3)	
				<u> </u>
				<u> </u>
5	<0.018	<0.018	3.2 ⁽³⁾	
5	<0.023	<0.023 <0.024	0.76 ⁽³⁾ 44 ⁽³⁾	
	No. of samples 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	No. of samples Range of results 5 $8.3 - 18.7$ 5 $138 - 264$ 5 $2.09 - 2.77$ 5 $<0.02 - 0.218$ 5 $17 - 21.6$ 5 $25.5 - 37.4$ 5 $14 - 28.6$ 5 <0.14 5 $22 - 32.3$ 5 $<1 - 1.41$ 5 $18.2 - 24.3$ 5 $60.1 - 90.7$ 5 <0.01 5 <0.01 5 <0.01 5 <0.01 5 <0.01 5 <0.01 5 <0.01 5 <0.01 5 <0.01 5 <0.01 5 <0.01 5 <0.01 5 <1 5 <0.01 5 <0.03 5 <0.003 5 <0.003 5 <0.003	No. of samples Range of results Mean 5 $8.3 - 18.7$ 12.4 5 $138 - 264$ 227 5 $2.09 - 2.77$ 2.39 5 $<0.02 - 0.218$ 0.121 5 $17 - 21.6$ 18.62 5 $25.5 - 37.4$ 30.5 5 $14 - 28.6$ 21.26 5 <0.14 <0.14 5 $<1 - 1.41$ 1.082 5 $<1 - 1.41$ 1.082 5 <0.14 <0.01 5 <0.01 <0.01 5 <0.01 <0.01 5 <0.01 <0.01 5 <0.01 <0.01 5 <0.01 <0.01 5 <0.01 <0.01 5 <0.01 <0.01 5 <0.01 <0.01 5 <0.01 <0.01 5 <0.01 <0.01 5 <0.01 <	samples Hange of results Mean GAC 5 8.3 – 18.7 12.4 $32^{(1)}$ 5 138 – 264 227 - 5 2.09 – 2.77 2.39 $51^{(3)}$ 5 1.7 – 21.6 1.862 125^{(2)} 5 25.5 – 37.4 30.5 2330^{(3)} 5 14 – 28.6 21.26 $450^{(2)}$ 5 2.2 – 32.3 2.8.4 130^{(1)} 5 <1.1.41

ContaminantNo. of samplesGRO > C5 - C125Benzene5Ethylbenzene5Toluene5m, p-Xylene5o-Xylene5BTEX total5Methyl tertiary butyl ether (MTBE)5Aliphatics > C5 - C65Aliphatics > C6 - C85Aliphatics > C6 - C85Aliphatics > C6 - C85Aliphatics > C10 - C125Total Aliphatics > C5 - C125Aliphatics > C16 - C215Aliphatics > C16 - C215Aliphatics > C16 - C355Aliphatics > C16 - C355Total Aliphatics > C17 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - 355Total Aliphatics > C6 - C75Aromatics > C6 - C75Aromatics > C7 - C85Aromatics > C7 - C85Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC10 - EC125Aromatics > EC16 - EC215Aromatics > EC16 - EC215Aromatics > EC16 - EC215Aromatics > EC16 - EC215Aromatics > EC40 - EC445Total Aromatics > EC10 - EC445Total Aromatics > EC12 - EC355 <td< th=""><th>Range of results <0.044 <0.01 <0.003 <0.002 <0.006</th><th>Mean <0.044 <0.01</th><th>GAC</th><th>No. exceeded</th></td<>	Range of results <0.044 <0.01 <0.003 <0.002 <0.006	Mean <0.044 <0.01	GAC	No. exceeded
Benzene5Ethylbenzene5Toluene5m, p-Xylene5o-Xylene5m, p, o-Xylene5BTEX total5Methyl tertiary butyl ether (MTBE)5Aliphatics > C5 - C65Aliphatics > C6 - C85Aliphatics > C6 - C85Aliphatics > C10 - C125Total Aliphatics > C5 - C65Aliphatics > C10 - C125Aliphatics > C10 - C125Aliphatics > C16 - C355Aliphatics > C16 - C215Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C16 - C355Total Aliphatics > C17 - C355Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Aromatics > EC8 - EC105Aromatics > EC10 - EC125Aromatics > EC10 - EC125Aromatics > EC10 - EC125Aromatics > EC21 - EC165Aromatics > EC21 - EC355Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445Total Aromatics > EC12 - EC165Aromatics > EC40 - EC445Total Aromatics > EC12 - EC165Aromatics > EC40 - EC44 <t< th=""><th><0.01 <0.003 <0.002</th><th>++</th><th></th><th></th></t<>	<0.01 <0.003 <0.002	++		
Ethylbenzene5Toluene5m, p-Xylene5o-Xylene5m, p, o-Xylene5BTEX total5Methyl tertiary butyl ether (MTBE)5Aliphatics > C5 - C65Aliphatics > C6 - C85Aliphatics > C10 - C125Total Aliphatics > C10 - C125Total Aliphatics > C16 - C215Aliphatics > C16 - C215Aliphatics > C16 - C215Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C16 - C355Total Aliphatics > C16 - C355Total Aliphatics > C16 - C355Total Aliphatics > C17 - C355Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C7 - C85Aromatics > EC8 - EC105Aromatics > EC10 - EC125Aromatics > EC10 - EC125Aromatics > EC10 - EC125Aromatics > EC10 - EC125Aromatics > EC21 - EC355Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445Total Aromatics > EC12 - EC355	<0.003 <0.002	<0.01	-	
Toluene5m, p-Xylene5o-Xylene5m, p, o-Xylene5BTEX total5Methyl tertiary butyl ether (MTBE)5Aliphatics > C5 - C65Aliphatics > C6 - C85Aliphatics > C6 - C85Aliphatics > C10 - C125Total Aliphatics > C10 - C125Aliphatics > C16 - C215Aliphatics > C16 - C215Aliphatics > C16 - C215Aliphatics > C16 - C355Aliphatics > C21 - C355Aliphatics > C35 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Total Aliphatics > C6 - C75Aromatics > EC10 - EC125Aromatics > EC10 - EC125Aromatics > EC12 - EC165Aromatics > EC12 - EC165Aromatics > EC12 - EC165Aromatics > EC21 - EC355Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445	<0.002		0.33(1)	
m, p-Xylene5o-Xylene5m, p, o-Xylene5BTEX total5Methyl tertiary butyl ether (MTBE)5Aliphatics > C5 - C65Aliphatics > C6 - C85Aliphatics > C10 - C125Total Aliphatics > C10 - C125Aliphatics > C16 - C215Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C16 - C355Total Aliphatics > C12 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Aromatics > C6 - C75Aromatics > C6 - C75Aromatics > C6 - C75Aromatics > EC10 - EC125Total Aromatics > C6 - C75Aromatics > EC12 - EC165Aromatics > EC12 - EC165Aromatics > EC21 - EC355Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445		<0.003	350(1)	
o-Xylene5m, p, o-Xylene5BTEX total5Methyl tertiary butyl ether (MTBE)5Aliphatics > C5 - C65Aliphatics > C6 - C85Aliphatics > C6 - C85Aliphatics > C10 - C125Total Aliphatics > C10 - C125Aliphatics > C12 - C165Aliphatics > C16 - C215Aliphatics > C16 - C355Aliphatics > C21 - C355Aliphatics > C35 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - 355Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Aromatics > C6 - C75Aromatics > C7 - C85Aromatics > EC10 - EC125Total Aromatics > C6 - C75Aromatics > EC10 - EC125Aromatics > EC12 - EC165Aromatics > EC12 - EC165Aromatics > EC21 - EC355Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445	-0.000	<0.002	610 ⁽¹⁾	
m, p, o-Xylene5BTEX total5Methyl tertiary butyl ether (MTBE)5Aliphatics > C5 - C65Aliphatics > C6 - C85Aliphatics > C6 - C85Aliphatics > C10 - C125Total Aliphatics > C5 - C125Aliphatics > C12 - C165Aliphatics > C16 - C215Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C21 - C355Aliphatics > C35 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Aromatics > C6 - C75Aromatics > EC8 - EC105Aromatics > EC10 - EC125Aromatics > EC10 - EC125Aromatics > EC12 - EC165Aromatics > EC16 - EC215Aromatics > EC445Total Aromatics > EC40 - EC445Total Aromatics > EC12 - EC165Aromatics > EC40 - EC445	<u> <0.008</u>	<0.006	-	
BTEX total5Methyl tertiary butyl ether (MTBE)5Aliphatics > C5 - C65Aliphatics > C6 - C85Aliphatics > C8 - C105Aliphatics > C10 - C125Total Aliphatics > C5 - C125Aliphatics > C16 - C215Aliphatics > C16 - C215Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C21 - C355Aliphatics > C35 - C445Total Aliphatics > C12 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Aromatics > C6 - C75Aromatics > EC8 - EC105Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC12 - EC165Aromatics > EC12 - EC165Aromatics > EC12 - EC165Aromatics > EC21 - EC355Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445	<0.003	<0.003	250 ⁽¹⁾	
Methyl tertiary butyl ether (MTBE)5Aliphatics > C5 - C65Aliphatics > C6 - C85Aliphatics > C6 - C85Aliphatics > C10 - C125Total Aliphatics > C10 - C125Aliphatics > C12 - C165Aliphatics > C16 - C215Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C21 - C355Aliphatics > C35 - C445Total Aliphatics > C12 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Aromatics > C6 - C75Aromatics > C7 - C85Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC10 - EC125Aromatics > EC12 - EC165Aromatics > EC12 - EC165Aromatics > EC12 - EC165Aromatics > EC21 - EC355Aromatics > EC41 - EC355Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445	<0.01	<0.01	-	
MTBE3Aliphatics > C5 - C65Aliphatics > C6 - C85Aliphatics > C10 - C125Aliphatics > C10 - C125Total Aliphatics > C5 - C125Aliphatics > C12 - C165Aliphatics > C16 - C215Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C21 - C355Aliphatics > C35 - C445Total Aliphatics > C12 - C445Total Aliphatics > C12 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Aromatics > C6 - C75Aromatics > C7 - C85Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC12 - EC165Aromatics > EC12 - EC165Aromatics > EC12 - EC165Aromatics > EC21 - EC355Aromatics > EC445Total Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445Total Aromatics > EC12 - EC445	<0.01	<0.01		
Aliphatics > C6 - C85Aliphatics > C8 - C105Aliphatics > C10 - C125Total Aliphatics > C5 - C125Aliphatics > C12 - C165Aliphatics > C16 - C215Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C21 - C355Aliphatics > C35 - C445Total Aliphatics > C12 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Aromatics > C6 - C75Aromatics > C7 - C85Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC10 - EC125Aromatics > EC12 - EC165Aromatics > EC12 - EC165Aromatics > EC21 - EC355Aromatics > EC41 - EC215Aromatics > EC445Total Aromatics > EC445	<0.005	<0.005	-	
Aliphatics > C8 - C105Aliphatics > C10 - C125Total Aliphatics > C5 - C125Aliphatics > C12 - C165Aliphatics > C16 - C215Aliphatics > C16 - C355Aliphatics > C21 - C355Aliphatics > C21 - C355Aliphatics > C35 - C445Total Aliphatics > C35 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Aromatics > C6 - C75Aromatics > C7 - C85Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC10 - EC125Aromatics > EC12 - EC165Aromatics > EC16 - EC215Aromatics > EC16 - EC215Aromatics > EC16 - EC215Aromatics > EC21 - EC355Aromatics > EC445Total Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445	<0.01	<0.01	30 ⁽³⁾	
Aliphatics > C10 - C125Total Aliphatics > C5 - C125Aliphatics > C12 - C165Aliphatics > C16 - C215Aliphatics > C16 - C355Aliphatics > C16 - C355Aliphatics > C21 - C355Aliphatics > C35 - C445Total Aliphatics > C12 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Aromatics > C6 - C75Aromatics > C7 - C85Aromatics > EC8 - EC105Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC12 - EC165Aromatics > EC16 - EC215Aromatics > EC16 - EC215Aromatics > EC16 - EC215Aromatics > EC35 - EC445Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445	<0.01	<0.01	73 ⁽³⁾	
Total Aliphatics > C5 - C125Aliphatics > C12 - C165Aliphatics > C16 - C215Aliphatics > C16 - C355Aliphatics > C21 - C355Aliphatics > C21 - C355Aliphatics > C35 - C445Total Aliphatics > C12 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Aromatics > C5 - C445Aromatics > C5 - C445Aromatics > C6 - C75Aromatics > EC8 - EC105Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC12 - EC165Aromatics > EC16 - EC215Aromatics > EC21 - EC355Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445	<0.01	<0.01	19 ⁽³⁾	
C12>Aliphatics > C12 - C165Aliphatics > C16 - C215Aliphatics > C16 - C355Aliphatics > C21 - C355Aliphatics > C35 - C445Total Aliphatics > C12 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Aromatics > C6 - C75Aromatics > C7 - C85Aromatics > EC8 - EC105Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC12 - EC165Aromatics > EC16 - EC215Aromatics > EC21 - EC355Aromatics > EC40 - EC445Total Aromatics > EC40 - EC445Total Aromatics > EC12 - EC445	<0.01	<0.01	93 ⁽³⁾	
Aliphatics > C16 - C215Aliphatics > C16 - C355Aliphatics > C21 - C355Aliphatics > C35 - C445Total Aliphatics > C12 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Aromatics > C6 - C75Aromatics > C7 - C85Aromatics > EC8 - EC105Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC12 - EC165Aromatics > EC12 - EC165Aromatics > EC21 - EC355Aromatics > EC35 - EC445Aromatics > EC40 - EC445Total Aromatics > EC12 - EC445	<0.01	<0.01	-	
Aliphatics > C16 - C355Aliphatics > C21 - C355Aliphatics > C35 - C445Total Aliphatics > C12 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Aromatics > C6 - C75Aromatics > C7 - C85Aromatics > EC8 - EC105Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC10 - EC125Aromatics > EC12 - EC165Aromatics > EC16 - EC215Aromatics > EC21 - EC355Aromatics > EC445Aromatics > EC40 - EC445Total Aromatics > EC12 - EC445	7 – 20.1	15	740 ⁽³⁾	
Aliphatics > C21 - C355Aliphatics > C35 - C445Total Aliphatics > C12 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Aromatics > C6 - C75Aromatics > C7 - C85Aromatics > EC8 - EC105Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC12 - EC165Aromatics > EC16 - EC215Aromatics > EC21 - EC355Aromatics > EC35 - EC445Aromatics > EC40 - EC445Total Aromatics > EC12 - EC445	7.9 – 132	50.5	-	
Aliphatics > C35 - C445Total Aliphatics > C12 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Aromatics > C6 - C75Aromatics > C7 - C85Aromatics > EC8 - EC105Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC10 - EC125Aromatics > EC12 - EC165Aromatics > EC16 - EC215Aromatics > EC21 - EC355Aromatics > EC35 - EC445Aromatics > EC40 - EC445Total Aromatics > EC12 - EC445	17.9 - 227	88.7	45000 ⁽³⁾	
Total Aliphatics > C12 - C445Total Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Aromatics > C6 - C75Aromatics > C7 - C85Aromatics > EC8 - EC105Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC12 - EC165Aromatics > EC16 - EC215Aromatics > EC21 - EC355Aromatics > EC35 - EC445Aromatics > EC40 - EC445Total Aromatics > EC12 - EC445	9.94 – 95.5	38.3	-	· · · · · · · · · · · · · · · · · · ·
C44DTotal Aliphatics > C5 - 355Total Aliphatics > C5 - C445Total Aliphatics > C5 - C445Aromatics > C6 - C75Aromatics > C7 - C85Aromatics > EC8 - EC105Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC10 - EC125Aromatics > EC12 - EC165Aromatics > EC16 - EC215Aromatics > EC21 - EC355Aromatics > EC35 - EC445Aromatics > EC40 - EC445Total Aromatics > EC12 - E5	<0.1 – 4.58	0.936	45000 ⁽³⁾	
Total Aliphatics > C5 - C445Aromatics > C6 - C75Aromatics > C7 - C85Aromatics > EC8 - EC105Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC12 - EC165Aromatics > EC21 - EC215Aromatics > EC21 - EC355Aromatics > EC35 - EC445Aromatics > EC40 - EC445Total Aromatics > EC12 - EC445	34.3 – 252	104.8	-	
Aromatics > C6 - C75Aromatics > C7 - C85Aromatics > EC8 - EC105Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC12 - EC165Aromatics > EC16 - EC215Aromatics > EC21 - EC355Aromatics > EC35 - EC445Aromatics > EC40 - EC445Total Aromatics > EC12 - EC445	28.5 – 247	103.76		
Aromatics > C7 - C85Aromatics > EC8 - EC105Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC12 - EC165Aromatics > EC16 - EC215Aromatics > EC21 - EC355Aromatics > EC35 - EC445Aromatics > EC40 - EC445Total Aromatics > EC12 - EC12 - EC445	28.5 - 252	104.76	-	
Aromatics > C7 - C85Aromatics > EC8 - EC105Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC12 - EC165Aromatics > EC16 - EC215Aromatics > EC21 - EC355Aromatics > EC35 - EC445Aromatics > EC40 - EC445Total Aromatics > EC12 - EC445		<u> </u>		<u>i </u>
$\begin{array}{r llllllllllllllllllllllllllllllllllll$	<0.01	<0.01	-	
Aromatics > EC10 - EC125Total Aromatics > C6 - C125Aromatics > EC12 - EC165Aromatics > EC16 - EC215Aromatics > EC21 - EC355Aromatics > EC35 - EC445Aromatics > EC40 - EC445Total Aromatics > EC12 - EC445	<0.01	<0.01	120 ⁽³⁾	
Total Aromatics > C6 - C125Aromatics > EC12 - EC165Aromatics > EC16 - EC215Aromatics > EC21 - EC355Aromatics > EC35 - EC445Aromatics > EC40 - EC445Total Aromatics > EC12 - EC445	<0.01	<0.01	27 ⁽³⁾	
C125Aromatics > EC12 - EC165Aromatics > EC16 - EC215Aromatics > EC21 - EC355Aromatics > EC35 - EC445Aromatics > EC40 - EC445Total Aromatics > EC12 - EC445	<0.01	<0.01	69 ⁽³⁾	
Aromatics > EC16 - EC215Aromatics > EC21 - EC355Aromatics > EC35 - EC445Aromatics > EC40 - EC445Total Aromatics > EC12 - EC445	<0.01	<0.01	-	
Aromatics > EC21 - EC355Aromatics > EC35 - EC445Aromatics > EC40 - EC445Total Aromatics > EC12 - EC445	5.68 - 30.7	11.66	140 ⁽³⁾	
Aromatics > EC35 - EC445Aromatics > EC40 - EC445Total Aromatics > EC12 - EC445	<0.1 - 28.8	12.18	250 ⁽³⁾	
Aromatics > EC40 – EC44 5 Total Aromatics > EC12 – 5 EC44 5	15.3 – 27.8	20.48	890 ⁽³⁾	
Total Aromatics > EC12 – 5 EC44 5	5.02 - 8.57	6.33	890 ⁽³⁾	
EC44 5	1.43 – 3.41	2.26		
Total Aromation > CE 25 E	35.8 - 71.5	50.62	-	
Total Alomatics > C5 - 55 5	30.8 - 63.3	44.3	-	
Total Aromatics > C6 – 5 C44	35.8 - 71.5	50.62	-	
Total Aliphatics &				
Aromatics > C5 - 35 5 Total Aliphatics & 5 Aromatics > C5 - 35 5	61 - 311 66 - 323	148 155.2		<u> </u>

	Solid	Contamination Results	- Excavation		
Contaminant	No. of samples	Range of results	Mean	GAC	No. exceeded
Dichlorodifluoromethane	5	<0.013	<0.013	-	
Chloromethane	5	<0.012	<0.012	0.0083 ⁽⁴⁾	
Vinyl Chloride	5	<0.01	<0.01	0.00047 ⁽³⁾	
Bromemethane	5	<0.009	<0.009	-	
Chloroethane	5	<0.012	<0.012	8.3 ⁽⁴⁾	
Trichlorofiuoromethane	5	<0.007	<0.007	-	
1.1-Dichloroethene	5	<0.009	<0.009	2.4 ⁽⁴⁾	
Carbon Disulphide	5	<0.009	<0.009	0.10 ⁽³⁾	
Dichloromethane	5	<0.01	<0.01	0.58 ⁽⁴⁾	
Methyl Tertiary Butyl Ether	5	<0.009	<0.009	49 ⁽⁴⁾	
trans-1-2-Dichloroethene	5	<0.012	<0.012	-	
1.1-Dichloroethane	5	<0.008	<0.008	2.4 ⁽⁴⁾	
cis-1-2-Dichloroethene	5	<0.009	<0.009	0.11 ⁽⁴⁾	
2.2-Dichloropropane	5	<0.01	<0.01	-	
Bromochloromethane	5	<0.01	<0.01	-	
Chloroform	5	<0.01	<0.01	0.75 ⁽³⁾	
1.1.1-Trichloroethane	5	<0.012	<0.012	6.2 ⁽³⁾	
1.1-Dichloropropene	5	<0.013	<0.013	-	
Carbontetrachloride	5	<0.011	<0.011	-	
1.2-Dichloroethane	5	<0.01	<0.01	0.0054 ⁽³⁾	
Benzene	5	<0.009	<0.009	-	
Trichloroethene	5	<0.009	<0.009	0.11 ⁽³⁾	·
1.2-Dichloropropane	5	<0.01	<0.01	0.024 ⁽⁴⁾	
Dibromomethane	5	<0.012	<0.012	-	
Bromodichloromethane	5	<0.011	<0.011	0.016 ⁽⁴⁾	
cis-1-3-Dichloropropene	5	<0.025	<0.025	(*):	
Toluene	5	<0.006	<0.006	610 ⁽¹⁾	
trans-1-2-Dichloropropene	5	<0.027	<0.027	-	
1.1.2-Trichloroethane	5	<0.009	<0.009	0.6 ⁽⁴⁾	
1.3-Dichloropropane	5	<0.007	<0.007	-	† ·
Tetrachloroethene	5	<0.009	<0.009	0.94 ⁽³⁾	<u> </u>
Dibromochloromethane	5	<0.009	<0.009	<u> </u>	<u>├</u> ─────
1.2-Dibromoethane	-5	<0.014	<0.014	-	
Chorobenzene	5	<0.007	<0.007	0.33 ⁽³⁾	
1.1.1.2-Tetrachloroethane	5	<0.011	<0.011	0.90 ⁽³⁾	
Ethylbenzene	5	<0.009	<0.009	350(1)	
p/m-Xylene	5	<0.013	<0.013		<u> </u>
o-Xylene	5	<0.011	<0.011	250 ⁽¹⁾	<u> </u>

VOC's continued					
Styrene	5	<0.011	<0.011	8.1 ⁽⁴⁾	
Bromoform	5	<0.012	<0.012	2.8 ⁽⁴⁾	
Isopropylbenzene	5	<0.009	<0.009	11 ⁽⁴⁾	
1.1.2.2-Tetrachloroethane	5	<0.015	<0.015	1.4 ⁽³⁾	
1.2.3-Trichloropropane	5	<0.013	<0.013	-	
Bromobenzene	5	<0.014	<0.014	0.87 ⁽⁴⁾	
Propylbenzene	5	<0.006	<0.006	34(4)	
2-Chlorotoluene	5	<0.014	<0.014	-	
1.3.5-Trimethylbenzene	5	<0.008	<0.008		
4-Chlorotoluene	5	<0.009	<0.009	-	
tert-Butylbenzene	5	<0.012	<0.012		
1.2.4-Trimethylbenzene	5	<0.01	<0.01	0.35 ⁽⁴⁾	
sec-Butylbenzene	5	<0.008	<0.008	-	
4-Isopropyltoluene	5	<0.008	<0.008	-	
1.3-Dichlorobenzene	5	<0.008	<0.008	0.29 ⁽³⁾	· · · · · · · · · · · · · · · · · · ·
1.4-Dichlorobenzene	5	<0.011	<0.011	30(3)	
n-Butylbenzene	5	<0.007	<0.007	-	
1.2-Dichlorobenzene	5	<0.008	<0.008	16 ⁽³⁾	
1.2-Dibromo-3-chloropropane	5	<0.011	<0.011	-	
tert-amyl methyl ether	5	<0.007	<0.007	-	
1.2.4-Trichlorobenzene	5	<0.009	<0.009	1.8 ⁽³⁾	
Hexachlorobutadiene	5	<0.015	<0.015	0.21 ⁽³⁾	
Naphthalene	5	<0.007	<0.007	1.5 ⁽³⁾	
1.2.3-Trichlorobenzene	5	<0.012	<0.012	1.0 ⁽³⁾	

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Generic Assessment Criteria (GAC): o ⁽¹⁾ Soil Guideline Value (SGV) Environment Agency (Post-March 2009) 6% SOM o ⁽²⁾ Soil Guideline Value (SGV) Environment Agency (Pre-March 2009) o ⁽³⁾ LQM / CIEH (2rd Edition) Generic Assessment Criteria (2009) 1% SOM o ⁽⁴⁾ CL:AIRE Soil Generic Assessment Criteria for Human Health Risk Assessment (January 2010) 1% SOM All units in mg/kg unless otherwise stated.

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		Contamination Resu	nts - Trial pits		·
Contaminant	No. of samples	Range of results	Mean	GAC	No. exceeded
Arsenic	8	<6 - 16.3	7	32(1)	
Barium	8	18.1 - 180	96.8	-	
Beryllium	8	0.402 - 5.52	1.9	51 ⁽³⁾	
Cadmium	8	<0.2 - 2.42	0.4751	10 ⁽¹⁾	
Chromium	8	2.85 - 57.8	16.6	125 ⁽²⁾	
Copper	8	2.97 - 175	33.62	2330 ⁽³⁾	
Lead	8	4.53 - 555	82.8	450 ⁽²⁾	TPA (1.5m)
Mercury	8	<0.14 - 0.34	0.186	1(1)	
Nickel	8	2.59 – 18.9	10.88	130 ^(†)	
Selenium	8	<1 – 1	1	350 ⁽¹⁾	
Vanadium	8	<u> 3.6 –</u> 48.9	17.7	75(3)	
Zinc	8	4.43 - 109	36.7	3750 ⁽³⁾	
Boron Water Soluble	8	<1		291 ⁽³⁾	
Phenol	8	<0.01	<0.01	420 ⁽¹⁾	
Cresols	8	<0.01	<0.01		
Xylenois	8	<0.015	<0.015	-	
2, 3, 5-Trimethylphenol	8	<0.1	<0.1		
2-Isopropylphenol	8	<0.015	<0.015		
		<u>.</u>	<u></u>		
Total Cyanide	8	<1	<1		
Free Cyanide	8	<1	<1		
Water Soluble Sulphate (g/l)	8	0.0312 - 0.162	0.0766	-	
Nitrate (NO3)	8	<1 – 5.19	1.63	-	
рН	8	7.45 - 11.9	9.54	-	
Soil Organic Matter (%)	8	<0.35 - 3.26	1.17		
Asbestos Screen	8	No ACM Detected	-	-	
BOD 00 1					
PCB congener 28	8	<0.003	<0.003	-	
PCB congener 52	8	<0.003	<0.003	-	
PCB congener 101		<0.003	<0.003		
PCB congener 118	8	<0.003	<0.003	-	
PCB congener 138	8	<0.003 - 0.00678	0.00347	-	
PCB congener 153		<0.003 - 0.00425	0.00316	-	
PCB congener 180 PCBs Total ICES 7	8	<0.003 - 0.00411	0.00314		<u> </u>
PUBS TOTALICES /	8	<0.003 - 0.0151	0.00451		
Naphthalene	8	<0.009 - 0.135	0.0457	1.5(3)	
Acenaphthylene	8	<0.009 - 0.135	0.0437	1.5 ⁽³⁾	
Acenaphthene	8	<0.008 - 0.0448	0.0123	210 ⁽³⁾	
Fluorene	8	<0.010 - 0.0838	0.023	160 ⁽³⁾	
Phenanthrene	8	<0.015 - 0.395	0.113	92 ⁽³⁾	<u> </u>
Anthracene	8	<0.016 - 0.083	0.0256	2300 ⁽³⁾	+
Fluoranthene	8	<0.017 - 0.560	0.118	260 ⁽³⁾	+
Pyrene	8	<0.015 - 0.473	0.101	200 560 ⁽³⁾	<u> </u>
Benz(a)anthracene	8	<0.014 - 0.272	0.0659	3.1 ⁽³⁾	<u> </u>
Chrysene	8	<0.010 - 0.219	0.0578	6.0 ⁽³⁾	<u> </u>
Benzo(b)fluoranthene	8	<0.015 - 0.273	0.0672	<u> </u>	<u> </u>
Benzo(k)fluoranthene	8	<0.014 - 0.104	0.0296	8.5 ⁽³⁾	<u> </u>
Benzo(a)pyrene	8	<0.015 - 0.187	0.0467	0.83 ⁽³⁾	<u>+</u>
Indeno(123cd)pyrene	8	<0.018 - 0.0941	0.0326	3.2 ⁽³⁾	<u> </u>
Dibenzo(ah)anthracene	8	<0.023 - 0.0291	0.0238	0.76 ⁽³⁾	<u> </u>
Benzo(ghi)perylene	8	<0.024 - 0.125	0.0461	<u> </u>	+
PAH 16 EPA Total	8	<0.118 - 3.08	0.734		

		Contamination Resu			
Contaminant	No. of samples	Range of results	Mean	GAC	No. exceeded
GRO > C5 – C12	8	<0.044 - 0.902	0.257		
Benzene	8	<0.01 - <0.020	0.0112	0.33 ⁽¹⁾	
Ethylbenzene	8	<0.003 - 0.0116	0.00445	350 ⁽¹⁾	
Toluene	8	<0.002 - 0.0316	0.00595	610 ⁽¹⁾	
m, p-Xylene	8	<0.006 - 0.0264	0.0093	-	
o-Xylene	8	<0.003 - <0.006	0.00338	250 ⁽¹⁾	
m, p, o-Xylene	8	<0.01 – 0.0264	0.0133		
BTEX total	8	<0.01 - 0.0696	0.0187	-	
Methyl tertiary butyl ether (MTBE)	8	<0.005 - 0.0105	0.00631	-	
Aliphatics > C5 – C6	8	<0.01 0.0117	0.0115	30 ⁽³⁾	<u> </u>
Aliphatics > C6 - C8	8	<0.01 - 0.110	0.0238		
Aliphatics > C8 - C10	8	<0.01 - 0.108	0.0238		+
Aliphatics > C10 - C12	8	<0.01 - 0.220	0.0326	93 ⁽³⁾	<u> </u>
Total Aliphatics > C5 – C12	8	<0.01 - 0.402	0.1022	- 93.	
Aliphatics > C12 - C16	8	<0.1 – 52.7	12.0	740 ⁽³⁾	
Aliphatics > C16 - C21	8	<0.1 – 186	43		-
Aliphatics > C16 - C35	8	9.36 - 314	84.23	45000 ⁽³⁾	
Aliphatics > C21 - C35	8	<0.1 - 130	41.25		
Aliphatics > C35 - C44	8	<0.1 – 12.7	1.675	45000 ⁽³⁾	
Total Aliphatics > C12 - C44	8	15.3 – 380	97.83	-	<u> </u>
Total Aliphatics > C5 - 35	8	15.3 – 367	96.29		
Total Aliphatics > C5 - C44	8	15.3 – 380	97.91	-	
Aromatics > C6 – C7	8	<0.01	<0.01		T — —
Aromatics > C7 – C8	8	<0.01 - 0.0316	0.0127	120 ⁽³⁾	<u> </u>
Aromatics > EC8 - EC10	8	<0.01 - 0.162	0.0479	27 ⁽³⁾	<u> </u>
Aromatics > EC10 - EC12	8	<0.01 - 0.330	0.0898	69 ⁽³⁾	
Total Aromatics > C6 – C12	8	<0.01 - 0.492	0.134		<u> </u>
Aromatics > EC12 - EC16	8	<0.01 – 11.7	4.39	140 ⁽³⁾	
Aromatics > EC16 – EC21	8	<0.01 – 38.5	11.68	250(3)	
Aromatics > EC21 EC35	8	< 0.01 - 56.6	19.49	890 ⁽³⁾	
Aromatics > EC35 EC44	8	<0.01 - 15.2	6.99	890 ⁽³⁾	
Aromatics > EC40 – EC44	8	<0.01 - 5.7	2.77	_	
Total Aromatics > EC12 – EC44	8	<0.01 - 122	42.5	-	
Total Aromatics > C5 - 35	8	<0.1 – 107	35.68	-	
Total Aromatics > C6 – C44	8	<0.1 – 122	42.63		
Total Aliphatics & Aromatics > C5 – 35	8	15.3 – 474	131.91	<u> </u>	
Total Aliphatics & Aromatics > C5 - C44	8	15.3 – 502	140.51	<u> </u>	<u>+</u>

Solid Contamination Results – Trial Pits						
Contaminant	No. of samples	Range of results	Mean	GAC	No. exceeded	
Dichlorodifluoromethane	8	<0.013	<0.013	-		
Chloromethane	8	<0.012	<0.012	0.0083(4)		
Vinyl Chloride	8	<0.01	<0.01	0.00047 ⁽³⁾		
Bromemethane	8	<0.009	<0.009	-		
Chloroethane	8	<0.012	<0.012	8.3 ⁽⁴⁾		
Trichlorofluoromethane	8	<0.007	<0.007	-		
1.1-Dichloroethene	8	<0.009	<0.009	2.4 ⁽⁴⁾		
Carbon Disulphide	8	<0.009 - 0.0195	0.0105	0.10 ⁽³⁾		
Dichloromethane	8	<0.01	<0.01	0.58 ⁽⁴⁾		
Methyl Tertiary Butyl Ether	8	<0.009	<0.009	49(4)		
trans-1-2-Dichloroethene	8	<0.012	<0.012	-		
1.1-Dichloroethane	8	<0.008	<0.008	2.4 ⁽⁴⁾		
cis-1-2-Dichloroethene	8	<0.009	<0.009	0.11 ⁽⁴⁾	<u> </u>	
2.2-Dichloropropane	8	<0.01	<0.01	-		
Bromochloromethane	8	<0.01	<0.01			
Chloroform	8	<0.01	<0.01	0.75 ⁽³⁾		
1.1.1-Trichloroethane	8	<0.012	<0.012	6.2 ⁽³⁾	<u> </u>	
1.1-Dichloropropene	8	<0.013	<0.013			
Carbontetrachloride	8	<0.011	<0.011			
1.2-Dichloroethane	8	<0.01	<0.01	0.0054 ⁽³⁾		
Benzene	8	<0.009	<0.009	-	<u> </u>	
Trichloroethene	8	<0.009	<0.009	0.11 ⁽³⁾	<u> </u>	
1.2-Dichloropropane	8	<0.01	<0.01	0.024(4)		
 Dibromomethane	8	<0.012	<0.012	_	· · · · · · · · · · · · · · · · · · ·	
Bromodichloromethane	8	<0.011	<0.011	0.016 ⁽⁴⁾	<u> </u>	
cis-1-3-Dichloropropene	8	<0.025	<0.025			
Toluene	8	<0.006 -0.0456	0.0123	610 ⁽¹⁾		
trans-1-2-Dichloropropene	8	<0.027	<0.027	-		
1.1.2-Trichloroethane	8	<0.009	<0.009	0.6 ⁽⁴⁾	<u> </u>	
1.3-Dichloropropane	8	<0.007	<0.007			
Tetrachloroethene	8	<0.009	<0.009	0.94 ⁽³⁾	<u> </u>	
Dibromochloromethane	8	<0.009	<0.009			
1.2-Dibromoethane	8	<0.014	<0.014		<u> </u>	
Chlorobenzene	8	<0.007	<0.007	0.33 ⁽³⁾		
1.1.1.2-Tetrachloroethane	8	<0.011	<0.011	0.90 ⁽³⁾		
Ethylbenzene	8	<0.009 0.01	0.0091	350 ⁽¹⁾		
p/m-Xylene	8	<0.013 - 0.0293	0.015			
o-Xylene	8	<0.011	<0.011	250 ⁽¹⁾	<u>├──</u> ── ──	

VOC's continued					
Styrene	8	<0.011	<0.011	8.1 ⁽⁴⁾	
Bromoform	8	<0.012	<0.012	2.8 ⁽⁴⁾	_
Isopropylbenzene	8	<0.009	<0.009	11 ⁽⁴⁾	
1.1.2.2-Tetrachloroethane	8	<0.015	<0.015	1.4 ⁽³⁾	
1.2.3-Trichloropropane	8	<0.013	<0.013		
Bromobenzene	8	<0.014	<0.014	0.87 ⁽⁴⁾	
Propylbenzene	8	<0.006 - 0.01	0.0065	34 ⁽⁴⁾	
2-Chlorotoluene	8	<0.014	<0.014	-	
1.3.5-Trimethylbenzene	8	<0.008 - 0.0127	0.0086	-	
4-Chlorotoluene	8	<0.009	<0.009	-	
tert-Butylbenzene	8	<0.012	<0.012	-	
1.2.4-Trimethylbenzene	8	<0.01 - 0.0344	0.013	0.35 ⁽⁴⁾	
sec-Butylbenzene	8	<0.008	<0.008	-	
4-Isopropyltoluene	8	<0.008	<0.008	_	
1.3-Dichlorobenzene	8	<0.008	<0.008	0.29 ⁽³⁾	
1.4-Dichlorobenzene	8	<0.011	<0.011	30 ⁽³⁾	
n-Butylbenzene	8	<0.007	<0.007	-	
1.2-Dichlorobenzene	8	<0.008	<0.008	16 ⁽³⁾	
1.2-Dibromo-3-chloropropane	8	<0.011	<0.011	-	T
tert-amyl methyl ether	8	<0.007	<0.007	-	·
1.2.4-Trichlorobenzene	8	<0.009	<0.009	1.8 ⁽³⁾	
Hexachlorobutadiene	8	<0.015	<0.015	0.21 ⁽³⁾	
Naphthalene	8	<0.007 - 0.0471	0.012	1.5 ⁽³⁾	
1.2.3-Trichlorobenzene	8	<0.012	<0.012	1.0 ⁽³⁾	<u> </u>

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Generic Assessment Criteria (GAC): o ⁽¹⁾ Soil Guideline Value (SGV) Environment Agency (Post-March 2009) 6% SOM o ⁽²⁾ Soil Guideline Value (SGV) Environment Agency (Pre-March 2009) o ⁽³⁾ LQM / CIEH (2nd Edition) Generic Assessment Criteria (2009) 1% SOM o ⁽⁴⁾ CL:AIRE Soil Generic Assessment Criteria for Human Health Risk Assessment (January 2010) 1% SOM

All units in mg/kg unless otherwise stated. *

	o. of mples 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Range of results 2.04 - 9.87 31.7 - 264 0.628 - 2.62 0.242 - 1.51 3.66 - 48.7 2.9 - 23.6 3.49 - 17.8 <0.14 - 0.277 3.52 - 24.8 <1 5.22 - 41.2 4.39 - 146 <1 <0.01 <0.01 <0.01 <0.015 <0.1 <0.015 <1	Mean 5.9 152.14 1.48 0.864 28.31 13.66 9.17 0.181 13.57 22.68 84.26 <0.01 <0.015 <0.15	GAC 32 ⁽¹⁾ 51 ⁽³⁾ 10 ⁽¹⁾ 125 ⁽²⁾ 2330 ⁽³⁾ 450 ⁽²⁾ 1 ⁽¹⁾ 130 ⁽¹⁾ 350 ⁽¹⁾ 75 ⁽³⁾ 3750 ⁽³⁾ 291 ⁽³⁾ - -	
ArsenicBariumBerylliumCadmiumChromiumChromiumCopperLeadMercuryNickelSeleniumVanadiumZincBoron Water SolublePhenolCresolsXylenols2, 3, 5-Trimethylphenol2-IsopropylphenolTotal CyanideFree CyanideWater Soluble Sulphate(g/l)Nitrate (NO3)pHSoil Organic Matter (%)Asbestos ScreenPCB congener 28PCB congener 101PCB congener 118PCB congener 138	5 5	31.7 - 264 $0.628 - 2.62$ $0.242 - 1.51$ $3.66 - 48.7$ $2.9 - 23.6$ $3.49 - 17.8$ $<0.14 - 0.277$ $3.52 - 24.8$ <1 $5.22 - 41.2$ $4.39 - 146$ <1 <0.01 <0.01 <0.015 <0.1 <0.015 <1	152.14 1.48 0.864 28.31 13.66 9.17 0.181 13.57 22.68 84.26 <0.01 <0.015 <0.1	51 ⁽³⁾ 10 ⁽¹⁾ 125 ⁽²⁾ 2330 ⁽³⁾ 450 ⁽²⁾ 1 ⁽¹⁾ 130 ⁽¹⁾ 350 ⁽¹⁾ 75 ⁽³⁾ 3750 ⁽³⁾ 291 ⁽³⁾ 420 ⁽¹⁾	
Beryllium Cadmium Chromium Copper Lead Mercury Nickel Selenium Vanadium Zinc Boron Water Soluble Phenol Cresols Xylenols 2, 3, 5-Trimethylphenol 2-lsopropylphenol Total Cyanide Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 101 PCB congener 118 PCB congener 138	5 5	$\begin{array}{r} 0.628 - 2.62 \\ 0.242 - 1.51 \\ 3.66 - 48.7 \\ 2.9 - 23.6 \\ 3.49 - 17.8 \\ < 0.14 - 0.277 \\ 3.52 - 24.8 \\ < 1 \\ 5.22 - 41.2 \\ 4.39 - 146 \\ < 1 \\ \hline \\ < 0.01 \\ < 0.01 \\ < 0.015 \\ < 0.1 \\ < 0.015 \\ \hline \\ < 1 \\ \hline \\ \hline \\ \hline \\ < 1 \\ \hline \\ \hline \\ \hline \\ < 1 \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ < 1 \\ \hline \\$	1.48 0.864 28.31 13.66 9.17 0.181 13.57 22.68 84.26 <0.01	10 ⁽¹⁾ 125 ⁽²⁾ 2330 ⁽³⁾ 450 ⁽²⁾ 1 ⁽¹⁾ 130 ⁽¹⁾ 350 ⁽¹⁾ 75 ⁽³⁾ 3750 ⁽³⁾ 291 ⁽³⁾ 420 ⁽¹⁾	
Cadmium Chromium Copper Lead Mercury Nickel Selenium Vanadium Zinc Boron Water Soluble Phenol Cresols Xylenols 2, 3, 5-Trimethylphenol 2-Isopropylphenol 2-Isopropylphenol Free Cyanide Free Cyanide Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 101 PCB congener 118 PCB congener 138	5 5	0.242 - 1.51 $3.66 - 48.7$ $2.9 - 23.6$ $3.49 - 17.8$ $<0.14 - 0.277$ $3.52 - 24.8$ <1 $5.22 - 41.2$ $4.39 - 146$ <1 <0.01 <0.01 <0.015 <0.1 <1	0.864 28.31 13.66 9.17 0.181 13.57 22.68 84.26 	10 ⁽¹⁾ 125 ⁽²⁾ 2330 ⁽³⁾ 450 ⁽²⁾ 1 ⁽¹⁾ 130 ⁽¹⁾ 350 ⁽¹⁾ 75 ⁽³⁾ 3750 ⁽³⁾ 291 ⁽³⁾ 420 ⁽¹⁾	
ChromiumCopperLeadMercuryNickelSeleniumVanadiumZincBoron Water SolublePhenolCresolsXylenols2, 3, 5-Trimethylphenol2-IsopropylphenolFree CyanideFree CyanideVater Soluble Sulphate(g/l)Nitrate (NO3)pHSoil Organic Matter (%)Asbestos ScreenPCB congener 28PCB congener 101PCB congener 118PCB congener 138	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3.66 - 48.7 $2.9 - 23.6$ $3.49 - 17.8$ $<0.14 - 0.277$ $3.52 - 24.8$ <1 $5.22 - 41.2$ $4.39 - 146$ <1 <0.01 <0.01 <0.015 <0.1 <1	28.31 13.66 9.17 0.181 13.57 22.68 84.26 <0.01	125 ⁽²⁾ 2330 ⁽³⁾ 450 ⁽²⁾ 1 ⁽¹⁾ 130 ⁽¹⁾ 350 ⁽¹⁾ 75 ⁽³⁾ 3750 ⁽³⁾ 291 ⁽³⁾ 420 ⁽¹⁾	
Copper Lead Mercury Nickel Selenium Vanadium Zinc Boron Water Soluble Phenol Cresols Xylenols 2, 3, 5-Trimethylphenol 2-Isopropylphenol Total Cyanide Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 101 PCB congener 118 PCB congener 138	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2.9 - 23.6 3.49 - 17.8 <0.14 - 0.277 3.52 - 24.8 <1 5.22 - 41.2 4.39 - 146 <1 <0.01 <0.01 <0.015 <0.1 <0.015 <1	13.66 9.17 0.181 13.57 22.68 84.26 <0.01 <0.01 <0.015 <0.1	2330 ⁽³⁾ 450 ⁽²⁾ 1 ⁽¹⁾ 330 ⁽¹⁾ 350 ⁽¹⁾ 75 ⁽³⁾ 3750 ⁽³⁾ 291 ⁽³⁾ 420 ⁽¹⁾	
Lead Mercury Nickel Selenium Vanadium Zinc Boron Water Soluble Phenol Cresols Xylenols 2, 3, 5-Trimethylphenol 2-Isopropylphenol Total Cyanide Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 101 PCB congener 118 PCB congener 138	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3.49 - 17.8 <0.14 - 0.277 3.52 - 24.8 <1 5.22 - 41.2 4.39 - 146 <1 <0.01 <0.01 <0.01 <0.015 <0.1 <0.015 <1	9.17 0.181 13.57 22.68 84.26 <0.01 <0.01 <0.015 <0.1	$ \begin{array}{r} 450^{(2)} \\ 1^{(1)} \\ 350^{(1)} \\ 75^{(3)} \\ 3750^{(3)} \\ 291^{(3)} \\ 420^{(1)} \\ - \\ $	
Mercury Nickel Selenium Vanadium Zinc Boron Water Soluble Phenol Cresols Xylenols 2, 3, 5-Trimethylphenol 2-Isopropylphenol Total Cyanide Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 101 PCB congener 118 PCB congener 138	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	<0.14 - 0.277 3.52 - 24.8 <1 5.22 - 41.2 4.39 - 146 <1 <0.01 <0.01 <0.015 <0.1 <0.015 <1	0.181 13.57 22.68 84.26 <0.01	1 ⁽¹⁾ 130 ⁽¹⁾ 350 ⁽¹⁾ 75 ⁽³⁾ 3750 ⁽³⁾ 291 ⁽³⁾ 420 ⁽¹⁾	
Nickel Selenium Vanadium Zinc Boron Water Soluble Phenol Cresols Xylenols 2, 3, 5-Trimethylphenol 2-lsopropylphenol Total Cyanide Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 101 PCB congener 118 PCB congener 138	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3.52 - 24.8 <1 5.22 - 41.2 4.39 - 146 <1 <0.01 <0.01 <0.015 <0.1 <0.015 <1	13.57 22.68 84.26 <0.01 <0.01 <0.015 <0.1	130 ⁽¹⁾ 350 ⁽¹⁾ 75 ⁽³⁾ 3750 ⁽³⁾ 291 ⁽³⁾ 420 ⁽¹⁾	
Selenium Vanadium Zinc Boron Water Soluble Phenol Cresols Xylenols 2, 3, 5-Trimethylphenol 2-Isopropylphenol Total Cyanide Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 101 PCB congener 118 PCB congener 138	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	<1 5.22 - 41.2 4.39 - 146 <1 <0.01 <0.01 <0.015 <0.1 <0.015 <1	22.68 84.26 <0.01 <0.01 <0.015 <0.1	350 ⁽¹⁾ 75 ⁽³⁾ 3750 ⁽³⁾ 291 ⁽³⁾ 420 ⁽¹⁾	
Vanadium Zinc Boron Water Soluble Phenol Cresols Xylenols 2, 3, 5-Trimethylphenol 2-Isopropylphenol Total Cyanide Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 101 PCB congener 118 PCB congener 138	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	5.22 - 41.2 4.39 - 146 <1 <0.01 <0.01 <0.015 <0.1 <0.015 <1	<0.01 <0.01 <0.015 <0.1	75 ⁽³⁾ 3750 ⁽³⁾ 291 ⁽³⁾ 420 ⁽¹⁾	
Zinc Boron Water Soluble Phenol Cresols Xylenols 2, 3, 5-Trimethylphenol 2-Isopropylphenol Total Cyanide Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 52 PCB congener 101 PCB congener 118 PCB congener 138	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	4.39 - 146 <1 <0.01 <0.01 <0.015 <0.1 <0.015 <1	<0.01 <0.01 <0.015 <0.1	<u>3750⁽³⁾</u> 291 ⁽³⁾ <u>420⁽¹⁾</u>	
Boron Water Soluble Phenol Cresols Xylenols 2, 3, 5-Trimethylphenol 2-Isopropylphenol Total Cyanide Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 101 PCB congener 118 PCB congener 138	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	<1 <0.01 <0.01 <0.015 <0.1 <0.015 <1	<0.01 <0.01 <0.015 <0.1	291 ⁽³⁾ 420 ⁽¹⁾ - -	
Phenol Cresols Xylenols 2, 3, 5-Trimethylphenol 2-Isopropylphenol Total Cyanide Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 101 PCB congener 118 PCB congener 138	5 5 5 5 5 5 5 5 5 5 5 5 5	<0.01 <0.01 <0.015 <0.1 <0.015 <1	<0.01 <0.015 <0.1	420 ⁽¹⁾ - -	
Cresols Xylenols 2, 3, 5-Trimethylphenol 2-Isopropylphenol Total Cyanide Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 52 PCB congener 101 PCB congener 118 PCB congener 138	5 5 5 5 5 5 5 5 5	<0.01 <0.015 <0.1 <0.015 <1	<0.01 <0.015 <0.1		
Cresols Xylenols 2, 3, 5-Trimethylphenol 2-Isopropylphenol Total Cyanide Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 52 PCB congener 101 PCB congener 118 PCB congener 138	5 5 5 5 5 5 5 5 5	<0.01 <0.015 <0.1 <0.015 <1	<0.01 <0.015 <0.1		
Xylenols 2, 3, 5-Trimethylphenol 2-Isopropylphenol 2-Isopropylphenol Total Cyanide Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 101 PCB congener 118 PCB congener 138	5 5 5 5 5 5 5 5 5	<0.01 <0.015 <0.1 <0.015 <1	<0.01 <0.015 <0.1		
2, 3, 5-Trimethylphenol 2-Isopropylphenol Total Cyanide Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 52 PCB congener 101 PCB congener 118 PCB congener 138	5 5 5 5 5 5 5	<0.015 <0.1 <0.015 <1	<0.015 <0.1	-	
2-isopropylphenol Total Cyanide Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 52 PCB congener 101 PCB congener 118 PCB congener 138	5 5 5 5 5 5	<0.1 <0.015 <1	<0.1		
2-Isopropylphenol Total Cyanide Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 52 PCB congener 101 PCB congener 118 PCB congener 138	5 5 5 5	<0.015			
Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 52 PCB congener 101 PCB congener 118 PCB congener 138	5 5	<1			1
Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 52 PCB congener 101 PCB congener 118 PCB congener 138	5 5				
Free Cyanide Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 52 PCB congener 101 PCB congener 118 PCB congener 138	5 5		<1		
Water Soluble Sulphate (g/l) Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 52 PCB congener 101 PCB congener 118 PCB congener 138	5		<1		
Nitrate (NO3) pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 52 PCB congener 101 PCB congener 118 PCB congener 138		0.0171 – 0.119	0.0613	-	
pH Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 52 PCB congener 101 PCB congener 118 PCB congener 138	5	<1 – 1.56	1.112		
Soil Organic Matter (%) Asbestos Screen PCB congener 28 PCB congener 52 PCB congener 101 PCB congener 118 PCB congener 138	5	8.03 - 10.5	8.76	<u> </u>	
Asbestos Screen PCB congener 28 PCB congener 52 PCB congener 101 PCB congener 118 PCB congener 138	5	<0.35 - 2.41	1.52		
PCB congener 52 PCB congener 101 PCB congener 118 PCB congener 138	5	No ACM Detected			
PCB congener 52 PCB congener 101 PCB congener 118 PCB congener 138					
PCB congener 52 PCB congener 101 PCB congener 118 PCB congener 138	5	<0.003 - 0.045	0.0114	·	
PCB congener 101 PCB congener 118 PCB congener 138	5	<0.003	<0.003		<u> </u>
PCB congener 118 PCB congener 138	5	<0.003	<0.003		+
PCB congener 138	5	<0.003	<0.003		
	5	<0.003	<0.003		
	5	<0.003	<0.003		<u> </u>
PCB congener 180	5	<0.003	<0.003		·
PCBs Total ICES 7	5	<0.003 - 0.045	0.0114		<u> </u>
	<u> </u>		0.0114		
Naphthalene	5	0.0181 - 0.305	0.0967	1.5(3)	T
	5	<0.012 - 0.206	0.0987	<u>1.5`^/</u> 170 ⁽³⁾	<u> </u>
	5	<0.008 - 0.130	0.0405	170 ⁽³⁾	<u> </u>
	5	<0.0109 - 0.454	0.126	160 ⁽³⁾	<u> </u>
	5	0.103 - 0.736	0.126	160 ⁽³⁾	<u> </u>
	5	<0.016 - 0.437	0.294	2300 ⁽³⁾	<u> </u>
	5	0.0217 - 0.156		2300(3)	
	5	0.0554 - 0.461	0.0841		
	5	0.0247 - 0.115	0.166	560 ⁽³⁾	╡─────
	5		0.0611	3.1 ⁽³⁾	<u>+-</u>
	5	0.0241 - 0.0987	0.0621	6.0 ⁽³⁾	
		0.0274 - 0.142	0.0758	5.6 ⁽³⁾	
	5	<0.014 - 0.0502	0.0254	8.5 ⁽³⁾	<u> </u>
	5	<0.015 - 0.108	0.0453	0.83 ⁽³⁾	
	5	<0.018 - 0.0611	0.0311	3.2 ⁽³⁾	<u> </u>
	5	<0.023		0.76 ⁽³⁾	<u> </u>
Benzo(ghi)perylene PAH 16 EPA Total	5	<u><0.024 - 0.0788</u> 0.426 - 3.38	0.0425	44 ⁽³⁾	

	No. of	Contamination Resu			
Contaminant	samples	Range of results	Mean	GAC	No. exceeded
GRO > C5 – C12	5	<0.044 - 15.1	4.963		
Benzene	5	<0.01	-	0.33 ⁽¹⁾	
Ethylbenzene	5	<0.003 - 0.0174	0.0075	350 ⁽¹⁾	
Toluene	5	<0.002	-	610 ⁽¹⁾	
m, p-Xylene	5	<0.006	-		
o-Xylene	5	<0.003 - 0.0197	0.00634	250 ⁽¹⁾	
m, p, o-Xylene	5	<0.01 – 0.0197	0.0119	_	
BTEX total	5	<0.01 - 0.0371	0.0156	-	
Methyl tertiary butyl ether (MTBE)	5	<0.005	<0.005	-	
Aliphatics > C5 – C6	5	<0.01	<0.01	30 ⁽³⁾	
Aliphatics > C6 - C8	5	<0.01 - 0.0648	0.02096	73(3)	
Aliphatics > C8 - C10	5	<0.01 - 1.36	0.366	19 ⁽³⁾	
Aliphatics > C10 - C12	5	<0.01 - 4.66	1.61	93 ⁽³⁾	
Total Aliphatics > C5 – C12	5	<0.01 - 6.09	1.99		
Aliphatics > C12 - C16	5	6.62 - 839	300.7	740 ⁽³⁾	S5
Aliphatics > C16 - C21	5	57.2 - 2800	1196		
Aliphatics > C16 - C35	5	101 - 5140	2093	45000 ⁽³⁾	-
Aliphatics > C21 - C35	5	43.6 - 2340	896		
Aliphatics > C35 - C44	5	<0.1 - 132	42.1	45000 ⁽³⁾	
Total Aliphatics > C12 – C44	5	107 - 6110	2435		<u> </u>
Total Aliphatics > C5 - 35	5	107 - 5990	2396	_	
Total Aliphatics > C5 - C44	5	107 – 6120	2439	-	
Aromatics > C6 - C7	5	<0.01	<0.01		
Aromatics > C7 - C8	5	<0.01	<0.01	120 ⁽³⁾	<u> </u>
Aromatics > EC8 - EC10	5	<0.01 - 2.04	0.554	27 ⁽³⁾	
Aromatics > EC10 - EC12	5	<0.01 - 6.99	2.42	69 ⁽³⁾	
Total Aromatics > C6 - C12	5	<0.01 – 9.03	2.97		
Aromatics > EC12 – EC16	5	7.6 – 160	63.3	140 ⁽³⁾	S5
Aromatics > EC16 - EC21	5	24.1 - 648	270	250 ⁽³⁾	S1, S5
Aromatics > EC21 – EC35	5	27.1 - 602	235	890 ⁽³⁾	
Aromatics > EC35 - EC44	5	7.34 – 54	22.97	890 ⁽³⁾	
Aromatics > EC40 - EC44	5	2.66 - 17.5	7.45	-	
Total Aromatics > EC12 - EC44	5	66.2 – 1460	590.6	-	
Total Aromatics > C5 - 35	5	58.8 - 1420	571.6	-	
Total Aromatics > C6 – C44	5	66.2 – 1470	593.8		
Total Aliphatics &			· · · ·		
Aromatics > C5 - 35 Total Aliphatics &	5	166 – 7400	2966		
Aromatics > C5 – C44	5	174 – 7590	3033	-	

Solid Contamination Results – Stockpile							
Contaminant	No. of samples	Range of results	Mean	GAC	No. exceeded		
Dichlorodifluoromethane	5	<0.013	<0.013	_			
Chloromethane	5	<0.012	<0.012	0.0083 ⁽⁴⁾			
Vinyl Chloride	5	<0.01	<0.01	0.00047 ⁽³⁾			
Bromemethane	5	<0.009	<0.009	-			
Chloroethane	5	<0.012	<0.012	8.3 ⁽⁴⁾			
Trichlorofluoromethane	5	<0.007	<0.007				
1.1-Dichloroethene	5	<0.009	<0.009	2.4(4)			
Carbon Disulphide	5	<0.009 - 0.0532	0.02134	0.10 ⁽³⁾			
Dichloromethane	5	<0.01	<0.01	0.58 ⁽⁴⁾			
Methyl Tertiary Butyl Ether	5	<0.009	<0.009	49 ⁽⁴⁾			
trans-1-2-Dichloroethene	5	<0.012	<0.012	-			
1.1-Dichloroethane	5	<0.008	<0.008	2.4 ⁽⁴⁾			
cis-1-2-Dichloroethene	5	<0.009	<0.009	0.11 ⁽⁴⁾			
2.2-Dichloropropane	5	<0.01	<0.01	-			
Bromochloromethane	5	<0.01	<0.01		· ·		
Chloroform	5	<0.01	<0.01	0.75 ⁽³⁾			
1.1.1-Trichloroethane	5	<0.012	<0.012	6.2 ⁽³⁾			
1.1-Dichloropropene	5	<0.013	<0.013		<u> </u>		
Carbontetrachloride	5	<0.011	<0.011				
1.2-Dichloroethane	5	<0.01	<0.01	0.0054 ⁽³⁾			
Benzene	5	<0.009	<0.009		l		
Trichloroethene	5	<0.009	<0.009	0.11 ⁽³⁾	<u> </u>		
1.2-Dichloropropane	5	<0.01	<0.01	0.024 ⁽⁴⁾			
Dibromomethane	5	<0.012	<0.012		<u> </u>		
Bromodichloromethane	5	<0.011	<0.011	0.016 ⁽⁴⁾			
cis-1-3-Dichloropropene	5	<0.025	<0.025				
Toluene	5	<0.006 -0.008	0.0068	610 ⁽¹⁾			
trans-1-2-Dichloropropene	5	<0.027	<0.027		<u> </u>		
1.1.2-Trichloroethane	5	<0.009	<0.009	0.6 ⁽⁴⁾			
1.3-Dichloropropane	5	<0.007	<0.007				
Tetrachloroethene	5	<0.009	<0.009	0.94 ⁽³⁾			
Dibromochloromethane	5	<0.009	<0.009				
1.2-Dibromoethane	5	<0.014	<0.014				
Chorobenzene	5	<0.007	<0.007	0.33 ⁽³⁾			
1.1.1.2-Tetrachloroethane	5	<0.011	<0.011	0.90 ⁽³⁾	<u> </u>		
Ethylbenzene	5	<0.009	<0.009	350 ⁽¹⁾			
p/m-Xylene	5	<0.013	<0.013				
o-Xylene	5	<0.011	<0.011	250 ⁽¹⁾	·		

VOC's continued				
Styrene	<0.011	<0.011	8.1 ⁽⁴⁾	
Bromoform	<0.012	<0.012	2.8 ⁽⁴⁾	
Isopropylbenzene	<0.009	<0.009	11 ⁽⁴⁾	
1.1.2.2-Tetrachloroethane	<0.015	<0.015	1.4 ⁽³⁾	
1.2.3-Trichloropropane	<0.013	<0.013	-	
Bromobenzene	<0.014	<0.014	0.87 ⁽⁴⁾	
Propylbenzene	<0.006	<0.006	34(4)	— ——
2-Chlorotoluene	<0.014	<0.014	-	
1.3.5-Trimethylbenzene	<0.008	<0.008	-	
4-Chlorotoluene	<0.009	<0.009	-	
tert-Butylbenzene	<0.012	<0.012	-	
1.2.4-Trimethylbenzene	<0.01 - 0.0227	0.0125	0.35 ⁽⁴⁾	
sec-Butylbenzene	<0.008 - 0.012	0.0088	-	
4-Isopropyltoluene	<0.008	<0.008	-	
1.3-Dichlorobenzene	<0.008	<0.008	0.29 ⁽³⁾	
1.4-Dichlorobenzene	<0.011	<0.011	30 ⁽³⁾	
n-Butylbenzene	<0.007	<0.007	-	
1.2-Dichlorobenzene	<0.008	<0.008	16 ⁽³⁾	
1.2-Dibromo-3-chloropropane	<0.011	<0.011	-	
tert-amyl methyl ether	<0.007	<0.007	-	
1.2.4-Trichlorobenzene	<0.009	<0.009	1.8 ⁽³⁾	1
Hexachlorobutadiene	<0.015	<0.015	0.21 ⁽³⁾	
Naphthalene	<0.007	<0.007	1.5 ⁽³⁾	
1.2.3-Trichlorobenzene	<0.012	<0.012	1.0 ⁽³⁾	

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Generic Assessment Criteria (GAC): ⁽¹⁾ Soil Guideline Value (SGV) Environment Agency (Post-March 2009) 6% SOM ⁽²⁾ Soil Guideline Value (SGV) Environment Agency (Pre-March 2009) ⁽³⁾ LQM / CIEH (2nd Edition) Generic Assessment Criteria (2009) 1% SOM ⁽⁴⁾ CL:AIRE Soil Generic Assessment Criteria for Human Health Risk Assessment (January 2010) 1% SOM All units in mg/kg unless otherwise stated.

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APPENDIX 4 LABORATORY TEST RESULTS



Unit 7-8 Hawarden Business Park Manor Road (off Manor Lane) Hawarden Deeside CH5 3US Tel: (01244) 528700 Fax: (01244) 528701 email: mkt@alcontrol.com Website: www.alcontrol.com

Integra Consulting Fountain House Second Floor Fountain Street Manchester Lancashire M2 2EE

Attention: Sabine Sargeant

CERTIFICATE OF ANALYSIS

Date: Customer: Sample Delivery Group (SDG): Your Reference: Location: 02 June 2010 H_INTEGCON_MAN-11 100514-102 **Report No.:** 85707 2074 Whitehaven

We received 18 samples on Friday May 14, 2010 and 18 of these samples were scheduled for analysis which was completed on Wednesday June 02, 2010. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Asbestos testing - we are not accredited for screening soil samples for asbestos fibres. We are only accredited to identify asbestos fibres in bulk material (ACM).

Approved By:

Sinton

Iain Swinton Operations Director - Land UK & Ireland



Validated	ALcontrol Lat	oratories Anal	vtical Services	
SDG: Job:	100514-102 H_INTEGCON_MAN-11	Customer: Attention:	Integra Consulting Sabine Sargeant	
Client Reference:	2074	Order No	Sablie Salgeant	
Location:	Whitehaven	Report No:	85707	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Sampled Date
1552644	B1	1.50 - 1.50	CLIMITAL BOLING
1552645	83	1 50 - 1 50	
1557646	E1	1 50 - 1 50	
1552647	NI	1 50 - 1 50	
1547934	Si		
1547618	52		
1547865	S3		
1547848	S4		
1547812	S5		
1547878	TPA	0 50 - 0 50	
1547892	TPA	1 50 - 1.50	
1547824	ТРВ	0 50 - 0 50	
1547902	ТРВ	1 00 - 1.00	
1547908	ТРС	0.50 - 0.50	
1547692	TPC	1.00 - 1.00	
1547646	ТРО	0.50 - 0.50	
1547634	TPC	1 00 - 1 00	
1552648	W1	1 50 - 1 50	

Only received samples which have had analysis scheduled will be shown on the following pages.

Job: H_I Client Reference: 207	514-102 NTEGCON_MAN-11 4 tehaven					A 0	tter rde	ome itior r No ort N	n: 0.:		S		ira C ne S 07			-								
SOLID		_	_																					
Results Legend	Lab Sample No(s)		1547618	1547634	1547646	760/1461	Internet	1547819	1547924	1547834	1547848	1547865	1547878	760 1401	1547909	1547902	1547908	1552644	1552645		1552646	1552647	1552648	
X Test No Determination Possible	Customer Sample Ref.	4	12	며	Gdl	Ī	 1	8	Refl.	<u>s</u>	54	8	TPA	5	TPA	BdL	PR	œ	5			Ŋ	WI	
	Depth (m)			1,00 - 1,00	<i>U,50</i> - 0 50	141.14			0 50 - 1: 50				0 50 - 0.50		155-58	100-1-00	N 30 050	150-150	150-150		£ 50 - 1 50	1,50 - 1,50	1 50 - 1 50	Total
	Container	250 pertikan Jar	Privers	ZGA die	Andrew Aug	art topo	250g Antoer Jar	2500 shitter Jan	Sol: Job	10. BN	HI TO	ien isozue, dost 1920 dus	Alay tangan Para	25 granber Jar	250g + mber Lv Fala vit c	fright Ging Arthreathar Ging	004 Mai an anna a a	50 109	Ediy vitter Jar	,500g viniter Jar	Star anther dat	No. 549	Billy . Cr.	
Asbasios Presence Scieen	Al	x	x	H	×	x	×	x	x	. y		x	x	X	x	×	H		v			_	╫	0
Boron Water Soluhle	All		1		T		TT		Т	П				11			Π	1	X	X	×		TT	1 <u>8</u> 0
Syanide Comp/Free/Total/Thiocyanate	AL	X.	X	П	x	X	X	X	X			X	x	X	X				X	<u>;</u> X	X	×	(18 0
PH CWG (Aliphaiic) GC (S)	All	X	X		X	X	X	×	×	X	+	X	X	X	X	X	H		X	X	X	X		18 0
EPH CWG (Aromatic) GC (S)	Al	X .	X	H	X	X	x	X	×	×		X	X	x	X	X	>		X	X	X.	X	4	18 0
GRÓ BTEX MTBE GC (S)	All	X	X		x	x	X.	X	X	X		x	X	x	X	×	2		x	×	x	x		18
			×	x	*			× ;	x .	x	x	x	x		<	x	x	x	×		x	x	x	0 18
Metals by iCap-UES (Soil)	Arsenic:	X.	x		×	x	x	x	X	x		x	x	x	x	x	×		x	x	×	x		0 18
	Sanum	x	x		×	x	x	X	x	×		x	x	×	x	x			x	x	×	x		0 18
	Beryllium	x	x			x	x	x	x	T					x	1							TT	6
	Cadmittim	TT		T			TT				T				П		П			X	П		П	18 0
	Chromium	X	X		×	X	X	X	X		ΓT			IT	X			П	1	X	X		H	15 0
	Copper	X	X	1	×	X	×.	X	X	×	$\left \right $	×	X	X	X	X	×		×	X	X	X		18 0
	Lead	x	X	- 2	X.	X	x	x	X	X		X	×	x	X	X	X		x	X	x	x	44	18 0
		X	×	2	ĸ	Х.	x	x	x	×		x	x	х	x	X	×		x	X	×	x	4	18
	Mercury	X	χ	2	ĸ	x	x	x	x	X		x	x	x	x	x	x		x	x	x	X		0 18
	Nickel	x	x	,	x	x	x	x	×	X		x	y.	x	x	x	x		x	x	×	x		0 13
	Selenium	x	×	,	<	x	x	x	×		П	x	x	x	x	x		П		y	x		TT	0 18
	Vanadium	x	x	T		X	x	×	T		TT							П			T		T	0
	Zinc						П	TT	X		П			X	X	X				Y	X	×	Ħ	18 0
IO3, NO2 and TON by KONE (s)	All	X	Х.			X	X	X	Х		П				X	X	×	Н	x	X	X	X	++	18 0
AH by GCMS	All	X	X)	(x	x	X	X	X	$\left \right $	X	×	X	X	X	X		x	X.	X	X	4	18 0
CBs by ISCMS	All	X	×	2	<	x	x	X	X	X	1	x	X	x	x	X	X	Ц	x	x	x	x	4	18
		X	x	>	<	x	x	X	X	x		x	x	x	x	x	x		x	X	x	x	\square	0 18
H	All	x	x	>	ĸ	X	x	x	x	x		x	x	x	x	x	×		x	x	x	x		0 18
henols by HPLC (S)	All	x	x	,	¢			x	×		П	x	x	1	x	x		Πİ			x	-	T	0

SDG: Job: Client Reference: Location:	100514-102 H_INTEGCON_MAN-11 2074 Whitehaven					A 0	ust tter rde epc	ntio r N	n: o.:		5		ine		ons irge		-	5								
			154761R	1547634	1547646	2607 4CL		154791 2	1547824	1547834	1547848		1547965	1547878	1547892	1000	1547900	1547908	1552644		1552645	1552646	:+47cct	4200047	1552648	
		f	3	TPO	미에	70		95	TPB	S 1	¥	: 5	2	ΤPA	TPA		Bdl	TPC	ß		83	Ef	Ĩ	E	WI	
				1 OV - 1 OO	020-020	100-100			1J-511 (D-50)					u 5H - 0.50	ı 50-150		100-100	U 50 0 50	150-150		1 30 • 1 5u	1 SV - 1 SO	00 (- 10 (100	150-130) Utal
		Sec. 2014 by the	State with the second	50y VCC	an agus 1955	End most det	25-5 united by	STANDAR JUR	30 Ne	Driv Bys	ar with the	žečų renizer Jar	USignmiser to	ack des	Reg you?	PY SACIUM CLUE	201:00	2. 60	ALT ARTING BIGS.	Per Jacquar Luga	CLAN BOA	co-by-	As aque Dig.	2nc 2 million Jan	347.400	
Sample description	Al	x	x		x	x	x	x	-	x	x	x	×	,		x	×		x	x	×		x	x	-	1) 18
Toial Organic Carbon	AU	×	1	TT		x	x	x	Т			x	x	T	П	x	×	П	x	Π		П	T	П	1	0
TPH CWG GC (S)	Al			Ħ	T		T	T	Т			ГT	TT	T						X			X	X	-	18 0
VUC MS (S)	Al	X	X	i		X	X	X	T		X	X	X	T	T	X	Х	11		X	T	M	X	Х		18 0
Water Soluble Sulphate 2 1	AI	x	x x	X	X X	×	x	X X	X	x x		x	(x	T	T	_) X	×	X	x x	×	T	×	x x	x	x	18 0 18

ALcontrol Laboratories	Analytical	Services
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SDG: Job: Client Reference:

Location:

Validated

100514-102 H_INTEGCON_MAN-11 2074 Whitehaven Customer:Integra ConsultingAttention:Sabine SargeantOrder No.:85707

Sample Descriptions

Grain Sizes: <0.063mm very fine, 0.063mm - 0.1mm fine, 0.1mm - 2mm medium, 2mm - 10mm coarse, >10mm very coarse

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Grain size	Inclusions
1547618	S 2	T i	Light Brown	Sandy Clay	0.1 - 2 mm	Stones
1547634	TPD	1 00 - 1 00	Light Brown	Sandy Clay	0.1 - 2 mm	Stones
1547646	TPD	0.50 - 0.50	Light Brown	Sand	0.1 - 2 mm	Stones
1547692	TPC	1 00 - 1 00	Light Brown	Sandy Clay	0.1 - 2 mm	Stones
1547812	55		Light Brown	Sandy Loam	0.1 - 2 mm	Stones
1547924	ТРВ	0 50 - 0 50	Light Brown	Sand	0.1 - 2 mm	Stones
1547834	S1		Light Brown	Sandy Clay	0.1 - 2 mm	Stones
1547848	S+		Light Brown	Sandy Clay	0.1 - 2 mm	Stones
1547865	S3		Light Brown	Sandy Clay	0.1 - 2 mm	Stones
1547978	ТРА	0 50 - 0 50	Light Brown	Sandy Clay	0.1 - 2 mm	Stones
1547892	ТРА	1 50 - 1 50	Light Brown	Sand	0.1 - 2 mm	Stones
1547902	ТРВ	1 00 - 1 00	Light Brown	Sandy Clay	0.1 - 2 mm	Stones
1547908	TPC	0 50 - 0 50	Light Brown	Sand	0.1 - 2 mm	Stones
1552644	B1	1 50 - 1 50	Light Brown	Sandy Clay	0.1 - 2 mm	Stones
1552645	B3	1 50 - 1 50	Light Brown	Sandy Clay	0.1 - 2 mm	Stones
1552646	E1	1 50 - 1 50	Light Brown	Sandy Clay	0.1 - 2 mm	Stones
1552647	N1	1 50 - 1 50	Light Brown	Sandy Clay	0.1 - 2 mm	Stones
1552648	W1	1 50 - 1.50	Light Brown	Sandy Clay	0.1 - 2 mm	Stones

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Val	lidated
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ALcontrol Laboratories Analytical Services

SDG: Job: 100514-102 H INTEGCO

H_INTEGCON_MAN-11

Client Reference: 2074 Location: Whitehaven Attention: Order No.:

Customer:

Sabine Sargeant

Integra Consulting

Report No: 85707

Test Completion dates

SDG reference:	100514-102
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Lab Sample No(s)	1547618	1547634	1547646	1547692	1547612	1547824	1547634	1547842	1547855	1547678	1542892	1547902
Customer Sample Ref.	\$2	TPD	TPU	TPC	1 95	TPB	S1	54	85	TPA	TPA	TPB
Depth		104 100	U.50 U 50	1,00 - 1,00	[0 50 0,50				0 50 - 0 50	1,50 1 50	100 100
Туре	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Asbestos Presence Screen	18/05/2010	18/05/2010	18/05/2010	18/05/2010	18/05/2010	18/05/2010	18/05/2010	18/05/2010	18/05/2010	18/05/2010	18/05/2010	18/05/2010
Boron Water Soluble	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/201
Cvanide ComplFree/Total/Thiocyanate	19/05/2010	19/05/2010	19/05/2010	19/05/2010	19/05/2010	19/05/2010	19/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/201
EPH CWG (Aliphnic) GC (8)	20/05/2010	20/05/2010	20/05/2010	20/05/2010	21/05/2010	20/05/2010	21/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/201
EPH CWG (Aromatic) GC (S)	20/05/2010	20/05/2010	20/05/2010	20/05/2010	21/05/2010	20/05/2010	21/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/201
GRO BTEA MTBE GC (S)	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/201
Metal* by (Cap-OE\$ (Soil)	21/05/2010	19/05/2010	19/05/2010	19/05/2010	20/05/2010	19/05/2010	21/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/201
NO3 NO2 and TON by KONE (s)	20/05/2010	20/05/2010	25/05/2010	25/05/2010	25/05/2010	25/05/2010	25/05/2010	20/05/2010	20/05/2010	25/05/2010	20/05/2010	25/05/201
PAH by Gull8	23/05/2010	24/05/2010	24/05/2010	23/05/2010	23/05/2010	23/05/2010	23/05/2010	23/05/2010	23/05/2010	23/05/2010	23/05/2010	24/05/201
PCBa by GCM5	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	21/05/201
pH	18/05/2010	18/05/2010	18/05/2010	18/05/2010	19/05/2010	19/05/2010	19/05/2010	19/05/2010	19/05/2010	19/05/2010	19/05/2010	19/05/201
Phonois by HPI_C (S)	19/05/2010	19/05/2010	19/05/2010	19/05/2010	19/05/2010	19/05/2010	19/05/2010	19/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/201
Sample description	16/05/2010	18/05/2010	18/05/2010	18/05/2010	18/05/2010	18/05/2010	16/05/2010	18/05/2010	18/05/2010	18/05/2010	18/05/2010	18/05/201
Total Organic Carison	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/201
TPH CWG GC (8)	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/201
VOC MS (S)	28/05/2010	30/05/2010	28/05/2010	30/05/2010	28/05/2010	28/05/2010	28/05/2010	30/05/2010	30/05/2010	28/05/2010	30/05/2010	30/05/201
Water Soluble Sulphate 2.1	20/05/2010	20/05/2010	21/05/2010	21/05/2010	21/05/2010	21/05/2010	21/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/201

1547906	1552644	1552645	1552646	1552647	1552648
TPC	B1	B≉	EI	N1	Wi
U.50 0.54	1 50 1 50	1 50 - 1 50	1 50 - 1.50	1 50 - 1 50	1 50 - 1 50
SOLID	SOLID	SOFTD	SOLID	SOLID	SOLID
18/05/2010	18/05/2010	18/05/2010	18/05/2010	18/05/2010	18/05/2010
20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010
20/05/2010	19/05/2010	19/05/2010	20/05/2010	19/05/2010	20/05/2010
20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010
20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010
24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010
20/05/2010	20/05/2010	20/05/2010	19/05/2010	19/05/2010	20/05/2010
25/05/2010	25/05/2010	25/05/2010	25/05/2010	25/05/2010	25/05/2010
23/05/2010	23/05/2010	24/05/2010	23/05/2010	23/05/2010	23/05/2010
21/05/2010	20/05/2010	20/05/2010	21/05/2010	20/05/2010	21/05/2010
19/05/2010	18/05/2010	18/05/2010	19/05/2010	18/05/2010	19/05/2010
20/05/2010	19/05/2010	19/05/2010	20/05/2010	19/05/2010	19/05/2010
18/05/2010	18/05/2010	18/05/2010	18/05/2010	18/05/2010	18/05/2010
20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010	20/05/2010
24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010	24/05/2010
30/05/2010	28/05/2010	28/05/2010	28/05/2010	28/05/2010	30/05/2010
20/05/2010	21/05/2010	21/05/2010	20/05/2010	21/05/2010	20/05/2010

SDG Job: Client Reference: Location:	100514- H_INTEC 2074 Whitehay	GCON_M	AN-11		Atte Ord	tomer: ntion: er No : ort No:		gra Consulting ine Sargeant '07				
										-		
# ISO17026 accredited	Customer	Sample Ref.	B1	B3		E1		Ň1	31	-	\$2	-
M mCERTS accredited, aq Aqueous / rettied sample,		Depth (m)	1 50 - 1 50	1 50 - 1 50	- i	1 50 - 1 50		1.50 - 1.50				
disa fit Dissolved / filtered sample. totunfit Total / unfiltered sample.		Sample Type	Soil/Solid	Seil/Solid		Soil/Solid		Soil/Solid	Suil/Solid		Soil/Solid	
 subcontracted test. % recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected 	Da	ate Sampled ate Received SDG Ref ample No.(s)	14/05/2010 100514-102 1352644	14/05/2010 100514-102 1552645		14/05/2010 100514-10 1552646	2	14/05/2010 100514-102 1552647	14/05/2010 100514-102 1547834		14/05/2010 190514-10 1547618	2
for this recovery	1000	Method								i		
Component Asbestos, Presence screen	LOD/Units	TM001	No ACM Detected	No ACM Detect	ted i	No ACM Dete	cted	No ACM Detected	No ACM Detec	i tert l	No ACM Dete	chad
Phenol	<0.01	TM062 (S)	<0.01									
	mg/kg		<0,01 M	<0.01	м	<0.01	м	<0.01	<0.01	м	<0.01	N
Cresols	<0 01 mg/kg	TM062 (S)	<0.01 M	<0.01	м	<0.01	м	<0.01	<0.01		<0,01	
Kylenols	<0 015	TM062 (S)	<0.015	<0.015		<0.015		<0.015	<0.015	M	<0.015	
2.3,5-Trimethylphenol		TM062 (S)	<0.01	<0.01	M	<0.01	м	<0.01	<0.01	м	<0.01	N
	mg/kg		М		м		M	N	1	м		N
2-Isopropylphenol	<0 215 mg/kg	TM052 (S)	<0.015 M	<0.015	м	<0.015	м	<0.015	<0.015	м	<0.015	
Sulphale, 2 1 valer soluble	<0 003 g/l	TM098	0.0517	0.0329		0.0338	_	0.046	0.0406		0.061	N
Nitrate as NO3, 2 1 water	<1 mg/kg	TM102	<u> </u>	<1	M	<1	M	<u>_</u>	<	M	<1	N
soluble	<0 35 %		#		#		#		4	#		. 1
Soil Organic Matter (SOM)		TM132	2.74 #	2.17	#	2.14	#	1.67	0.517	#	2.02	
ь́н	1 pH Units	TM133	7.62	7.81		8.01		7.31	8.67		8.45	
Cyanide Total	<1 mg/kg	TM153	M <1	<1	M	<1	M	N	<1	M	<1	N
yanide, Free	<1 mg/kg	TM153	M	<1	м	<1	M	N	I	м		N
		<u>1</u>						<1	<1		<1	
PCB congener 28	<3 µg/kg	TM168	<3 M	<3	м	<3	M	3	<3		<3	
CB congenier 52	:3 yg/kg	TM168	<3	<3		<3		<u>_</u> M <3	<3	M	<3	M
PCB congener 101	<3 µg/kg	TM168	<3 M	<3	M	<3	M	<u>M</u>		M		N
			M		м		м	N	<3	м	<3	N
CE congener 118	<3 hð\ka	TM168	<3 M	<3	M	<3	м	<3	<3	M	<3	
CB congener 138	<3 ug/kg	TM168	<3	<3		<3		<3	<3	M	<3	M
CB congener 153	<2 µg/kg	TM168	<u>M</u>	<3	M	<3	M	N <3	3	M		M
N ¹ D and an an al 00		734-24	<u> </u>		_ м		M	h	l	м		M
PCB congener 180	<3 hðykð	TM160	<3 M	<3	м	<3	м	<3	<3	м	<3	M
CBs: Total ICES 7	<3 µg/kg	TM168	3	3		<3	-	<3	<3		<3	
Arsenic	<0 6 mg/kg	TM181	15.3	11.2		18.7		8.56	3.62		9.87	
Banum	<0.6 mg/kg	TM181	246	249	M	138	M	N		M		M
			#		#		#	264	56	#	264	#
leryllium	<0.01 mc/kg	TM181	2.24 M	2.77	M	2.71	м	2.09	0,608		2.62	
Jadnaum	<0.02	TM181	0.033	<0.02		0.214		0.118	1.12	M	1.51	M
Chromium	<0 9 mg/kg	TM121	17 M_	21.6	M	19.1	M	17.9	32.1	м	48.7	M
		L	M		м		м	N		м		M
орраг	<1.4 mg/kg	TM181	28.8 M	37.4	м	33	м	25.5 N	9.99	м	22.8	M
ead	<07 mg/kg	TM181	19.9	21.6		28.6		14	3.49		13.1	100
fercury	s0 14	TM181	<0.14	<0.14	<u>M</u>	<0.14	M	<u>N</u>	0.277	M	<0.14	M
lickel	nig/kg	TM:81	м		м		м	N		M		M
	≠0 2 mg/kg		32.3 M	31.6	м	22	м	25.5 N	7.44	м	23	м
elenium	<i kg<="" ng="" td=""><td>TM181</td><td>1.41 #</td><td><1</td><td></td><td><1</td><td></td><td><1</td><td><1</td><td></td><td><1</td><td></td></i>	TM181	1.41 #	<1		<1		<1	<1		<1	
anadium	<0.2 mg/kg	TM181	18.2	24.3	#	19.2	#	19.3	21.4	#	41.2	#
Inc	<1 9 mg/kg	TM181	81.5	75.7	#	60,1	#	61.1	92.8	. #		#
			M		M		м	M		м	90.1	M
pron, waier soluble	<1 mg/kg	TM222	<1M	<1	M	<1	м	<1 M	<1	м	<1	M
										_		

SDG Job: Client Reference: Location:	100514-1 H_INTEG 2074 Whitehav	CON_MA	N-11	Atte	stomer: ention: ler No.: port No:	Integra Sabine 85707	Consulting Sargeant		
EPH CWG (Aliphatic)	GC (S)								
ISO17025 scoredited. M mCERT8 accredited. Aqueous / settled sample. diss.tit: Dissolved / fibtred sample. subcontracted test X recovery of the surrogate standard to check the afficiancy of the method. The results of the endividual compounds within	Customer S Sa Da Dat	Sample Ref. Depth (m) ample Type te Sampled te Received SDG Ref mple No.(s)	B1 1 50 - 1 50 Sol/Solid 14/05/2010 100514-102 1552644	B3 1 50 - 1 50 Soil/Solid 14/05/2010 100514-102 1552645	E1 1 56 - 1 54 Soil/Solid 14/05/201 100514-10 1552646	1 10 22	N1 1 50 - 1 50 Soil/Solid 14/05/2010 100514-102 1552647	\$1 Sol/Solid 14/05/2010 100514-102 1547834	S2 Sol/Solid 14/05/2010 15/0514-102 15/47618
the samples are not corrected for this recorrect									1041010
Component Aliphatics >C12-C16	LOD/Units	Method TM4172	40000	7000					
	<100 µg/kg	TM173	10600	7000	20100		17900	337000	272000
Aliphairus > C16-C21	< i00 µg/kg	TM175	7970	14600	132000		34600	2120000	812000
Aliphatics >C16-C35	<100 µg/kg	TM173	17900	27300	227000		64100	3270000	1600000
Aliphatics >C21-C35	<100 µg/kg	TM173	9940	12700	95500		29500	1150000	784000
Aliphatics >C35-C44	*100 µg/kg	TM173	<100	<100	4580		<100	21100	44600
Total Aliphatics >C12-C44	<100 µg/kg	TM175	28500	34300			82000	3630000	1910000
		1						0.000000	
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		-				<u> </u>			

SDG Job: Client Locati	Reference: on:	100514-1 H_INTEG 2074 Whitehav	CON_MA	N-11	Atto	stomer: ention: ler No : port No:	Integra Sabina 85707	a Consulting Sargeant		
ЕРН С	WG (Aromatic)	GC (S)								
# .15	CITO28 accredited		Sample Ref.	B1	83	E1	!	N1	S1	\$2
aq A dias.fit D not.unfit Tr st st st of of tin th	queoue / settied sample. Issolved / fittered sample. Solved / fittered sample. Upcontracted test. Incovery of the surrogate andard to check the efficiency the method. The results of the dividual compounds within e samples are not corrected	Da Dat	Depth (m) ample Type te Sampled æ Received SDG Ref mple No.(s)	1 50 - 1 50 Soil/Solid 14/05/2010 100514-102 155284:	1 50 - 1 50 Sol/Solid 14/05/2010 100514-102 1552645	1 50 - 1 5 Soil/Solic 14/05/201 100514-10 1552646	d 10 02	1.50 - 1.50 Soil/Solid 14/05/2010 100514-102 1552647	Soi/Solid 14/05/2010 100514-102 1547834	Soil/Solid 14/05/2010 100514-102 1547618
Compon	r this recovery ent	LOD/Units	Method							
	s > EC12-EC16	<100 µg/kg -	TM173	7410	5680	7670		6820	44700	83100
Aromatic	s >EC16-EC21	<100 µg/kg	TM173	9650	9760	28800		12600	349000	251000
Aromatic	s >EC21-EC35	<100 µg/kg	TM175	15400	15300	26900		17000	238000	227000
Aromatic	s >EC-35-EC44	<100 µg/kg	TM173	5020	5040	8160		4850	16100	22600
	s >EU40-EC44	<100 µg/kg	TM173	1430	1550	3410				
								1520	5620	6580
Total Arc >EC12-E		<100 µg/kg	TM173	37500	35800	71500		41200	647000	584000
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SDG Job: Client Re Location	eference: 1:	100514- H_INTEC 2074 Whitehay	GCON_MA	N-11			Atte Orde	tomer: ntion: ər No.: ort No.	Integ Sabi 857(ra Consultin ne Sargeant 07	g				
GRO BT	EX MTBE GC	(S)											_		
# 19017	025 accredited.		Sample Ref.	B1	1	B 3	i	E1	1	N1	1	S 1	1	S2	-
aq Aquec	TS accredited. bus / settled sample.		Depth (m)	1 50 - 1 50	ł	1 50 - 1 50		1 59 - 1 50)	1 50 - 1 50					
totentlit Total /	tved / filtered sample, / unfiltered sample, mbracted test.	Di	ample Type	Sul/Solid	ļ	Sol/Solid		Soil/Solid		Soil/Solid	-	Soil/Solid		Soil/Solid	ł
stands	overy of the surrogate and to check the efficiency	Da	te Received SDG Ref	14/05/2010 100514-102		14/05/2010 100514-102		14/05/2010 100514-10		14/05/2010 100514-102		14/05/2010 100514-102		14/05/201 100514-10	
Individ	method. The results of the dual compounds within mples are not corrected	Lab Sa	mple No.(s)	1552644		1552645		1552646	- 1	1552647		1547834		1547618	
	a moowery	LOD/Units	Method				1								
GRO Sunog		%	TM069	94		87				91		42	\rightarrow	58	
recovery** GRO >C5-C	12	<44 µg/kg	TM089	<44		<44		<44		<44		<44		9200	
Benzene		<10 µg/kg	TM089	<10	#	<10	#	<10	#	<10	#	<10	#	<10	#
Ethylbenzen	je	<3 µg/kg	TM089	<3	M	<3	<u>M</u>	<3	M		M	<3	м	17.4	M
Toluene		<2 µg/kg	TM089	<2	м	<2	м	<2	м	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	м		м		M
m p-Xylene		<6 µg/kg	TM089		м		м		м		м	<2	м	<2	M
					м		м	<6	м	<6	м	<6	м	<6	м
o-Xyleria		<2 µg/kg	980MT		м	<3	м	<3	м	<3	м	<3	M	19,7	M
πι,p o-Xylene		<ið kg<="" td="" ug=""><td>TM089</td><td><10</td><td>м</td><td><10</td><td>м</td><td><10</td><td>м</td><td><10</td><td>м</td><td><10</td><td>M</td><td>19.7</td><td>M</td></ið>	TM089	<10	м	<10	м	<10	м	<10	м	<10	M	19.7	M
BTEX Total		<10 µg/kg	980MT	<10	M	<10	M	<10	M	<10		<10		37.1	
Methyl iertiar (MTBE)	ry butyl ether	<5 µg/kg	TM089	<5		<5		<5		<5	M	<5	<u>M</u>	<5	<u>M</u>
Aliphatics >0	25-08	<i0 kg<="" td="" µg=""><td>TM089</td><td><10</td><td>#</td><td><10</td><td>#</td><td><10</td><td>#</td><td><10</td><td>#</td><td><10</td><td>#</td><td><10</td><td>#</td></i0>	TM089	<10	#	<10	#	<10	#	<10	#	<10	#	<10	#
Aliphatics >C	26-C8	<10 µg/kg	TM089	<10		<10	-+	<10		<10		<10	-	<10	- (
Aliphatics >C	.8-C10	<10 µg/kg	TM089	<10		<10	_	<10		<10		<10		443	
Alipharics >C	10-012	<10 µµ/kg	TMOSS	<10	_	<10	_	<10		<10		<10			
Aromaics >(<10 µg/kg	TM089	<10		-								3220	
Aromalics >(<10	_	<10		<10		<10		<10	
		<10 µg/kg	TM089	<10		<10		<10		<10		<10		<10	
Aromatics >E		< 10 µg/kg	TM089	<10		<10		<10		<10		<10		702	
Aiomatius >E		<10 ug/kg	TM089	<10		<10	-	<10		<10		<10		4830	
Total Aliphati	ICS > C5-C12	10 µg/kg	TMO89	<10		<10	-	<10		<10		<10	!-	3660	_
Total Aromat	hcs > C6-C12	<10 µg/kg	TM089	<10		<10		<10		<10		<10		5530	
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SDG Job: Client Reference: Location:	100514-102 H_INTEGCON_MAN-11 2074 Whitehaven			Att Ore	Customer: Integ Attention: Sabir Order No.: Report No: 8570				
PAH by GCMS									
# ISO17025 accredited.	Customer	Sample Ref.	B1	B3	E1	Ì	N1	81	S2
M mCERTS accredited. eq Aqueous / settled sample.		Depth (m)	1 50 - 1 50	1 50 - 1 50	1 50 - 1 5	o	1 50 - 1 50		
diss.fift Dissolved / filtered sample, totunfilt Total / unfiltered sample, subcontracted test		ample Type	Soil/Solid	Sol/Solid	Soil/Solid	1	Sol/Solid	Soil/Solid	Soil/Solid
Subconstants bet % /s recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.		te Received SDG Ref umple No.(s)	14/05/2010 100514-102 1552644	14/05/2010 10051∔-102 1552645	14/05/201 100514-10 1552646	2	14/05/2010 100514-102 1552647	14/05/2010 100514-102 1547834	14/05/2010 100514-102 1547618
Component	LOD/Units	Method			1				
Naphthalene-d8 %	%	TM218	98.6	85.4	89	Ĩ	93	97.9	94.7
Acenaphthene-d10 %	%	TM218	96.4	81.8	87		91.3	105	96.6
recovery** Phenanthrene-d10 %	%	TM218	93	78.4	84.9		88.7	105	95.6
recovery** Chrysene-d12 % recovery**	%	TM218	81.8	72					
					78.9		77.6	107	92.5
Perviene-d12 % recovery**	%	TM218	73.4	70.4	75.3		73,7	104	90,8
Naphthalene	<9 µg/kg	TM218	<9	<9	<9		<9	30,4	69.7
Acenaphthylene	<12 µg/kg	TM218	<12 M	M <12	<12	N	M	<u>M</u>	13.2
Acenaphthene	<8 µy/kg	TM218		M	<8	м	M	M	
			м	м		м	<8 M	18.3 M	38
Fluorene	<10 µg/kg	TM218	<10 M	<10 M	<10	м	<10 M	19.3	129
Phenanthrene	<15 µg/kg	TM218	145	64.1	31.1		81,9	103 M	280
Anthracene	<16 µg/kg	TM218	<16 M	<u>M</u> <16	<16	M	<u>N</u>	M	63.2
Fluoranthene	<17 µg/kg	TM218	M 20.6	42.6 M	<17	M	M	M	N
			M	М		м	M	21.7 M	46
Pyrene	<15 µg/kg	TM218	18.1 M	49.9 M	47.3	м	42.9 M	55.4 M	80.9
Benz(a)anthracene	<14 µg/kg	TM216	16	35.2	21.4		<14	25.4	24.7
Chrysene	<10 µg/kg	TM218	25.8 M	37.1 M	13.6	M	<u>M</u>	<u> </u>	34
Benzo(b)fluoranthene	<15 µg/kg	TM218	24.1 M	40.7	23.8	м	<15 M	M	N
			М	<u></u> M		M	M	27.4 M	34.8 N
Benzo(k)fluoranthene	<14 µg/kg	TM218	<14 M	<14 M	<14	м	≺14 M	<14 M I	<14 N
Benzo(a)pvrene	<15 µg/kg	TM218	<15 M	18.2 M	<15	M	<15	24.8	<15
ndeno(1,2.3-cd)pyrene	<18 µg/kg	TM213	<18	<18	<18	m	M	<18 K	N <18
Dibenzo(a,h)anthracene	-23 µg/kg	TM218	<23	M <23	<23	M	<u>M</u>	<u>M</u>	<23
Benzo(g,hi)perylene	<24 µg/kç	TM215	M <24	M		м	M	M	N
			M	<24 M (<24	м	<24 M	<24 M	<24 M
Polyaromatic hydrocarbons Fotal USEPA 16	<118 µg/kg	TM218	250 M	288 M	137	м	209 M	426	814
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SDG Job: Client R Locatio	leference: n:	100514- H_INTEC 2074 Whitehay	GCON_MA	N-11	Atto	stomer: ention: der No.: port No:	Integr Sabir 8570	ra Consulting ne Sargeant 17			
VOC MS	S (S)										_
	7025 accredited,	Customer	Sample Ref.	В1	B3	E1	Ì	N1	\$1	S2	
aq Aque	RTS accredited. sous / settled semple. olyed / filtered semple		Depth (m) ample Type	1 50 - 1 50 Soli/Solid	1 50 - 1 50 Soil/Solid	1 50 - 1 50 Sol/Solid		1 50 - 1 50	6 1m 1 4		
* sube	l / unfiltered sample contracted text.	Da	te Sampled					Soil/Solid	Sol/Solid	Sol/Sol	
stand	covery of the surrogata dant to check the efficiency e method. The results of the idual compounds within		SDG Ref	14/05/2010 100514-102 1552644	14/05/2010 100514-102 1552645	14/05/2010 100514-102 1552646		14/05/2010 100514-102 1352647	14/05/2010 100514-102 1547834	14/05/20 100514-1 154761	02
the se	amples are not corrected its reco ^{rr} ent					l	4				
Component Dibromoflue	t promethane**	LOD/Units %	Method TM116	101	100	98.7		101	88		
Toluene-d8			TM116	95.8	98.2	97.7				93.4	
	orobenzerie							97.8	75.9	95.5	
			TM116	109	106	107		110	161	125	
	uoromethane	<13 µg/kg	TM116	<13 #	<13 #	<13	#	<13 #	<13	<13	
Chlorometh	nane	<12 µg/kg	TM116	<12 #	<12 #	<12	#	<12 #	<12	<12 #	
Vinyl Chlori	de	<10 µg/kg	TM116	<10 #	<10 #	<10	#	<10	<10	<10	
Biomometh	ane	<9 µg/kg	ТМ116	<9	<9	<9		<9	<9	# <9	
Chloroethar	ne	<12 µg/kg	TM116	<12	# <12	<12	#	# <12	<12	# <12	1
Trichlorofluc	oroimethane	<7 µµ/kg	TM116	<7	<7	<7		<7	<7	<7	
1 i-Dichloro	pethene	<9 µg/kg	TM110	<9 #	<9 #	<9	#	4	<9	# <9	
Carbon Disu		<9 µg/kg	TM 716	M <9	M		M	M		M	N
				м	M	<9	M	<9 M		23.8 M	N
Dichloromet		*10 µg/kg	TM116	<10 #	<10 #	<10	#	<10 #	<10	<10	
	ary Butyl Ether	<s kg<="" td="" µg=""><td>TMi16</td><td><9</td><td><9</td><td><9</td><td></td><td><9</td><td><9</td><td><9</td><td></td></s>	TMi16	<9	<9	<9		<9	<9	<9	
rans-1-?-Di	ichloroeihene	<12 µg/kg	TM116	<12 #	<12 #	<12	#	<12 #	<12	<12	
1 1-Dichloro	oethane	<8 µg/kg	TM116	<8	<8	<8		<8	<8	# <8	
cis-1-2-Dich	iloroethene	<9 µg/kg	TM1 is	<9 M	<u>M</u> <9	<9	<u> </u>	— M <9	<9	M	N
2 2-Dichloro	propane	<10 µg/kg	TM116	<10 M	<u>M</u>			<u> </u>	<10	M	N
Bromuchlord	owethane	<10 µg/kg	TM116	#	#	<10	#	<10 #	<10	# <10	
Chloroform				#	#		#	#		#	1
		<10 µg/ka	IM116	<10 M	<10 M	<10	м	<10 M		<10 M	M
1 1 'i-Trichlo		ୀ2 µg/kg	TM116	<12 M	<12 M	<12	м	<12 M	<12	<12 M	M
1-Dichloro	propene	<13 µg/kg	TM116	<13 M	<13 M	<13	м	<13 M	<13	<13	M
arbonteirad	chloride	<11 µg/kg	TM116	<11 M	<11 M	<11	M	<11	<11	<11	
2-Dichloro	eihene	<10 µg/kg	TM11e	<10	<10	<10		M <10	<10	<u>×</u>	M
Senzene		∽Sµg/kg	TM116	<9	<9 #		#	<9 #	<9	# <9	#
Inchloroeihe	ан-	<9 µg/kg	TM116	< <u>M</u>	M <9	<9	M	<u>M</u>	<9	M <9	M
2-Dicition	propane	<i∂µg kg<="" td=""><td>TM116</td><td>M <10</td><td><10 M</td><td><10</td><td>M</td><td></td><td></td><td><u>M</u></td><td>м</td></i∂µg>	TM116	M <10	<10 M	<10	M			<u>M</u>	м
bibromomat		<12 µc/kg	TM116	M	<12 M		м	M		<10 M	M
				#	#	<12	#	<12 #	<12	<12 #	1
	promethane	≺11µg/kg	TM116	<11 M	<11 M	<11	м	<11 M	<11	<11 M	м
iis-'i-3-Dichl	loroproperie	<25 µg/kg	TM116	<25	<25	<25		<25	<25	<25	
oluena		∹6 µg/kg	TM116	<6 M	<6 M	<6	M	<6 M	<6	8	
aris-1-3-Dic	chluropropene	<27 µg/kg	TM116	<27	<27	<27	AM .	<27 M	<27	M <27	<u>M</u>
1 2-Trichlo	proethane	<a kg<="" td="" µg=""><td>TM116</td><td><9</td><td><9</td><td><9</td><td></td><td><9</td><td><9</td><td></td><td></td>	TM116	<9	<9	<9		<9	<9		
3-Dichloro	propane	≠7 μg/kg	TM116	<7 #	<7 #	<7	#	<7 #	<7	#	#
eirachlo oe	othene	<9µg/kg	1M116	<9 #	<9 #	<9	#	<9 #		#	#
	promethane		TM116	#	#		#	#		<9 #	#
		∘9 µg/kg		<9 #	<9 #	<9	#	<9		<9 #	#
2-Dibromo		<14 µg/kg	TM116	<14 #	<14 #	<14	#	<14 #	<14	* <14	#
horobenzei	ne	<7 µg/kg	TM116	<7 M	<7 M	<7	м	<7 M	<7		
1 1 2-Teira	achloroethane	≺1tµg/kg	TM116	<11 M	<11 M	<11	м	<11	<11	<11	- Fag
thylbenzen	e	<ś jug/kg	TMii6	M <9 #	M	<9	M	<9 M	7	M	M

SDG Job: Client Reference: Location:	100514-1 H_INTEC 2074 Whitehay	GCON_MA	N-11	A	ustomer: ttention: Irder No.: eport No:				
VOC MS (S)									
 I9017025 accredited, M mCERTs accredited, aq 4queous / setted sample, diss #k Dissolved / filtered sample, blurnft Total / unfiltered sample, 	s	Sample Ref. Depth (m) iample Type ate Sampled	B1 1 50 - 4 50 Sail/Solid	B3 1 50 - 1 50 Soil/Solid	E1 1 50 - 1 : Soil/Soi		N1 1 50 - 1 50 Soil/Solid	S1 Soil/Solid	S2 Soil/Solid
 subcontracted test recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recourse. 	Da	te Received SDG Ref Imple No.(s)	14/05/2010 100514-102 1552644	14/05/2010 100514-102 1552645	14/05/20 100514-1 155264	02	14/05/2010 100514-102 1552647	14/05/2010 100514-102 1547834	14/05/2010 100514-102 1547618
Component p/m-Xylene	LOD/Units	Method TM116	<13	<13	<13		-12		
o-Xvlene		TM116	<13 # <11		#	#	<13 #	<13 #	<13
	<11 µg/kg		#		# <11	#	<11 #	<11 #	<11
Styrene	<11 µg/kg	TM116	<11 #		#	#	<11 #	<11 #	<11
Brunoform	<12 µg/kg	TM116	<12 #	<12	<12 #	#	<12 #	<12 #	<12
Isopropylbenzene	<9 µg/kg	TM116	<9 #	<9	<9 #	#	<9 #	<9 #	<9
1122-Teirachloroethene	<15 µg/kg	1 M 116	<15 #	<15	#	#	<15	<15	<15
1 2 3-Trichloropropane	<13 µg/kg	TM116	<13	<13	<13		<13	<13	<13
Bromobanzene	<14 µg/kq	TM116	<14	<14	# <14	#	<14	<14 #	<14
Fropylbenzene	<6 µg/kg	TM116	-6 -6	<6	<u>M </u> <6	M	M <6	<6 M	M
2-Chlorotoluene	<14 µg/kg	TM116	<u>#</u> <14		# <14	#	<14 #	<14	#
1 3 5-Trimethylbanzene	<8 µg/kg	TM116	#		# <8	#	<8	<	
4-Chloroioluens	-9 µg/kg	TM116	# 		#	#	#	#	<8
			#		#	#	<9 #	<9 #	<9 #
ten-Butyibenzene	<12 jug/kg	TM116	<12 #		# <12	#	<12 #	<12 #	<12
1 2 4-Trimethylberizene	<10 µg/kg	TM116	<10 #	<10	<10 #	#	<10 #	<10 #	22.7
sec-Butylbenzerie	<8 µg/kg	TM116	<8 #	<8	# <8	#	<8 #	<8 #	12
-isopropyltoluene	<5 µg/kg	TM116	<8 #	<8		#	<8	<8	<8
1 3-Dichlorobenzene	<8 µу/kg	TM116	<8	<8	<8		<8	<8 #	
1 4-Dichloroberizene	<'i1 µg/kg	TM116	<11	<11	# <11	#	<11 #	<11 #	<u>#</u> #
n-Butylbenzene	<7 µp/kg	17M116	<7 N	<7	M	<u></u> M	<u>M</u>	M <7	
1 2-Dichlorobenzene	<6 µg/kg	TM116		<8	# <8	#	<8 #	#	* 8>
1.2-Dibromo-3-chloropropan	<11 µປູ/kg	TM116	M <11	 <11	M	M	M	<u>M</u>	<u>M</u> M
e Teri-anyl methyl einer	د؟ بيg/kg	TM116	#		#	#	#	# <7	#
1 2 4-Trichlorobenzene	19 µg/kg	TM116	<9		#	#	#	#	<7
			#		* <9	#	<9 #	<9 #	<9
Hexachlorobutadiene	<15 µg/kg	TM116	<15 #		<15 #	#	<15#	<15 #	<15
Naphthalene	<7 µg/kg	TM116	<7 #		<7	#	<7 #	<7 #	<7 #
1 2 3-Trichlurobenzene	:1? µg/kg 	TM116	<12 #	<12	*	#	<12 #	<12 #	<12

Validated		ALco	ntrol Lab	oratori	es	Analyt	ica	I Service)S	;			
SDG Job: Client Reference:	2074	102 GCON_M			Cu: Atto Orc	stomer: ention: ler No.:	Inte Sab	gra Consulting ine Sargeant					
Location:	Whiteha	ven			Re	port No:	857	207	_		_		_
# 19017025 accredited.	Custome	Sample Ref.	S 3	S 4	_	S5	_	TPA	ī	1PA	-	TPE	
M mCERTS accredited, aq Aqueous / settled sample, diss filt Dissolved / filtered sample, tot.unfilt Total / unfiltered sample		Depth (m) Sample Type ate Sampled	Soil/Solid	Soil/Solid		Sol/Solid	Ĩ	0 50 - 0 50 Soil/Solid	-	1 50 - 1 50 Soil/Solid		0 50 - 0 50 Soil/Solid	
 subcontracted test. ½ recovery of the surrogate standard to check the efficiency of the method. The results of th individual compounds within the samples are not corrected for this recovery. 	y y	te Received SDG Ref ample No.(s)	14/05/2010 100514-102 1547∂65	14/05/2010 100514-10 1547348	-	14/05/2010 100514-10 1547812		14/05/2010 109514-102 1547878		14/05/2010 100514-102 1547892		14/05/2010 100514-10; 1547824	
Component Asbestos, Presence screen	LOD/Units	Method TM001	No ACM Detected	N- 1010							1		.
Phenol	-001	TM062 (S)	<0.01	No ACM Deter <	- 190	No ACM Dete	Cted	No ACM Detected	-	No ACM Detected		No ACM Deter	cted
Cresols	- mg/kg <0.01	TM062 (S)	<0.01 <0.01	<0.01	M	<0.01	M		M		м	<0.01	N
Xylenois	1/10/kg <0/10/15	TM062 (S)	<0.01 <0.015	<0.015	M	<0.015	м		M	<0.01	м	<0.01	. N
2 3.5-Trimethylphenol	mg/kg		M		м		м		м		м	<0.015	M
	mg/kg	TM062 (S)	<0.01 M	<0.01	м	<0.01	м		м	<0.01	M	<0.01	M
2-Isopropylphenol	<0.015 mg/kg	TM062 (S)	<0.015 M	<0.015	м	<0.015	м	<0.015	M	<0.015	и –	<0.015	М
Sulphate 2 1 water soluble	≠0 003 g/i	TM098	0.069 M	0.0171	м	0.119	м	0.0796	м	0.0783		0.0559	M
Nitrate as NO3, 2 1 water soluble	<i kg<="" mg="" td=""><td>TM102</td><td><1 #</td><td>1.56</td><td>#</td><td><1</td><td>#</td><td><1</td><td>#</td><td>5.19</td><td>#</td><td><1</td><td></td></i>	TM102	<1 #	1.56	#	<1	#	<1	#	5.19	#	<1	
Soil Organic Maiter (SOM)	<0 35 %	TM 132	2.29	<0.35	#	2.41	#	<0.35	#	<0.35	#	<0.35	
рН	1 pH Units	TM133	8.17 M	10.5	M	8.03	M	11	M	9.7		11.3	
Cyanide, Total	<i kg<="" mg="" td=""><td>TM153</td><td><1 M</td><td><1</td><td>M</td><td><1</td><td>M</td><td><1</td><td>M</td><td><1</td><td></td><td><1</td><td><u> </u></td></i>	TM153	<1 M	<1	M	<1	M	<1	M	<1		<1	<u> </u>
Cyanide Free	<1 mg/kg	TM153	<1	<1		<1	141	<1		N <1	<u>n</u>	<1	<u> </u>
PCB congener 28	<3 µg/kg	TM168	<3	<3		45		<3	┢	<3	+	<3	
PCB congener 52	<5 µg/kg	TM168	<3 <3	<3	M	<3	M	<3	M	N <3	-	-3	N
PCB congener 101	r3 µg/kg	TM168		<3	M	<3	M	<3	M		<u> </u>	<3	<u></u>
PCB congener 118	<3 µg/kg	TM168	M <3	<3	M	<3	M	<3	М	N <3	/	<3	M
PCB congener 138	<3 µg/kg	TM168	M <3	<3	M	<3	<u>.</u> M	<	<u>u</u> -	N <3	4	<3	M
PCB congener 153	<3 µçı/kg	TM168		<3	M	<3	M	<3	<u> </u>	₩	A		M
PCB congener 180	<3 µg/kg	TM168	<u>M</u>	<3	M	<3	M		И	N			M
PCBs, Total ICES 7	<3 Javkg	TM168	M <3	<3	Ň	45	м		N	N <3	1		M
Arsenic	<0.6 mg/kg	TM181	9.81	2.04		3.98		2.79	1		_	<3	
Barium	<0 € mg/kg	TM181	<u>M</u> 194	31,7	M		м	N	и	3.19	1	4.85	M
Beryllium	<0.01	TM181	#		#	215	#		#	180	¥	108	
	mg/kg		2.13 M	0.628	м	1.22	м		N	0.71		0.744	M
Cadmiun	<0.02 mg/kg	16 MT	0.561 M	0.242	M	0.888	Ń		N.	0.293	1	0.211	M
Chronium	≾0.9 mg/kg	TM181	22.4 M	3.66	м	34.7	м	5.37 M	4	5.48 M		3.46	M
Copper	<1.4 mg/kg	TM181	23.6 M	2.9	M	8.97	м	5.16 A		4.51 M		4.78	
Lead	<0 7 mg/kg	TM181	17.8 M :	5.59	м	5.86	м	12.3		555 M		5.38	M
Mercury	<0.14 mg/kg	TM181	<0.14 M	<0.14	м	0.207	M	<0.14		<0.14		0.331	
Nickel	a) 2 mg/kg	TM181	24.8 M	3.52	м	9.07	м	6.29		5.48		7.35	100
Selenium	<1 mg/kg	TM181	<1 #	<1	#	<1	_	N <1		M <1		<1	
Vanadium	<0.2 mg/kg	TM181	22.2	5.22		23.4	#	7.33	#	6.3		5.39	
Ziric	n Sing/kg	TM181	88	4.39	#	146	#	11.8	#	22.3		4.43	#
Boron water soluble	<1 mg/kg	1M222	<1 N	<1	M	- <1	M	N <1	•	<u>M</u> <1	<u> </u>	<1	M
			M		M		м	N	4	M			M Ì
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Validated]	ALco	ntrol Lab	oratories	Analyt	ical Services	5	
SDG Job: Client Reference: Location:	100514-1	102 GCON_MA		Cu At Or	ustomer: tention: rder No.: eport No:	Integra Consulting Sabine Sargeant 85707		
EPH CWG (Aliphatic)	CC (8)							
# ISO17025 accredited M mCERTS accredited,		Sample Ref.	83	S 4	\$5	ТРА	TPA	ТРБ
aq Aqueous / settled sample diar filt Dissofred / fiftered sample, toLunfilt Total / unfiltered rample, subcontracted days % recovery of the surrogate standard to check the efficiency of the method. The results of the	Da Da	Depth (m) ample Type ite Sampled te Received SDG Ref	Soil/Solid 14/05/2010 100514-102	Soil/Solid 14/05/2010 1005/(4-102	Sail/Solid 14/05/2010 100514-10	0 14/95/2010	1 50 - 1 50 Soil/Solid 14/05/2010 1005/14-102	0 50 - 6 50 Soil/Solid 14/05/2010 100514-102
Individual compounds within the samples are not corrected for this recovery	Lad Sa	mple No.(s)	1547865	1547848	1547812		1547892	1547824
Component Aliphatics >C12-C16	<1:00 µg/kg	Method TM173	48900	6620	839000	3130	866	<100
Aliphatics >C16-C21	<100 ug/kg	TM173	192000	57200	2800000	11400	12100	<100
Aliphatics >C16-C35	<100 µg/kg	TM173	355000	101000	5140000	31400	33000	17300
Alphatics >C21-C35	<100 µg/kg	TM173	163000	43600	2340000	20100	20800	
Aliphatics >C35-C44	<100 µg/kg	TM173	13100	<100	132000	<100		17300
Total Aliphatics - C12-C44	<100 µg/kg	TM173	417000	107000	6110000	34600	<100	<100

Validated	1	ALCO	ntrol Lab	oratories	Analyti	cal Services		
SDG Job: Client Reference:	2074	SCON_MA	N-11	Att	stomer: ention: der No.:	Integra Consulting Sabine Sargeant		
_ocation:	Whitehav	ren				85707		_
EPH CWG (Aromatic)								
# ISO17025 accredited M mCERTS accredited.	Customer	Sample Ref.	\$3	S 4	55	TPA	TPA	і ТРВ
aq Aqueous / settled sample. diss.filt Dissolvad / fiftered sample ot.unfilt Total / unfiltered sample.	Da	Depth (m) ample Type ite Sampled	Soli/Solid	Sail/Solid	Soil/Solid	0 50 - 6 50 Soil/Solid	1 50 - 1 50 Soil/Solid	0 50 - 0 50 Soil/Solid
** % recovery of the aurrogate standard to obeck the efficiency of the mathod. The results of the individual compounds within the samples are not corrected for the recovery		te Received SDG Ref mple No.(s)	14/05/2010 100514-102 1547865	14/05/2010 100514-102 1347848	14/05/2010 1005'i4-102 1547812		14/95/2010 100514-102 1547892	14/05/2010 100514-102 1547824
omponent vromatics >EC12-EC16	LOD/Units <100 µg/kg	Method TM173	21200	7600	160000	1440	5900	4450
romatics >EC16-EC21	<100 µg/kg	TM173	77400	24100	648000	12000	9530	4150
romatics >EC 21-EC35	<100 µg/kg	TM173	82300	27100	602000			4900
romatics >EC35-EC44						17000	17700	8810
	<100 µg/kg	TM173	14800	7340	54000	7550	6480	3930
omatics >EC40-EC44	<100 µg/kg	TM173	4890	2660	17500	2710	2390	1280
otal Aromatics EC 12-EC-44	<100 µg/kg	TM175	196000	66200	1460000	38000	39600	21800
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		100514-1 H_INTEC 2074 Whitehay	CON_MA	N-11			Atte Ord	tomer: ntion: er No.: ort No:		ira Consulting ne Sargeant 07					
GRO	BTEX MTBE GC	(S)											_		
	ISO17025 accredited.		Sample Ref.	83	-	S 4	ĺ	S 5	Î	TPA	1	TPA	1	TPB	-
M aq diss.fiit tot.unfiit	mCERT2 accredited. Aqueous / settled sample, Dissolited / filtered sample. Total / unfiltered sample, subcontracted tast		Depth (m) ample Type ate Sampled	Soil/Solid		Soil/Soild		Soil/Solid		0 50 - 0 50 Soil/Solid	ł	1 50 - 1 50 Soil/Solid		0 50 - 0 50 Soil/Solid	
-	% recovery of the surrogate standard to check the afficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery		te Received SDG Ref Imple No.(5)	14/05/2010 100514-102 1547865		14/05/2010 100514-102 1547848		14/05/2010 100514-10; 1547912		14/05/2010 190514-102 1547878		14/05/2010 100514-102 1547892		14/05/2010 100514-10 1547524	2
Compo	onent Surogate %	LOD/Units %	Method TM089	97	4		4								
recove	N**					91		53		100		99		105	
GRQ >	-C5-C12	44 µg/kg	TM089	428	#	<44	#	15100	#	902	#	820	#	<44	
Benze		<10 µg/kg	TMO89	<10	м	<10		<10		<10		<10		<10	<i>m</i>
Ethylb	ynzene	≈3 µą⁄kg	TM089	3		11.1	M	<3	M	11.6	M	<3	M	<3	M
Toluen	i6	<2 µg/kg	TM089	<2	M	<2		<2	M	31.6	M	<2	M	<2	M
m.p-Xy	/]erie	<6 µg/kg	TM089	<6	м		M	<6	M		M	<6	м		M
					м		м		м		м		м	<6	M
o-Xylei		≈3 µg/kg	TM089	<3	м	<3	M	<3	м		M	<3	м	<3	м
III p.o-)	Xylene	<10 µg/kg	TM089	<10	м	<10	M	<10	м	26.4	M	<10	M	<10	
BTEX	Total	<10 µg/kg	TM089	<10		11.1		<10		69.6		<10		<10	M
	iertiary butyl ether	<5 µg/kg	TM089	<5	M	<5	<u></u>	<5	M	10.5	M	<5	M	<5	M
(MTSE Aliphat) ucs ≻C5-C6	<10 µg/kg	TM089	<10	#	<10	#	<10	#	11.7	#	<10	#	<10	#
	ICS > C6-C8	10 µg/ky	TM089	<10		<10		64.8		110					_
												<10		<10	
	ics >C8-C10	<10 µg/kg	TM089	<10		<10		1360		82.4		108		<10	
Aliphat	ics >:C10-C12	<10 µg/kg	TM089	171		<10	_	4660		198	-	220	-	<10	
Aromai	tics >uu-C7	<10 µg/kg	TM089	<10		<10	-+	<10	-	<10	+	<10		<10	
Aromat	tics >C7-C8	<10 µg/kg	TM089	<10		<10	-	<10		31.6	+	<10	_	<10	
Aromat	Ics >EC6-EC10	<10 µg/kg	TM089	<10		<10	_	2040		161	_	162	_	<10	
	ics > EC10-EC12	<10 µg/kg	TM089	257		<10		6990							
		<10 µg/kg	1141005	25/		<10	_	6990		297		330		<10	
Total A	liphatics >C5-C12	<10 µg/kg	17M089	171		<10		6090		402		328		<10	
Total A	romatics >C6-C12	<n0 kg<="" td="" µg=""><td>TM089</td><td>257</td><td></td><td><10</td><td></td><td>9030</td><td></td><td>490</td><td></td><td>492</td><td>Ť</td><td><10</td><td></td></n0>	TM089	257		<10		9030		490		492	Ť	<10	
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SDG Job: Client Reference: Location:	100514-1 H_INTEC 2074 Whitehav	GCON_MA	N-11	Atto	stomer: ention: ler No.: port No:	Integ Sabir 8570	ra Consulting ne Sargeant)7			
PAH by GCMS										
# ISO17025 accredited.	Customer	Sample Ref.	\$3	S 4	85	í	TPA	TPA	TPB	
M mCERTS accredited, eq Aqueous / settled sample.		Depth (m)				1	0 50 - 0 50	1 50 - 1 50	0 50 - 0 5	50
diss fit Dissolved / filtered sample totunfilt Total / unfiltered sample.		ampie Type te Sampled	Soil/Solid	Soil/Solid	Soil-Solid	1	Soil/Solid	Soil/Solid	Soil/Solu	d
 subcontracted test. % recovery of the surrogate standard to check the efficiency. 		te Received SDG Ref	14/05/2010	14/05/2010 100514-102	1 1/05/201		14/05/2010	14/05/2010	14/05/201	
of the method. The results of the individual compounds within	Lab Sa	mple No.(s)	1547865	1547848	100514-10 1547812		100514-102 1547878	100514-102 1547892	100514-11 1547824	
the samples are not corrected for this recovery							1			-
Component	LOD/Units	Method				!				
Naphthalene-d8 % recovery ^{err}	%	TM218	94.9	99.1	94.1		97.5	99	97.6	
Acenaphihene-d10 % recovery	%	TM218	96.9	101	103		97.7	101	97.9	
Phenanthrene-d10 %	%	TM218	95.4	99,6	104		96,8	99.9	95.5	
recovery** Chrysene-d12 % recovery**	%	TM218	92.9	98.1	107		92.1	97,3	92.5	
Perylene-d12 % recovery**	%									
		17M218	90.8	96.5	104		90.2	94.2	95.6	
Naphthalene	<∃µg/kg	TM218	18.1 M	60.5 M	305	м	135 M	125	18,3	
Acenaphthylene	<12 jug/kg	TM218	<12	<12	206		<12	14.6	<12	<u>M</u>
Aceriaphthene	<8 µg/kg	TM218	M <8	M <8	130	M	M	<u>M</u>	<8	M
Fluorene	<10 µg/kg	TM218	M	10.9 M	454	M	M	M		M
			M	M		м	39.9 M	83.8 M	<10	M
Phenanthrene	<15 µg/kg	TM218	226 M	123 M	736	м	247 M	395 M	27.8	M
Anthracene	<16 µg/kg	Ti//218	<16 M	<16	437		25.7	83	<16	
Fluoranthene	<17 µg/kg	TM218	57.8	139 M	156	M	<u>M</u> 183	M 560	<17	M
Pyrene	<15 µg/kg	TM218	M	M 148	461	<u>. M</u>	<u>M</u>	M	<15	M
Benz(a)anthracene		TM218	м.	M		м	M	M		N
	<14 µg/kg		42.9 M	115 M	97.4	м	104 M	272 M	<14	- M
Chrysene	<10 µg/kg	TM218	55.6 M	97.9 M	98.7	м	92.2	219	<10	
Benzo(b)fluoranthene	<15 µg/kg	TM218	75.4	142	99,4		90.5 M	273 M	<15	M
Benzo(k)fluoranthene	<14 µg/kg	TM218	<14 M	50.2 M	34.6	M _	M	M	<14	M
Benzo(a)pyrene	<15 µg/kg	TM218	<15 M	M 108	63.8	M	M	M		M
			м	M	63.8	м	62.2 M	187 M	<15	М
Indeno(1 2 3-cd)pyrene	<18 µg/kg	1 M 218	<18 M	61.1 M	40.3	м	34.7 M	94.1 M	<18	м
Dibenzo(@.h)anthiacene	<23 µg/kg	TM218	<23 M	<23	<23		<23	29.1	<23	
Benzo(g,h ipervlene	<24 µg/kg	TM218	28.3	78.8 M	57.2	M	47.3 M	<u>M</u> 125	<24	M
Polyaromatic hydrocarbuns	≺118 µg/kg	TM218	M 605	1130 M	3380	M	M 1280	<u>M</u>	<118	M
Total USEPA 16			M	M		м	M	M		М
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SDG Job: Client Referent Location:	ce:	100514-1 H_INTEG 2074 Whitehav	GCON_MA	N-11	Atte	stomer: ention: ler No.: lort No:	Integra Sabina 85707	a Consulting s Sargeant 7		
TPH CWG GC	(S)									
ISO17026 sourcells M mCERTs accredit Aqueous / setting dis.nit Dissolved / filtered toLunfit Total / unfiltered subcontracted test * % faccuracy of the standard to check of the method. The individual compound the samples are no for this recovery	ad. d. sample, sample, umple, surrogate the efficiency results of the nds within	S: Da Dat	Sample Ref. Depth (m) ample Type te Sampled te Received SDG Ref mple No.(s)	\$3 Soll/Solid 14/05/2010 100514-102 1547865	S4 Soli/Solid 14/05/2010 100514-102 1547848	S5 Soil/Solid 14/05/201 100514-10 1547812	0	TPA 0 50 - 0 50 Soil/Solid 14/05/2010 100514-102 1547878	TPA 1 50 - i 50 Soil/Solid 14/05/2010 100514-102 1547892	TPB (J 50 - 0 50 Soil/Solid 14/05/2010 100514-102 1547824
Component Total Aliphatics >C5-3	25	LOD/Units <100 µg/kg	Method TM173	404000	107000	5990000		35000		
Total Aliphatics >C5-0									34100	17300
		<100 µg/kg	TM173	417000	107000	6120000		35000	34100	17300
Fotal Aromatics > C5-		<100 µg/kg	TM172	181000	58800	1420000		30900	33600	17900
Total Aromatics >C6-		<100 µg/kg	TM173	196000	66200	1470000	,	38500	40100	21800
Total Aliphatics & Aro		<100 µg/kg	TM173	585000	166000	7400000	·	65900	67700	35200
Total Aliphatics & Aro >C5-C44	matics	<100 µg/kg	TM173	613000	174000	7590000		73400	74200	39100
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SDG Job: Client Reference; Location	100514-1 H_INTEC 2074 Whitehay	GCON_MA	N-11		Custo Attent Order Repor	tion: No.:	Integr Sabir 8570	ra Consultir ne Sargeant 07	9				
VOC MS (S)											-		-
# ISO17025 accredited,	Customer	Sample Ref.	\$3	S4		35		TPA		TPA		TPB	
M mCERT3 accredited. eq Aqueous / satule armple. diss filt Dissolved / filtered sample. totunfilt Tobi / unfiltered sample. autocontracted test. * autocontracted test. * necovery of the surrogate standard to check the effolioncy of the method. The nexults of the individual compound within the samples are not corrected for the pecovery.	Da	Depth (m) sample Type ate Sampled te Received SDG Ref ample No.(s)	Soil/Solid 14/05/2010 100514-102 1547865	Soil/Solid 14/05/2010 100514-102 1547848		Soil/Solid 14:05/201 100514-10 1547812	0	0 50 - 0 50 Soil/Solid 14/05/2010 100514-102 1547878		1 50 - 1 50 Soil/Solid 14/05/2010 100514-10 1547892	,	0 50 - 0 5 Sail/Soli 14/05/201 100514-11 1547824	d 10 02
Component	LOD/Units	Method											
Dibromofiuoromethane**	%	TM116	95.9	81.9		89		59.7		73.8		71.5	
Toluene-d8**	%	TM116	92.3	97.6		61.8		99.2		96.1		98.7	
4-Bromuiluorobenzene**	%	TM116	117	102		177		108	-+	87.2	-	103	
Dichloroditluoromethane	<13 µg/kg	TM116	<13 #	<13	#	<13		<13		<13		<13	
Chloromethane	<12 µg/kg	TM116	<12 #	<12		<12	#. 	<12	#	<12	#	<12	
Vinyl Chloride	<10 µg/kg	TM116	<10	<10	#	<10	#	<10	#	<10	#	<10	. 4
Bromornethane	<% µg/kg	TM116	<9	<9	#	<9	#	<9	#	<9	#	<9	
Chloroethane	<12 µg/kg	TM1 16	<12 #	<12	#	<12	#	<12	#	<12	#	<12	#
Tuchlorofluorometivane	<7 µg/kg	TM116	<7	<7		<7		<7		<7		<7	_
1 1 Dichloroethene	vý µg/kg	TM:16	<9 #	<9	#	<9	#	<9	#		#	<u></u>	#
Carbon Disulphide	<9 µy/kg	TMils	<u>M</u>	<	M	53.2	M		м		м		M
Dichloromethane	<10 µg/kg	TM116	<10 × 9 M		м		M	10.6	м	19.5	м	<9	M
			#	<10	#	<10	#	<10	#	<10	#	<10	#
Methyl Tertiary Buiyl Ether	<9 µg/kg	TM116	<9	<9		<9		<9		<9		<9	
trans-1-2-Dichloroethene	≍12 µg/kg	TM116	<12 #	<12	#	<12	#	<12	#	<12	#	<12	#
1 -Dichloroethane	<8 µg/kg	TM116	<8 M	<8	м	<8	м	<8	M	<8	M	<8	Ĩ
cis-1-2-Dichloroetherie	~9 µg/kg	TM116		<9	м	<9	M	<9	-	<9		<9	M
2 2-Dichloi opropane	<10 µу/kg	TM116	<10	<10		<10	-	<10	M	<10		<10	M
Bromochloromathane	<10 μg/kạ	TM116	<10	<10	#	<10	. #	<10	#	<10	#	<10	*
Chlarofoun	<10 ;Jg/kg	1M116	<10 #	<10	#	<10	#	<10	#	<10	#	<10	#
1 1 1-Trichloroethane	<12 µg/kg	TM116	<u> </u>	<12	M	<12	<u>M</u> .	<12	м	<12	M	<12	M
1 1-Luchloropropene	<13 µg/kg	TM116	<13	<13	<u>M</u>	<13	M	<13	м	<13	M	<13	M
Carbonteirachloride	<11 µg/kg	Ti#116	M <11	<11	M	<11	м	<11	M	<11	м		M
2-Dichloroeitiane	<10 µg/kg	TM116	M <10	<10	M	<10	м		м		M	<11	M
Benzene	«S µg/kg	TM116	<9		#		#	<10	#	<10	#	<10	#
Frichloi dethene			м	<9	M	<9	M	<9	м	<9	м	<9	M
	<\$ ug/kg	TM116	<9 M	<9	м	<9	м	<9	м	<9	м	<9	M
2-Dicinioropiopane	10 µg/ky	TM118	<10 M	<10	м	<10	м	<10	м	<10	M	<10	M
Dibi omometha ie	<12 µg/kg	TM116	<12 #	<12	#	<12	#	<12	#	<12	#	<12	191 16
Bromodichloromethane	≪i1 µg/kg	TM116	<11 M	<11	M	<11	 M	<11	м	<11		<11	#
Is-1 3-Dichloropropene	25 µg/kg	TM116	<25	<25		<25		<25		<25	M	<25	M
olugne	<6 µg/kg	TM116	<6	6.53		7.47		45.6	-	7.31		8.64	
ans-1-3-Dichloropropene	<27 µg/kg	TM116	M <27	<27	M	<27	M	<27	M	<27	M	<27	M
1 2-Tirchloroethene	<9 µg/kg	TM115	<9	<9		<9		<9		<9	_	<9	-
3-Dichloroproparie	<7 µu/kg	TM116	<7 #	<7	#	<7	#	<7	#	<7	#		#
etrachioroetnene	<a hd.kg<="" td=""><td>IM116</td><td>4</td><td><9</td><td>#</td><td><9</td><td>#</td><td><9</td><td>#</td><td><9</td><td>#</td><td><</td><td>#</td>	IM116	4	<9	#	<9	#	<9	#	<9	#	<	#
hbromochloromethane	<9 µg/kg	TM116			#	<9	#		#		#		#
2-Dibromcethane			#		#		#	<9	#	<9	#	<9	#
	<14 µg/kg	TM116	<14 #	<14	#	<14	#	<14	*	<14	#	<14	#
Choroberizene	<7 µg/kg	TM116	<7 M	<7	м	<7	м	<7	м	<7	M	<7	M
1 1 2-Tetrachloroethane	<11 µg/kg	TM1 IC	<11 M :	<11	м	<11	M	<11	м	<11	M	<11	
thylbenzene	<9 µg/kg	TMile	<9 #	<9	#	<9	#	10.1		<9	#	<9	M

Validated		ALcontrol Laboratories Analytical Services												
SDG Job: Client Reference: Location:	100514-1 H_INTEC 2074 Whitehay	102 GCON_MA		Cus Atto Orc	stomer: ention: ler No.: port No:	Integ	ra Consulting ne Sargeant							
VOC MS (S)									1					
 ISO17028 accredited. M mCERTS accredited. Aqueous / settled sample. Stashed / Stashed li>	S Di Da	Sample Ref. Depth (m) sample Type ate Sampled te Received SDG Ref imple No.(s)	\$3 Suil/Solid 14/05/2010 100514-102 1547865	S4 Soll/Solid 14/05/2010 100514-102 1547848	\$5 Sail/Solid 14/05/201 100514-10 1547812	0)2	TPA 0 50 - 0 50 Soli/Solid 14/05/2010 100514-102 1547878	TPA 1 50 - 1 50 Sol/Solid 14/05/2010 100514-102 1547892	TPB 0 50 - 0.50 Sol/Solid 14/05/2016 100514-102 1547824					
for this recovery	LOD/Units	Method												
р/т-Хуісле	<13 µg·kg	TM116	<13	<13	<13		29.3	<13	<13					
o-Xylerie	<11 µg/kg	TM116	<11	<11	<11	#	<11 #	<11 #	<11					
Styrene	<11 µg/kg	TM116	<11	<11	<11	#	<11 #	# <11	<11 #					
Bromoform	<12 µg/kg	TM116	<12 #	<12 #	<12	#	<12 #	<12 #	<12 #					
Isopropylbenzene	<9 µg/kg	TM116	<9 #	<9 #	<9	#	#	<9 #	<9 #					
1 1 2 2-Tetrachloroethane	<15 µg/kg	TM116	# <15	<15	<15	#	#	<15	<15					
1 2 3-Trichloropropane	<12 µg/kg	TM118	<13 #	<13 #	<13	#	<13	<13 #	<13 #					
Bromobenzene	<14 µg/kg	TM116	<14	<u>#</u>	<14	#	<13 #	<13 #	<13 #					
Propylbanzene	<5 µg/kg	TM176	M	M <6	<6	м	м	M	M					
2-Chlorotoluane			#	#		#	10 #	<6 #	<6 #					
	r14 µg/kg	TM116	<14 #	<14 #	<14	#	<14 #	<14 #	<14 #					
1 3 5-Trimethylbenzene	<8 µg/kg	TM116	<8 #	<8 #	<8	#	12.7	<8 #	<8					
4-Chloroioluene	<9 µg/kg	TM116	<9 #	<9 #	<9	#	<9 #	<9 #	<9 #					
eri-Butylberizerie	<12 µg/kg	TM115	<12 #	<12 #	<12	#	<12 #	<12	<12					
2 4-Trimethylbenzene	<10 µg/kg	TM116	<10 #	<10	<10		34,4	<10 #	<10					
sec-Butylbenzene	<& µg/kg	TM116	<8		<8	#	<8 #	<8 ***	# <8					
4-Isopropyltoluene	<8 µg/ky	TM115	<8 #	<8 #	<8	#	<8 #	#	# <8					
1 3-Dichloiobenzene	<8 ug/kg	TM116	#	<8 #	<8	#								
4-Dichlorobenzene	<11 µg/kg	TM116	<11 #	<11 #	<11	#	<11 #	<11	<11 #					
	<7 µg/kg	TM116	<7 M	M	<7	M	<u>M</u>	M	M					
2-Dichlorobenzene	<3 µg/kg	TM116	<8 #	#	<8	#	#	#	#					
2-Dibromo-3-chloropropan			M	M		м	M	<8 M	<8 M					
	<11 µg/kg	TM116	<11 #	<11 #	<11	#	<11 #	<11 #	<11					
ert-amyl methyl ether	<7 µg/kg	TM116	<7 #	<7 #	<7	#	<7 #	<7 #	<7 #					
2 4-Trichlorobenzene	≈Sµg/kg	TM116	<9 #	<9 #	<9	#	<9 #	<9 #	<9					
Hexachlorobutadiene	<15 ug/kg	TM116	<15 #	<15 #	<15	#	<15 #	<15 #	<15					
laphthalene	<7 µg/kg	TM116	<7 #	<7 #	<7		47.1	<7	<7					
2 3-Trichlorobenzene	<1.2 µg/kg	TM116	<12	<12	<12	#	<12 #	<12 #	<12 #					
 _,			#	#		#		#	#					
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Validated		ALcontrol Laboratories Analytical Services												
SDG Job: Client Reference: Location:	100514- H_INTEC 2074 Whitehay	102 GCON_M		C A O	ustomer: ttention: order No.: eport No:	Inte	gra Consulting ine Sargeant							
Popula Lagand	Customer	Sample Ref.	TPB	ТРС	TPC		TPD	TPD	7W1					
# ISO17025 accredited M mCERTS accredited.		Depth (m)	1 00 - 1.00	050-050	1									
eq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Sample Type	Soil/Solid	Sol/Solid	i 00 - i 0 Soil/Solu		0 50 - 7 50 Soil/Solid	1 00 - 1 00 Sail/Solid	1 50 - 1 50 Soll/Solid					
* subcontracted test, ** % recovery of the surrogate		ate Sampled ate Received	14/05/2010	14/05/2010	14/05/201	Ð	14/05/2010	i 14/05/2010	14/05/2010					
standard to check the efficiency of the method. The results of the	Lah Si	SDG Ref ample No.(s)	100514-102 1547902	100514-102 1547906	100514-10	32	100514-102	100514-102	100514-102					
individual compounds within the samples are not corrected for this recorrect	Lub St		1047802	1547906	154/592		1547646	1547634	1552648					
Component	LOD/Units	Method						l-,						
Asbestos Presence screen	-	TM001	No ACM Detected	No ACM Detected	No ACM Det	ected	No ACM Detected	No ACM Detected	No ACM Detected					
Phenol	<0 01 mg/kg	TM062 (S)	<0.01 M	<0.01	<0.01	-	<0.01	<0.01	<0.01					
Cresols	<0.01	TM062 (S)	<0.01	<0.01	<u>M</u> <0.01	<u>M</u>	M <0.01	<0.01	<0.01 M					
Xylenois	mg/kg <0.015	TM062 (S)	<u>M</u> <0.015	<0.015	M <0.015	M	M	<0.015 M	<0.015					
2,3.5-Trimethylphenol	mg/kg <0 01	TM062 (S)	M <0.01	<0.01	M	м	<u>M</u>	<u> </u>	M					
	mg/kg		Μ.		M	м	M		<0.01 M					
2-Isopropylphenol	<0.015 mg/kg	TM062 (S)	<0.015 M		<0.015 M	M	<0.015	<0.015 M	<0.015 M					
Sulphate 2.1 water soluble	<0 003 g/l	TM098	0.0694 M	0.0982	0.0385 M	м	0.0312 M	0.162	0.0785 M					
Nitrate as NO3 2 1 water soluble	<1 mg/kg	TM102	<1	1.43	<1		1.41	<1	<1					
Soil Organic Matter (SOM)	<0 35 %	TM132	1.39	3.26	# 1.29	#	<0.35	2.03	2.91					
рН	1 pH Units	TM133	8.42	8.53	# 8.03	#	11.9	7,45	7.8					
Cyanide, Total	<1 mg/ky	TM153	<u>M</u>	<1	M <1	M	M	. М	М					
			м		M	м	M	<1 M	<1 M					
Cyanide Free	<1 mg/kg	TM153	<1	<1	<1		<1	<1	<1					
PCB congener 28	<5 µg/kg	TM 168	<3 M	<3	<3 M	м	<3 M	<3 M	<3					
PCB congener 52	<3 µg/kg	TM168	3	<3	<3	- 1	<3	<3	< <u>M</u> <3					
PCB congener 101	<3 µg/kg	TMice	<u>M</u>	<3	M	м	<u>M</u> <3	<u>M</u>	<3 M					
PCB congener 118	<3 µg/kg	TMIE	<u>M</u> <3	<3	M <3	M	<u>M</u>	<u>M</u>	< <u>M</u>					
PCB congenet 138	<3 µg/kg	TM168	M <3		M 3	м	M	M	M					
			м		M	м	<3 M	6.78 M	<3 M					
PCB congener 153	<3 µy/kg	TM168	<3 M	<3	<3 M	м	<3 M	4.25 M	<3 M					
PCB congener 190	≈3 µg/kg	TM168	<3 M	<3	<3 M	ы	<3	4.11	<3					
PCBs, Total ICES 7	<3 yg/kg	TM168	<3	<3	<3	<u>. M</u>	<u>M</u> <3	15.1 M	<3 M					
Aisenic	-0.8 mg/kg	îM181	10.3	11.6	<6		0.992	16.3	8,3					
Benum	<0.8 mg/kg	TM131	58,1 - M	172	M 74.7	м	<u>M</u>		241					
Beryllium	<0.01	TM181	# 2.94		#	#	#	#	#					
	mg/ky		M		5.52 M	M	0.402 M	2.13 M	2.16 M					
Cadmum	<0 02 mg/kg	TM181	0.134 M	2.42	<0.2	м	0.193 M	0.0668 M	0.218 M					
Chromium	<0.9 mg/kg	TM181	19.5 M	57.8	17.1 VI	M	2.85	21.1	17.5					
Copper	<1.4 mg/kg	TM181	26.5	24.1	175		2.97	25.9 M	27,8 M					
Lead	<0 ? mg/kg	TM:18'i	16.8	35.6	M 12.3	м	M 4.53	M 20.2	22.2					
Mercury		TM181		<0.14	W <0.14	м	0.34 M	M <0,14	<0.14 M					
Nickel	mg/ky 10 2 mg/kg	TM:81	M		<u>v </u>	м	M	M	М					
			M		18.9	м	2.59 	13.9 M	30.4 M					
Selenium	<1 nig/kg	TM181	<1 #	1	#	#	<1 #	<1 #	<1					
Vanadium	<0 2 mg/kg	TM181	21.1 #	48.9	24.7		3.6 #	24.9 #	19.1					
Zinc	<1 9 ing/kg	TM181	37	109	65.5		15.7	27.9	90.7					
Boron, water soluble	<1 mg/kg	TM222	<1 N	<1	<u>vi</u> <1	M	<u>M</u> <1	<1 M	<1					
			M		И		M	M	M					
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SDG Job: Client Reference: Location:	100514-1 H_INTEG 2074 Whitehav	SCON_MA	N-11	Atte	atomer: antion: ler No.: port No:	Integra Consi Sabine Sarge 85707	ulting eant	
EPH CWG (Aliphatic)	GC (S)	• •						
 ISC17028 accredited M mCERT8 accredited Aqueous / settled sample. alss.fitt Dissolved / filtered sample. subcontratoral cest. X recovery of the surrogate 	Customer Si Da	Sample Ref. Depth (m) ample Type Ite Sampled te Received	TP8 1 00 - 1 00 Soll/Solid 14/05/2010	TPC 0 50 - 0 50 Soll/Solid 14/05/2016	TPC 1 00 - 1 0 Soil/Solic	SowSo	9 50 1 00 - 1 00 bla Soil/Solid	W1 1 50 - 1 50 Soil/Solid
strated to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery Component		SDG Ref mple No.(s) Method	100514-102 1547902	100514-102 1547908	14/05/201 100514-10 1547692	2 100514-	102 100514-102	14/05/2010 100514-102 1552648
Aliphatics >012-016	<100 µg/kg	TM173	5910	52700	11000	1460	0 7820	19700
Aliphatics >C16-C21	<100 µg/kg	TM173	9360	186000	17300	9380	0 13900	63400
Aliphatics > C16-C35	<100 µg/kg	TM173	9360	314000	17300	22400	0 27500	107000
Aliphatics >C21-C35	<100 µg/kg	TM173	<100	128000	<100	13000		
Aliphatics > C35-C44	<100 µg/kg	TM173						43800
			<100	12700	<100	<100		<100
Total Aliphatics >C12-C44	<100 µg/kg	TM173	15300	380000	28300	23800	0 35300	127000
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SDG Job: Client Reference: Location:	100514-1 H_INTEG 2074 Whitehav	CON_MA	N-11	Atte	atomer: ention: ler No.: port No:	Integra Consulting Sabine Sargeant 85707		
EPH CWG (Aromatic)	GC (S)							
BO17025 Secretified M mCERT8 secretified, M mCERT8 secretified, aq Aqueous / settled sample, diss.filt Dissolved / filtered sample, subcontracted test, subcontracted test, with the surrogate standard to check the afficiency of the method. The results of the individual compounds within the samples are not corrected for the resourcey	Customer S Si Da Dat	Sample Ref. Depth (m) ample Type te Sampled se Received SDG Ref mple No.(s)	TPB 1.00 - 1.00 Soil/Solid 14/05/2010 100514-102 1547902	TPC 0 50 - 0 50 Soll/Solid 14/05/2010 100514-102 1547908	TPC 1 0G - 1 00 Soil/Solid 14/05/2010 100514-10 1547692	Soil/Solid 14/05/2010	TPD 1 00 - 1 00 Soll/Solid 14/05/2010 100514-102 1547634	W1 1 50 - 1 50 Soil/Solid 14/05/2010 100514-102 1552348
Component Aromatics >EC12-EC18	LOD/Units <100 µg/kg	Method TM175	<100	11700	5970	5280	593	30700
Aromatics >EC16-EC21	<100 µg/kg	TM173	<100	38500	7360	17600	3410	<100
Aromatics >EC21-EC35	<100 µg/kg	TM173	<100	56600	10800	32400	12500	
Aromatics >EC35-EC44	100 µg/kg	TM173	<100	15200	6230	8710	7730	27800
Aromatics >EC40-EC44	<100 µg/kg	TM173	<100	5700				8570
Total Aromatics		TM173	<100		2500	3090	4420	3400
>EC12-EC44	<100 µg/kg		- 100	122000	30300	64000	24200	67100
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SDG Job: Client Reference: Location:	100514-1 H_INTEC 2074 Whitehay	GCON_MA	N-11	A' O	ustomer: Itention: rder No.: aport No:	Integi Sabir 8570	ra Consultir ne Sargeant 07	ng t				
GRO BTEX MTBE G												
# ISO17025 accredited. M mCERTS accredited.	Customer	Sample Ref.	ТРВ	TPC	ТРС	1	TPD		TPD		W1	
aq Aqueous / settled sample, disa fift Dissolved / filtered sample, totunfift Total / unfiltered sample, subcontracted test,	Da	Depth (m) ample Type ite Sampled	1 00 - 1 00 Soil/Solid	0 50 - 0 50 Soll/Solid	1 00 - 1 (Soil/Soli		9 50 - 0 50 Soil/Solid		1 00 - 1 00 Soil/Solid		1 50 - 1 5 Soil/Solid	
% recovery of the surrogate standard to check the efficient of the method. The results of individual compounds within the samples are not corrected for this recovery.	the Lab Sa	te Received SDG Ref mpl e No.(s)	14/05/2010 100514-102 1547902	14/05/2010 100514-102 1547908	14/05/20 100514-1 154769/	02	14/05/2010 100514-102 1547646		14/05/2014 100514-10 1547634		14/05/201 100514-10 1552648	2
Component GRO Surrogate %	LOD/Units	Method TM089	92						a			
recovery** GRO >C5-C12		TMO89		98	83		100		119		113	
			<44 #		<44 #	#	<88	#	<44	#	<44	#
Benzene	<10 µg/kg	TM089	<10 M		<10	M	<20	м	<10	м	<10	м
Ethylbenzene	<3 µg/kg	'i7M089	<3 M	3	<3	м	- <6	M	3	M	<3	 M
Toluene	r2 µy/kg	TMO89	<2 M	<2	<2	м	<4	M	<2	M	<2	
m,p-Xylene	≈6 µg/kg	TM089	<6 M	<6	<6		<12		<6		<6	<u>M</u>
o-Xylene	<3 µg/kg	TM089	<3	<3	<3	M	<6	M	<3	M	<3	M
m p.o-Xyler.e	r10 µg/kg	TM099	M <10	<10	<10	M	<20	M	<10	M	<10	M
BTE≾, Total	<10 µg/kg	TM089	<10 M	<10	<10	M	<20	м	<10	M	<10	M
Methyl tertiary butyl ether	<5 µg/kg	TM089	M <5	<5		M	<10	м	<5	M	<5	M
(MTBE) Aliphatics > C5-C6	<10 µg/kg	TM089	<10 #		¥	#	<20	#		#		#
Alphaics >C6-C8	<10 µg/kg	TM089	<10	<10					<10		<10	
		_			<10		<20		<10		<10	
Aliphatics >C-8-C10	<10 µg/kg	TM089	<10	<10	<10		<20		<10		<10	
Aliphatice >C10-C12	<10 ug/kg	TM089	<10	27.6	<10		<20		<10	_	<10	
Aromatics >C6-C7	<10 µg/kg	TM089	<10	<10	<10		<20		<10		<10	
Aromatics >C7-C8	<10 µg/kg	TM089	<10	<10	<10		<20	1	<10		<10	
Aromatics >EC6-EC10	<10 µg/kg	TM089	<10	<10	<10		<20		<10		<10	
Aromatics > EC10-EC12	= 10 μg/kg	TM089	<10	41.4	<10		<20		<10		<10	-
Total Aliphatics >C5-C12	<1() µg/kg	TM089	<10	27.6	<10		<20		<10		<10	
Total Aromatius = C6-C12	<10 µg/kg	TM089	<10	41.4	<10		<20	_	<10			
	. To pgrig								<10		<10	
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SDG Job: Client Reference: Location:	100514- H_INTEC 2074 Whitehay	GCON_MA	N-11	Ati Or	stomer: tention: der No.: port No:	Integ Sabi 857(ra Consulting ne Sargeant 07			
PAH by GCMS										-
BO17028 scoredied mCERTS scoredied mCERTS scoredied mCERTS scoredied scoredied	S Di Da	Depth (m) Depth (m) Sample Type ate Sampled ste Received SDG Ref ample No.(s)	TPB 1 00 - 1 00 Soil/Solid 14/05/2011) 100514-102 1547902	TPC 0.50 - 0 50 Sol/Solid 14/05/2010 100514-102 1547908	TPC 1 0G - 1 0 Soil/Solid 14/05/201 100514-10 1547692		TPD U 50 - 0 50 Soil/Solid 14/05/2010 100514-102 1547646	TPD 1 00 - 1 00 Sol/Solid 14/05/2010 100514-102 1547634	W1 1 50 - 1 5 Soil/Solid 14/05/201 100514-10 1552648	i 0)2
Component	LOD/Units	Method				1			<u> </u>	
Naµhthalene-d8 % recovery**	%	TM218	85.3	96.4	91		98.1	91.7	93.6	
Acenaphthene-d10 % recovery**	%	TM218	82.1	96.3	87.9		98.2	92.2	95.1	
Phenanthrene-d10 % recovery**	%	TM:218	80.3	93.9	84.4		97.2	92.2	94.6	
Chrysene-d12 % recovery**	%	TM218	73.9	87.3	74.1		95.8	87.4	91.6	
Perviene-d12 % recovery**	%	TM218	72.1	85.1	71		94.7	86.7	90.8	
Naphihalene	<9 µg/kg	TM218	<9	45.3	<9		11.5	12.5	<9	
Acenaphthylene	<12 µy/kg	TM218	<12 M	<12 M	<12	M	<u>M</u>	M <12	<12	M
Acenaphthene	<8 µg/kg	TM218	M <8	M <8	1	. M	M			M
Fluorene	<10 µg/kg	TM218	M <10	<u>M</u>		M	<10 M	M	l	M
Phenanthrene	<15 µg/kg	TM218	<10 M	м		M	M	<10 M		M
			м	130 M		м	29.6 M	35.9 M	134	M
Anihracene	<16 µg/kg	TM218	<16 M	<16 M		м	<16 M	<16 M	<16	м
Fluoranthene	<17 µg/kg	TM218	<17 M	97 M	<17	м	34 M	<17 M	28.1	M
Pyrene	<15 µg/kg	TM218	<15 M	82.3 M	<15	M	32.2 M	19.6	36.8	1
Benz(a)anthracene	14 µg/kg	TM218	<14	53.4	<14	_	36.2	19.2 M	20.8	<u>M</u>
Chrysene	<10 µg/kg	TM218	16 M	M 65.4	<10	M	24.5 M	M 24.9	27.9	M
Benzo(b)fluoranihene	<15 µg/kg	TM216	M 21.7	<u>M</u> 69,6	<15	M	M	<u>M</u> 25.6	37.3	M
Benzo(k)fluorarithene	<14 µg/kg	TM216	M	M	<14	<u></u> M	M	<14 M		M
Benzu(a)pyrene	r15 µg/kg	TM218	<15 M	M		M	M	M		M
Indeno(1 2,3-cd)pyrane			M	M		м	M	<15 M	<15	M
	<18 µg/kg	TM218	<18 M	23.8 M		м	36.4 M	<18	<18	М
Dibenzo(a,h)anihi scene	<23 µg/kg	TM219	<23 M	<23 M	<23	M	<23 M	<23 M	<23	м
Benzo(g.h.i)perylene	<24 µg/kg	TM21ð	<24 M	37.5 M	<24	м	62,6 M	<24 M	<24	M
Polyaromatic hydrocarbons Total USEPA 16	<118 µg/kg	TM218	<118 M	668 M	<118	M	354 M	138 M	285	M
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SDG Job: Client Reference: Location:	100514-1 H_INTEG 2074 Whitehav	CON_MA	N-11	Atto	stomer: ention: ler No.: port No:	Integra Consulting Sabine Sargeant 85707		
TPH CWG GC (S)								
 ISO17025 sooredlad. M mCERTS accredited. Aqueous / settled sample. diss.filt Discoived / filtered sample. subcontracted test. % recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this resolvery. 	S Da Dat	Sample Ref. Depth (m) ample Type te Sampled te Received SDG Ref mple No.{s)	TPB I 06 - 1 00 Soil/Solid 14/05/2010 100514-102 1547902	TPC 0 50 - 0 50 Sol/Solid 14/05/2010 100514-102 1547908	TPC 1 00 - 1 00 Sal/Solid 14/05/2010 100514-102 1547692	Sail/Solid	TPD 1.00 - 1.00 Soil/Solid 14/05/2010 100514-102 1547634	W1 1.50 - 1.50 Soil/Solid 14/05/2010 100514-102 1552648
Component Total Aliµinatice >C5-35	LOD/Units	Method TM173	15000	007000				
Total Aliphatics >C5-C44	<100 µg/kg <100 µg/kg	TM173	15300	367000	28300	238000	35300	127000
Total Aromatics >C5-C44	<100 µg/kg	TM173		380000	28300	238000	35300	127000
Total Aromatics >C6-C44			<100	107000	24100	55300	16500	58500
	<100 µg/kg	TM173	<100	122000	30300	64000	24200	67100
Total Aliphatics & Aromatics >C5-35	<100 µg/kg	TM173	15300	474000	52400	293000	51800	185000
Toial Aliphatics & Aromatics > C5-C44	<100 µg/kg	TM173	15300	502000	58600	302000	59500	194000
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SDG Job: Client Reference: Location:	100514- H_INTEC 2074 Whitehay	GCON_MA	N-11	A	Customer: Attention; Order No.: Report No:	Integ Sabii 857(ra Consulting ne Sargeant 07				
VOC MS (S)											
# ISO17028 accredited	Customer	Sample Ref.	TPB	TPC	TPC	1	TPD	TPD	1	W1	
M mCERTS accredited, aq Aqueous / extiled sample, dissfit Dissolved / fittered sample, totumitt Total / unfittered sample, subcontracted test. Specorary of the surrogate standard to check the efficiency of the method, The results of the	Da	Depth (m) Sample Type ate Sampled te Received SDG Ref	1 00 - 1 00 Soil/Solid 14/05/2010 100514-102	0 50 - 0 50 Soil/Solid 14/05/2010 100514-102	1 00 - 1 (Sai/Sai 14/05/20 1005ji4-1	a 10	0 50 - 0 50 Soil/Solid 14/05/2010 100514-102	1 00 - 1 00 Snil/Solid 14/05/2010 100514-10/	,	1 50 - 1 5 Soil/Solik 14/05/201 100514-10	d 10
Individual compounds within the samples are not corrected for this recovery	Lab Sa	ample No.(s)	1547902	1547908	154?692	2	1547646	1547634		1552648	
Component Dibromofluoromethane**	LOD/Units %	Method TM116	96,7	99.4	97.8		86,9				
Toluene-d8**		TM116	100	86,9	115			95.7		95	
4-Bromofluorobenzene**	······································						99.4	112		78.2	
		TM116	80.4	145	108		102	116		107	
Dichlorodifluoromethane	<13 µg/kg	TM116	<13 #	<13	# <13	#	<13	<13	#	<13	#
Chloromethane	<12 µg/kg	TM116	<12 #	<12	<12 #	#	<12	<12	#	<12	
Vinyl Chleride	<10 ug/kg	TM116	<10 #	<10	// <10 #	#	<10	<10		<10	
Bromorriethane	<9 µg/ky	TM116	<9 #	<9	# <9 #		<9	<9	#	<9	#
Chloroethane	<12 µg/kg	TM116	<12	<12	<u>#</u> <12	#	<12	<12	#	<12	#
Trichlorofluoroimethane	<7 µg/kg	TM116	<7	<7	<7		<7	<7	-+	<7	
1 1-Dichloroethene	<9 µý/kg	ПМ116	<9 #	<9	# <9	#		<u>ا</u>	#	<9	#
Carbon Disulphide	<9 µg/kg	TM116	M <9	<9	<u>M</u> <9	M	<u>M</u> <9		M		м
Dichloromethane	<10 µg/kg	TM116	<10 M		M	M	<u>M</u>	-	м	<10	M
Meihyl Tertiary Butyl Ether	<9 µg/kg	TM116	<9 #	<9	# <9	#	-10 <9	1	#		#
rans-1-2-Dichloroethene	<12 µg/kg	TM116	<12					<9		<9	
			#	<12	# <12	#	<12	<12	#	<12	#
1 1-Dichloroethane	<8 µg/kg	TM116	<8 M		<8 M	M	<8	<8	м	<8	M
cis-1-2-Dichloroethene	<9 µg/kg	TM116	<9 M	<9	<9 M	м	<9 M	<9	м	<9	м
2 2-Dichloropropane	<10 µg/kg	TM116	<10 #	<10	<10 #	#	<10 #	<10	#	<10	
Sromochloromethane	<10 µg/kg	TM116	<10 #	<10	× <10		<10	<10		<10	<u> </u>
Chloroform	<10 µg/kg	TM116	R10	<10	<10		<10	<10	_#	<10	#
1 1-Trichloroethene	<12 µg/kg	TM116	<12 M	<12	M <12	M	M <12	<12	M	<12	M
i-Dichlo apropene	<13 µg/kg	TM116	<13 M	<13	M	M	M <13	<13	<u> </u>	<13	M
arbontetrachlonde	si1 µg/kg	TM116	M	<11	M	M	M <11	<11	M	<11	М
2-Dichloroethane	<10 ug/kg	1 M 116	<10 M	<10	M <10	M	M		<u>M</u>	<10	M
Berzene	<s kg<="" td="" µg=""><td>TM116</td><td><9 #</td><td></td><td># <9</td><td>#</td><td># _<9</td><td></td><td>#</td><td></td><td>#</td></s>	TM116	<9 #		# <9	#	# _<9		#		#
Frichloi oethene	<9 µg/kg	TM116	<u>M</u>		M	м	M		м	<9	М
2-Dichloropropane		TM116	M		<9 M	м	<9 M	<9	м	<9	M
	<10 µg/kg		<10 M		<10 M	м	<10 M	<10	_м	<10	м
Dibi omomeihane	<15 hðykð	TM110	<12 #		<12 #	#	<12 #	<12	#	<12	#
	<11 µg/kg	TM116	<11 M	<11	<11 M	м	<11 M	<11	M	<11	
as-1-3-Dichleropropen⇒	25 µg/kg	TM116	<25	<25	<25		<25	<25		<25	1991
oluene	<6 µg/kg	TM116	<6 M	<6	<6 M	м	6.85	<6		<6	
ans-1-3-Dichloropropene	~27 µg/kg	TM116	<27	<27	<27		<27 M	<27		<27	М
1 2-Trichloroetharie	<9 µçıkı	TM115	<9	<9			<9	<9	_	<9	
S-Dichloropropane	<7 µg/kg	TM116	<7 #	<7	# <7	#	<7 #	<7	#	<7	#
ərrachloroeihenə	∹9 µg/kg	TM116	<9 #	<9	#	#	<9 #	<9	#	<9	#
Ibromochloromethane	<9 µ0/kg	TM116	<9 #		# <9	#	# <9	<9	#		#
2-Dibromoeihane	<14 µg/kg	TM116	<14 #	-	#	#	#		#	<9	#
horobenzene			#		#	#	<14 #	<14	_#	<14	#
	<7 µg/kg	TM116	<7 M		<7 M	м	<7	<7	M	<7	м
1 1 2-Tetrachloroeihane	<11 μg/kg	TM116	<11M	<11	<11 M	м	<11 M	<11	M	<11	M
thylbenzene	<9 µg/kg	TM116	<9 #	<9	<9 #	#		<9	#	<9	

Validated		ALcontrol Laboratories Analytical Services										
SDG Job: Client Reference: Location:	100514-1 H_INTEC 2074 Whitehav	GCON_MA	N-11	A	Sustomer: Attention: Order No.: Report No:	Integr Sabin 8570	ra Consulting le Sargeant 7					
VOC MS (S)												
# ISO17025 accredited, M mCERTS accredited, aq Aqueous / setted sample, disr tilt Dissolved / fittered sample,		Sample Ref. Depth (m) ample Type	TPB 1 00 - 1 00 Soll/Solid	TPC 0 50 - 0 50 Soil/Solid	TPC 1 00 - 1 0 Soil/Solic		TPD 0 50 - 0 50 Sol/Solid	TPD 1 00 - 1 00 Soil/Solid	₩1 1 50 - 1 50 Soil/Solid			
totunfit Total / unfittered sample. * auboontracted test. * % recovery of the surrogata standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.	Da	ate Sampled te Received SDG Ref imple No.(s)	14/05/2010 100514-102 1547902	14/05/2010 100514-102 1547908	14/05/201 190514-10 1547692	2	14/05/2010 100514-102 1547646	14/05/2010 10051 +-102 1547634	14/05/2010 100514-102 1552648			
Component p/m-Xylene	LOD/Units <13 µg/kg	Method TM116	<13	<13			<13	<13	<13			
o-Xviene	<ii kg<="" td="" µg=""><td>TM116</td><td><11</td><td><11</td><td># <11</td><td>#</td><td><11 #</td><td><10 #</td><td></td></ii>	TM116	<11	<11	# <11	#	<11 #	<10 #				
Styrene		TM116	<11		# <11	#	<11 #	<11 #	<pre> *** *** *** *** *** *** *** *** *** *</pre>			
	<"i i µg/kg		#		#	#	#	#	#:			
Bromoform	≺12 µg/kg	TM116	<12 #	<12	<12 #	#	<12 #	<12 #	<12			
Isopropylbenzené	<9 µg/kg	TM116	<9	<9	<9 #	#	<9 #	<9 #	<9			
1 1 2 2-Tetrachloroethane	<15 µg/kg	TM116	<15 #	<15	<15 #	#	<15	<15 #	<15			
1.2.3-Teichloropropane	<13 µg/kg	TM116	<13 #	<13	<13 #	#	<13 #	<13 #	<13			
Biomobenzene	<14 µg/kg	TM i 16	<14 M	<14	× <14	 M	<14 M	<14	<14			
Propylbenzene	⊴6 ug/kg	TM116	<6	<6	<6		<6	-6	<6			
2-Chlorotoluene	<14 µg/kg	TM116	<14 #	<14	# <14	#	# <14	*	#			
1 3 5-Trimethylbenzene	<8 µg/kg	TM116	<8 *	<8	#	#	<8 #	<8 #	<8			
4-Chlorotoluene	<9 µg/kg	TM116	# <9	<9	# <9	#	#	<9 #	# <9			
tert-Butylbenzene	<12 µg/kg	TM116	#	<12	# <12	#	<12 #	# <12	<12			
1 2 4-Trimethylbenzene	<10 µg/kg	TM116	<10	<10	# <10	#	<10 #	<10 #				
		TM116	#		#	#	#	#	<10			
sec-Bulylbenzene	<8 µg/kg		<8 #	<8	<8 #	#	<8 #	<8 #	<8			
4-Isopropyitoluene	<8 µg/kg	TM116	<8 #	<8	<8 #	#	<8 #	<8 #	<8			
1 3-Dichlorobenzene	<8 µg/kg	TM116	<8 #	<8	<8 #	#	<8 #	<8 #	<8			
1 4-Dichlorobenzene	<1'i µg/kg	TM116	<11 M	<11	<11 M	м	<11 M	<11 M	<11 M			
n-Butylbenzene	₹7 µg/kg	11M116	<7 #	<7			<7 #	<7	<7			
1 2-Dichlorobenzene	<s hð\kð<="" td=""><td>TM116</td><td><8</td><td><8</td><td><8</td><td>#</td><td><8</td><td><8</td><td><8</td></s>	TM116	<8	<8	<8	#	<8	<8	<8			
1 2-Dibromo-3-chloropropan	<11 µg/kg	TM116	M <11	<11	M <11	M	<u> </u>	M <11	<11			
e Tert-amyl medyl einer	<7 µg/kg	TM116	<7	<7	# <7	#	<7 #	# <7	<7			
1 2 4-Trichloiubenzene	ss µg/kg	TM116	# <9	<9	#	#	<9 #	#	<9			
Hexachlorobutadiene	<15 µg/kg	TM116	#	<15	# <15	#	<15 #	<15	# <15			
Napitti alene	µg/kg</td <td>TM116</td> <td>*</td> <td><7</td> <td># <7</td> <td>Ħ</td> <td><7 #</td> <td><7</td> <td><7</td>	TM116	*	<7	# <7	Ħ	<7 #	<7	<7			
1 2 3-Trichlorobenzene	<12 ug/kg	TM116	<12	<12	#<12	#	<12 #	<12	#			
	- iz uging		~12 #		#	#	*12 #	<12 #	<12 #			
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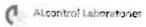


Table of Results - Appendix

SDG N	umber : 1005	514-102 Client	: Integra Consulting Client Ref : 2074	
EPO			Results expressed a	e (e.g.) 1 03E-07 is equivelent to 1 03x16
NDP NFD	No Determination Pos No Fibres Detected	ssible ISO 17025 Accredited Pessible Fibres Detection re achievable due to versus circumstances beyond our control	Subcontracted Test	MCERTS Accredited Equivalent Carbon (Aromatic: C8-C35)
2 100	Method No	Reference	Description	weet Day
	PM001	- Andrewski - Andrewski - Andrewski - Andrewski - Andrewski - Andrewski - Andrewski - Andrewski - Andrewski - A	Preparation of Samples for Metals Analysis	Savaple 1
	PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material	Dry Wet
	TM001	In - house Method	Determination of ashestos containing material by screening on solids	
	TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC	Wet
	TM089	Modified US EPA Methods 2020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	
	TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser	Dry
	TM102	Method 4500H, AWWA/APHA. 20th Ed , 1999	Determination of Total Oxidised Nitrogen using the Kone Analyser	Dry
	TM116	Modified US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS	
	TM132	In - house Method	ELTRA CS800 Operators Guide	Dry
	TM133	BS 1377 Part 3 1990,BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter	Wet
	TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the "Skalar SANS+ System" Segmented Flow Analyser	Wet
	TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-NIS in Soils	Dry
	TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID	Dry
	TM181	US EPA Method 5010B	Determination of Poutine Metals in Soil by iCap 6500 Duo ICP OES	Drv
	TM184	EPA Methods 325 1 & 325 2	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analyse s	Dry
	TM218	Microwave extraction - EPA method 3546	Microwave extraction - EPA method 3546	Wet
	ĩ'M222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water soil) by IPIS Emission Spectrometer	Dry

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

02/06/2010, 11:57:58



APPENDIX

- Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH₄ by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.
- 2. Samples will be run in duplicate upon request, but an additional charge may be incurred.
- 3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for samples received and stored but not analysed.
- 4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.
- 5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.
- 6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.
- 7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample – similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.
- 8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.
- 9. NDP No determination possible due to insufficient/unsuitable sample.
- 10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals total metals must be requested separately.
- 11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.
- 12. Results relate only to the items tested
- Surrogate recoveries Most of our organic methods include surrogates, the recovery of which is monitored and reported.
 For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 130 %.
- 14. Product analyses -- Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.
- 15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).
- Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).
- 17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.
- 18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not accredited.
- 19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.
- 19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.
- 20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.
- 21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.
- 22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
- 23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Last updated 1 April 2010

LIQUIE	MATRICES EXT	RACTION	SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GS MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS TPH by INFRA RED (IR)	DCM TCE	SOLID PHASE EXTRACTION	GC MS HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID EXTRACTION	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC FID

SOLID	MATRICES	FYTRAC	TION	SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
Solvent Extractable Matter	D&C	DCM	SOXTHERM	GRAVIMETRIC
Cyclohexane Ext. Matter	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
Thin Layer Chromatography	D&C	DCM	SOXTHERM	IATROSCAN
Elemental Sulphur	D&C	DCM	SOXTHERM	HPLC
Phenols by GCMS	WET	DCM	SOXTHERM	GC-MS
Herbicides	D&C	HEXANE: ACETONE	SOXTHERM	GC-MS
Pesticides	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END END OVER	GC-FID
EPH (Min oil)	D&C	HEXANE:ACETONE	END	GC-FID
EPH (Cleaned up)	D&C	HEXANE:ACETONE	END OVER END END OVER	GC-FID
EPH CWG by GC	D&C	HEXANE: ACETONE	END	GC-FID
PCB tot / PCB con	D&C	HEXANE:ACETONE	END OVER END	GC-MS
Polyaromatic Hydrocarbons (MS)	WET	HEXANE: ACETONE	Microwave TM218.	GC-MS
C8-C40 (C6-C40)EZ Flash	WET	HEXANE:ACETONE	SHAKER	GC-EZ
Polyaromatic Hydrocarbons Rapid GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
Semi Volatile Organic Compounds	WET	DCM:ACETONE	SONICATE	GC-MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Visual Estimation Of Fibre Content.

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -

Trace – Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in

MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Asbestos Type

Common Name

Chrysotile Amosite Crocidolite Fibrous Actinolite Fibrous Anthophyllite Fibrous Tremolite White Asbestos Brown Asbestos Blue Asbestos APPENDIX 5 REMEDIATION METHOD STATEMENT BY S.J. McGUCKIN

Alex Thomson

From: Sent: To: Subject: Shaun Stephens 21 April 2010 10:43 Alex Thomson FW: Method Statement for removal of Transformer from site

From: Steve Mcguckin [mailto:sjmcguckin@yahoo.co.uk] Sent: 21 April 2010 10:43 To: Shaun Stephens Subject: Method Statement for removal of Transformer from site

F.A.O.Alex Thomson 20/04/10

Story Construction

Burgh Road Industrial Estate

Carlisle

Cumbria CA2 7NA

Method Statement for Planned removal of defunct Transformer located at the new Story site at Magellan Park Whitehaven ,Cumbria.

The Transformer is now dead with no live current passing either through it or to it.

Work to begin at 09:00am Friday 23/04/10.

Person in Charge of Operation: - Mr. Stephen McGuckin (S. J. McGuckin Ltd)

Objective:- To safely remove Transformer from site and dispose of same including any surplus Oil .

The immediate area surrounding the Transformer will be cordoned off for the duration of the removal and all safety precautions taken to ensure that there is no Oil spillage and that a safe and orderly lift is carried out.

Throughout the operation all S.J. MC Guckin employees will wear P.P.E. appropriate to the need of the job in hand.

Any surplus Oil from within the Transformer will be drained off prior to the lift and disposed by the using of 45 Gallon drums, these being filled, and taken to a Licensed disposal site by Stephen McGuckin.

The Transformer will then be dismantled as necessary from its base, and lifted by HIAB on to a suitable vehicle, the vehicle operator being experienced and competent. The load will be properly secured by means of either chains or strops and slingsthroughout the lift.

1

Upon Completion of the task the Transformer will be removed from site, and the immediate site will be made good if necessary.

APPENDIX 6 PHOTOGRAPHS OF REMEDIAL WORKS



Plate 1: Breaking out concrete beneath location of former electrical transformer



Plate 2: Removing concrete slab from beneath transformer

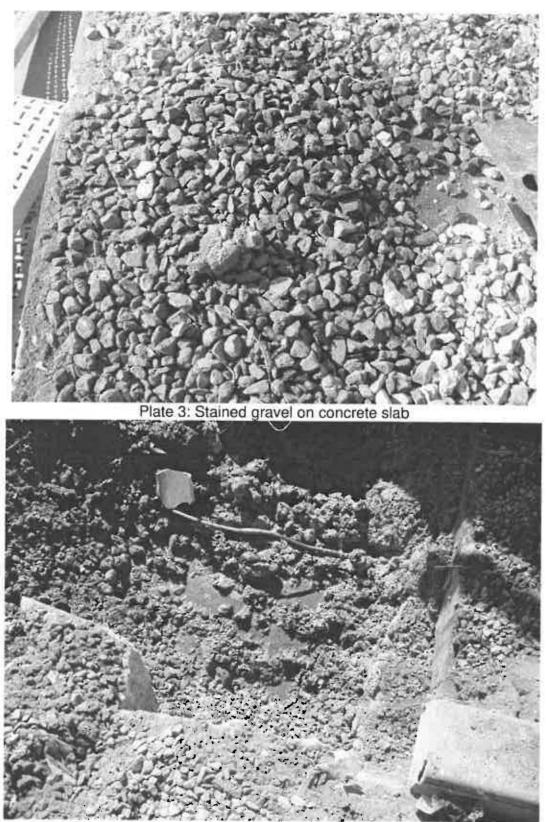


Plate 4: Evidence of oil contamination beneath transformer



Plate 5: Excavation (water standing in base from existing drainage)



Plate 6: Stockpile

APPENDIX 7 TRIAL PIT LOGS

cons		Manchest	House Street	Fax · 0161 Email : manci	237 3400 237 3635 nester@integro ntegraconsult		ng.co.uk	Trial	Pit	Log.
Project:	Project: Whitehaven			her Today	: Bright an	d dry		Job No. 2	2074	
	Cumbria		Rece	ntly: Dry				Date: 12/	/05/20)10
Level: 92	2.3m AOD		-					Trial Pit N	No: A	
	Depth		Des	scription		Water		Samples		
							Ref	Details	Depth	
1000		MADE GR	ain by OUND:	blue plast granular			S S S	2kg 2kg 2kg	0.5 1.0 1.5	2000
5000				strike	S - Sol	id (wei	aht in l	<a>a)		
	_	_		erminated	W Wa	•	-			
Ground Wa	ter:		YES NO		Level:	·	R	ate:		
Soil Sampl	e:		YES NO		Level: <u>0.5n</u>	n <u>, 1.0</u> m	<u>and 1</u>	.5m belov	v groui	<u>nd level</u>
Excavation	Stable:		YES NO							
Comments:										

consu	ulting	Manchest	House Street er	Fax (0161 Email (manch	237 3400 237 3635 ester@integro itegraconsult		ng.co.uk	Trial	Pit	Log.
Project: \	ect: Whitehaven			ner Today:	Bright an	d dry		Job No. 2	2074	
	Cumbria		Recer	ntly: Dry			1	Date: 12/	/05/20	010
Level: 92.	.5m AOD							Trial Pit N	No: B	
	Depth		Des	cription		Water		Samples		
							Ref	Details	Depth	
1000		MADE GF	ain_by ROUND:	<u>blue plast</u> granular			S S	2kg 2kg 2kg	0.5 1.0 1.5	1000
Key :		—		rminated	S — Sol W — Wa					
Ground Wate	er:		YES NO	X	Level:		R	ate:		
Soil Sample:	:		YES NO	X	Level: <u>0.5m</u>	n <u>, 1.0m</u>	<u>and 1</u> .	.5m below	v_groui	nd level
Excavation S	Stable:		YES NO	X						
Comments:										

consu	ntegra Second Floor Fountain House Fountain Street Manchester Web : www.integraconsulting.co.uk Trial Pit Log. Trial Pit Log.								Log.	
Project: Wł	nitehave		Weat	her Toda	ry: Bright an	d dry		Job No. 2	2074	
Cı	umbria		Rece	ntly: Dry	,		[]	Date: 12,	/05/20	10
Level: 94.6	m AOD				_			Trial Pit N	No: C	
	Depth		Des	cription		Water		Samples		
	~~~~						Ref	Details	Depth	
		underl	ain by	blue pla	ed concrete stic liner r hardcore		S	2kg	0.5	
1000		Firm, bro	own, so	andy CLA	Y with k fragments		S	2kg	1.0	1000
		gravel, c	obbles	and roc	k fragments		S	2kg	1.5	
2000 3000 4000 5000 Key :				strike	W — Wo					2000
Ground Water	:		YES NO		Level:		R	ate:		
Soil Sample:			YES NO		Level: <u>0.5</u> r	<u>n, 1.0m</u>	<u>and 1.</u>	.5m belov	<u>groun</u>	<u>id level</u>
Excavation St	table:		YES NO							
Comments:										

cons		Manchest Ma 255	House Street	Fax 1 01 Email 1 mar	51 237 3400 61 237 3635 achester@integr w.integraconsult		ng.co.uk	Trial	Pit	Log.
Project:	Whitehave	n	Wea	ther Todo	ıy: Bright an	d dry	_	Job No. 2	2074	
	Cumbria		Rece	ently: Dry	/			Date: 12,	/05/20	)10
Level: 9	2.5m AOD							Trial Pit I	No: D	
	Depth		De	scription		Water		Samples		
						L	Ref	Details	Depth	
1000		MADE GR	ain by OUND: 	blue pla granular sandsto	ed concrete stic liner hardcore/ ne fill Y with k fragments		S S	2kg 2kg	0.5 1.0	
2000							S	2kg	1.5	2000 3000 4000 5000
Key :			Water Hole te	strike erminated	S — Sol W — Wa	•	-	27		
Ground Wa	ter:		YES NO		Level:		R	ate:		
Soil Sampl	e:		YES NO		Level: <u>0.5n</u>	<u>n, 1.0m</u>	<u>and 1.</u>	.5m_below	/ grour	nd level
Excavation	Stable:		YES NO							
Comments:										

Story have until 11/9/10 to comply with escrow legals obligation.

2074 / AJE

14 June 2010

Alex Thomson Esq. Story Land Burgh Road Industrial Estate Carlisle Cumbria CA2 7NA



Second Floor Fountain House Fountain Street Manchester M2 2EE

764, 0161 237 0400 Faxi 0161 237 0605 Faxi 0161 237 0605

**Dear Alex** 

## TDG DEPOT, AREA B, WHITEHAVEN

I am pleased to enclose a single copy of the Integra Consulting Post Remediation Validation Report for the above site.

If you have any queries in relation to the enclosed report, please call me.

Yours sincerely

Andrew Edwards MSc AIEMA Geo-Environmental Engineer

Enc.



Directors: Colin Hardery Blig(Home) CEing MithructE Noville: Bhare BSCHome Accel MBA (Epg MithructE James Honoring Bling(Home) CEing MithructE MICE

Antociuta Director: Rory Hama MEntiHoma CEntrAtiSoluciE

Internet Consulting (Engineers) Ltd. Republiker: In England No 4086455 Appendix C

### **Nick Ward**

From: Sent:	Drewery, Sarah <sarah.drewery@environment-agency.gov.uk> 10 February 2021 13:51</sarah.drewery@environment-agency.gov.uk>
To:	Nick Ward
Cc:	McFarlin, Matthew; Bardsley, Peter; Locke, Liz
Subject:	Anhydrite stockpile - Correspondence reference NO/2020/113153/01-LO1

Hi Nick,

As discussed earlier, as the original plan was for re-use on site under DoWCoP and the stockpiled material is sitederived we will not object to the use of DoWCoP on this occasion provided we agree with your amended remediation strategy and provided you comply fully with DoWCoP. It is unfortunate that it has been stockpiled for so long but re-use on site under an MMP would clearly be the best environmental option for the material.

Regards,

Sarah

Sarah Drewery | Senior Environment Officer, Cumbria & Lancashire Area Environment Agency | Lutra House, Dodd Way, Walton Summit, Preston PR5 8BX Direct Tel: 02030231420 Internal: 31420

INCIDENT HOTLINE (24 hrs) - 0800 80 70 60 GENERAL ENQUIRIES (Mon-Fri, 8am-6pm) - 03708 506 506 FLOODLINE (24 hrs) - 0345 988 1188 WEBSITE - www.gov.uk/environment-agency

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