

Verification Report



Verification Report

On

**South Allotments, Radcliffe Road,
Southampton, Hampshire**

For

Kier Partnership Homes

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REPORT: J9853/VR

Verification Report

PROJECT TITLE: South Allotments, Radcliffe Road,
Southampton, Hampshire

CLIENT: Kier Partnership Homes

CONTROL DOCUMENT

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Verification Report

On

**South Allotments, Radcliffe Road, Southampton,
Hampshire**

For

Kier Partnership Homes

1.0 Background Information

1.1 Reasons and Objectives for Undertaking the Remediation

The purpose of this Verification Report (VR) was to confirm that appropriate remediation works as given in the Southampton City Council Remediation Statement – Radcliffe Road Allotments (South), Northam, Southampton, March 2006, (Document Reference: 2000/A/P2A/Doc 2), have been met and to provide certification of fitness for purpose of use as an allotment.

In order to provide the client, the Local Authority and purchaser's solicitors with a warranty that the remediation works and subsequent certification have been correctly implemented, it was necessary to oversee and report on each stage of the remediation process. The following report contains details and certification of the remediation that was necessary, together with details and certification of the subsoil and topsoil that were imported onto the site.

This report must be read in conjunction with the Casella Stanger Site Investigation and Assessment Report on the Public Allotments and Park Area, Northam, Southampton, December 2002 (Project No. 102980102/SJRC/R1/Rev0), Casella Stanger Further Site Investigation – Radcliffe Road South Allotments, Northam, Southampton, July 2004 and the Southampton City Council Remediation Statement – Radcliffe Road Allotments (South), Northam, Southampton, March 2006, (Document Reference: 2000/A/P2A/Doc 2).

1.2 Site Details

The approximate O.S. National Grid Reference at the centre of the site was SU 429 126. The site was bounded to the east by Radcliffe Road; a railway repair yard

bordered the site to the west. A Hindu temple was noted to the north of the site and commercial buildings were present to the south. The site area occupied approximately 0.16ha and was used as public allotments containing 9 No. individual plots.

The site was a former public allotment which was identified as having contaminants present in the shallow surface soils. The site was to be remediated and reinstated for used as public allotments containing No. 13 individual plots. A location plan for the site can be seen in Figure 1.

A primary Intrusive Investigation for the site was undertaken by Casella Stanger in December 2002. The Desk Study revealed that the site was underlain by Made Ground (dredgings and other fill material), underlain by alluvium and was situated on a Minor-Aquifer with soils of high leaching potential. The site was not located within a Source Protection Zone.

Reference must be made to the Casella Stanger Site Investigation and Assessment Report on the Public Allotments and Park Area, Northam, Southampton, December 2002 (Project No. 102980102/SJRC/R1/Rev0) and the Casella Stanger Further Site Investigation – Radcliffe Road South Allotments, Northam, Southampton, July 2004 for details on the intrusive investigations carried out.

1.3 Details of Project Related Personnel and their Roles

Role	Personnel
Developer	Kier Partnership Homes
Structural & Civil Engineers	Martlet Development Consultants
Environmental Consultants	Casella Stanger Soils Limited
Groundworkers	Aeroparks
Local Authority	Southampton City Council

2.0 Remediation Methodology and Programme

2.1 Conceptual Site Model

The Conceptual Site Model developed in the Casella Stanger Site Investigation and Assessment Report on the Public Allotments and Park Area, Northam, Southampton, December 2002 (Project No. 102980102/SJRC/R1/Rev0) is presented below.

Potential Contaminant Sources

Potential contaminant sources are soils containing metals, other inorganic and organic contaminants.

Potential Pathways and Receptors

The potential human receptors are the allotment holders and their families. Potential pathways for human health impacts are:

- Ingestion of soil
- Ingestion of household dust (assumes tracking back of soil into the home)
- Ingestion of contaminated vegetables
- Ingestion of soil attached to vegetables
- Dermal contact with soil
- Dermal contact with household dust
- Inhalation of fugitive soil dust
- Inhalation of fugitive household dust

The site investigations carried out by Casella Stanger identified metallic contamination in the near surface soils across the site area. Metallic contamination included elevated concentrations of lead (540-990mg/kg), arsenic (26mg/kg), copper (130-180mg/kg) and zinc (450-1200mg/kg) in the topsoil and Made Ground soil samples tested.

The location of the trial holes along with the test results from the intrusive investigation can be seen in the Casella Stanger Site Investigation and Assessment Report on the Public Allotments and Park Area, Northam, Southampton, December 2002 (Project No. 102980102/SJRC/R1/Rev0).

2.2 General Description of Remediation Criteria

From assessment of the Casella Stanger Site Investigation Report, the concentrations of lead, arsenic, copper and zinc were considered to pose an unacceptable risk to the human health receptor by Southampton City Council and Soils Limited. The concentrations of copper and zinc were also considered to be potentially harmful to

plants. A remediation statement was formulated by Southampton City Council to address these elevated concentrations of determinants identified on the site in order to mitigate the risks posed to end users and plants.

The remediation proposals were issued in the Southampton City Council Remediation Statement – Radcliffe Road Allotments (South), Northam, Southampton, March 2006, (Document Reference: 2000/A/P2A/Doc 2).

The objective of the remediation for the site was to ensure site clean-up removed any unacceptable risk to the identified receptors of end users (human health) and plants.

A scheme for the remediation was devised in the Southampton City Council Remediation Statement. The Remedial Actions and Time Frame table has been reproduced in Table 1 below.

Table 1: Remedial Actions & Time Frames	
Period in weeks	Action
Week 1	Clear site
Week 1 to 3 inclusive	Excavate contaminated soils to levels detailed in Figure 2 and remove from site by an appropriately licensed waste carrier to dispose at an appropriately licensed facility.
Week 1 to 3 inclusive	Undertake validation testing of soils from base and sides of excavation using MCerts accredited methodology (minimum of 25 samples at appropriate intervals).
Week 1 to 3 inclusive	If sides of excavation indicate any exceedance of the Pb Soil Guideline value (450mg/kg) install a protective barrier (geomembrane) to that wall to prevent soil mixing.
Week 1 to 3 inclusive	If testing of soils to the base of the excavation exceeds the Pb Soil Guideline value (450mg/kg) excavate the 'hotspots' a further 100mm (to a maximum depth of 1000mm) and repeat the validation testing at the location until no lead contamination is identified.
Week 1 to 3 inclusive	Backfill excavations with suitable clean soil, including at least 300mm of "topsoil" grade soil. All imported soils obtained from a reputable source and tested in accordance with the specifications in Schedule Three of Remediation Statement.
Week 4	Reinstate the site as a working allotment.
Week 9	Provide a document 'Completion Statement' detailing all actions undertaken and all validation testing.

2.3 Remediation & Validation Work Undertaken

Remediation proposals for the site were to excavate soils from the site down to the proposed levels, as given in the Southampton City Council Remediation Statement, which can be viewed in Figure 2 of this report. A representative number of samples were then to be recovered from the sides and base of the excavations for validation purposes.

Figure 2, enclosed with this report, shows that the site had been sub-divided into nine separate areas for remediation. The proposed excavation levels were also included for each of the nine areas on the site plan in Figure 2.

Remedial works were undertaken on the site between the 22nd January and 7th March 2007. The nine excavation areas were labelled as Areas A to J. Figure 3 shows the nine excavation areas (Areas A to J) and gives the locations for the validation sampling points.

Table 2 below shows the proposed depths of the excavations against the actual depths of the excavations and the dates on which the remedial works were inspected and validation samples recovered.

Table 2: Date Excavations Were Carried Out & Proposed/Actual Depths Excavated			
Excavation Area	Date/s of Remediation	Proposed Excavation Depth (m)	Actual Excavation Depth (m)
A	25 th & 29 th Jan 2007	1.00	1.00
B	25 th Jan & 1 st Feb 2007	0.10	0.30
C	30 th Jan & 6 th Feb 2007	0.50	0.80-0.90
D	30 th & 31 st Jan 2007	0.50	0.70
E	1 st Feb 2007	1.00	0.70
F	2 nd Feb & 7 th March 2007	0.10	0.50-0.60
G	5 th Feb 2007	0.25	0.40
H	25 th & 31 st Jan 2007	0.50	0.50
J	25 th & 30 th Jan 2007	1.00	1.00

During excavation of each of the nine areas, A to J, Made Ground soils were removed until natural ground was encountered. As the Made Ground soils were seen to contain abundant brick, ash and glass fragments, it was recommended that the underlying natural ground should be used as a marker for deciding the vertical extent of the excavations.

Therefore the proposed depths of the excavations given in the Southampton City Council Remediation Statement were used as guideline excavation levels as apposed to strict levels.

In some of the areas (Areas C, D, F and G), this meant that the excavations had to be progressed further by up to 0.50 metres. In other areas (Area E), the natural ground was encountered at a depth of 0.70m below ground level (bgl); therefore the excavation was not progressed to the proposed depth of 1.00m.

Once the excavations were completed, a Soils Limited Engineer visited site to inspect the excavations and recover samples for validation testing.

Table 3 within Appendix A lists all of the validation samples recovered, along with the validation sampling depths, the correlating chemical report reference numbers and the outcome of the results. This should be viewed in conjunction with Figure 3, which shows the locations of the validation sampling points.

The Southampton City Council Remediation Statement stipulated that a minimum of 25 samples at appropriate intervals were to be recovered for validation purposes across the site area. A total of 53 samples were recovered from the sides and bases of the excavations for validation purposes, therefore the sampling density for carrying out the validation testing was suitable.

At some non-targeted validation sampling points along the perimeter of the allotment soft-landscaped area, two samples were recovered from a single location (e.g. B2, E2 and F3). Samples from the overlying Made Ground and from the underlying natural ground were recovered in order to establish whether the Made Ground outside the site boundaries or remaining under areas of hardstanding was contaminated and whether or not the underlying natural ground was free of elevated determinants.

The majority of the validation soil results demonstrated that the concentrations of the determinants tested (lead, arsenic, copper and zinc) were all below the Soil Guideline Values for *Residential with Plant up-take Scenarios*.

Some of the validation testing (E2 at 0.30m bgl, F3 at 0.30m bgl & 0.90m bgl, G2 at 0.30m bgl and H4 at 0.50m bgl) revealed elevated concentrations of some and/or all of the determinants (lead, arsenic, copper and zinc). However, as these validation sampling points were located along the site boundaries, a barrier was to be placed along the perimeter walls of the site. The barrier will prevent any mixing of clean soils with Made Ground remaining outside the site boundaries.

Validation sampling points B1-base at 0.30m bgl and B2 at 0.30m bgl showed elevated concentrations of determinants; however, given that this area was to be under permanent hardstanding, there was no risk to end users. In addition, a barrier was to be placed along all exposed walls to the north and west of the Area B excavation to prevent the mixing of clean soils with the Made Ground soils still remaining under Area B. A 1200 gauge polyethylene membrane was used as it would prevent leachate migration from contaminated Made Ground outside the site boundaries.

The validation test results from area C4 at 0.80m bgl revealed an elevated concentration of lead of 650mg/kg. Given that this was significantly over the guideline limit value of 450mg/kg, the client was instructed to carry out a further excavation of 100mm around the C4 area. Further excavations were carried out around Area C4 on the 6th February 2007. Validation samples C6 and C7-base, both recovered at 0.90m bgl, were sent off for chemical laboratory analysis. The results

demonstrated that the residual lead contamination identified at 0.80m bgl had been successfully removed.

The validation sampling and analysis demonstrated that the site had been successfully remediated with respect to lead, arsenic, copper and zinc contamination in the Made Ground. As the source contamination (Made Ground) had been completely removed from the site with the exception of in Area B which was to be under permanent hardstanding, there was no risk posed to end users. The soil validation results for each of the nine areas (Areas A to J) are presented within Appendix A. They should be read in conjunction with Table 3 also enclosed within Appendix A.

Photographs of the various excavation areas, taken during remedial works, are presented in Appendix B.

2.4 Verification of Imported Soils

Upon completion of the remedial works for Areas A to J, subsoil and topsoil was required to be imported onto the site.

The Southampton City Council Remediation Statement – Radcliffe Road Allotments (South), Northam, Southampton, March 2006, (Document Reference: 2000/A/P2A/Doc 2) stated that all imported soil must be verified as coming from a reputable source (i.e. established wholesaler or Greenfield site). The topsoil must also comply with BS 3882 and the subsoil should be of a type similar to that extracted. The Southampton City Council Remediation Statement also mentioned that for each source of imported soil at least three samples or one sample per 50m³ was required, whichever was the greatest.

Subsoil

The subsoil for the South Allotment site was imported from Kite's Croft Industrial Estate, Titchfield, Hampshire. The subsoil was sourced from a development site which was being built on undeveloped woodland. A site investigation was carried out for this development site at Titchfield by C L Associates in July 2006, report No. 26050, which stated that the site was previously undeveloped woodland and the site was generally used for recreational and leisure purposes such as dog walking. This information was forwarded to Southampton City Council on the 8th February 2007.

A Soils Limited Engineer visited the site at Titchfield on the 8th February 2007 to inspect the stockpile of subsoil. The material appeared visually clean and was generally made up of gravelly silty sandy clays. Two initial samples of the subsoil were sent off for chemical laboratory analysis to assess their suitability for use on the South Allotment site. The results were compared against the guideline values given in the Southampton City Council Remediation Statement, March 2006, which did not highlight any elevated concentrations of determinants to be present above Soil Guideline Values (SGV) for *Residential with Plant up-take Scenarios*. The chemical results, report reference: 07-09786, are presented in Appendix C.

The Southampton City Council Remediation Report mentioned that for any imported soils, at least 3 samples or one sample per 50m³ was required, whichever was the greatest. Given that the source of this subsoil material was from an undeveloped Greenfield site, one sample per 50m³ was too conservative. A sample per 100m³ was more adequate given the source of the material and from taking into consideration the chemical testing carried out to-date, the material so far appeared suitable to use and had no elevated levels of determinants to be present.

An approximate quantity of 750m³ (50 loads) of subsoil was imported onto the site, which equated to eight samples requiring testing on the basis of carrying out a test at every 100m³. Six further subsoil samples were therefore sent off for chemical laboratory analysis, the results of which can be viewed in reports 07-09869 and 07-09912, within Appendix C.

The test results for the subsoil from Titchfield, Hampshire revealed that seven out of the eight samples tested did not highlight any elevated levels of determinants above SGVs for *Residential with Plant up-take Scenarios*. The chemical results enclosed for sample eight from the Titchfield subsoil (report ref: 07-09912, Appendix C) highlighted a Total Petroleum Hydrocarbon (TPH) concentration of 66mg/kg, which slightly exceeded the guideline limit value of 50mg/kg.

The other seven Titchfield subsoil samples tested all showed the TPH values to be <10mg/kg, which is below the laboratories limit of detection. All other determinants were below their relevant SGVs for *Residential with Plant up-take Scenarios*.

Given that only one slightly elevated concentration of TPH of 66mg/kg was identified from the eight samples tested, a statistical test was carried out to assess whether or not this concentration of 66mg/kg fell within the general mean distribution of results. The statistical test showed that the mean value test passed for TPH. This indicated that the actual mean value present in the subsoil was below the SGV of 50mg/kg for TPH. The spreadsheet for the CLEA maximum and mean value test can be viewed in Appendix C of this report.

The chromatogram trace for this slightly elevated concentration of TPH in sample eight of the Titchfield subsoil was reviewed to try and determine the source of the TPH. The chromatogram trace, which is presented in Appendix C, showed the carbon peaks ranging between C18 to C38. The carbon peaks exhibited in the chromatogram were indicative of either humic acids or fresh diesel; however, it was difficult to determine which of the two it may be as the chromatogram trace for fresh diesel and humic acids are almost identical.

Topsoil can comprise a significant quantity of organic matter, which would give false TPH readings. Alternatively, the TPH concentration of 66mg/kg identified in this sample could have been as a result of a very small quantity of diesel leaking from the plant machinery on-site.

In either case, the TPH concentration detected of 66mg/kg in this one sample of the Titchfield subsoil was not highlighted as a risk when the CLEA mean and maximum test was completed. In addition, there was no specific visual or olfactory evidence to suggest man-made impaction to the material. Therefore the Titchfield subsoil was suitable to use on the site.

Topsoil

The topsoil for the South Allotment site was imported from a redevelopment site in Linford, Hampshire. The site was formerly Chase Farm and Weydown Farm, Chase Road, Linford, Hampshire. A Desk Study and Site Investigation were carried out for this site by RSKENSR in May 2003, report ref: 21366-1. This report detailed that the majority of the site had been open undeveloped farmland from at least 1870 and the site generally consisted of a series of grass fields which were used as paddocks for the grazing of horses. The report carried out by RSKENSR mentioned that some contamination was found in the central and western portion of the site; however, the topsoil was being extracted from the north-east corner of the site, isolated from the contamination noted, which had previously been open land/farmland. Information on the Linford site was forwarded to Southampton City Council between the 26th February 2007 and 14th March 2007.

Two initial samples of the topsoil were sent off for chemical laboratory analysis to assess their suitability for use on the South Allotment site. The results were compared against the guideline values given in the Southampton City Council Remediation Statement, March 2006, which did not highlight any elevated concentrations of determinants to be present above SGVs for *Residential with Plant up-take Scenarios*. The chemical results, report reference: 07-09849, are presented in Appendix D. The topsoil was inspected by a Soils Limited Engineer, who noted that the material was visually clean and was generally made up of dark brown, slightly sandy silty clay.

The topsoil from Linford, Hampshire also underwent a topsoil classification test, the results of which revealed that the topsoil did comply with BS 3882 (report ref: 07-09911, Appendix D). Based on the two initial chemical test results along with the topsoil classification test, the topsoil appeared suitable to use on the South Allotment site. In order to achieve a higher degree of confidence for the topsoil to be imported onto the site, further chemical analyses were scheduled.

With regard to the sampling density, the recommendations given in the Southampton City Council Remediation Statement March 2006, of one sample per 50m³ was too conservative given the source of the topsoil and the results of the initial testing, which demonstrated that the topsoil had no elevated levels of determinants. Given that the source of this topsoil material was from an undeveloped Greenfield site (farmland), a sample per 100m³ was more adequate.


An approximate quantity of 450m³ (30 loads) of topsoil was imported onto the site, which equated to five samples requiring testing on the basis of carrying out a test at every 100m³. Three further topsoil samples were sent off for chemical laboratory analysis, the results of which can be viewed in report 07-10039, within Appendix D.

The test results for the topsoil from Linford, Hampshire revealed that all five topsoil samples tested did not highlight any elevated levels of determinants to be present above SGVs for *Residential with Plant up-take Scenarios*. On this basis, the Linford topsoil was suitable to use on the site. Topsoil has been placed at a minimum thickness of 300mm across the site area.

2.5 Qualitative Risk Assessment

Re-evaluation of the conceptual site model has revealed that no plausible pollutant linkages remain after the risk assessment and remediation have been carried out on the site.

2.6 Verification of Completion of Remediation Requirements for South Allotments, Radcliffe Road, Southampton, Hampshire

Plot(s)/ End Use	Remediation Requirement	Verification Completed
<p>South Allotments (13 individual plots), Radcliffe Road, Southampton, Hampshire</p> <p>Allotment Gardens</p>	<p>Elevated concentrations of lead, arsenic, copper and zinc identified in the Made Ground mantling the site. The concentrations of determinants identified were considered to a pose an unacceptable risk to end users and plants.</p> <p>Remediation comprised the complete removal of Made Ground from the site with the exception of Area B, which was to be under permanent hardstanding. The site was split into nine distinct areas, Areas A to J, which reflected different proposed excavation depths. Upon completion of the excavation, validation samples were recovered and analysed and compared against Soil Guideline Values for <i>Residential with Plant up-take Scenarios</i>. Barrier was placed along all exposed perimeter walls of the site and along exposed walls of Area B to prevent the mixing of clean imported soils with any Made Ground existing outside the site boundaries and underlying Area B.</p> <p>Imported subsoil and topsoil was verified as coming from a reputable source and sufficient chemical analyses carried out on imported soils to ensure that the materials were suitable to use on the site. A minimum 300mm thickness of topsoil cover has been placed on-site.</p>	<p>Verified by: Dipalee Patel</p> <p>Signed on behalf of Soils Limited</p>  <p>Date 13th March 2007</p> <p>Passed: Yes</p>

3.0 Final Site Conditions

3.1 Status at completion

The site is fully developed with all remediation and landscaping completed. The site is suitable for use as an allotment.

3.2 Final Extent of Remediation

All Made Ground was successfully removed from the site, with the exception of Area B which was to be under permanent hardstanding, which was verified by the validation test results. All perimeter walls of the site were lined with a membrane to act as a barrier in order to prevent mixing of clean imported soils on the site with any contaminated Made Ground remaining outside the site boundaries. The barrier was extended along the exposed walls of Area B so to prevent any mixing of clean imported soils with Made Ground remaining under permanent hardstanding. Site levels were reinstated using clean certified subsoil and topsoil. All remedial works were inspected and verified by a Soils Limited Engineer. A minimum 300mm thickness of topsoil cover was placed across the site.

3.3 Conceptual Site Model Review

Once the Made Ground was successfully removed and clean certified subsoil and topsoil cover had been placed, all contaminative sources from the conceptual site model could be discounted. With all sources removed from the model there was no risk to end users and plants.

3.4 Identification of Post-Treatment Management

No on-going monitoring is needed, and no maintenance will be required to ensure continued working of remedial measures. No constraints on future activities are necessary.

3.5 Conclusion

Having satisfactorily completed the remedial works and certified their implementation Soils Limited is satisfied that the redevelopment site at the South Allotments, Radcliffe Road, Southampton, Hampshire has been rendered fit for the intended purpose of allotment gardens.

The following figures and appendices complete this report:

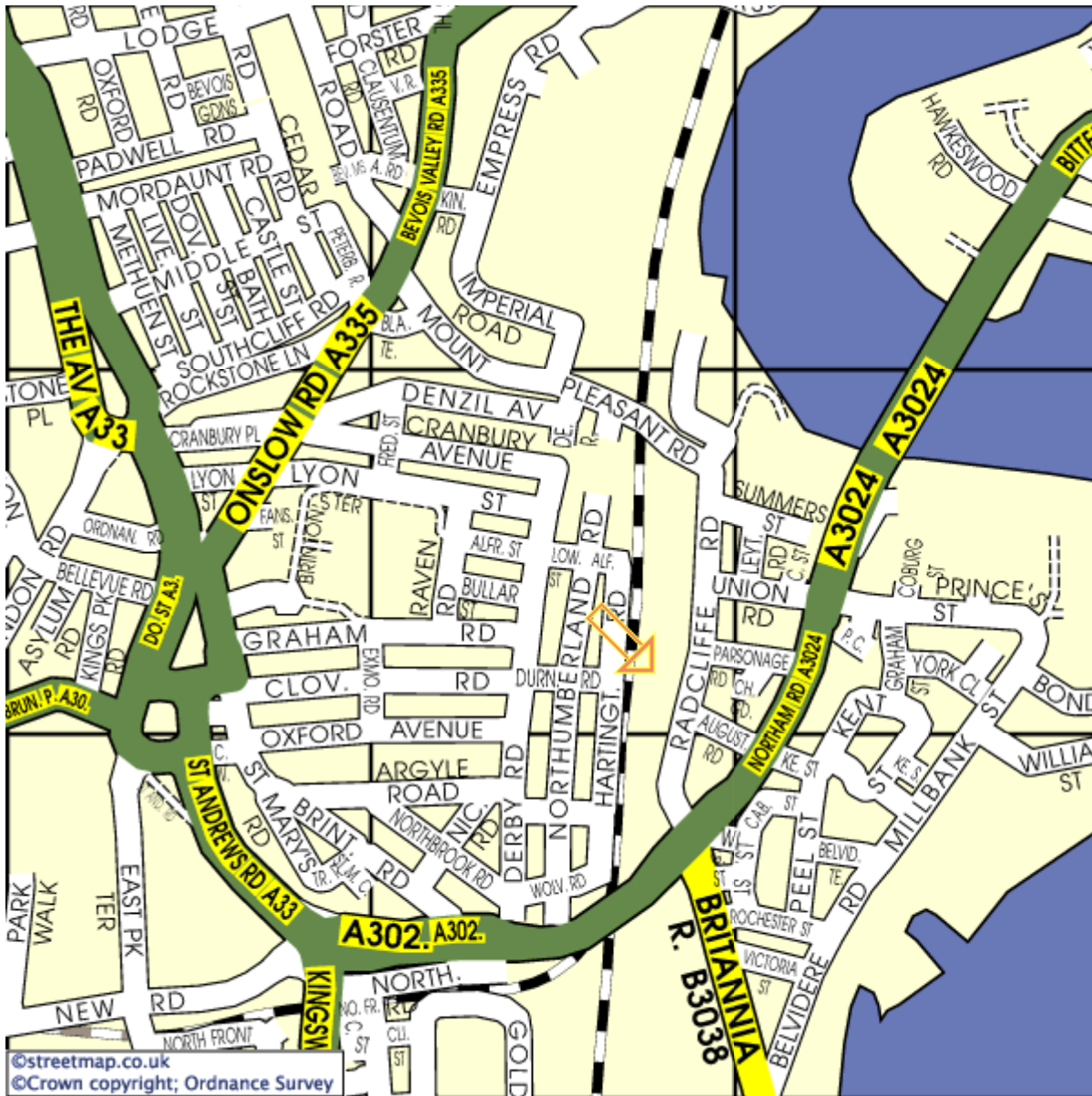
Figure 1	Site Location Plan
Figure 2	Site Plan showing Proposed Excavation Levels
Figure 3	Site Plan showing Validation Sampling Locations
Appendix A	Table 3 – List showing Validation Sample Details (sampling dates, sample depths, report ref no., outcome) Chemical laboratory results certificates for Areas A to J: Area A – 07-09735 & 07-09748 Area B – 07-09735 & 07-09785 Area C – 07-09762 & 07-09827 Area D – 07-09762 & 07-09775 Area E – 07-09785 Area F – 07-09801 & 07-10105 Area G – 07-09814 Area H – 07-09775 & 07-09735 Area J – 07-09735 & 07-09762
Appendix B	Photographs of Areas A to J during Remedial Works
Appendix C	Chemical laboratory results certificates (Titchfield subsoil):- Samples 1 to 2 – 07-09786 Samples 3 to 7 – 07-09869 Sample 8 – 07-09912 CLEA Mean & Max Test on TPH concentration in subsoil Chromatogram Trace for Sample 8 (sample ref:75330)
Appendix D	Chemical laboratory results certificates (Linford topsoil):- Samples 1 to 2 – 07-09849 Samples 3 to 5 – 0710039 Topsoil classification test (BS 3882) – 07-09911)



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Project:
South Allotments, Radcliffe Road, Southampton, Hampshire

Client
Kier Partnership Homes

Date:
March 2007

Site Location Plan

Ref:
J9853

Fig No. 1

soils
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Project:
South Allotments, Radcliffe Road, Southampton, Hampshire

Client
Kier Partnership Homes

Date:
March 2007


**Site Plan showing Proposed
Excavation Levels**

Ref:
J9853

Fig No. 2





Project: South Allotments, Radcliffe Road, Southampton, Hampshire		Fig No. 3 
Client: Kier Partnership Homes	Date: March 2007	
Site Plan Showing Validation Sampling Locations	Ref: J9853	

Appendix A
Table 3 – List showing Validation Sample Details
Chemical Laboratory Results Certificates for Areas A to J

J9853 South Allotments, Radcliffe Road, Southampton

Table 3: List showing Validation Sample Details

(Refer to Figure 3 for validation sampling location points)

Date Sampled	Sample Name	Sample Depth (m)	Chemical Report No.	All results below Guideline Values (Y-Yes / N-No)
25th Jan 2007	A1	1.00	07-09735	Y
25th Jan 2007	A2-Base	1.00	07-09735	Y
25th Jan 2007	A3	1.00	07-09735	Y
25th Jan 2007	A4	1.00	07-09735	Y
29th Jan 2007	A5	1.00	07-09748	Y
29th Jan 2007	A6-Base	1.00	07-09748	Y
29th Jan 2007	A7-Base	1.00	07-09748	Y
29th Jan 2007	A8	1.00	07-09748	Y
25th Jan 2007	B1-Base	0.30	07-09735	N - elevated lead & zinc, however, going to be under permanent hardstanding therefore no risk to end users
1st Feb 2007	B2	0.30	07-09785	N - Elevated arsenic, copper, lead and zinc. Sample recovered from west face of excavation. As this area is to be under permanent hardstanding and a barrier will be placed along exposed walls to north and west, no risk to end users.
1st Feb 2007	B2	0.70	07-09785	Y
1st Feb 2007	B3	0.50	07-09785	Y
25th Jan 2007	B4	0.30	07-09735	Y
25th Jan 2007	B5	0.30	07-09735	Y
30th Jan 2007	C1-Base	0.80	07-09762	Y
30th Jan 2007	C2	0.70	07-09762	Y
30th Jan 2007	C3	0.80	07-09762	Y
30th Jan 2007	C4	0.80	07-09762	N - elevated lead conc. of 650mg/kg. Area around C4 will be excavated a further 100mm & re-tested (samples C6 & C7-Base recovered after further excavation of soils around C4)
30th Jan 2007	C5	0.80	07-09762	Y
6th Feb 2007	C6	0.90	07-09827	Y
6th Feb 2007	C7-Base	0.90	07-09827	Y
30th Jan 2007	D1-Base	0.70	07-09762	Y
30th Jan 2007	D2	0.70	07-09762	Y
30th Jan 2007	D3	0.60	07-09762	Y
31st Jan 2007	D4-Base	0.70	07-09775	Y
31st Jan 2007	D5	0.70	07-09775	Y
31st Jan 2007	D6	0.70	07-09775	Y
1st Feb 2007	E1-Base	0.70	07-09785	Y
1st Feb 2007	E2	0.30	07-09785	N - Elevated arsenic, copper, lead and zinc. Sample recovered from west face of excavation along site boundary. As barrier will be placed along all site boundaries, no risk to end users.
1st Feb 2007	E2	0.70	07-09785	Y
1st Feb 2007	E3	0.70	07-09785	Y
1st Feb 2007	E4	0.70	07-09785	Y
2nd Feb 2007	F1-Base	0.50	07-09801	Y
2nd Feb 2007	F2	0.70	07-09801	Y
2nd Feb 2007	F3	0.30	07-09801	N - Elevated conc. of zinc of 670mg/kg; however, sample recovered from west face of excavation along site boundary. As barrier will be placed along all site boundaries, no risk to end users.
2nd Feb 2007	F3	0.90	07-09801	N - Elevated conc. of zinc of 560mg/kg; however, sample recovered from west face of excavation along site boundary. As barrier will be placed along all site boundaries, no risk to end users.
2nd Feb 2007	F4	0.50	07-09801	Y
7th March 2007	F5	0.40	07-10105	Y
7th March 2007	F6	0.20	07-10105	Y
7th March 2007	F7	0.20	07-10105	Y
7th March 2007	F8-Base	0.60	07-10105	Y
7th March 2007	F9-Base	0.60	07-10105	Y
5th Feb 2007	G1-Base	0.40	07-09814	Y
5th Feb 2007	G2	0.30	07-09814	N - Elevated conc. of copper & lead. However, sample recovered from east face of excavation along site boundary. As barrier will be placed along all site boundaries, no risk to end users.
5th Feb 2007	G3	0.50	07-09814	Y
5th Feb 2007	G4	0.50	07-09814	Y
31st Jan 2007	H1-Base	0.50	07-09775	Y
31st Jan 2007	H2	0.70	07-09775	Y
25th Jan 2007	H3	0.50	07-09735	Y
31st Jan 2007	H4	0.50	07-09775	N - Elevated lead conc. of 870mg/kg; however, sample recovered from east face of excavation along site boundary. As barrier will be placed along all site boundaries, no risk to end users
25th Jan 2007	J1-Base	1.00	07-09735	Y
25th Jan 2007	J2	1.00	07-09735	Y
30th Jan 2007	J3	1.00	07-09762	Y



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Analytical Report Number : 07-09735

Your Job No. J9853

Your Order No.

Your Project No.

Project Name: South Allotments, Radcliff

Matrix(es) Analysed : 10 soil samples

Laboratory analysis started on 29/01/2007

All laboratory analysis completed by 31/01/2007

Issue No. 1

Signed: _____

Signed: _____

For & on behalf of i2 analytical ltd

For & on behalf of i2 analytical ltd

Les Jones Managing Director
 Kevin Old Laboratory Manager
 Chris Ives Quality Manager
 Nick Watson Technical Manager

Authorised By:



a	Date Sampled	//	//	//	//
b	Time Sampled				
c	Lab Ref. No:	74118	74119	74120	74121
d	Customer Ref. No.				
e	Sample Description	S	S	S	S
f	Trial Pit / Borehole No.	A1	A2-BASE	A3	A4
g	Depth	1.00	1.00	1.00	1.00

Analytical Parameter	Accreditation Status	Reporting Unit				
456 Moisture Content	N	%	16	16	16	15
293 Textural Classification	N	Description	Clay	Clay	Clay	Clay
742 Total Mass of sample recieved	N	kg	< 2	< 2	< 2	< 2
Heavy Metals / Metalloids						
144 Arsenic (aqua regia extractable)	M	mg/kg	7.0	6.6	7.5	7.2
284 Copper (aqua regia extractable)	M	mg/kg	11	8.5	12	14
563 Lead (aqua regia extractable)	M	mg/kg	13	18	26	170
1458 Zinc (aqua regia extractable)	M	mg/kg	36	34	43	62

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



a	Date Sampled	//	//	//	//
b	Time Sampled				
c	Lab Ref. No:	74122	74125	74126	74134
d	Customer Ref. No.				
e	Sample Description	S	S	S	S
f	Trial Pit / Borehole No.	B1 - BASE	B4	B5	H3
g	Depth	0.30	0.30	0.30	0.50

Analytical Parameter	Accreditation Status	Reporting Unit				
456 Moisture Content	N	%	15	15	14	13
293 Textural Classification	N	Description	Gravely topsoil	Clay and topsoil	Clay	Clay
742 Total Mass of sample recieved	N	kg	< 2	< 2	< 2	< 2
Heavy Metals / Metalloids						
144 Arsenic (aqua regia extractable)	M	mg/kg	17	14	11	13
284 Copper (aqua regia extractable)	M	mg/kg	84	59	38	55
563 Lead (aqua regia extractable)	M	mg/kg	550	400	160	300
1458 Zinc (aqua regia extractable)	M	mg/kg	420	180	180	210

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



a	Date Sampled	//	//
b	Time Sampled		
c	Lab Ref. No:	74135	74136
d	Customer Ref. No.		
e	Sample Description	S	S
f	Trial Pit / Borehole No.	J1- BASE	J2
g	Depth	1.00	1.00

Analytical Parameter	Accreditation Status	Reporting Unit		
456 Moisture Content	N	%	13	15
293 Textural Classification	N	Description	Clay	Clay
742 Total Mass of sample recieved	N	kg	< 2	< 2
Heavy Metals / Metalloids				
144 Arsenic (aqua regia extractable)	M	mg/kg	6.5	7.7
284 Copper (aqua regia extractable)	M	mg/kg	8.0	9.3
563 Lead (aqua regia extractable)	M	mg/kg	10	10
1458 Zinc (aqua regia extractable)	M	mg/kg	31	33

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



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Analytical Report Number : 07-09748

Your Job No. J9853

Your Order No.

Your Project No.

Project Name: South Allotments, Radcliffe Road

Matrix(es) Analysed : 4 soil samples

Laboratory analysis started on 30/01/2007

All laboratory analysis completed by 01/02/2007

Issue No. 1

Signed: _____

Signed: _____

For & on behalf of i2 analytical ltd

For & on behalf of i2 analytical ltd

Les Jones Managing Director
 Kevin Old Laboratory Manager
 Chris Ives Quality Manager
 Nick Watson Technical Manager

Authorised By:



a	Date Sampled	//	//	//	//
b	Time Sampled				
c	Lab Ref. No:	74237	74238	74239	74240
d	Customer Ref. No.				
e	Sample Description	S	S	S	S
f	Trial Pit / Borehole No.	A5	A6-BASE	A7-BASE	A8
g	Depth	1.00	1.00	1.00	1.00

Analytical Parameter	Accreditation Status	Reporting Unit				
456 Moisture Content	N	%	15	15	15	14
293 Textural Classification	N	Description	Clay	Clay	Clay	Clay
742 Total Mass of sample recieved	N	kg	< 2	< 2	< 2	< 2
Heavy Metals / Metalloids						
144 Arsenic (aqua regia extractable)	M	mg/kg	7.9	7.9	8.9	7.0
284 Copper (aqua regia extractable)	M	mg/kg	20	9.9	12	8.0
563 Lead (aqua regia extractable)	M	mg/kg	19	23	11	9.5
1458 Zinc (aqua regia extractable)	M	mg/kg	58	40	41	34

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



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Analytical Report Number : 07-09785

Your Job No. J9853

Your Order No.

Your Project No.

Project Name: South Allotments, Radcliffe Road

Matrix(es) Analysed : 8 soil samples

Laboratory analysis started on 02/02/2007

All laboratory analysis completed by 07/02/2007

Issue No. 1

Signed: _____

Nick Watson
Technical Manager

For & on behalf of i2 analytical ltd

Signed: _____

Kevin Old
Laboratory Manager

For & on behalf of i2 analytical ltd



Analytical Report Number : 07-09785



a	Date Sampled	//	//	//	//
b	Time Sampled				
c	Lab Ref. No:	74525	74526	74527	74528
d	Customer Ref. No.				
e	Sample Description	S	S	S	S
f	Trial Pit / Borehole No.	E1-BASE	E2	E2	E3
g	Depth	0.70	0.30	0.70	0.70

Analytical Parameter	Accreditation Status	Reporting Unit				
456 Moisture Content	N	%	12	14	14	11
293 Textural Classification	N	Description	Clay	Topsoil	Clay	Clay
742 Total Mass of sample recieved	N	kg	< 2	< 2	< 2	< 2
Heavy Metals / Metalloids						
144 Arsenic (aqua regia extractable)	M	mg/kg	10	32	8.6	8.9
284 Copper (aqua regia extractable)	M	mg/kg	13	280	13	19
563 Lead (aqua regia extractable)	M	mg/kg	18	1100	30	100
1458 Zinc (aqua regia extractable)	M	mg/kg	51	1300	57	60

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



Analytical Report Number : 07-09785

a	Date Sampled	//	//	//	//
b	Time Sampled				
c	Lab Ref. No:	74529	74530	74531	74532
d	Customer Ref. No.				
e	Sample Description	S	S	S	S
f	Trial Pit / Borehole No.	E4	B2	B2	B3
g	Depth	0.70	0.30	0.70	0.50

Analytical Parameter	Accreditation Status	Reporting Unit				
456 Moisture Content	N	%	14	16	14	13
293 Textural Classification	N	Description	Clay	Topsoil	Clay	Clay
742 Total Mass of sample recieved	N	kg	< 2	< 2	< 2	< 2
Heavy Metals / Metalloids						
144 Arsenic (aqua regia extractable)	M	mg/kg	7.2	38	8.2	7.6
284 Copper (aqua regia extractable)	M	mg/kg	9.9	170	10	17
563 Lead (aqua regia extractable)	M	mg/kg	16	1600	17	67
1458 Zinc (aqua regia extractable)	M	mg/kg	38	1100	47	56

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



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Analytical Report Number : 07-09762

Your Job No. J9853

Your Order No.

Your Project No.

Project Name: South Allotments, Radcliffe Road

Matrix(es) Analysed : 9 soil samples

Laboratory analysis started on 31/01/2007

All laboratory analysis completed by 02/02/2007

Issue No. 1

Signed: _____

Signed: _____

For & on behalf of i2 analytical ltd

For & on behalf of i2 analytical ltd

Les Jones Managing Director
 Kevin Old Laboratory Manager
 Chris Ives Quality Manager
 Nick Watson Technical Manager

Authorised By:



a	Date Sampled	//	//	//	//
b	Time Sampled				
c	Lab Ref. No:	74309	74310	74311	74312
d	Customer Ref. No.				
e	Sample Description	S	S	S	S
f	Trial Pit / Borehole No.	C1- BASE	C2	C3	C4
g	Depth	0.80	0.70	0.80	0.80

Analytical Parameter	Accreditation Status	Reporting Unit				
456 Moisture Content	N	%	14	15	13	13
293 Textural Classification	N	Description	Clay	Clay	Clay	Clay
742 Total Mass of sample recieved	N	kg	< 2	< 2	< 2	< 2
Heavy Metals / Metalloids						
144 Arsenic (aqua regia extractable)	M	mg/kg	8.5	12	8.4	12
284 Copper (aqua regia extractable)	M	mg/kg	11	31	11	52
563 Lead (aqua regia extractable)	M	mg/kg	66	310	41	650
1458 Zinc (aqua regia extractable)	M	mg/kg	52	120	56	280

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



a	Date Sampled	//	//	//	//
b	Time Sampled				
c	Lab Ref. No:	74313	74314	74315	74316
d	Customer Ref. No.				
e	Sample Description	S	S	S	S
f	Trial Pit / Borehole No.	C5	D1-BASE	D2	D3
g	Depth	0.80	0.70	0.70	0.60

Analytical Parameter	Accreditation Status	Reporting Unit				
456 Moisture Content	N	%	12	15	14	15
293 Textural Classification	N	Description	Clay	Clay	Clay	Clay
742 Total Mass of sample recieved	N	kg	< 2	< 2	< 2	< 2
Heavy Metals / Metalloids						
144 Arsenic (aqua regia extractable)	M	mg/kg	7.8	8.7	8.2	8.9
284 Copper (aqua regia extractable)	M	mg/kg	13	23	15	12
563 Lead (aqua regia extractable)	M	mg/kg	32	110	31	27
1458 Zinc (aqua regia extractable)	M	mg/kg	48	64	48	100

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



a Date Sampled //
 b Time Sampled
 c Lab Ref. No: 74317
 d Customer Ref. No.
 e Sample Description S
 f Trial Pit / Borehole No. J3
 g Depth 1.00

Analytical Parameter	Accreditation Status	Reporting Unit	
456 Moisture Content	N	%	12
293 Textural Classification	N	Description	Clay
742 Total Mass of sample recieved	N	kg	< 2
Heavy Metals / Metalloids			
144 Arsenic (aqua regia extractable)	M	mg/kg	8.1
284 Copper (aqua regia extractable)	M	mg/kg	9.4
563 Lead (aqua regia extractable)	M	mg/kg	16
1458 Zinc (aqua regia extractable)	M	mg/kg	160

M MCERTS
 Y UKAS
 N Non UKAS
 S Subcontracted



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Analytical Report Number : 07-09827

Your Job No. J9853

Your Order No.

Your Project No.

Project Name: South Allotments, Radcliffe Road

Matrix(es) Analysed : 2 soil samples

Laboratory analysis started on 07/02/2007

All laboratory analysis completed by 09/02/2007

Issue No. 1

Signed: _____

Nick Watson
Technical Manager

For & on behalf of i2 analytical ltd

Signed: _____

Kevin Old
Laboratory Manager

For & on behalf of i2 analytical ltd



Analytical Report Number : 07-09827



a	Date Sampled	//	//
b	Time Sampled		
c	Lab Ref. No:	74732	74733
d	Customer Ref. No.		
e	Sample Description	S	S
f	Trial Pit / Borehole No.	C6	C7-BASE
g	Depth	0.90	0.90

Analytical Parameter	Accreditation Status	Reporting Unit		
456 Moisture Content	N	%	13	11
293 Textural Classification	N	Description	Clay	Clay
742 Total Mass of sample recieved	N	kg	< 2	< 2
Heavy Metals / Metalloids				
144 Arsenic (aqua regia extractable)	M	mg/kg	7.0	7.0
284 Copper (aqua regia extractable)	M	mg/kg	14	14
563 Lead (aqua regia extractable)	M	mg/kg	70	73
1458 Zinc (aqua regia extractable)	M	mg/kg	31	43

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



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Analytical Report Number : 07-09775

Your Job No. J9853

Your Order No.

Your Project No.

Project Name: South Allotments, Radcliffe Road

Matrix(es) Analysed : 6 soil samples

Laboratory analysis started on 01/02/2007

All laboratory analysis completed by 05/02/2007

Issue No. 1

Signed: _____

Signed: _____

For & on behalf of i2 analytical ltd

For & on behalf of i2 analytical ltd

Les Jones Managing Director
 Kevin Old Laboratory Manager
 Chris Ives Quality Manager
 Nick Watson Technical Manager

Authorised By:



Analytical Report Number : 07-09775



a	Date Sampled	//	//	//	//
b	Time Sampled				
c	Lab Ref. No:	74487	74488	74489	74490
d	Customer Ref. No.				
e	Sample Description	S	S	S	S
f	Trial Pit / Borehole No.	D4-BASE	D5	D6	H1-BASE
g	Depth	0.70	0.70	0.70	0.50

Analytical Parameter	Accreditation Status	Reporting Unit				
456 Moisture Content	N	%	12	13	11	9.2
293 Textural Classification	N	Description	Sand and clay	Sand and clay	Clay and topsoil	Gravelly clay
742 Total Mass of sample recieved	N	kg	< 2	< 2	< 2	< 2
Heavy Metals / Metalloids						
144 Arsenic (aqua regia extractable)	M	mg/kg	6.6	8.4	17	8.0
284 Copper (aqua regia extractable)	M	mg/kg	8.3	10	49	37
563 Lead (aqua regia extractable)	M	mg/kg	15	24	320	77
1458 Zinc (aqua regia extractable)	M	mg/kg	33	40	120	58

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



Analytical Report Number : 07-09

a	Date Sampled	//	//
b	Time Sampled		
c	Lab Ref. No:	74491	74492
d	Customer Ref. No.		
e	Sample Description	S	S
f	Trial Pit / Borehole No.	H2	H4
g	Depth	0.70	0.50

Analytical Parameter	Accreditation Status	Reporting Unit		
456 Moisture Content	N	%	13	11
293 Textural Classification	N	Description	Clay	Gravelly topsoil
742 Total Mass of sample recieved	N	kg	< 2	< 2
Heavy Metals / Metalloids				
144 Arsenic (aqua regia extractable)	M	mg/kg	8.5	20
284 Copper (aqua regia extractable)	M	mg/kg	12	68
563 Lead (aqua regia extractable)	M	mg/kg	23	870
1458 Zinc (aqua regia extractable)	M	mg/kg	45	260

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



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Analytical Report Number : 07-09801

Your Job No. J9853

Your Order No. J9853

Your Project No.

Project Name: South Allotments, Radcliffe Road

Matrix(es) Analysed : 5 soil samples

Laboratory analysis started on 05/02/2007

All laboratory analysis completed by 07/02/2007

Issue No. 1

Signed: _____

Nick Watson
Technical Manager

For & on behalf of i2 analytical ltd

Signed: _____

Kevin Old
Laboratory Manager

For & on behalf of i2 analytical ltd



Analytical Report Number : 07-09801



a	Date Sampled	//	//	//	//
b	Time Sampled				
c	Lab Ref. No:	74633	74634	74635	74636
d	Customer Ref. No.				
e	Sample Description	S	S	S	S
f	Trial Pit / Borehole No.	F1-BASE	F2	F3	F3
g	Depth	0.50	0.70	0.30	0.90

Analytical Parameter	Accreditation Status	Reporting Unit				
456 Moisture Content	N	%	13	13	12	12
293 Textural Classification	N	Description	Topsoil and clay	Sandy clay	Sandy Clay	Sand and clay
742 Total Mass of sample recieved	N	kg	< 2	< 2	< 2	< 2
Heavy Metals / Metalloids						
144 Arsenic (aqua regia extractable)	M	mg/kg	8.1	8.0	16	9.1
284 Copper (aqua regia extractable)	M	mg/kg	16	10	47	8.3
563 Lead (aqua regia extractable)	M	mg/kg	57	24	370	18
1458 Zinc (aqua regia extractable)	M	mg/kg	55	61	670	560

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



Analytical Report Number : 07-09

a Date Sampled //
 b Time Sampled
 c Lab Ref. No: 74637
 d Customer Ref. No.
 e Sample Description S
 f Trial Pit / Borehole No. F4
 g Depth 0.50

Analytical Parameter	Accreditation Status	Reporting Unit	
456 Moisture Content	N	%	11
293 Textural Classification	N	Description	Topsoil and clay
742 Total Mass of sample recieved	N	kg	< 2
Heavy Metals / Metalloids			
144 Arsenic (aqua regia extractable)	M	mg/kg	10
284 Copper (aqua regia extractable)	M	mg/kg	28
563 Lead (aqua regia extractable)	M	mg/kg	130
1458 Zinc (aqua regia extractable)	M	mg/kg	110

M MCERTS
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 N Non UKAS
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Analytical Report Number : 07-09814

Your Job No. J9853

Your Order No.

Your Project No.

Project Name: South Allotments, Radcliffe Road

Matrix(es) Analysed : 4 soil samples

Laboratory analysis started on 06/02/2007

All laboratory analysis completed by 08/02/2007

Issue No. 1

Signed: _____

Nick Watson
Technical Manager

For & on behalf of i2 analytical ltd

Signed: _____

Kevin Old
Laboratory Manager

For & on behalf of i2 analytical ltd



Analytical Report Number : 07-09814



a	Date Sampled	//	//	//	//
b	Time Sampled				
c	Lab Ref. No:	74696	74697	74698	74699
d	Customer Ref. No.	Base			
e	Sample Description	S	S	S	S
f	Trial Pit / Borehole No.	G1	G2	G3	G4
g	Depth	0.40	0.30	0.50	0.50

Analytical Parameter	Accreditation Status	Reporting Unit	13	14	13	15
456 Moisture Content	N	%	13	14	13	15
293 Textural Classification	N	Description	Topsoil	Topsoil	Topsoil	Topsoil
742 Total Mass of sample recieved	N	kg	< 2	< 2	< 2	< 2
Heavy Metals / Metalloids						
144 Arsenic (aqua regia extractable)	M	mg/kg	7.8	20	8.4	11
284 Copper (aqua regia extractable)	M	mg/kg	26	270	9.0	28
563 Lead (aqua regia extractable)	M	mg/kg	77	460	15	380
1458 Zinc (aqua regia extractable)	M	mg/kg	42	190	33	67

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



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Analytical Report Number : 07-10105

Your Job No. J9853

Your Order No.

Your Project No.

Project Name: South Allotments, Radcliffe Road

Matrix(es) Analysed : 5 soil samples

Laboratory analysis started on 08/03/2007

All laboratory analysis completed by 13/03/2007

Issue No. 1

Signed:

Nick Watson
Technical Manager

For & on behalf of i2 analytical ltd

Signed:

Kevin Old
Laboratory Manager

For & on behalf of i2 analytical ltd



Analytical Report Number : 07-10105

a	Date Sampled	///	///	///	///
b	Time Sampled				
c	Lab Ref. No:	76576	76577	76578	76579
d	Customer Ref. No.				
e	Sample Description	Soil	Soil	Soil	Soil
f	Trial Pit / Borehole No.	F5	F6	F7	F8 -Base
g	Depth	0.40	0.20	0.20	0.60

Analytical Parameter	Accreditation Status	Reporting Unit				
456 Moisture Content	N	%	12	14	14	14
293 Textural Classification	N	Description	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay
742 Total Mass of sample recieved	N	kg	< 2	< 2	< 2	< 2
Heavy Metals / Metalloids						
144 Arsenic (aqua regia extractable)	M	mg/kg	7.5	7.3	7.2	9.2
284 Copper (aqua regia extractable)	M	mg/kg	11	9.9	11	12
563 Lead (aqua regia extractable)	M	mg/kg	13	11	11	14
1458 Zinc (aqua regia extractable)	M	mg/kg	34	33	33	39

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



Analytical Report Number : 07-10105

a	Date Sampled	//
b	Time Sampled	
c	Lab Ref. No:	76580
d	Customer Ref. No.	
e	Sample Description	Soil
f	Trial Pit / Borehole No.	F9-Base
g	Depth	0.60

Analytical Parameter	Accreditation Status	Reporting Unit	
456 Moisture Content	N	%	13
293 Textural Classification	N	Description	Sandy Clay
742 Total Mass of sample received	N	kg	< 2
Heavy Metals / Metalloids			
144 Arsenic (aqua regia extractable)	M	mg/kg	8.3
284 Copper (aqua regia extractable)	M	mg/kg	12
563 Lead (aqua regia extractable)	M	mg/kg	11
1458 Zinc (aqua regia extractable)	M	mg/kg	37

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted

Appendix B
Photographs of Areas A to J during Remedial Works



Plate 1. Area A excavation to 1.00m bgl on 25th Jan 2007 (direction of photo: to the south)



Plate 2. Area A excavation to 1.00m depth bgl on 25th Jan 2007 (direction of photo: to the south-west)



Plate 3. Area A excavation to 1.00m depth bgl on 29th Jan 2007 (direction of photo: to the north)


<p>Project: South Allotments, Radcliffe Road, Southampton, Hampshire</p>	<p>Date: March 2007</p>	
<p>Site Photographs</p>	<p>Ref: J9853</p>	<p>Sheet No. 1 – Area A</p>



Plate 1. Area B excavation to 0.30m bgl on 25th Jan 2007 (direction of photo: to the south-east). Area B to be under permanent hardstanding, therefore Made Ground left in-situ.



Plate 2. Area B excavation to 0.30m bgl on 25th Jan 2007 (direction of photo: to the south/south-east)



Plate 3. Area B excavation extended along western boundary on 1st February 2007 (direction of photo: to the south-east)


<p>Project: South Allotments, Radcliffe Road, Southampton, Hampshire</p>	<p>Date: March 2007</p>	
<p>Site Photographs</p>	<p>Ref: J9853</p>	<p>Sheet No. 2 – Area B</p>



Plate 1. Area C excavation to ~0.80m bgl on 30th Jan 2007 (direction of photo: to the east/south-east)



Plate 2. Area C excavation extended to 0.90m bgl along western face on 6th Feb 2007 as elevated lead was found at location C4 (direction of photo: to the east)



Plate 3. Completed Area C excavation on 6th February 2007 (direction of photo: to the south-west)


<p>Project: South Allotments, Radcliffe Road, Southampton, Hampshire</p>	<p>Date: March 2007</p>	
<p>Site Photographs</p>	<p>Ref: J9853</p>	<p>Sheet No. 3 – Area C</p>



Plate 1. Excavation in western portion of Area D. Excavated to ~0.70m bgl on 30th Jan 2007 (direction of photo: to the west)



Plate 2. Excavation in eastern portion of Area D. Excavated to ~0.70m bgl on 31st Jan 2007. Channel excavated to ~1.00-1.10m bgl where building debris was encountered (direction of photo: to the south)



Plate 3. Completed Area D excavation on 31st Jan 2007 (direction of photo: to the north)


<p>Project: South Allotments, Radcliffe Road, Southampton, Hampshire</p>	<p>Date: March 2007</p>	
<p>Site Photographs</p>	<p>Ref: J9853</p>	<p>Sheet No. 4 – Area D</p>



Plate 1. Area E excavated to ~0.70m bgl on 1st Feb 2007 (direction of photo: to the west)



Plate 2. Excavation in western portion of Area E. Excavated to ~0.70m bgl on 1st Feb 2007. Small isolated area along western boundary excavated to ~1.00m bgl where deeper Made Ground was encountered (direction of photo: to the south)



Plate 3. Completed Area E excavation on 1st Feb 2007 (direction of photo: to the west)


<p>Project: South Allotments, Radcliffe Road, Southampton, Hampshire</p>	<p>Date: March 2007</p>	
<p>Site Photographs</p>	<p>Ref: J9853</p>	<p>Sheet No. 5 – Area E</p>



Plate 1. Excavation in western portion of Area F to ~0.50m bgl on 2nd Feb 2007 (direction of photo: to the west)



Plate 2. Excavation in eastern portion of Area F. Excavated to ~0.60m bgl on 7th March 2007 (direction of photo: to the north/north-east)



Plate 3. Area F excavation along eastern boundary of site on 7th March 2007 (direction of photo: to the south-east)


<p>Project: South Allotments, Radcliffe Road, Southampton, Hampshire</p>	<p>Date: March 2007</p>	
<p>Site Photographs</p>	<p>Ref: J9853</p>	<p>Sheet No. 6 – Area F</p>



Plate 1. Excavation of Area G to ~0.40m bgl on 5th Feb 2007 (direction of photo: to the south-west)



Plate 2. Area G excavated to ~0.40m bgl on 5th Feb 2007 (direction of photo: to the east/south-east)



Plate 3. Excavation in eastern portion of Area G. Excavated to ~0.40m bgl on 5th Feb 2007. Channel excavated to ~0.70m bgl where building debris was encountered (direction of photo: to the south)


Project: South Allotments, Radcliffe Road, Southampton, Hampshire	Date: March 2007	
Site Photographs	Ref: J9853	Sheet No. 7 – Area G



Plate 1. Excavation of Area H to ~0.50m bgl on 25th Jan 2007 (direction of photo: to the east)



Plate 2. Excavation in eastern portion of Area H. Excavated to ~0.50m bgl on 31st Jan 2007. Channel excavated to ~0.70m bgl where building debris was encountered (direction of photo: to the north)



Plate 3. Completed Area H excavation on 31st Jan 2007 (direction of photo: to the east)


<p>Project: South Allotments, Radcliffe Road, Southampton, Hampshire</p>	<p>Date: March 2007</p>	
<p>Site Photographs</p>	<p>Ref: J9853</p>	<p>Sheet No. 8 – Area H</p>




Plate 1. Excavation of Area J to 1.00m bgl on 25th Jan 2007 (direction of photo: to the west/north-west)



Plate 2. Excavation of Area J along western boundary of site to 1.00m bgl on the 30th Jan 2007. Tree along western boundary of site removed to complete remedial works (direction of photo: to the west)



Plate 3. Completed Area J excavation on 30th Jan 2007 (direction of photo: to the west)

<p>Project: South Allotments, Radcliffe Road, Southampton, Hampshire</p>	<p>Date: March 2007</p>	
<p>Site Photographs</p>	<p>Ref: J9853</p>	<p>Sheet No. 9 – Area J</p>

Appendix C
Chemical Laboratory Results Certificates for Imported Subsoil
CLEA Mean & Maximum Test on TPH
Chromatogram Trace for Sample 8 Subsoil



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☎ 023 8069 5980

t: 01923 67 00 20
f: 01923 67 00 30

Analytical Report Number : 07-09786

Your Job No. J9853

Your Order No.

Your Project No.

Project Name: South Allotments, Radcliffe Road

Matrix(es) Analysed : 2 soil samples

Laboratory analysis started on 02/02/2007

All laboratory analysis completed by 07/02/2007

Issue No. 1

Signed: _____

Nick Watson
Technical Manager

For & on behalf of i2 analytical ltd

Signed: _____

Kevin Old
Laboratory Manager

For & on behalf of i2 analytical ltd



Analytical Report Number : 07-09786



a	Date Sampled	//	//
b	Time Sampled		
c	Lab Ref. No:	74533	74534
d	Customer Ref. No.	1	2
e	Sample Description	S	S
f	Trial Pit / Borehole No.	Sub-soil Titchfield	Sub-soil Titchfield
g	Depth		

Analytical Parameter	Accreditation Status	Reporting Unit		
456 Moisture Content	N	%	8.7	10
293 Textural Classification	N	Description	Gravely sand	Gravely sand
742 Total Mass of sample recieved	N	kg	< 2	< 2
134 Asbestos Screen	N	Present / Absent	<0.001	<0.001
General Inorganics				
652 pH	M	pH Units	6.8	7.0
1118 Total Cyanide	M	mg/kg	< 1.0	< 1.0
740 Water Soluble Sulphate as SO ₄ (2:1)	N	g/l	0.030	0.020
684 Sulphide	N	mg/kg	< 1.0	< 1.0
Total Phenols				
472 Total Phenols (monohydric)	M	mg/kg	< 4.0	< 4.0
Speciated PAHs				
1489 Naphthalene	M	mg/kg	< 0.20	< 0.20
1509 Acenaphthylene	M	mg/kg	< 0.05	< 0.05
1510 Acenaphthene	M	mg/kg	< 0.05	< 0.05
1511 Fluorene	M	mg/kg	< 0.05	< 0.05
1490 Phenanthrene	M	mg/kg	< 0.05	< 0.05
1491 Anthracene	M	mg/kg	< 0.05	< 0.05
1492 Fluoranthene	M	mg/kg	0.14	< 0.05
1512 Pyrene	M	mg/kg	< 0.05	< 0.05
1493 Benzo(a)anthracene	M	mg/kg	< 0.05	< 0.05
1494 Chrysene	M	mg/kg	< 0.05	< 0.05
1513 Benzo(b)fluoranthene	M	mg/kg	< 0.05	< 0.05
1495 Benzo(k)fluoranthene	M	mg/kg	< 0.05	< 0.05
1496 Benzo(a)pyrene	M	mg/kg	< 0.05	< 0.05
1497 Indeno(1,2,3-cd)pyrene	M	mg/kg	< 0.05	< 0.05
1514 Dibenz(a,h)anthracene	M	mg/kg	< 0.05	< 0.05
1498 Benzo(ghi)perylene	M	mg/kg	< 0.05	< 0.05
Total PAH				
529 Speciated Total Dutch-10 PAHs	M	mg/kg	< 1.6	< 1.6
535 Speciated Total EPA-16 PAHs	M	mg/kg	< 1.6	< 1.6
Heavy Metals / Metalloids				
144 Arsenic (aqua regia extractable)	M	mg/kg	5.3	6.2
194 Boron (water soluble)	N	mg/kg	< 1.0	< 1.0
223 Cadmium (aqua regia extractable)	M	mg/kg	< 0.3	< 0.3
259 Chromium (hexavalent)	N	mg/kg	< 5.0	< 5.0
273 Chromium (aqua regia extractable)	M	mg/kg	15	16
284 Copper (aqua regia extractable)	M	mg/kg	5.8	6.4
563 Lead (aqua regia extractable)	M	mg/kg	15	9.1
395 Mercury (aqua regia extractable)	M	mg/kg	< 0.2	< 0.2
505 Nickel (aqua regia extractable)	M	mg/kg	1.3	1.4
709 Selenium (aqua regia extractable)	M	mg/kg	< 1.0	< 1.0
1458 Zinc (aqua regia extractable)	M	mg/kg	14	15
Petroleum Hydrocarbons				
990 TPH1 (C ₁₀ - C ₄₀)	M	mg/kg	< 10	< 10

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



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Analytical Report Number : 07-09869

Your Job No. J9853

Your Order No.

Your Project No.

Project Name: South Allotments

Matrix(es) Analysed : 5 soil samples

Laboratory analysis started on 12/02/2007

All laboratory analysis completed by 14/02/2007

Issue No. 1

Signed: _____

Nick Watson
Technical Manager

For & on behalf of i2 analytical ltd

Signed: _____

Kevin Old
Laboratory Manager

For & on behalf of i2 analytical ltd



Analytical Report Number : 07-09889

a	Date Sampled	//	//	//	//
b	Time Sampled				
c	Lab Ref. No:	75004	75005	75006	75007
d	Customer Ref. No.	3	4	5	6
e	Sample Description	Soil	Soil	Soil	Soil
f	Trial Pit / Borehole No.	Sub-soil Titchfield	Sub-soil Titchfield	Sub-soil Titchfield	Sub-soil Titchfield
g	Depth				

Analytical Parameter	Accreditation Status	Reporting Unit	11	12	12	12
456 Moisture Content	N	%	11	12	12	12
293 Textural Classification	N	Description	Clay	Clay	Clay	Clay
742 Total Mass of sample recieved	N	kg	< 2	< 2	< 2	< 2
134 Asbestos Screen	N	Present / Absent	<0.001	<0.001	<0.001	<0.001
General Inorganics						
652 pH	M	pH Units	5.7	5.5	5.8	5.7
1118 Total Cyanide	M	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
740 Water Soluble Sulphate as SO ₄ (2:1)	N	g/l	0.12	0.10	0.070	0.070
684 Sulphide	N	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Total Phenols						
472 Total Phenols (monohydric)	M	mg/kg	< 4.0	< 4.0	< 4.0	< 4.0
Speclated PAHs						
1489 Naphthalene	M	mg/kg	< 0.20	< 0.20	< 0.20	< 0.20
1509 Acenaphthylene	M	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
1510 Acenaphthene	M	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
1511 Fluorene	M	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
1490 Phenanthrene	M	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
1491 Anthracene	M	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
1492 Fluoranthene	M	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
1512 Pyrene	M	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
1493 Benzo(a)anthracene	M	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
1494 Chrysene	M	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
1513 Benzo(b)fluoranthene	M	mg/kg	0.11	< 0.05	< 0.05	0.06
1495 Benzo(k)fluoranthene	M	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
1496 Benzo(a)pyrene	M	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
1497 Indeno(1,2,3-cd)pyrene	M	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
1514 Dibenz(a,h)anthracene	M	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
1498 Benzo(ghi)perylene	M	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH						
529 Speclated Total Dutch-10 PAHs	M	mg/kg	< 1.6	< 1.6	< 1.6	< 1.6
535 Speclated Total EPA-16 PAHs	M	mg/kg	< 1.6	< 1.6	< 1.6	< 1.6
Heavy Metals / Metalloids						
144 Arsenic (aqua regia extractable)	M	mg/kg	13	17	14	12
194 Boron (water soluble)	N	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
223 Cadmium (aqua regia extractable)	M	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
259 Chromium (hexavalent)	N	mg/kg	< 5.0	< 5.0	< 5.0	< 5.0
273 Chromium (aqua regia extractable)	M	mg/kg	90	100	92	87
284 Copper (aqua regia extractable)	M	mg/kg	14	16	15	13
563 Lead (aqua regia extractable)	M	mg/kg	26	34	27	23
395 Mercury (aqua regia extractable)	M	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
505 Nickel (aqua regia extractable)	M	mg/kg	40	39	41	36
709 Selenium (aqua regia extractable)	M	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
1458 Zinc (aqua regia extractable)	M	mg/kg	30	33	33	26
Petroleum Hydrocarbons						
990 TPH1 (C ₁₀ - C ₄₀)	M	mg/kg	< 10	< 10	< 10	< 10

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



Analytical Report Number : 07-09869

a Date Sampled / /
 b Time Sampled
 c Lab Ref. No: 75008
 d Customer Ref. No: 7
 e Sample Description: Soil
 f Trial Pit / Borehole No: Sub-soil Titchfield
 g Depth

Analytical Parameter	Accreditation Status	Reporting Unit	
456 Moisture Content	N	%	12
293 Textural Classification	N	Description	Clay
742 Total Mass of sample recieved	N	kg	<2
134 Asbestos Screen	N	Present / Absent	<0.001
General Inorganics			
652 pH	M	pH Units	5.7
1118 Total Cyanide	M	mg/kg	< 1.0
740 Water Soluble Sulphate as SO ₄ (2:1)	N	g/l	0.10
684 Sulphide	N	mg/kg	< 1.0
Total Phenols			
472 Total Phenols (monohydric)	M	mg/kg	< 4.0
Speciated PAHs			
1489 Naphthalene	M	mg/kg	< 0.20
1509 Acenaphthylene	M	mg/kg	< 0.05
1510 Acenaphthene	M	mg/kg	< 0.05
1511 Fluorene	M	mg/kg	< 0.05
1490 Phenanthrene	M	mg/kg	< 0.05
1491 Anthracene	M	mg/kg	< 0.05
1492 Fluoranthene	M	mg/kg	< 0.05
1512 Pyrene	M	mg/kg	< 0.05
1493 Benzo(a)anthracene	M	mg/kg	< 0.05
1494 Chrysene	M	mg/kg	< 0.05
1513 Benzo(b)fluoranthene	M	mg/kg	< 0.05
1495 Benzo(k)fluoranthene	M	mg/kg	< 0.05
1496 Benzo(a)pyrene	M	mg/kg	< 0.05
1497 Indeno(1,2,3-cd)pyrene	M	mg/kg	< 0.05
1514 Dibenz(a,h)anthracene	M	mg/kg	< 0.05
1498 Benzo(ghi)perylene	M	mg/kg	< 0.05
Total PAH			
529 Speciated Total Dutch-10 PAHs	M	mg/kg	< 1.6
535 Speciated Total EPA-16 PAHs	M	mg/kg	< 1.6
Heavy Metals / Metalloids			
144 Arsenic (aqua regia extractable)	M	mg/kg	10
194 Boron (water soluble)	N	mg/kg	< 1.0
223 Cadmium (aqua regia extractable)	M	mg/kg	< 0.3
259 Chromium (hexavalent)	N	mg/kg	< 5.0
273 Chromium (aqua regia extractable)	M	mg/kg	80
284 Copper (aqua regia extractable)	M	mg/kg	10
563 Lead (aqua regia extractable)	M	mg/kg	19
395 Mercury (aqua regia extractable)	M	mg/kg	< 0.2
505 Nickel (aqua regia extractable)	M	mg/kg	34
709 Selenium (aqua regia extractable)	M	mg/kg	< 1.0
1458 Zinc (aqua regia extractable)	M	mg/kg	20
Petroleum Hydrocarbons			
990 TPH1 (C ₁₀ - C ₄₀)	M	mg/kg	< 10

M MCERTS
 Y UKAS
 N Non UKAS
 S Subcontracted



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Analytical Report Number : 07-09912

Your Job No. J9853

Your Order No.

Your Project No.

Project Name: South Allotments, Radcliffe Road

Matrix(es) Analysed : 1 soil sample

Laboratory analysis started on 16/02/2007

All laboratory analysis completed by 26/02/2007

Issue No. 1

Signed: _____

Nick Watson
Technical Manager

For & on behalf of i2 analytical ltd

Signed: _____

Kevin Old
Laboratory Manager

For & on behalf of i2 analytical ltd



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MCERTS



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Analytical Report Number : 07-09912

a	Date Sampled	/ /
b	Time Sampled	
c	Lab Ref. No:	75330
d	Customer Ref. No.	Tichfield 8
e	Sample Description	Soil
f	Trial Pit / Borehole No.	Sub Soil
g	Depth	

Analytical Parameter	Accreditation Status	Reporting Unit	
456 Moisture Content	N	%	14
293 Textural Classification	N	Description	Gravely clay
742 Total Mass of sample recieved	N	kg	< 2
134 Asbestos Screen	N	Present / Absent	<0.001
General Inorganics			
652 pH	M	pH Units	6.5
1118 Total Cyanide	M	mg/kg	< 1.0
740 Water Soluble Sulphate as SO ₄ (2:1)	N	g/l	0.11
684 Sulphide	N	mg/kg	< 1.0
Total Phenols			
472 Total Phenols (monohydric)	M	mg/kg	< 4.0
Speciated PAHs			
1489 Naphthalene	M	mg/kg	< 0.20
1509 Acenaphthylene	M	mg/kg	< 0.05
1510 Acenaphthene	M	mg/kg	< 0.05
1511 Fluorene	M	mg/kg	< 0.05
1490 Phenanthrene	M	mg/kg	0.74
1491 Anthracene	M	mg/kg	0.27
1492 Fluoranthene	M	mg/kg	2.1
1512 Pyrene	M	mg/kg	1.7
1493 Benzo(a)anthracene	M	mg/kg	1.1
1494 Chrysene	M	mg/kg	0.81
1513 Benzo(b)fluoranthene	M	mg/kg	1.2
1495 Benzo(k)fluoranthene	M	mg/kg	0.71
1496 Benzo(a)pyrene	M	mg/kg	0.95
1497 Indeno(1,2,3-cd)pyrene	M	mg/kg	0.45
1514 Dibenz(a,h)anthracene	M	mg/kg	0.10
1498 Benzo(ghi)perylene	M	mg/kg	0.47
Total PAH			
529 Speciated Total Dutch-10 PAHs	M	mg/kg	7.6
535 Speciated Total EPA-16 PAHs	M	mg/kg	11
Heavy Metals / Metalloids			
144 Arsenic (aqua regia extractable)	M	mg/kg	12
194 Boron (water soluble)	N	mg/kg	1.3
223 Cadmium (aqua regia extractable)	M	mg/kg	< 0.3
259 Chromium (hexavalent)	N	mg/kg	< 5.0
273 Chromium (aqua regia extractable)	M	mg/kg	61
284 Copper (aqua regia extractable)	M	mg/kg	13
563 Lead (aqua regia extractable)	M	mg/kg	23
395 Mercury (aqua regia extractable)	M	mg/kg	< 0.2
505 Nickel (aqua regia extractable)	M	mg/kg	26
709 Selenium (aqua regia extractable)	M	mg/kg	< 1.0
1456 Zinc (aqua regia extractable)	M	mg/kg	31
Petroleum Hydrocarbons			
990 TPH1 (C ₁₀ - C ₄₀)	M	mg/kg	66

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted

Job:

TPH

Test Value

10
10
10
10
10
10
10
10
66

Subsoil at South Alliments, Radcliffe Road

SGV= 50

US95%= 30

(This would be the concentration at any given point on the site with 95% probability if greater than the SGV then cleanup or more sampling. If less than SGV then OK)

Notes: Only enter data in green cells

1.0000
1.0000
1.0000
1.0000
1.0000
1.0000
1.0000
1.0000
1.8195

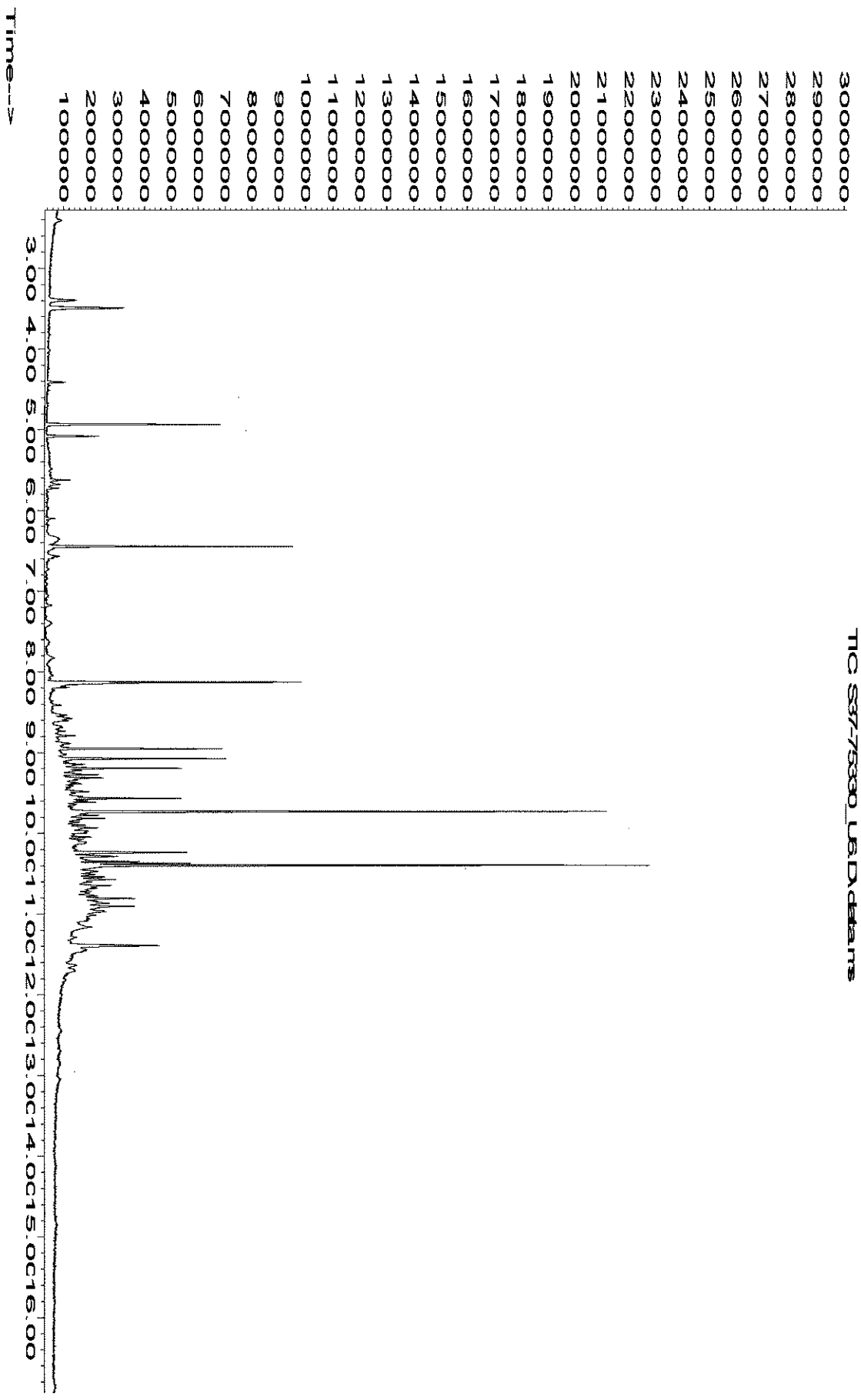
Results

Maximum Value Test
Result is an outlier

Mean Value Test
No remediation required on based on the mean value test

Abundance

TIC S37-75330.LB.D\data.ms



Appendix D
Chemical Laboratory Results Certificates for Imported Topsoil & Topsoil
Classification Test Results



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t: 01923 67 00 20
f: 01923 67 00 30

Analytical Report Number : 07-09849

Your Job No. J9853

Your Order No.

Your Project No.

Project Name: South Allotments, Radcliffe Rd

Matrix(es) Analysed : 2 soil samples

Laboratory analysis started on 09/02/2007

All laboratory analysis completed by 13/02/2007

Issue No. 1

Signed: 

Nick Watson
Technical Manager

For & on behalf of i2 analytical ltd

Signed: 

Kevin Old
Laboratory Manager

For & on behalf of i2 analytical ltd



Analytical Report Number : 07-09849



a	Date Sampled	//	//
b	Time Sampled		
c	Lab Ref. No:	74904	74905
d	Customer Ref. No.	1	2
e	Sample Description	Soil	Soil
f	Trial Pit / Borehole No.	Borden Topsoil	Borden Topsoil
g	Depth		

Analytical Parameter	Accreditation Status	Reporting Unit		
456 Moisture Content	N	%	24	9.6
293 Textural Classification	N	Description	Topsoil	Topsoil
742 Total Mass of sample recieved	N	kg	< 2	< 2
134 Asbestos Screen	N	Present / Absen	<0.001	<0.001
General Inorganics				
652 pH	M	pH Units	6.8	6.9
1118 Total Cyanide	M	mg/kg	< 1.0	< 1.0
740 Water Soluble Sulphate as SO ₄ (2:1)	N	g/l	0.090	0.070
684 Sulphide	N	mg/kg	< 1.0	< 1.0
Total Phenols				
472 Total Phenols (monohydric)	M	mg/kg	< 4.0	< 4.0
Speciated PAHs				
1489 Naphthalene	M	mg/kg	< 0.20	< 0.20
1509 Acenaphthylene	M	mg/kg	< 0.05	< 0.05
1510 Acenaphthene	M	mg/kg	< 0.05	< 0.05
1511 Fluorene	M	mg/kg	< 0.05	< 0.05
1490 Phenanthrene	M	mg/kg	< 0.05	< 0.05
1491 Anthracene	M	mg/kg	< 0.05	< 0.05
1492 Fluoranthene	M	mg/kg	< 0.05	< 0.05
1512 Pyrene	M	mg/kg	< 0.05	< 0.05
1493 Benzo(a)anthracene	M	mg/kg	< 0.05	< 0.05
1494 Chrysene	M	mg/kg	< 0.05	< 0.05
1513 Benzo(b)fluoranthene	M	mg/kg	< 0.05	< 0.05
1495 Benzo(k)fluoranthene	M	mg/kg	< 0.05	< 0.05
1496 Benzo(a)pyrene	M	mg/kg	< 0.05	< 0.05
1497 Indeno(1,2,3-cd)pyrene	M	mg/kg	< 0.05	< 0.05
1514 Dibenz(a,h)anthracene	M	mg/kg	< 0.05	< 0.05
1498 Benzo(ghi)perylene	M	mg/kg	< 0.05	< 0.05
Total PAH				
529 Speciated Total Dutch-10 PAHs	M	mg/kg	< 1.6	< 1.6
535 Speciated Total EPA-16 PAHs	M	mg/kg	< 1.6	< 1.6
Heavy Metals / Metalloids				
144 Arsenic (aqua regia extractable)	M	mg/kg	6.3	6.1
194 Boron (water soluble)	N	mg/kg	< 1.0	< 1.0
223 Cadmium (aqua regia extractable)	M	mg/kg	< 0.3	< 0.3
259 Chromium (hexavalent)	N	mg/kg	< 5.0	< 5.0
273 Chromium (aqua regia extractable)	M	mg/kg	17	15
284 Copper (aqua regia extractable)	M	mg/kg	8.6	7.4
563 Lead (aqua regia extractable)	M	mg/kg	30	28
395 Mercury (aqua regia extractable)	M	mg/kg	< 0.2	< 0.2
505 Nickel (aqua regia extractable)	M	mg/kg	5.6	4.6
709 Selenium (aqua regia extractable)	M	mg/kg	< 1.0	< 1.0
1458 Zinc (aqua regia extractable)	M	mg/kg	44	40
Petroleum Hydrocarbons				
990 TPH1 (C ₁₀ - C ₄₀)	M	mg/kg	< 10	< 10

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



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Analytical Report Number : 07-10039

Your Job No. J9853

Your Order No.

Your Project No.

Project Name: South Allotments, Radcliffe Road

Matrix(es) Analysed : 3 soil samples

Laboratory analysis started on 02/03/2007

All laboratory analysis completed by 06/03/2007

Issue No. 1

Signed:

Nick Watson
Technical Manager

For & on behalf of i2 analytical ltd

Signed:

Kevin Old
Laboratory Manager

For & on behalf of i2 analytical ltd



Analytical Report Number : 07-10039

a	Date Sampled	//	//	//
b	Time Sampled			
c	Lab Ref. No:	76228	76229	76230
d	Customer Ref. No.	3	4	5
e	Sample Description	Soil	Soil	Soil
f	Trial Pit / Borehole No.	Bordon Topsoil	Bordon Topsoil	Bordon Topsoil
g	Depth			

Analytical Parameter	Accreditation Status	Reporting Unit			
456 Moisture Content	N	%	21	20	22
293 Textural Classification	N	Description	Clay	Clay	Clay
742 Total Mass of sample recieved	N	kg	< 2	< 2	< 2
134 Asbestos Screen	N	Present / Absent	<0.001	<0.001	<0.001
General Inorganics					
652 pH	M	pH Units	6.8	7.0	7.0
1118 Total Cyanide	M	mg/kg	< 1.0	< 1.0	< 1.0
740 Water Soluble Sulphate as SO ₄ (2:1)	N	g/l	0.12	0.43	0.090
684 Sulphide	N	mg/kg	< 1.0	< 1.0	< 1.0
Total Phenols					
472 Total Phenols (monohydric)	M	mg/kg	< 4.0	< 4.0	< 4.0
Speciated PAHs					
1489 Naphthalene	M	mg/kg	< 0.20	< 0.20	< 0.20
1509 Acenaphthylene	M	mg/kg	< 0.05	< 0.05	< 0.05
1510 Acenaphthene	M	mg/kg	< 0.05	< 0.05	< 0.05
1511 Fluorene	M	mg/kg	< 0.05	< 0.05	< 0.05
1490 Phenanthrene	M	mg/kg	< 0.05	< 0.05	< 0.05
1491 Anthracene	M	mg/kg	0.05	< 0.05	< 0.05
1492 Fluoranthene	M	mg/kg	0.41	0.11	< 0.05
1512 Pyrene	M	mg/kg	0.36	0.11	< 0.05
1493 Benzo(a)anthracene	M	mg/kg	0.19	0.09	< 0.05
1494 Chrysene	M	mg/kg	0.15	< 0.05	< 0.05
1513 Benzo(b)fluoranthene	M	mg/kg	0.29	0.14	< 0.05
1495 Benzo(k)fluoranthene	M	mg/kg	< 0.05	< 0.05	< 0.05
1496 Benzo(a)pyrene	M	mg/kg	0.23	0.15	0.06
1497 Indeno(1,2,3-cd)pyrene	M	mg/kg	0.13	0.09	< 0.05
1514 Dibenz(a,h)anthracene	M	mg/kg	< 0.05	< 0.05	< 0.05
1498 Benzo(ghi)perylene	M	mg/kg	0.11	0.08	< 0.05
Total PAH					
529 Speciated Total Dutch-10 PAHs	M	mg/kg	< 1.6	< 1.6	< 1.6
535 Speciated Total EPA-16 PAHs	M	mg/kg	2.0	< 1.6	< 1.6



Analytical Report Number : 07-10039

a	Date Sampled	///	///	///
b	Time Sampled			
c	Lab Ref. No:	76228	76229	76230
d	Customer Ref. No.	3	4	5
e	Sample Description	Soil	Soil	Soil
f	Trial Pit / Borehole No.	Bordon Topsoil	Bordon Topsoil	Bordon Topsoil
g	Depth			

Analytical Parameter	Accreditation Status	Reporting Unit			
Heavy Metals / Metalloids					
144 Arsenic (aqua regia extractable)	M	mg/kg	8.0	8.8	9.5
194 Boron (water soluble)	N	mg/kg	< 1.0	< 1.0	< 1.0
223 Cadmium (aqua regia extractable)	M	mg/kg	< 0.3	< 0.3	< 0.3
259 Chromium (hexavalent)	N	mg/kg	< 5.0	< 5.0	< 5.0
273 Chromium (aqua regia extractable)	M	mg/kg	14	15	14
284 Copper (aqua regia extractable)	M	mg/kg	14	21	11
563 Lead (aqua regia extractable)	M	mg/kg	63	160	51
395 Mercury (aqua regia extractable)	M	mg/kg	< 0.2	< 0.2	< 0.2
505 Nickel (aqua regia extractable)	M	mg/kg	5.1	5.3	5.3
709 Selenium (aqua regia extractable)	M	mg/kg	< 1.0	< 1.0	< 1.0
1458 Zinc (aqua regia extractable)	M	mg/kg	58	90	58
Petroleum Hydrocarbons					
990 TPH1 (C ₁₀ - C ₄₀)	M	mg/kg	< 10	< 10	< 10

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted



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Analytical Report Number : 07-09911

Your Job No. J9853

Your Order No.

Your Project No.

Project Name: South Allotments, Radcliffe Road

Matrix(es) Analysed : 1 soil sample

Laboratory analysis started on 16/02/2007

All laboratory analysis completed by 22/02/2007

Issue No. 1

Signed: _____

Nick Watson
Technical Manager

For & on behalf of i2 analytical ltd

Signed: _____

Kevin Old
Laboratory Manager

For & on behalf of i2 analytical ltd



Analytical Report Number : 07-09911

a	Date Sampled	11
b	Time Sampled	
c	Lab Ref. No:	75329
d	Customer Ref. No.	3&4
e	Sample Description	Soil
f	Trial Pit / Borehole No.	Bordon Topsoil
g	Depth	

Analytical Parameter	Accreditation Status	Description	Reporting Unit
Textural Classification	S	Description	Sandy Loam
Conductivity Sat CaSO4	S	uS/cm	2034
Organic Matter LOI	S	% w/w	6.3
Stones >50mm	S	% w/w	0.0
Stones 20-50mm	S	% w/w	0.0
Stones 2-20mm	S	% w/w	0.3
Sand 2.00-0.063mm	S	% w/w	66
Silt 0.063-0.002mm	S	% w/w	24
Clay <0.002mm	S	% w/w	10
Total Nitrogen	S	% w/w	0.17
pH	S	pH units	6.8
P (Available)	S	mg/l	22.6
K (Available)	S	mg/l	96
Mg (Available)	S	mg/l	48

M	MCERTS
Y	UKAS
N	Non UKAS
S	Subcontracted