

Burton Road, Barnsley (Ben Bailey Homes Limited)

Summary of Geoenvironmental Issues

The site is located off Burton Road, Barnsley (centred at NGR SE 377 084) and consists of three parcels of land (Areas A, B and D) covering a total area of approximately 7.3 hectares (18 acres). The land is used for a variety of uses, which includes a scrap yard, open fields, residential properties and a vehicle service garage. It is understood Ben Bailey Homes intend to acquire the site for a residential redevelopment and that this report is required to make an assessment of the site's suitability for this use. Encia Consulting Limited were commissioned by Ben Bailey Homes to undertake a Geoenvironmental Appraisal of the site to assess any abnormal development conditions.

The site is split into three areas of ownership. **Area A** is occupied by a vehicle servicing garage, two residential properties, vehicle storage yard, derelict nurseries and overgrown fields. **Area B** consists of overgrown fields and an area of concrete hardstand (demolished playground). **Area C** is occupied by a scrap yard, which contains approximately 300 cars, large stockpiles of metal, a crusher, offices, above ground fuel tanks and a warehouse building. The general site layout is shown on the attached Drawing 5848/3.

The following table summarises significant findings of Encia's investigation. More detail is provided in the following sections.

ISSUE	REMARKS
Made Ground	Area A - Made ground was encountered across this area, two distinct areas of made ground have been identified- former landfill site (sand/demo rubble fill to 3.0m) in north of the area and filled ground (ash/demo rubble fill to 2.7m) in the south of the area. No made ground was encountered within the field in the east of this area. Area B - Made ground was not encountered within this area. Area C - Made ground was encountered across this area, made ground consisted of a concrete hardstand over granular fill underlain, by gravel and ash and clinker. The maximum depth encountered was 2.5m, the average depth across the site was 1.2m.
Natural Ground	Natural ground across all areas comprised a firm brown clay (weathered mudstone) over mudstone bedrock, sandstone was encountered in the north west corner of the site. Depths to rock head were encountered varied between 1.5 and 3m across the site.
Contamination	Area A - Made ground within the south west of this area contains potentially combustible ash and clinker, elevated TPH and metals. Remediation within this area could comprise either removal of hotspots/screening of unsuitable elements/1000mm soil cover or complete removal of the made ground. Area B - No significant contamination was encountered within this area. No significant remediation is required within this area. Area C - Made ground within this area contains elevated TPH, metals and combustible materials (ash). Remediation could comprise complete removal of the contaminated made ground or ex-situ bioremediation of the contaminated fill with a soil cover of 500mm.
Hazardous Gas	There is one landfill site located within the north east of Area A. Barnsley Metropolitan Borough Council have records of two landfill sites within 250m of the site and the EA have records of four landfill sites within 250m of the site. The radon protective measures site report states that basic radon protection measures are required for new dwellings on this site. A programme of gas monitoring will be undertaken over the next three months. However an allowance should be made for basic gas protection measures at this stage i.e. Suspended floors with 1000 gauge membrane.

ISSUE	REMARKS
Mining & Quarrying	A Coal Authority Coal Mining Report states, "the site is within the likely zone of influence on the surface from workings in 7 seams at 150m to 560m depth,...ground movement from the above mentioned coal workings should by now have ceased." The CA state that a subsidence claim was made within the north east of Area A. Geological plans show the Swinton Pottery Coal and Newhill Coal seam to lie below the Oaks Rock at approximately 20 to 35m bgl. Nine probeholes were drilled between 10 and 30m, a poor quality coal was encountered between 3.3 and 9.9m, the maximum seam thickness being 1.20m. No voids or broken ground were encountered. Based on the results of the rotary probing it is considered that the site is not at risk from surface instability from shallow coal workings.
Preparatory Works	Likely remedial/preparatory works will include: • Removal of trees and other landscaping • Demolition of existing buildings • Processing demolition material for re-use • Remediation of contaminated soils • Re-profiling of current site level to create stable development platform. • Placement of cover layer beneath garden and landscaped areas.
Foundations	Area A - Strip footings over the majority of this area, where contaminated soils are subject to remediation foundations could comprise either rafts on engineered fill or strip footings. Area B - Strip footings Area C - Dependant on the final remediation solution within this area, foundations will either comprise rafts on engineered fill or strip footings.
Groundwater	Groundwater was encountered at depths between 2.5 and 3.0m within the trial pits. The groundwater was noted to rise within the probeholes. This could have an affect on drainage/foundation trenches. As a consequence an allowance for shoring/pumping would be advisable.
Excavations	The trial pits generally remained stable. Collapse of trial pits sides was noted in TPs 14 to 16 excavated in the loose foundry sand fill.
Flooding & Drainage	The site is not located with an EA 1 in 100 year flood plain. A drainage feasibility study is being undertaken and will be reported separately.

The 1854 OS plan shows the site to be undeveloped, a well is shown in the north on Area B. The 1906 OS plan shows a working mens club immediately to the north of the site, a brick works is shown 200m north east of the site and a sewage works is shown 200m east of the site. The 1931 OS plan shows further expansion of the brick works to the north east of the site. The 1955 plan shows several small buildings in Area D, colliery spoil heap is shown approximately 100m west of Area A. The 1962 plan shows West Green Farm in the north east of Area A, drains are shown along the edges of Areas A and B. The 1966 and 1970 show little change within the site areas. The 1973 plan shows three buildings, scrap yard and slag heap within west of Area A, Area D is shown as a scrap metal yard. The brick works pit is now longer shown on the 1984 plan.

Area A is no longer used as a scrap yard, it is understood that the slag heap was levelled to create a hardstand area. The nurseries within Area A have been abandoned, several derelict glass houses exist within this area.

It is understood that Area B was used for arable purposes these fields are now overgrown.

The site is shown to be underlain by Oaks Rock sandstone in the north west corner and undifferentiated coal measures (mudstone and sandstones) across the remainder of the site.

Barnsley MBC and the Environment Agency indicate that four landfill sites are located within 250m of the site. A programme of gas monitoring is being undertaken to assess the gas risk from these sites.

The site is located in an area which requires the incorporation of basic radon protection measures.

Several potentially contaminative land uses have been identified, within Area A this includes the former scrap yard, filled ground and vehicle service station and within Area B this includes the scrap yard, above ground fuel tanks and filled ground.

Ground Investigation:

The ground investigation was undertaken to assess the issues identified within the walkover and comprised the excavation of 32 trial pits and the drilling of 16 window sample holes, the locations of which are indicated on Drawing No 5848/3. A complete record of the strata encountered is provided on the exploratory hole logs which are included.

Water seepages were encountered between 2.0 and 3.0m within the weathered mudstone. Groundwater was noted to rise within the probeholes, suggesting sub-artesian conditions with the overlying cohesive cover acting as a confining layer.

Stability was generally good within the trial pits, however, TPs 14 to 16 excavated in the north west of Area A (landfilled area), collapsed due to the loose sandy fill.

Coal Mining

The Coal Authority Mining Report indicates that the site is not at risk from surface settlements arising from past mining activities.

The mining investigation consisted of drilling nine rotary probeholes to depths between 10m and 30m bgl. One seam of coal was encountered at a depth between 3.3 and 9.9m, the maximum seam thickness being 1.20m. No voids or broken ground were encountered. Based on the results of the rotary probing it is considered that the site is not at risk from surface instability from shallow coal workings. Gas monitoring wells were installed in four of the probeholes.

Ground Contamination

Localised visual and olfactory evidence of oil/fuel contamination was noted within the shallow made ground within Areas A and D.

Forty four samples of made ground and natural ground were analysed at a UKAS accredited laboratory, for a potential contaminant suite comprising:

pH, water soluble boron, total metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium and zinc).

Thirty eight samples of made ground were analysed for leachable metals (*arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium and zinc*) to determine the mobility of the contaminants present.

Due to the presence of visual and olfactory evidence of fuel contamination and historical use of the site as scrap yards, thirty two samples of made and natural ground were tested for TPH by GC FID, this analytical technique detects hydrocarbons in the range C₁₀ to C₄₀ (diesel and lubricating oils). In addition eighteen samples of made and natural ground were tested for GRO and BTEX to determine the presence of petrol, these results are awaited.

Fifteen samples of made ground were tested for Total PAH, Phenols, Cyanide, Sulphide and Sulphate.

Calorific value testing was undertaken on nineteen samples with high ash and clinker content.

Eleven samples of made ground were tested for asbestos fibres, the results are awaited.

The analytical results are summarised in Tables 1 to 5, which are appended to this overview report.

Inorganic contamination

Of the 44 samples of made and natural ground analysed for the predominantly inorganic parameters, 24 could be classified as contaminated because they contained one or more of the parameters at concentrations above relevant current UK guidance threshold values for an end use, which includes domestic gardens and any area where plants are to be grown (the most sensitive of the proposed end-uses).

Within **Area A** the most common contaminants were copper (11 samples), zinc (10), arsenic (9) and nickel (8). Also elevated lead, copper and cadmium were recorded. It is considered that the elevated inorganics are attributed to the ash and clinker content within the made ground in this area.

Within **Area B** the most common contaminant was slightly elevated arsenic (5 samples), zinc (3) and copper (2).

Within **Area D** the most common contaminants were arsenic (4 samples), copper and zinc (3), chromium, lead and nickel (2) and cadmium (1).

Leachability testing was undertaken to determine the mobility of the contaminants, slightly leachable nickel was encountered in one sample within Area D.

Organic Contamination

32 samples from Areas A and D were tested for TPH (Fuel/oil) contamination. Within **Area A**, eight samples of made and natural ground were contaminated by TPH. Within **Area D** thirteen samples of made and natural ground were contaminated with elevated concentrations of TPH, not all the results have been received, however it is considered that the majority of the made ground below the scrap yard is contaminated with TPH.

Elevated calorific values were recorded in eight made ground samples from Area A, two elevated calorific values were recorded in ash and clinker from Area D and one sample of ash and clinker from Area B recorded an elevated calorific value.

Remediation Options

Area A

Within the filled ground to the south west of Area A, elevated TPH, calorific value and inorganic contaminants have been encountered. Two remedial options are available within this area;

- complete removal of the filled ground with disposal to landfill site, or
- removal of TPH hotspots, screening/crushing of unsuitable elements within the filled ground, replacement of screened fill in engineered layers and provision of 1000mm soil cover.

Within the remainder of Area A, a soil cover of 300mm is recommended within garden areas.

Area B

Within Area B no significant contamination was encountered. Subject to bioavailability testing, it is considered that the topsoil within this area is suitable for reuse.

Area D

Within Area D significant TPH contamination was encountered below the site, in addition inorganic contamination was also encountered. Two remedial options are available within this area;

- complete removal of the filled ground with disposal to landfill site, or
- ex situ bioremediation of the contaminated fill materials, followed by provision of 500mm of soil cover.

However it is understood that reducing levels within Area D will affect the drainage design, therefore levels within this area would need to be restored following removal of any made ground.

Foundations

There are a number of technically feasible foundation solutions for two storey residential properties constructed within the site.

A detailed foundation schedule is beyond the scope of this report. Final choice of plot-specific foundation solutions will be determined by the Client, probably in conjunction with Encia and subject to NHBC\Building Control approval, after consideration of the:

- detailed remediation strategy adopted
- proposed final levels\regrade proposals
- detailed final plot layout
- line loads
- cost and programme implications

Made ground is not considered to be a suitable foundation material for any dwelling. Foundations should therefore be taken through the made ground into underlying natural in-situ material of adequate bearing capacity. The foundation recommendations provided below assume that new properties will be of two storey construction and that line loads will not exceed 75kN/m run.

Coal seams have been encountered at shallow depth (<3m) during the ground investigation. Consequently, some excavations for foundations, services etc. may come into contact with coal. Care should be taken not to unnecessarily overdeepen foundations, in order to minimise the chance of encountering coal.

Where foundation excavations do come into contact with coal, the foundation should be taken through the coal seam, into underlying natural in-situ strata of adequate bearing. The full thickness of coal should then be sealed with concrete to create a trench fill foundation.

To prevent the ingress of air, the mass concrete fill should be placed as soon as possible after exposing the seam.

As outlined above there are a number of foundation solution options for two storey residential properties constructed on this site and these are discussed below.

Area A

The majority of foundations will be strip footings with the exception of the following areas;

- Former landfill site in north east of Area A – rafts/piles due to filled ground.
- Filled ground in south west of Area A – rafts on reengineered fill or strips if made ground is removed.

Adjacent to tall mature trees within the south of this area, it was noted that the clayey soils were desiccated. Any desiccated soils should be removed prior to construction of foundations.

Area B

No significant made ground was encountered within this area. Natural ground consisted of firm clay over mudstone. It is considered that foundations within this area would comprise strip foundations.

Area D

Within Area D it is considered that the likely foundation solution following remedial works would be raft foundations on engineered fill.

Drainage

A drainage feasibility has been undertaken and is reported under a separate cover.

Highways

Made ground is present across the site and it is strongly recommended that consultation regarding the specification of the highways should be made with the adopting authority. However, it is considered that the following options would be suitable to enable the construction of the highways.

Where made ground is less than 2m thick the following options are considered suitable.

- Excavation of the **full** thickness of made ground and replacement with suitable aggregate in accordance with Series 600 (Earthworks) of The Highways Agency (HA) "Specification for Highway Works" 1998.
- Excavation of the **full** thickness of made ground, screening, selection and replacement of **suitable** made ground materials in engineered layers in accordance with Series 600. Unsuitable materials include any soft or wet materials, biodegradables including topsoil, wood, peat or lignite, scrap metal, frozen material and material which, by virtue of its particle size or shape, cannot be properly and effectively compacted (e.g. oversize material or gravels which are tabular).

Where made ground is in excess of 2m thick, it is considered that the **upper 2m** of made ground should be removed and replaced in accordance with the above recommendations. However, the residual made ground materials in the base of the excavation should be inspected and (where necessary) any soft spots removed and replaced with suitable engineered fill.

Where the made ground is re-engineered it is considered that a CBR value of 5% should be achievable, however, this should be verified by plate load testing on site and confirmed with the adopting authority.

Crushing of demolition\hardstand\foundation arisings will generate aggregate, which (subject to confirmatory testing) should be suitable for use as unbound pavement materials within the highways at the site.

Table 1a: Summary of Common Contaminants encountered in Ground at Burton Road, Barnsley (Area A)

Contaminant Concentrations in mg/kg unless otherwise stated. Trigger Level Concentrations are shown in Brackets and assume a residential with gardens end-use.																
Site Area	Sample Location and depth (m)	Material	pH	As (20) ¹	Cd (15) ² or (8) ³	Cr (130)	Pb (450) ⁴	Hg (8)	Se (35) ⁵	B (3) ⁶	Cu (130) ⁷	Ni (50) ⁸	Zn (300) ⁹	CN (20) ¹⁰	Phenol (40) ¹¹	PAH (40) ¹²
A	TP1 0.5	MG: Rubble/Ash	7.9	-	-	-	-	-	-	-	-	-	-	-	-	-
A	TP1 1.5	MG: Rubble/Ash	8.3	-	-	-	-	-	-	-	-	-	-	-	-	-
A	TP2 0.3	MG: Ash and Clinker	7.6	44	-	-	-	-	-	-	168	58	-	-	-	-
A	TP2 0.8	MG: Ash and Clinker	7.4	48	-	-	-	-	-	-	210	61	-	-	-	-
A	TP3 0.1	MG: Silty Sand/Gravel	8.6	21	-	-	-	-	-	-	185	-	467	-	-	-
A	TP3 0.5	MG: Sandy Gravel	8.1	35	-	-	-	-	-	-	197	51	551	-	-	-
A	TP4 0.2	MG: Sandy Gravel	8.4	-	-	-	-	-	-	-	-	-	330	-	-	-
A	TP4 0.6	MG: Sandy Gravel	8.2	-	-	-	-	-	-	-	-	-	-	-	-	-
A	TP5 0.1	MG: Ash and Clinker	7.7	25	-	159	1100	-	-	-	404	80	5270	-	-	-
A	TP6 0.15	MG: Ash and Clinker	8.7	29	-	-	815	-	-	-	523	68	2090	-	-	-
A	TP7 0.25	MG: Ash and Clinker	8.7	24	-	-	-	-	-	-	302	54	507	-	-	-
A	TP8 0.1	MG: Silty Sand	10	-	-	584	542	-	-	-	204	-	1090	-	-	-
A	TP30 0.2	MG: Silty Sand	8.5	29	-	140	1360	-	-	-	672	72	3280	-	-	-
A	TP31 0.5	MG: Silty Sand	7.7	28	9	-	-	-	-	-	661	57	1230	-	-	-
A	TP32 0.5	MG: Silty Sand	8.6	-	-	-	557	-	-	-	265	-	794	-	-	197
A	WS1 0.25	MG: Silty Sand	8	-	-	-	-	-	-	-	-	-	-	-	-	-
A	TP30 0.6	CLAY	7.8	-	-	-	-	-	-	-	-	-	-	-	-	-

Key		Source of Guidance/Trigger Level	
-	Parameter tested for but not found to be in excess of threshold concentration	*	ICRCL Guidance Note 59/83, Second Edition (1987) - (Phytotoxics only)
	Parameter not tested for	\$	DEFRA and the EA Contaminated Land Exposure Assessment (CLEA) - March '02
#	All pH results listed to confirm which soil guideline values are to be used in CLEA assessment	°	Dutch Intervention Levels
		◊	BRE Special Digest 1, Concrete in Aggressive Ground (2001)
		+	Professional judgement based on Dutch Intervention Values

Table 1b: Summary of Common Contaminants encountered in Ground at Burton Road, Barnsley (Area B)

			Contaminant Concentrations in mg/kg unless otherwise stated. Trigger Level concentrations are shown in brackets and assume a residential with gardens end-use													
Site Area	Sample Location and depth (m)	Materials	pH [#]	As (20) [*]	Co (172 or 8) [*]	Cr (130) [*]	Pb (450) [*]	Hg (8) [*]	Se (35) ¹	B (3) [*]	Cu (130) [*]	Ni (50) [*]	Zn (300) [*]	CN (20) ^o	Phenol (40) ^o	PAH (40) ^o
B	TP10 0.15	MG: Silty Sand	7.1	-	-	-	-	-	-	-	-	-	-			
B	TP11 0.2	MG: Silty Sand	7.1	25	-	-	-	-	-	-	-	-	703			
B	TP12 0.3	MG: Sandy Clay	7.1	-	-	-	-	-	-	-	-	-	-			
B	TP13 0.5	MG: Silty Sand	8.7	-	-	-	-	-	-	-	144	-	455			
B	TP14 0.5	MG: Silty Sand	8.2	-	-	-	-	-	-	-	-	-	-			
B	TP15 1.5	MG: Sand	8.1	-	-	-	-	-	-	-	147	-	315			
B	TP16 1.0	MG: Silty Sand	8.8	-	-	-	-	-	-	-	-	-	-			
B	TP16 2.0	MG: Sand	10.6	-	-	-	-	-	-	-	-	-	-			
B	TP17 0.15	MG: Silty Sand	7.2	22	-	-	-	-	-	-	-	-	-			
B	TP20 0.1	MG: Ashy Silty Sand	7.8	-	-	-	-	-	-	-	-	-	-			
B	TP25 0.1	MG: Silty Sand	6	-	-	-	-	-	-	-	-	-	-			
B	TP9 0.1	Silty SAND (Topsoil)	7.2	24	-	-	-	-	-	-	-	-	-			
B	TP18 0.1	Silty SAND (Topsoil)	7.2	26	-	-	-	-	-	-	-	-	-			
B	TP21 0.1	Silty SAND (Topsoil)	5	23	-	-	-	-	-	-	-	-	-			
B	TP23 0.1	Silty SAND (Topsoil)	5.6	-	-	-	-	-	-	-	-	-	-			
B	TP24 0.1	Silty SAND (Topsoil)	5.4	-	-	-	-	-	-	-	-	-	-			

Key		Source of Guidance/Trigger Level	
-	Parameter tested for but not found to be in excess of threshold concentration	*	ICRCL Guidance Note 59/83, Second Edition (1987) – (Phytotoxics only)
	Parameter not tested for	\$	DEFRA and the EA Contaminated Land Exposure Assessment (CLEA) – March '02
#	All pH results listed to confirm which soil guideline values are to be used in CLEA assessment	o	Dutch Intervention Levels
		o	BRE Special Digest 1, Concrete in Aggressive Ground (2001)
		*	Professional judgement based on Dutch Intervention Values

Table 1c: Summary of Common Contaminants encountered in Ground at Burton Road, Barnsley (Area D)

			Contaminant Concentrations in mg/kg unless otherwise stated. Trigger Level Concentrations are Shown in Brackets and assume a residential with gardens end-use.													
Site Area	Sample Location and depth (m)	Material	pH	As (20) ^o	Cd (1, 2 or 8) ^o	Cr (130) ^o	Pb (450) ^o	Hg (8) ^o	Se (35) ^o	B (3) ^o	Cu (130) ^o	Ni (50) ^o	Zn (300) ^o	CN (20) ^o	Phenol (40) ^o	PAH (40) ^o
D	WS4 0.6-0.9	MG: Ash and Clinker	10.5	-	-	-	-	-	-	-	-	-	-	-	-	-
D	WS5 0.2-0.5	MG: Sandy Gravel (subbase)	10.3	26	-	-	-	-	-	-	-	-	-	-	-	-
D	WS6 0.5-1.0	MG: Ash and Clinker	11.8	-	-	199	-	-	-	-	-	-	-	-	-	-
D	WS8 0.2-1.0	MG: Ash and Clinker	9.3	28	9	-	1320	-	-	-	414	1960	1010	-	-	-
D	WS9 1.1-2.0	MG: Ash and Clinker	9	-	-	-	-	-	-	-	-	-	-	-	-	-
D	WS11 0.2-0.8	MG: Ash and Clinker	8.8	53	-	155	1350	-	-	-	453	164	1240	-	-	90
D	WS12 0.5-1.2	MG: Sandy Gravel	9.4	-	-	-	-	-	-	-	-	-	-	-	-	-
D	WS13 0.2-0.5	MG: Sandy Gravel (subbase)	11.1	-	-	-	-	-	-	-	-	-	-	-	-	-
D	WS14 0.4-0.8	MG: Sandy Gravel	10.4	25	-	-	-	-	-	-	418	-	470	-	-	-
D	WS15 0.5-1.0	MG: Sandy Gravel	9.7	-	-	-	-	-	-	-	-	-	-	-	-	-
D	WS3 0.6-1.0	Sandy GRAVEL	7.8	-	-	-	-	-	-	-	-	-	-	-	-	-
D	WS7 1.5-2.0	CLAY	7.6	-	-	-	-	-	-	-	-	-	-	-	-	-

Key		Source of Guidance Trigger Level	
-	Parameter tested for but not found to be in excess of threshold concentration	*	ICRCL Guidance Note 59/83, Second Edition (1987) – (Phytotoxics only)
	Parameter not tested for	\$	DEFRA and the EA Contaminated Land Exposure Assessment (CLEA) – March '02
#	All pH results listed to confirm which soil guideline values are to be used in CLEA assessment	°	Dutch Intervention Levels
		◊	BRE Special Digest 1, Concrete in Aggressive Ground (2001)
		+	Professional judgement based on Dutch Intervention Values

TABLE 2a - Summary of the Leachability Testing on samples from Burton Road, Barnsley (Area A)

Sample Location & depth	Material	Contaminant Concentration in µg/litre Unless Otherwise Shown										
		pH	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn	Se	B
			(50)*	(5)*	(50)*	(3000)*	(50)*	(1)*	(50)*	(5,000)*	(10)*	(2000)*
TP1 - 0.50	MG: Rubble/Ash	8.8	-	-	-	-	-	-	-	-	-	-
TP1 - 1.50	MG: Rubble/Ash	7.3	-	-	-	-	-	-	-	-	-	-
TP2 - 0.30	MG: Ash and Clinker	6.8	-	-	-	-	-	-	-	-	-	-
TP3 - 0.10	MG: Silty Sand/Gravel	7.4	-	-	-	-	-	-	-	-	-	-
TP4 - 0.20	MG: Sandy Gravel	7.5	-	-	-	-	-	-	-	-	-	-
TP5 - 0.10	MG: Ash and Clinker	7.3	-	-	-	-	-	-	-	-	-	-
TP6 - 0.15	MG: Ash and Clinker	7.6	-	-	-	-	-	-	-	-	-	-
TP7 - 0.25	MG: Ash and Clinker	7.4	-	-	-	-	-	-	-	-	-	-
TP8 - 0.10	MG: Silty Sand	7.2	-	-	-	-	-	-	-	-	-	-
TP30 - 0.20	MG: Silty Sand	7.2	-	-	-	-	-	-	-	-	-	-
TP31 - 0.50	MG: Silty Sand	7.5	-	-	-	-	-	-	-	-	-	-
WS1 - 0.25	MG: Ash and Clinker	7.2	-	-	-	-	-	-	-	-	-	-

Key		Source of Guidance Trigger Level	
-	Parameter tested for but found not to be in excess of relevant trigger level concentration	*	Water Supply (Water Quality) Regulations 1989
	Parameter not tested for	o	The Surface Water Directive (75/440/EEC)

TABLE 2b - Summary of the Leachability Testing on samples from Burton Road, Barnsley (Area B)

Sample Location & depth	Material	Contaminant Concentration in µg/litre Unless Otherwise Shown										
		pH	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn	Se	B
			(50)*	(5)*	(50)*	(3000)*	(50)*	(1)*	(50)*	(5,000)*	(10)*	(2000)*
TP10 - 0.15	MG: Silty Sand	7	-	-	-	-	-	-	-	-	-	-
TP11 - 0.20	MG: Silty Sand	7	-	-	-	-	-	-	-	-	-	-
TP12 - 0.30	MG: Silty Sand	6.1	-	-	-	-	-	-	-	-	-	-
TP13 - 0.50	MG: Silty Sand	6.9	-	-	-	-	-	-	-	-	-	-
TP14 - 0.50	MG: Silty Sand	7.5	-	-	-	-	-	-	-	-	-	-
TP15 - 1.50	MG: Sand	6.8	-	-	-	-	-	-	-	-	-	-
TP16 - 1.00	MG: Silty Sand	7.5	-	-	-	-	-	-	-	-	-	-
TP16 - 2.00	MG: Sand	9.8	-	-	-	-	-	-	-	-	-	-
TP17 - 0.15	MG: Silty Sand	6.8	-	-	-	-	-	-	-	-	-	-
TP20 - 0.10	MG: Ashy Silty Sand	7.3	-	-	-	-	-	-	-	-	-	-
TP9 - 0.10	Silty SAND (Topsoil)	6	-	-	-	-	-	-	-	-	-	-
TP18 - 0.10	Silty SAND (Topsoil)	6.6	-	-	-	-	-	-	-	-	-	-
TP23 - 0.10	Silty SAND (Topsoil)	5.3	-	-	-	-	-	-	-	-	-	-
TP25 - 0.10	Silty SAND (Topsoil)	6	-	-	-	-	-	-	-	-	-	-

Key		Source of Guidance Trigger Level	
-	Parameter tested for but found not to be in excess of relevant trigger level concentration	*	Water Supply (Water Quality) Regulations 1989
	Parameter not tested for	o	The Surface Water Directive (75/440/EEC)

TABLE 2c - Summary of the Leachability Testing on samples from Burton Road, Barnsley (Area D)

Sample Location & depth	Material	Contaminant Concentration in µg/litre Unless Otherwise Shown										
		pH	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn	Se	B
			(50)*	(5)*	(50)*	(3000)*	(50)*	(1)*	(50)*	(5,000)*	(10)*	(2000)*
WS4 - 0.6-0.9	MG: Ash and Clinker	7.1	-	-	-	-	-	-	-	-	-	-
WS5 - 0.2-0.5	MG: Sandy Gravel (subbase)	7.4	-	-	-	-	-	-	-	-	-	-
WS6 - 0.5-1.0	MG: Ash and Clinker	8.2	-	-	-	-	-	-	-	-	-	-
WS8 - 0.2-1.0	MG: Ash and Clinker	7.1	-	-	-	-	-	-	134	-	-	-
WS9 - 1.1-2.0	MG: Ash and Clinker	7.8	-	-	-	-	-	-	-	-	-	-
WS11 - 0.2-0.8	MG: Ash and Clinker	7.3	-	-	-	-	-	-	-	-	-	-
WS13 - 0.2-0.5	MG: Sandy Gravel (subbase)	11.1	-	-	-	-	-	-	-	-	-	-
WS14 - 0.4-0.8	MG: Sandy Gravel	9.3	-	-	-	-	-	-	-	-	-	-
WS15 - 0.5-1.0	MG: Sandy Gravel	7.3	-	-	-	-	-	-	-	-	-	-
WS3 - 0.6-1.0	Sandy GRAVEL	7	-	-	-	-	-	-	-	-	-	-
WS7 - 1.5-2.0	CLAY	8	-	-	-	-	-	-	-	-	-	-

Key		Source of Guidance Trigger Level	
-	Parameter tested for but found not to be in excess of relevant trigger level concentration	*	Water Supply (Water Quality) Regulations 1989
	Parameter not tested for	o	The Surface Water Directive (75/440/EEC)

TABLE 4 - GRO and BTEX contamination in soil. (AREA D)

Sample Location and Depth (m)	Material	GRO	Benzene mg/kg	Toluene mg/kg	Ethyl Benzene mg/kg	Xylenes mg/kg
		(500)#	(1) ⁰	(130) ⁰	(50) ⁰	(25) ⁰
WS3 - 0.2-0.6	MG: Ash and Clinker	*	*	*	*	*
WS4 - 0.6-0.9	MG: Ash and Clinker	*	*	*	*	*
WS5 - 0.2-0.5	MG: Silty Sand (subbase)	*	*	*	*	*
WS6 - 0.5-1.0	MG: Ash and Clinker	*	*	*	*	*
WS7 - 0.6-1.5	MG: Ash and Clinker	*	*	*	*	*
WS8 - 0.2-1.0	MG: Ash and Clinker	*	*	*	*	*
WS8 - 2.0-2.5	MG: Ash and Clinker	*	*	*	*	*
WS9 - 0.4-1.0	MG: Ash and Clinker	*	*	*	*	*
WS10- 0.2-0.5	MG: Sandy Gravel (subbase)	*	*	*	*	*
WS11 - 0.2-0.8	MG: Ash and Clinker	*	*	*	*	*
WS12 - 0.2-0.6	MG: Ash and Clinker	*	*	*	*	*
WS13 - 0.5-1.0	MG: Sandy Gravel	*	*	*	*	*
WS14 - 0.4-0.8	MG: Sandy Gravel	*	*	*	*	*
WS15 - 0.5-1.0	MG: Sandy Gravel	*	*	*	*	*
WS16 - 0.15-0.5	MG: Sandy Gravel	*	*	*	*	*
WS16 - 0.4-1.4	MG: Sandy Gravel	*	*	*	*	*
WS3 - 0.6-1.0	Sandy GRAVEL	*	*	*	*	*
WS4 - 1.0-2.0	CLAY	*	*	*	*	*

Key

Materials in upper case are natural in-situ soils.

- ☐ - Parameter tested for but found not to lie in excess of relevant trigger concentration.
- ☐ * Parameter not tested for

Source of Guidance Trigger Level

- ⁰ Dutch E-3.c Intervention Level for Soil Remediation (1994)
- # Professional Judgement of Encia
- * Result Awaited

Table 5 Summary of Calorific Value Results

Area of Site	Sample Location & Depth (m)	Material	CV
			2,000KJ/kg
A	TP1 - 0.5	MG: Rubble/Ash	9620
A	TP1 - 1.5	MG: Rubble/Ash	-
A	TP2 - 0.30	MG: Ash and Clinker	12800
A	TP2 - 0.80	MG: Ash and Clinker	9490
A	TP5 - 0.10	MG: Ash and Clinker	4860
A	TP6 - 0.15	MG: Ash and Clinker	3970
A	TP7 - 0.25	MG: Ash and Clinker	6930
A	TP30 - 0.2	MG: Silty Sand	5780
A	TP31 - 0.50	MG: Silty Sand	6430
A	TP32 - 0.5	MG: Silty Sand	-
B	TP20 - 0.10	MG: Ashy Silty Sand	4810
D	WS4 - 0.6-0.9	MG: Ash and Clinker	2600
D	WS5 - 0.2-0.5	MG: Ashy Gravel	3190
D	WS6 - 0.5-1.0	MG: Ash and Clinker	-
D	WS9 - 1.1-2.0	MG: Ash and Clinker	-
D	WS8 - 0.2-1.0	MG: Ash and Clinker	-

PROBEHOLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

PH1

DATE 21/11/2003 to

Co-ords -

Sheet 1 of 1

21/11/2003

Ground Level -

Scale 1:100

sample no & type	depth (m)	casing depth (m)	well/ backfill	description	depth (m)	level (m)	ground water	legend
				MADE GROUND: Brown sandy gravel fill				
				Grey MUDSTONE	3.10			
				COAL with bands of mudstone	8.80			
				Grey MUDSTONE	9.90			
				End of probehole at 11.00 m	11.00			

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out.
2. Groundwater was encountered below 5m.
3. Gas monitoring well installed.

Equipment/Methods

Solmec 400 tracked drilling rig equipped with 100mm tri-cone bit and air flush.

Logged by

JWH

JOB

5848

FIGURE

PROBEHOLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

PH2

DATE 21/11/2003 to

Co-ords -

Sheet 1 of 2

21/11/2003

Ground Level -

Scale 1:100

sample no & type	depth (m)	casing depth (m)	well/ backfill	description	depth (m)	level (m)	ground water	legend
				MADE GROUND: Brown sandy gravel fill				
				Grey MUDSTONE	2.20			
				COAL with bands of mudstone	8.50			
				Grey MUDSTONE	9.70			
Continued on next sheet								

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out.
2. Groundwater was encountered below 5m.

Equipment/Methods

Solmec 400 tracked drilling rig equipped with 100mm tri-cone bit and air flush.

Logged by

JWH

JOB

5848

FIGURE

ENCIA
CONSULTING LIMITED

PH2

Sheet 2 of 2

Scale 1:100

sample no & type	depth (m)	casing depth (m)	well/ backfill	description	depth (m)	level (m)	ground water	legend
				Grey MUDSTONE				
				Brown SANDSTONE with bands of siltstone	25.30			
				End of probehole at 30.00 m	30.00			
Remarks 1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was encountered below 5m.								
Equipment/Methods Solmec 400 tracked drilling rig equipped with 100mm tri-cone bit and air flush.					Logged by JWH	JOB 5848	FIGURE	

PROBEHOLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

PH3

DATE 21/11/2003 to

Co-ords -

Sheet 1 of 1

21/11/2003

Ground Level -

Scale 1:100

sample no & type	depth (m)	casing depth (m)	well/ backfill	description	depth (m)	level (m)	ground water	legend
				MADE GROUND: Brown sandy gravel fill				
				Brown MUDSTONE	1.20			
				Grey MUDSTONE	3.10			
				COAL with bands of mudstone	3.30			
				Grey MUDSTONE	4.70			
				End of probehole at 10.00 m	10.00			

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out.
2. Groundwater was encountered below 5m.

Equipment/Methods

Solmec 400 tracked drilling rig equipped with 100mm tri-cone bit and air flush.

Logged by

JWH

JOB

5848

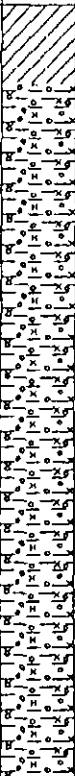
FIGURE

ENCIA
CONSULTING LIMITED

PH4

Sheet 1 of 1

Scale 1:100

sample no & type	depth (m)	casing depth (m)	well/ backfill	description	depth (m)	level (m)	ground water	legend
				Brown CLAY				
				Brown MUDSTONE	1.40			
				Grey MUDSTONE.	2.60			
				End of probehole at 10.00 m	10.00			
Remarks 1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was encountered below 5m.								
Equipment/Methods Solmec 400 tracked drilling rig equipped with 100mm tri-cone bit and air flush.					Logged by JWH		JOB 5848	FIGURE

PROBEHOLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

PH5

DATE 21/11/2003 to

Co-ords -

Sheet 1 of 1

21/11/2003

Ground Level -

Scale 1:100

sample no & type	depth (m)	casing depth (m)	well/ backfill	description	depth (m)	level (m)	ground water	legend
				Brown CLAY				
				Brown MUDSTONE	2.30			
				Grey MUDSTONE with some bands of sandstone.	4.70			
				End of probehole at 10.00 m	10.00			
Remarks 1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not encountered. 3. Gas monitoring well installed.								
Equipment/Methods Solmec 400 tracked drilling rig equipped with 100mm tri-cone bit and air flush.					Logged by	JOB	FIGURE	
					JWH	5848		

PROBEHOLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

PH6

DATE 21/11/2003 to

Co-ords -

Sheet 1 of 1

21/11/2003

Ground Level -

Scale 1:100

sample no & type	depth (m)	casing depth (m)	well/ backfill	description	depth (m)	level (m)	ground water	legend
				MADE GROUND: Brown sandy gravel fill				
				Grey SANDSTONE	2.30			
				End of probehole at 10.00 m	10.00			

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out.
2. Groundwater was encountered below 5m.

Equipment/Methods
Solmec 400 tracked drilling rig equipped with 100mm tri-cone bit and air flush.

Logged by

JWH

JOB

5848

FIGURE

PROBEHOLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

PH7

DATE 21/11/2003 to

Co-ords -

Sheet 1 of 1

21/11/2003

Ground Level -

Scale 1:100

sample no & type	depth (m)	casing depth (m)	well/ backfill	description	depth (m)	level (m)	ground water	legend
				Brown CLAY				
				Brown MUDSTONE	1.90			
				COAL with bands of mudstone	2.50			
				Grey MUDSTONE	4.00			
				End of probehole at 10.00 m	10.00			

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out.
2. Groundwater was not encountered.
3. Gas monitoring well installed.

Equipment/Methods

Solmec 400 tracked drilling rig equipped with 100mm tri-cone bit and air flush.

Logged by

JWH

JOB

5848

FIGURE

ENCIA
CONSULTING LIMITED

PH8

Sheet 1 of 1

Scale 1:100

sample no & type	depth (m)	casing depth (m)	well/ backfill	description	depth (m)	level (m)	ground water	legend
				Brown CLAY				
				Grey MUDSTONE	2.00			
				End of probehole at 10.00 m	10.00			
Remarks 1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not encountered. 3. Gas monitoring well installed.								
Equipment/Methods Solmec 400 tracked drilling rig equipped with 100mm tri-cone bit and air flush.					Logged by JWH	JOB S848	FIGURE	

PROBEHOLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

PH9

DATE 21/11/2003 to

Co-ords -

Sheet 1 of 1

21/11/2003

Ground Level -

Scale 1:100

sample no & type	depth (m)	casing depth (m)	well/ backfill	description	depth (m)	level (m)	ground water	legend
				Brown CLAY				
				Brown MUDSTONE	1.60			
				COAL with bands of mudstone	5.20			
				Grey MUDSTONE	5.60			
				End of probehole at 10.00 m	10.00			

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out.
2. Groundwater was not encountered.

Equipment/Methods

Solmec 400 tracked drilling rig equipped with 100mm tri-cone bit and air flush.

Logged by

JWH

JOB

5848

FIGURE

WINDOW SAMPLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

WS1

DATE 20 Nov 03

Co-ords

Sheet 1 of 1

Ground Level 44.7mAOD

Scale 1:50

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.15		MADE GROUND: ? Dense damp grey sandy fine to coarse subangular gravel.	0.10	44.60		
2D	0.25			0.20	44.50		
3D	0.50		MADE GROUND: ? Dense damp dark grey silty sand of ash and clinker	0.30	44.40		
			MADE GROUND: ? Soft moist grey clay with a little fine subangular gravel				
			? Firm moist orange brown CLAY with a little subangular gravel of mudstone.				
			? Moderately weak greyish brown thinly laminated MUDSTONE	1.70	43.00		
			End of window sample hole at 3.00 m	3.00	41.70		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. Groundwater was not apparent during excavation.
3. On completion the window sample holet was backfilled with materials arising.
4. Slight olfactory evidence of oil/fuel contamination between 0.0 and 0.2m.

Equipment/Methods

Window sample hole advanced by percussive methods using 120mm and 90mm sampling rods.

Logged by

JWH

JOB

5848

FIGURE

WINDOW SAMPLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

WS2

DATE 20 Nov 03

Co-ords

Sheet 1 of 1

Ground Level 45.1mAOD

Scale 1:50

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.15		MADE GROUND: ? Dense damp grey sandy fine to coarse subangular gravel.	0.30	44.80		
2D	0.40		? Firm moist orange brown CLAY with a little subangular gravel of mudstone.				
			? Moderately weak greyish brown thinly laminated MUDSTONE	2.00	43.10		
			End of window sample hole at 2.20 m	2.20	42.90		
Remarks 1. Prior to excavation a Cable Avoidance Tool survey was carried out. 2. Groundwater was not apparent during excavation. 3. On completion the window sample holelet was backfilled with materials arising. 4. No visual or olfactory evidence of oil/fuel contamination.							
Equipment/Methods Window sample hole advanced by percussive methods using 120mm and 90mm sampling rods.				Logged by JWH	JOB 5848	FIGURE	

WINDOW SAMPLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

WS3

DATE 20 Nov 03

Co-ords

Sheet 1 of 1

Ground Level 42.4mAOD

Scale 1:50

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1J	0.20-0.60		MADE GROUND: Reinforced concrete. (Hardstand)	0.20	42.20		
20	0.60-1.00		MADE GROUND: Dark brown black sandy fine to coarse angular gravel. Gravel mostly fragments of stone, ash and clinker. (Ash & Clinker) Possible slight odour of hydrocarbons between 0.2 and 0.6m	0.60	41.80		
			Dense orange brown sandy fine to coarse angular gravel. Gravel mostly mudstone lithorelicts). (Weathered Mudstone)	1.00	41.40		
			Stiff orange brown and grey CLAY.	2.00	40.40		
			End of window sample hole at 2.00 m				

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out.
2. The concrete hardstand was cored using 100mm core barrel.

Equipment/Methods

Window sample hole advanced by percussive methods using 120mm and 90mm sampling rods.

Logged by

OGO

JOB

5848

FIGURE

WINDOW SAMPLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

WS4

DATE 20 Nov 03

Co-ords

Sheet 1 of 1

Ground Level 42.6mAOD

Scale 1:50

sample no & type	depth (m)	m-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.20-0.60		MADE GROUND: Reinforced concrete. (Hardstand)	0.20	42.40		
2J	0.60-0.90		MADE GROUND: Grey brown sandy fine to coarse angular gravel. (Sub-base)	0.60	42.00		
3D	1.00-2.00		MADE GROUND: Dark brown black sandy fine to coarse angular gravel. Gravel mostly fragments of stone, ash and clinker. (Ash & Clinker) Possible slight odour of hydrocarbons between 0.6 and 0.9m	0.90 1.00	41.70 41.60		
			Stiff dark grey sandy CLAY.				
			Stiff orange brown and grey CLAY.	2.30	40.30		
			Dark grey and brown clayey fine to coarse angular gravel. Gravel mostly mudstone lithorelicts. (Weathered Mudstone)	2.90	39.70		
			End of window sample hole at 2.90 m				
Remarks 1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. The concrete hardstand was cored using 100mm core barrel.							
Equipment/Methods Window sample hole advanced by percussive methods using 120mm and 90mm sampling rods.				Logged by OGO	JOB 5848	FIGURE	

WINDOW SAMPLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

WS5

DATE 21 Nov 03

Co-ords

Sheet 1 of 1

Ground Level 41.4mAOD

Scale 1:50

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.20-0.50		MADE GROUND: Reinforced concrete. (Hardstand)	0.20	41.20		
			MADE GROUND: Grey sandy fine to coarse angular gravel. (Sub-base)	0.40 0.50	41.00 40.90		
			MADE GROUND: Dark brown black sandy fine to coarse angular gravel. Gravel mostly fragments of stone, ash, clinker and brick. (Ash & Clinker)	0.70	40.70		
			MADE GROUND: Brown gravelly sand. Gravel mostly fine to medium stone and brick fragments. End of window sample hole at 0.70 m				
Remarks							
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. The concrete hardstand was cored using 100mm core barrel.							
Equipment/Methods Window sample hole advanced by percussive methods using 120mm and 90mm sampling rods.				Logged by OGO		JOB 5848	FIGURE

WINDOW SAMPLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

WS6

DATE 20 Nov 03

Co-ords

Sheet 1 of 1

Ground Level 40.8mAOD

Scale 1:50

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.20-0.50		MADE GROUND: Reinforced concrete. (Hardstand)	0.20	40.60		
2D	0.50-1.00		MADE GROUND: Pink grey sandy fine to coarse angular gravel. (Sub-base)	0.50	40.30		
			MADE GROUND: Dark brown black sandy fine to coarse angular gravel. Gravel mostly fragments of stone, ash, clinker and brick. (Ash & Clinker)	1.50	39.30		
			End of window sample hole at 1.50 m				
Remarks 1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. The concrete hardstand was cored using 100mm core barrel.							
Equipment/Methods Window sample hole advanced by percussive methods using 120mm and 90mm sampling rods.				Logged by OGO	JOB 5848	FIGURE	

WINDOW SAMPLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

WS 7

DATE 20 Nov 03

Co-ords

Sheet 1 of 1

Ground Level 41.2mAOD

Scale 1:50

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.60-1.50		MADE GROUND: Reinforced concrete. (Hardstand)	0.20	40.95		
			MADE GROUND: Pink grey sandy fine to coarse angular gravel. (Sub-base)	0.60	40.55		
	1.50-2.00		MADE GROUND: Dark brown black sandy fine to coarse angular gravel. Gravel mostly fragments of stone, ash, clinker and brick. (Ash & Clinker)	1.50	39.65		
			Stiff brown and grey CLAY.	2.00	39.15		
			End of window sample hole at 1.50 m				

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out.
2. The concrete hardstand was cored using 100mm core barrel.

Equipment/Methods

Window sample hole advanced by percussive methods using 120mm and 90mm sampling rods.

Logged by

OGO

JOB

5848

FIGURE

WINDOW SAMPLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

WS8

DATE 20 Nov 03

Co-ords

Sheet 1 of 1

Ground Level 41.3mAOD

Scale 1:50

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.20-1.00		MADE GROUND: Reinforced concrete. (Hardstand) MADE GROUND: Dark brown black sandy fine to coarse angular gravel. Gravel mostly fragments of stone, ash, clinker and brick with occasional metal fragments. (Ash & Clinker) No sample recovery between 1.0 and 2.0m	0.20	41.10		
2I	2.00-2.50		Iridescent sheen noted on sample between 2.0 and 2.5m				
3D	2.50-3.00		Stiff brown and grey CLAY.	2.50	38.80		
			End of window sample hole at 3.00 m	3.00	38.30		
Remarks 1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. The concrete hardstand was cored using 100mm core barrel.							
Equipment/Methods Window sample hole advanced by percussive methods using 120mm and 90mm sampling rods.				Logged by	JOB	FIGURE	
				OGO	5848		

WINDOW SAMPLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

WS9

DATE 21 Nov 03

Co-ords

Sheet 1 of 1

Ground Level 41.2mAOD

Scale 1:50

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.40-1.00		DE GROUND: Reinforced concrete. (rdstand)	0.20	41.00		
			DE GROUND: Grey brown sandy fine to coarse angular gravel. (b-base)	0.40	40.80		
2D	1.10-2.00		DE GROUND: Dark brown black sandy fine to coarse angular gravel. Gravel mostly fragments of stone, ash, ker and brick. (h & Clinker)	1.10	40.10		
3D	2.00-3.00		DE GROUND: Brown gravelly sand. Gravel mostly fine to medium stone and brick fragments.	2.00	39.20		
			S f brown and grey CLAY.				
			End of window sample hole at 3.00 m	3.00	38.20		

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out.
2. The concrete hardstand was cored using 100mm core barrel.

Equipment/Methods

Window sample hole advanced by percussive methods using 120mm and 90mm sampling rods.

Logged by

OGO

JOB

5848

FIGURE

WINDOW SAMPLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

WS10

DATE 21 Nov 03

Co-ords

Sheet 1 of 1

Ground Level 40.70

Scale 1:50

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.40-1.00		DE GROUND: Reinforced concrete. (rdstand)	0.20			
			DE GROUND: Grey brown sandy fine to coarse angular gravel. (b-base)	0.40			
2D	1.10-2.00		DE GROUND: Dark brown black sandy fine to coarse angular gravel. Gravel mostly fragments of stone, ash, clinker and brick. (n & Clinker)	1.10			
3D	2.00-3.00		DE GROUND: Brown gravelly sand. Gravel mostly fine to medium stone and brick fragments.	2.00	38.70		
			S of brown and grey CLAY.				
			End of window sample hole at 3.00 m	3.00			
Remarks 1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. The concrete hardstand was cored using 100mm core barrel.							
Equipment/Methods Window sample hole advanced by percussive methods using 120mm and 90mm sampling rods.				Logged by OGO	JOB 5848	FIGURE	

WINDOW SAMPLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

WS11

DATE 21 Nov 03

Co-ords

Sheet 1 of 1

Ground Level 40.4mAOD

Scale 1:50

Ground Level 40.4m AOD				Scale 1:50			
sample no & type	depth (m)	In-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.20-0.80		MADE GROUND: Reinforced concrete. (Hardstand)	0.20	40.20		
			MADE GROUND: Dark brown black sandy fine to coarse angular gravel. Gravel mostly fragments of stone, ash, clinker and brick with occasional metal, timber, plastic, rubber and glass fragments. (Ash & Clinker) <i>End of window sample hole at 0.80 m</i>	0.80	39.60		
Remarks 1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. The concrete hardstand was cored using 100mm core barrel.							
Equipment/Methods Window sample hole advanced by percussive methods using 120mm and 90mm sampling rods.				Logged by OGO	JOB 5848	FIGURE	

WINDOW SAMPLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

WS12

DATE 21 Nov 03

Co-ords

Sheet 1 of 1

Ground Level 40.1mAOD

Scale 1:50

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.20-0.50		MADE GROUND: Reinforced concrete. (Hardstand)	0.20	39.90		
2D	0.50-1.20		MADE GROUND: Dark brown black sandy fine to coarse angular gravel. Gravel mostly fragments of stone, ash, clinker and brick. (Ash & Clinker)	0.50	39.60		
			MADE GROUND: Brown sandy fine to coarse angular to subrounded gravel. Gravel mostly stone with trace coal. <i>End of window sample hole at 1.20 m</i>	1.20	38.90		
Remarks 1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. The concrete hardstand was cored using 100mm core barrel.							
Equipment/Methods Window sample hole advanced by percussive methods using 120mm and 90mm sampling rods.				Logged by OGO	JOB 5848	FIGURE	

WINDOW SAMPLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

WS13

DATE 20 Nov 03

Co-ords

Sheet 1 of 1

Ground Level 40.1mAOD

Scale 1:50

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.20-0.50		MADE GROUND: Reinforced concrete. (Hardstand)	0.20	39.90		
2D	0.50-1.00		MADE GROUND: Grey sandy fine to coarse angular gravel. (Sub-base)	0.50	39.60		
3D	1.00-1.30		MADE GROUND: Brown very sandy fine to coarse angular to subrounded gravel. Gravel is mostly stone with some ash and clinker.	1.00	39.10		
			MADE GROUND: Dark brown black sandy fine to coarse angular gravel. Gravel mostly fragments of stone, ash, clinker and brick with occasional metal fragments. <i>End of window sample hole at 1.30 m</i>	1.30	38.80		

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out.
2. The concrete hardstand was cored using 100mm core barrel.

Equipment/Methods

Window sample hole advanced by percussive methods using 120mm and 90mm sampling rods.

Logged by

OGO

JOB

5848

FIGURE

WINDOW SAMPLE LOG



CLIENT Ben Balley Homes Limited

SITE Burton Road, Barnsley

WS14

DATE 21 Nov 03

Co-ords

Sheet 1 of 1

Ground Level 40.6mAOD

Scale 1:50

Ground Level 40.61400				Scale 1:50			
sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.40-0.80		MADE GROUND: Reinforced concrete. (Hardstand)	0.20	40.40		
			MADE GROUND: Grey sandy fine to coarse angular gravel. (Sub-base)	0.40	40.20		
			MADE GROUND: Brown and dark brown sandy fine to coarse angular gravel. Gravel mostly fragments of stone with some ash, clinker and brick. <i>End of window sample hole at 0.80 m</i>	0.80	39.80		
Remarks							
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. The concrete hardstand was cored using 100mm core barrel.							
Equipment/Methods Window sample hole advanced by percussive methods using 120mm and 90mm sampling rods.				Logged by OGO		JOB 5848	
						FIGURE	

WINDOW SAMPLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

WS15

DATE 20 Nov 03

Co-ords

Sheet 1 of 1

Ground Level 40.9mAOD

Scale 1:50

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
10	0.50-1.00		MADE GROUND: Reinforced concrete. (Hardstand)	0.20	40.70		
			MADE GROUND: Pink grey sandy fine to coarse angular gravel. (Sub-base)	0.50	40.40		
			MADE GROUND: Dark brown black sandy fine to coarse angular gravel. Gravel mostly fragments of stone, ash, clinker and brick.	1.00	39.90		
			No Sample Recovery				
			Stiff brown grey CLAY.	2.20	38.70		
			End of window sample hole at 3.00 m	3.00	37.90		

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out.
2. The concrete hardstand was cored using 100mm core barrel.

Equipment/Methods

Window sample hole advanced by percussive methods using 120mm and 90mm sampling rods.

Logged by

OGO

JOB

5848

FIGURE

WINDOW SAMPLE LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

WS16

DATE 21 Nov 03

Co-ords

Sheet 1 of 1

Ground Level 41.9mAOD

Scale 1:50

sample no & type	depth (m)	in-situ test	description		depth (m)	level (m)	ground water	legend
1J	0.15-0.50		M	DE GROUND: Tarmac. (rdstand)	0.15	41.75		
2J	0.50-1.40		M	DE GROUND: Brown very sandy fine to coarse angular to S rounded gravel. Gravel is mostly stone with some ash A clinker.	0.50	41.40		
	1.40-2.70		M	DE GROUND: Orange brown sandy fine to coarse angular to subrounded gravel. Gravel mostly stone with occasional C clinker.	1.40	40.50		
			S	f dark grey sandy CLAY	1.90	40.00		
			S	f orange brown and grey CLAY	2.70	39.20		
End of window sample hole at 2.70 m								
Remarks								
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. The concrete hardstand was cored using 100mm core barrel.								
Equipment/Methods					Logged by	JOB	FIGURE	
Window sample hole advanced by percussive methods using 120mm and 90mm sampling rods.					OGO	5848		

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP1

DATE 17/11/2003

Co-ords

Sheet 1 of 1

Ground Level 42.8mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.10		MADE GROUND: ? Medium dense damp greyish brown silty and sandy fine to coarse subangular to subrounded gravel of brick, sandstone, ash and clinker, rare wood, metal, rags and plastic. (RUBBLE/ASH)				
2D	0.50						
3D	0.80						
4D	1.50						
5D	2.10	V = 50 kPa	Firm moist orange brown CLAY (WEATHERED COAL MEASURES)	1.90	40.90		
6D	2.30						
			End of trial pit at 2.60 m	2.60	40.20		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

TRIAL PIT LOG



CLIENT Ben Balley Homes Limited

SITE Burton Road, Barnsley

TP2

DATE 17/11/2003

Co-ords

Sheet 1 of 1

Ground Level 44.0mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.10		MADE GROUND: ? Soft moist brown sandy clay with much gravel of brick and sandstone. (COHESIVE MADE GROUND)	0.20	43.80		
2D	0.30		MADE GROUND: ? Medium dense damp dark grey silty sand of ash, clinker, with rare glass and sandstone cobbles. (ASH & CLINKER)				
3D	0.80						
4D	1.70		Firm moist orange brown CLAY (WEATHERED COAL MEASURES)	1.60	42.40		
5D	2.00	v = 60 kPa					
			End of trial pit at 2.30 m	2.30	41.70		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

TRIAL PIT LOG

CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP3

DATE 17/11/2003

Co-ords

Sheet 1 of 1

Ground Level 43.6mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.10		MADE GROUND: ? Dense damp silty and sandy fine to coarse subangular gravel, with broken brick, slate, some rare metal and plastic.	0.15	43.45		
2D	0.30		MADE GROUND: ? Dense damp dark grey sandy fine to coarse gravel of sandstone				
3D	0.50						
			Wood and metal at 0.75m	0.80	42.80		
4D	1.00		MADE GROUND: ? Firm moist orange brown clay with occasional gravel of mudstone.				
			Firm moist orange brown mottled grey CLAY	1.10	42.50		
5D	1.50	V = 65 kPa					
			Firm moist orange brown mottled grey CLAY with rare fine subangular gravel of mudstone and fibrous plant remains.	2.20	41.40		
			Moderately weak brown thinly laminaed MUDSTONE.	2.50	41.10		
			End of trial pit at 2.70 m	2.70	40.90		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater encountered below 2.5m.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP4

DATE 17/11/2003

Co-ords

Sheet 1 of 1

Ground Level 43.0mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.20		MADE GROUND: ? Medium dense greyish brown and dark grey sandy fine coarse gravel of sandstone, brick, occasional concrete, rare wood, glass and metal Diesel odour between 0.05 and 0.5m				
2D	0.60						
3D	1.00		Firm moist orange brown CLAY	0.90	42.10		
4D	1.50	V = 60 kPa					
			Firm moist reddish brown mottled grey CLAY with rare fine subangular gravel of mudstone.	2.20	40.80		
			Firm moist orange brown mottled grey CLAY with much fine subangular gravel of mudstone	2.70	40.30		
			End of trial pit at 3.30 m	3.30	39.70		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. Visual and olfactory evidence of oil/fuel contamination between 0.05 and 0.5m.

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP5

DATE 17/11/2003

Co-ords

Sheet 1 of 1

Ground Level 43.9mAOD

Scale 1:25

sample no & type	depth (m)	In-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.10		MADE GROUND: ? Medium dense damp dark grey silty sand of ash, clinker, some occasional glass and broken brick				
2D	0.25		Firm moist grey CLAY with much fine to medium gravel of mudstone	0.30	43.55		
			Firm moist orange brown CLAY				
3D	0.80						
4D	1.20	V = 70 kPa					
				2.10	41.75		
			Moderately weak brown thinly laminated MUDSTONE.	2.20	41.65		
			End of trial pit at 2.50 m	2.50	41.35		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP6

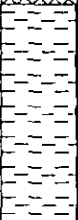
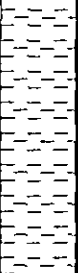
DATE 17/11/2003

Co-ords

Sheet 1 of 1

Ground Level 44.4mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
10	0.15		MADE GROUND: ? Medium dense damp dark grey silty sand of ash, clinker, some occasional glass and broken brick				
			Firm moist grey CLAY with much fine to medium gravel of mudstone	0.30	44.10		
20	1.10	V = 70 kPa					
			Moderately weak grey thinly laminated MUDSTONE.	1.90	42.50		
			End of trial pit at 2.50 m	2.50	41.90		
Remarks 1. Prior to excavation a Cable Avoidance Tool survey was carried out. 2. The sides of the trial pit remained stable during excavation. 3. Groundwater was not apparent during excavation. 4. On completion the trial pit was backfilled with materials arising. 5. No visual or olfactory evidence of oil/fuel contamination							
Equipment/Methods JCB 3CX with 0.6m wide tooth bucket.				Logged by JWH		JOB 5848	FIGURE

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP7

DATE 17/11/2003

Co-ords

Sheet 1 of 1

Ground Level 43.8mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.25		MADE GROUND: ? Medium dense damp dark grey silty sand of ash, clinker, some occasional glass and broken brick				
				0.50	43.30		
2D	0.80		MADE GROUND: ? Cemented Slag	0.60	43.20		
			Firm moist orange brown CLAY				
				0.90	42.90		
3D	1.30	V = 65 kPa	Firm moist grey CLAY with much fine to medium gravel of mudstone				
				2.20	41.60		
			Moderately weak grey thinly laminated MUDSTONE.				
			End of trial pit at 2.60 m	2.60	41.20		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP8

DATE 17/11/2003

Co-ords

Sheet 1 of 1

Ground Level 46.0mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.10		MADE GROUND: ? Medium dense damp greyish brown silty sand with a little ash and clinker	0.15	45.85		
			Firm moist orange brown CLAY				
2D	1.10	V = 55 kPa					
			Moderately weak grey thinly laminated MUDSTONE.	1.80	44.20		
			End of trial pit at 2.10 m	2.10	43.90		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

TRIAL PIT LOG

CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP9

DATE 18/11/2003

Co-ords

Sheet 1 of 1

Ground Level 42.2mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.10		? Medium dense damp brown silty SAND with occasional subrounded to subangular fine gravel.	0.20	41.95		
			Firm moist orange brown CLAY				
2D	1.00	V = 100 kPa					
3D	1.50						
			Firm moist grey CLAY with much fine to medium subangular gravel of mudstone	1.70	40.45		
			Moderately weak grey thinly laminated MUDSTONE.	2.20	39.95		
			End of trial pit at 3.20 m	3.20	38.95		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater encountered below 2.3m.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP10

DATE 18/11/2003

Co-ords

Sheet 1 of 1

Ground Level

42.0m AOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.15		MADE GROUND: ? Medium dense damp brown silty with occasional subrounded to subangular fine gravel and broken brick.				
		V = 50 kPa	Firm moist orange brown CLAY	0.25	41.75		
		V = 50 kPa	Firm moist orange brown mottled grey CLAY with thin laminations of coal.	0.70	41.30		
2D	1.20						
			Moderately weak grey thinly laminated MUDSTONE.	1.90	40.10		
			Moderately weak brown thinly laminated MUDSTONE.	2.60	39.40		
			End of trial pit at 3.00 m	3.00	39.00		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater encountered below 2.6m.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP11

DATE 18/11/2003

Co-ords

Sheet 1 of 1

Ground Level

42.6mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.20	V = 60 kPa	MADE GROUND: ? Medium dense damp brown silty with occasional subrounded to subangular fine gravel and broken brick, gravel and wood sleeper				
			Firm moist orange brown CLAY	0.40	42.20		
2D	1.00						
3D	1.50						
			Firm moist grey sandy CLAY with rare remains of plants.	1.70	40.90		
			Moderately weak grey thinly laminated MUDSTONE.	2.30	40.30		
			End of trial pit at 3.10 m	3.10	39.50		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater encountered below 2.9m.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP12

DATE 18/11/2003

Co-ords

Sheet 1 of 1

Ground Level 43.2mAOD

Scale 1:25

sample no & type	depth (m)	In-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.30		MADE GROUND: ? Medium dense damp brown silty with occasional subrounded to subangular fine gravel and broken brick. MADE GROUND: ? Firm moist brown sandy clay with brick, metal, plastic and wood.	0.10	43.10		
			Firm becoming stiff dry orange brown CLAY	0.60	42.60		
2D	1.00	V = 80 kPa					
3D	1.50		Tree roots to 1.5m				
			Moderately weak grey thinly laminated MUDSTONE.	2.60	40.60		
			End of trial pit at 3.20 m	3.20	40.00		
Remarks 1. Prior to excavation a Cable Avoidance Tool survey was carried out. 2. The sides of the trial pit remained stable during excavation. 3. Groundwater was not apparent during excavation. 4. On completion the trial pit was backfilled with materials arising. 5. No visual or olfactory evidence of oil/fuel contamination							
Equipment/Methods				Logged by	JOB	FIGURE	
JCB 3CX with 0.6m wide tooth bucket.				JWH	5848		

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP13

DATE 18/11/2003

Co-ords

Sheet 1 of 1

Ground Level

43.4mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.50		MADE GROUND: ? Medium dense damp brown silty with occasional subrounded to subangular fine gravel and broken brick, plastic, pottery, wood and glass				
2D	1.10	V = 65 kPa	Firm moist orange brown CLAY	1.00	42.40		
3D	1.50						
			Moderately weak grey thinly laminated MUDSTONE.	2.30	41.10		
			End of trial pit at 3.30 m	3.30	40.10		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP14

DATE 18/11/2003

Co-ords

Sheet 1 of 1

Ground Level 46.0mAOD

Scale 1:25

sample no & type	depth (m)	In-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.50		MADE GROUND: ? Loose damp brown fine silty sand with much brick, concrete, wood and rare rusted metal, glass, cloth and plastic.				
2D	1.50						
		V = 50 kPa	Firm moist orange mottled grey brown CLAY	3.00	43.00		
			End of trial pit at 3.30 m	3.30	42.70		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit were unstable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination.

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP15

DATE 18/11/2003

Co-ords

Sheet 1 of 1

Ground Level 46.3mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.50		MADE GROUND: ? Loose damp greyish brown fine sand with occasional brick, wood and rare rusted metal.				
2D	1.50						
3D	2.60		Firm moist orange mottled grey brown CLAY	2.50	43.80		
			End of trial pit at 3.00 m	3.00	43.30		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit were unstable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods	Logged by	JOB	FIGURE
JCB 3CX with 0.6m wide tooth bucket.	JWH	5848	

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP16

DATE 18/11/2003

Co-ords

Sheet 1 of 1

Ground Level 47.2mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	1.00		MADE GROUND: ? Loose damp greyish brown silty sand with gravel of red shale, brick, concrete, wire mesh, some rare glass and plastic.				
2D	2.00		MADE GROUND: ? Loose dry brown fine sand.	1.80	45.40		
3D	3.20		Firm moist orange mottled grey brown CLAY	3.10	44.10		
			End of trial pit at 3.30 m	3.30	43.90		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit were unstable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP17

DATE 18/11/2003

Co-ords

Sheet 1 of 1

Ground Level 42.3mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.15	V = 45 kPa V = 50 kPa	MADE GROUND: ? Medium dense damp brown silty with occasional subrounded to subangular fine gravel and broken brick.	0.30	42.00		
			Firm moist orange brown CLAY				
2D	1.30						
3D	2.20		Firm moist grey sandy CLAY with rare remains of plants.	2.00	40.30		
			Moderately weak grey thinly laminated MUDSTONE.	2.70	39.60		
			End of trial pit at 3.30 m	3.30	39.00		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

ENCIA
CONSULTING LIMITED

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.10		? Medium dense damp brown silty SAND with occasional subrounded to subangular fine gravel.				
			Firm moist orange brown CLAY	0.20	41.20		
		V = 55 kPa					
2D	1.20						
			Firm moist grey CLAY with some gravel of mudstone and rare remains of plants.	2.20	39.20		
			Moderately weak grey thinly laminated MUDSTONE.	2.60	38.80		
			End of trial pit at 3.00 m	3.00	38.40		
Remarks 1. Prior to excavation a Cable Avoidance Tool survey was carried out. 2. The sides of the trial pit remained stable during excavation. 3. Groundwater was not apparent during excavation. 4. On completion the trial pit was backfilled with materials arising. 5. No visual or olfactory evidence of oil/fuel contamination							
Equipment/Methods JCB 3CX with 0.6m wide tooth bucket.				Logged by JWH	JOB 5848	FIGURE	

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP19

DATE 18/11/2003

Co-ords

Sheet 1 of 1

Ground Level 42.1mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
0	0.00		? Medium dense damp brown silty SAND with occasional subrounded to subangular fine gravel.				
			Firm becoming stiff moist orange brown CLAY	0.20	41.90		
		V = 90 kPa					
			Very weak thinly laminated COAL	1.20	40.90		
			Firm moist brown CLAY with much fine gravel of mudstone	1.50	40.60		
			Moderately weak grey thinly laminated MUDSTONE.	2.30	39.80		
			End of trial pit at 2.90 m	2.90	39.20		
Remarks 1. Prior to excavation a Cable Avoidance Tool survey was carried out. 2. The sides of the trial pit remained stable during excavation. 3. Groundwater was not apparent during excavation. 4. On completion the trial pit was backfilled with materials arising. 5. No visual or olfactory evidence of oil/fuel contamination							
Equipment/Methods JCB 3CX with 0.6m wide tooth bucket.				Logged by JWH		JOB 5848	FIGURE

ENCIA
CONSULTING LIMITED

TP20

Sheet 1 of 1

Scale 1:25

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

FIGURE

5848

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP21

DATE 19/11/2003

Co-ords

Sheet 1 of 1

Ground Level 40.4mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.10		? Medium dense damp brown silty SAND with occasional subrounded to subangular fine gravel.				
			Firm becoming stiff moist orange brown CLAY	0.20	40.20		
		V = 70 kPa					
2D	1.20						
		V = 90 kPa					
			Firm moist orange brown CLAY with much fine gravel of mudstone	1.70	38.70		
			End of trial pit at 2.50 m	2.50	37.90		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

ENCIA
CONSULTING LIMITED

TP22

Sheet 1 of 1

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.10		? Medium dense damp brown silty SAND with occasional subrounded to subangular fine gravel.	0.15	39.65		
			Firm becoming stiff moist orange brown CLAY				
2D	1.00	V = 65 kPa					
			Firm moist orange brown CLAY with much fine gravel of mudstone	1.30	38.50		
			End of trial pit at 2.90 m	2.90	36.90		
Remarks 1. Prior to excavation a Cable Avoidance Tool survey was carried out. 2. The sides of the trial pit remained stable during excavation. 3. Groundwater was not apparent during excavation. 4. On completion the trial pit was backfilled with materials arising. 5. No visual or olfactory evidence of oil/fuel contamination							
Equipment/Methods JCB 3CX with 0.6m wide tooth bucket.				Logged by JWH	JOB 5848	FIGURE	

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP23

DATE 19/11/2003

Co-ords

Sheet 1 of 1

Ground Level 39.6mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.10		? Medium dense damp brown silty SAND with occasional subrounded to subangular fine gravel.	0.15	39.45		
			Firm becoming stiff moist orange brown CLAY				
		V = 130 kPa					
2D	1.40						
			Firm moist orange brown CLAY with much fine gravel of mudstone	1.70	37.90		
			Moderately weak grey thinly laminated MUDSTONE.	2.70	36.90		
			End of trial pit at 3.20 m	3.20	36.40		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP24

DATE 19/11/2003

Co-ords

Sheet 1 of 1

Ground Level 40.4m AOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.10		? Medium dense damp brown silty SAND with occasional subrounded to subangular fine gravel.	0.15	40.25		
			Firm moist orange brown CLAY with occasional gravel of sandstone.				
			Field drain at 0.4m				
			Sandstone boulder (0.1x0.4x0.3m) at 0.8				
2D	1.50						
				2.20	38.20		
			Firm moist grey CLAY with some gravel of mudstone and rare remains of plants.				
				2.70	37.70		
			? Moderately weak grey thinly laminated MUDSTONE with thin bands of sandstone				
				3.30	37.10		
			End of trial pit at 3.30 m				

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP25

DATE 19/11/2003

Co-ords

Sheet 1 of 1

Ground Level 41.0mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.10		? Medium dense damp brown silty SAND with occasional subrounded to subangular fine gravel.	0.10	40.90		
			Firm moist orange brown CLAY with occasional gravel of sandstone.				
2D	1.00	V = 60 kPa					
			Firm moist grey CLAY with some gravel of mudstone.	1.50	39.50		
3D	1.70		? Moderately weak dark grey thinly laminated MUDSTONE	1.90	39.10		
			End of trial pit at 2.50 m	2.50	38.50		
Remarks 1. Prior to excavation a Cable Avoidance Tool survey was carried out. 2. The sides of the trial pit remained stable during excavation. 3. Groundwater was not apparent during excavation. 4. On completion the trial pit was backfilled with materials arising. 5. No visual or olfactory evidence of oil/fuel contamination							
Equipment/Methods JCB 3CX with 0.6m wide tooth bucket.				Logged by JWH	JOB 5848	FIGURE	

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP26

DATE 19/11/2003

Co-ords

Sheet 1 of 1

Ground Level 40.6mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
0	0.00		? Medium dense damp brown silty SAND with occasional subrounded to subangular fine gravel.				
			Firm moist orange brown CLAY	0.20	40.40		
		V = 60 kPa					
		V = 65 kPa					
			Soft to firm moist dark grey CLAY with fine gravel or shale.	1.40	39.20		
			? Moderately weak dark grey thinly laminated SHALE.	1.70	38.90		
			? Moderately weak dark grey thinly laminated MUDSTONE	2.30	38.30		
			End of trial pit at 2.50 m	2.50	38.10		
Remarks 1. Prior to excavation a Cable Avoidance Tool survey was carried out. 2. The sides of the trial pit were stable during excavation. 3. Groundwater was encountered below 2.3m. 4. On completion the trial pit was backfilled with materials arising. 5. No visual or olfactory evidence of oil/fuel contamination							
Equipment/Methods				Logged by		JOB	FIGURE
JCB 3CX with 0.6m wide tooth bucket.				JWH		5848	

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP27

DATE 19/11/2003

Co-ords

Sheet 1 of 1

Ground Level

40.8mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.05		? Medium dense damp brown silty SAND with occasional subrounded to subangular fine gravel.	0.10	40.70		
			Firm moist orange brown CLAY with occasional gravel of sandstone.				
2D	1.00	V = 55 kPa					
			Firm moist dark grey CLAY with fine gravel of mudstone.	1.40	39.40		
			? Moderately strong dark grey thinly laminated MUDSTONE	1.80	39.00		
			End of trial pit at 2.70 m	2.70	38.10		
Remarks 1. Prior to excavation a Cable Avoidance Tool survey was carried out. 2. The sides of the trial pit were stable during excavation. 3. Groundwater was encountered below 2.1m. 4. On completion the trial pit was backfilled with materials arising. 5. No visual or olfactory evidence of oil/fuel contamination							
Equipment/Methods				Logged by	JOB	FIGURE	
JCB 3CX with 0.6m wide tooth bucket.				JWH	5848		

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP28

DATE 19/11/2003

Co-ords

Sheet 1 of 1

Ground Level 41.6mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
0	0.00		? Medium dense damp brown silty SAND with occasional subrounded to subangular fine gravel.				
			Firm moist orange brown CLAY with occasional gravel of sandstone.	0.20	41.40		
		V = 60 kPa					
			Firm moist dark grey CLAY with fine gravel of mudstone.	1.30	40.30		
			? Moderately strong dark grey thinly laminated MUDSTONE	2.20	39.40		
			End of trial pit at 2.90 m	2.90	38.70		
Remarks 1. Prior to excavation a Cable Avoidance Tool survey was carried out. 2. The sides of the trial pit were stable during excavation. 3. Groundwater was encountered below 2.5m. 4. On completion the trial pit was backfilled with materials arising. 5. No visual or olfactory evidence of oil/fuel contamination							
Equipment/Methods				Logged by		JOB	FIGURE
JCB 3CX with 0.6m wide tooth bucket.				JWH		5848	

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP29

DATE 19/11/2003

Co-ords

Sheet 1 of 1

Ground Level 41.6mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	Description	depth (m)	level (m)	ground water	legend
1D	1.00	V = 55 kPa	? Medium dense damp brown silty SAND with occasional subrounded to subangular fine gravel.	0.20	41.40		
			Firm moist orange brown sandy CLAY with occasional fine to medium gravel of sandstone.				
			Firm moist dark grey CLAY with fine gravel of mudstone.	1.30	40.30		
			? Moderately strong dark grey thinly laminated MUDSTONE	1.90	39.70		
			End of trial pit at 2.70 m	2.70	38.90		
Remarks 1. Prior to excavation a Cable Avoidance Tool survey was carried out. 2. The sides of the trial pit were stable during excavation. 3. Groundwater was encountered below 2.3m. 4. On completion the trial pit was backfilled with materials arising. 5. No visual or olfactory evidence of oil/fuel contamination							
Equipment/Methods JCB 3CX with 0.6m wide tooth bucket.				Logged by JWH	JOB 5848	FIGURE	

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP30

DATE 19/11/2003

Co-ords

Sheet 1 of 1

Ground Level

43.8mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.20		MADE GROUND: ? Medium dense damp dark grey silty sand of ash, coal, metal, wood, some rare rubber, glass and plastic.				
2D	0.60		Firm becoming stiff moist orange brown CLAY	0.50	43.25		
3D	1.10	V = 90 kPa					
			Firm moist dark grey CLAY with fine gravel of mudstone.	1.40	42.35		
			? Moderately weak dark grey thinly laminated MUDSTONE	1.90	41.85		
			End of trial pit at 3.20 m	3.20	40.55		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP31

DATE 19/11/2003

Co-ords

Sheet 1 of 1

Ground Level 43.3mAOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.50		MADE GROUND: ? Loose damp greyish brown silty sand with gravel of red shale, brick, concrete, wire mesh, some rare glass and plastic.				
2D	1.00						
			End of trial pit at 2.30 m	2.30	41.00		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

TRIAL PIT LOG



CLIENT Ben Bailey Homes Limited

SITE Burton Road, Barnsley

TP32

DATE 19/11/2003

Co-ords

Sheet 1 of 1

Ground Level 43.3m AOD

Scale 1:25

sample no & type	depth (m)	in-situ test	description	depth (m)	level (m)	ground water	legend
1D	0.50		MADE GROUND: ? Loose damp greyish brown silty sand with gravel of red shale, brick, concrete, wire mesh, some rare glass and plastic.				
2D	1.00						
3D	1.70	V = 60 kPa	Firm moist orange brown CLAY	1.50	41.80		
			? Moderately weak dark grey thinly laminated MUDSTONE	2.70	40.60		
			End of trial pit at 3.20 m	3.20	40.10		

Remarks

1. Prior to excavation a Cable Avoidance Tool survey was carried out.
2. The sides of the trial pit remained stable during excavation.
3. Groundwater was not apparent during excavation.
4. On completion the trial pit was backfilled with materials arising.
5. No visual or olfactory evidence of oil/fuel contamination

Equipment/Methods

JCB 3CX with 0.6m wide tooth bucket.

Logged by

JWH

JOB

5848

FIGURE

Interim Report

Laboratory Number			49464487	49464488	49464489	49464490
Sampling Date			12/04/2003	12/04/2003	12/04/2003	12/04/2003
Sample Point			WS1 1D 0.15	WS1 3D 0.50	WS2 1D 0.20	WS3 1D 0.20-0.60
Method Code	Units	Determinands				
R3.6	-	pH (soil)				
R11.3	%	Solids air dried	86.7	85.5	88.9	89.1
R11.1	%	Total Solids				
R11.1	%	Total Ash Solids (DSB)				
R11.7	%	Stones greater than 10mm	51.7	0	0	43.9
R3.6	-	pH (filtered)				
R2.5.1	mg/kg	Cyanide(total) (DSB)				
R*	kJ/kg	Calorific value				
R2.21.2	mg/kg	Phenol monohydric (DSB)				
R*	mg/kg	Sulphide (DSB)				
R9B	ug/l	Arsenic (leach)				
R8B	mg/l	Cadmium(leach)				
R8B	mg/l	Chromium(leach)				
R8B	mg/l	Lead(leach)				
R9A	ug/l	Mercury (leach)				
R9B	ug/l	Selenium (Leach)				
R8B	mg/l	Copper(leach)				
R8B	mg/l	Nickel(leach)				
R8B	mg/l	Zinc (leach)				
R8B	mg/l	Boron (leach)				
R8B	mg/kg	Arsenic (soil)				
R8B	mg/kg	Cadmium (soil)				
R8B	mg/kg	Chromium (soil)				
R8B	mg/kg	Lead (soil)				
R8B	mg/kg	Mercury (soil)				
R8B	mg/kg	Selenium (soil)				
R8B	mg/kg	Copper (soil)				
R8B	mg/kg	Nickel (soil)				
R*8B	mg/kg	Zinc (soil)				
R8B	mg/kg	Boron (soil)				
R7.25	mg/kg	Total Petroleum hydro-c	299	116	236	7580
R7.25	mg/kg	Diesel Range Organics	233	116	108	3460
R7.25	mg/kg	Lubricating Range Org	66.4	< 20.0	128	4120
R7.9	ug/kg	Benzene (DSB)				X
R7.9	ug/kg	Toluene (DSB)				X
R7.9	ug/kg	Ethyl benzene (DSB)				X
R*	mg/kg	Gasoline Range Organics				X
R7.9	ug/kg	m,p-Xylene (DSB)				X
R7.9	ug/kg	o-Xylene (DSB)				X
R*	mg/kg	Sulphur (Elemental) (DSB)				
R7.22	mg/kg	PAH Total				
*\$	p/a	Asbestos fibres				

Asbestos Fibres Key

- 0-No asbestos detected
- 1-Chrysotile (white asbestos)
- 2-Amosite (brown asbestos)
- 3-Crocidolite (blue asbestos)
- 4-Chrysotile and Amosite
- 5-Chrysotile and Crocidolite

Interim Report

Laboratory Number			49464491	49464492	49464493	49464494
Sampling Date			12/04/2003	12/04/2003	12/04/2003	12/04/2003
Sample Point			WS3 2D 0.60-1.00	WS4 2J 0.60-0.90	WS4 3D 1.00-2.00	WS16 1J 0.15-0.50
Method Code	Units	Determinands				
R3.6	-	pH (soil)	7.8	10.5		
R11.3	%	Solids air dried	89.8	93.7	83.9	92.8
R11.1	%	Total Solids	87.5	90.8		
R11.1	%	Total Ash Solids (DSB)	94.4	80.8		
R11.7	%	Stones greater than 10mm	54.4	44.4	0	57.6
R3.6	-	pH (filtered)	7	7.1		
R2.5.1	mg/kg	Cyanide(total) (DSB)	< 0.50			
R*	kJ/kg	Calorific value	< 100	2600		
R2.21.2	mg/kg	Phenol monohydric (DSB)	< 1.50			
R*	mg/kg	Sulphide (DSB)	1.7			
R9B	ug/l	Arsenic (leach)	< 0.8	< 0.8		
R8B	mg/l	Cadmium(leach)	< 0.0002	< 0.0002		
R8B	mg/l	Chromium(leach)	< 0.002	< 0.002		
R8B	mg/l	Lead(leach)	< 0.005	< 0.005		
R9A	ug/l	Mercury (leach)	0.1	< 0.05		
R9B	ug/l	Selenium (Leach)	< 0.8	0.8		
R8B	mg/l	Copper(leach)	0.004	0.002		
R8B	mg/l	Nickel(leach)	< 0.005	< 0.005		
R8B	mg/l	Zinc (leach)	< 0.01	< 0.01		
R8B	mg/l	Boron (leach)	< 0.05	0.08		
R8B	mg/kg	Arsenic (soil)	10	4.84		
R8B	mg/kg	Cadmium (soil)	0.35	1.77		
R8B	mg/kg	Chromium (soil)	35	64.7		
R8B	mg/kg	Lead (soil)	40.4	278		
R8B	mg/kg	Mercury (soil)	0.12	1.55		
R8B	mg/kg	Selenium (soil)	0.85	1.99		
R8B	mg/kg	Copper (soil)	25.3	36.6		
R8B	mg/kg	Nickel (soil)	41.8	21.7		
R*8B	mg/kg	Zinc (soil)	119	118		
R8B	mg/kg	Boron (soil)	< 100	< 100		
R7.25	mg/kg	Total Petroleum hydro-c	X	X	X	2240
R7.25	mg/kg	Diesel Range Organics	X	X	X	385
R7.25	mg/kg	Lubricating Range Org	X	X	X	1850
R7.9	ug/kg	Benzene (DSB)	X	X	X	X
R7.9	ug/kg	Toluene (DSB)	X	X	X	X
R7.9	ug/kg	Ethyl benzene (DSB)	X	X	X	X
R*	mg/kg	Gasoline Range Organics	X	X	X	X
R7.9	ug/kg	m,p-Xylene (DSB)	X	X	X	X
R7.9	ug/kg	o-Xylene (DSB)	X	X	X	X
R*	mg/kg	Sulphur (Elemental) (DSB)	< 500			
R7.22	mg/kg	PAH Total	36.8			
*\$	p/a	Asbestos fibres	X			

Asbestos Fibres Key

- 0-No asbestos detected
- 1-Chrysotile (white asbestos)
- 2-Amosite (brown asbestos)
- 3-Crocidolite (blue asbestos)
- 4-Chrysotile and Amosite
- 5-Chrysotile and Crocidolite

Interim Report

Laboratory Number			49464495	49464496	49464497	49464498
Sampling Date			12/04/2003	12/04/2003	12/04/2003	12/04/2003
Sample Point			WS16 2J 0.40-1.40	WS6 2D 0.50-1.00	WS7 1D 0.60-1.50	WS8 1D 0.20-1.00
Method Code	Units	Determinands				
R3.6	-	pH (soil)		11.8		9.3
R11.3	%	Solids air dried	91.1	92.7	85	91.4
R11.1	%	Total Solids		92.8		85.9
R11.1	%	Total Ash Solids (DSB)		94.5		94.5
R11.7	%	Stones greater than 10mm	23.6	23.5	32.3	70.4
R3.6	-	pH (filtered)		8.2		7.1
R2.5.1	mg/kg	Cyanide(total) (DSB)				
R*	kJ/kg	Calorific value		1890		954
R2.21.2	mg/kg	Phenol monohydric (DSB)				
R*	mg/kg	Sulphide (DSB)				
R9B	ug/l	Arsenic (leach)		< 0.8		< 0.8
R8B	mg/l	Cadmium(leach)		< 0.0002		0.0003
R8B	mg/l	Chromium(leach)		< 0.002		< 0.002
R8B	mg/l	Lead(leach)		< 0.005		< 0.005
R9A	ug/l	Mercury (leach)		< 0.05		< 0.05
R9B	ug/l	Selenium (Leach)		< 0.8		< 0.8
R8B	mg/l	Copper(leach)		< 0.002		0.025
R8B	mg/l	Nickel(leach)		< 0.005		0.134
R8B	mg/l	Zinc (leach)		< 0.01		< 0.01
R8B	mg/l	Boron (leach)		< 0.05		0.18
R8B	mg/kg	Arsenic (soil)		2.73		28.4
R8B	mg/kg	Cadmium (soil)		0.35		9.09
R8B	mg/kg	Chromium (soil)		199		128
R8B	mg/kg	Lead (soil)		326		1320
R8B	mg/kg	Mercury (soil)		0.15		0.54
R8B	mg/kg	Selenium (soil)		1.17		4.98
R8B	mg/kg	Copper (soil)		8.82		414
R8B	mg/kg	Nickel (soil)		13.3		196
R*8B	mg/kg	Zinc (soil)		150		1010
R8B	mg/kg	Boron (soil)		< 100		< 100
R7.25	mg/kg	Total Petroleum hydro-c	1280	1740	2300	3640
R7.25	mg/kg	Diesel Range Organics	757	< 20.0	546	1620
R7.25	mg/kg	Lubricating Range Org	520	1740	1750	2020
R7.9	ug/kg	Benzene (DSB)	X	X	X	X
R7.9	ug/kg	Toluene (DSB)	X	X	X	X
R7.9	ug/kg	Ethyl benzene (DSB)	X	X	X	X
R*	mg/kg	Gasoline Range Organics	X	X	X	X
R7.9	ug/kg	m,p-Xylene (DSB)	X	X	X	X
R7.9	ug/kg	o-Xylene (DSB)	X	X	X	X
R*	mg/kg	Sulphur (Elemental) (DSB)				
R7.22	mg/kg	PAH Total				
*\$	p/a	Asbestos fibres				

Asbestos Fibres Key

- 0-No asbestos detected
- 1-Chrysotile (white asbestos)
- 2-Amosite (brown asbestos)
- 3-Crocidolite (blue asbestos)
- 4-Chrysotile and Amosite
- 5-Chrysotile and Crocidolite

Interim Report

Laboratory Number			49464499	49464500	49464501
Sampling Date			12/04/2003	12/04/2003	12/04/2003
Sample Point			WS8 2J 2.00-2.50	WS11 1D 0.20-0.80	WS12 1D 0.20-0.60
Method Code	Units	Determinands			
R3.6	-	pH (soil)		8.8	
R11.3	%	Solids air dried	83.9	88.2	90.7
R11.1	%	Total Solids			
R11.1	%	Total Ash Solids (DSB)			
R11.7	%	Stones greater than 10mm	69.6	46.6	53.7
R3.6	-	pH (filtered)		7.3	
R2.5.1	mg/kg	Cyanide(total) (DSB)		9.3	
R*	kJ/kg	Calorific value			
R2.21.2	mg/kg	Phenol monohydric (DSB)		< 1.50	
R*	mg/kg	Sulphide (DSB)		14.5	
R9B	ug/l	Arsenic (leach)		1.3	
R8B	mg/l	Cadmium(leach)		< 0.0002	
R8B	mg/l	Chromium(leach)		< 0.002	
R8B	mg/l	Lead(leach)		< 0.005	
R9A	ug/l	Mercury (leach)		< 0.05	
R9B	ug/l	Selenium (Leach)		< 0.8	
R8B	mg/l	Copper(leach)		< 0.002	
R8B	mg/l	Nickel(leach)		< 0.005	
R8B	mg/l	Zinc (leach)		< 0.01	
R8B	mg/l	Boron (leach)		0.39	
R8B	mg/kg	Arsenic (soil)		52.6	
R8B	mg/kg	Cadmium (soil)		4.9	
R8B	mg/kg	Chromium (soil)		155	
R8B	mg/kg	Lead (soil)		1350	
R8B	mg/kg	Mercury (soil)		1.98	
R8B	mg/kg	Selenium (soil)		2.99	
R8B	mg/kg	Copper (soil)		453	
R8B	mg/kg	Nickel (soil)		164	
R*8B	mg/kg	Zinc (soil)		1240	
R8B	mg/kg	Boron (soil)		< 100	
R7.25	mg/kg	Total Petroleum hydro-c	5550	16200	X
R7.25	mg/kg	Diesel Range Organics	3240	10300	X
R7.25	mg/kg	Lubricating Range Org	2310	5920	X
R7.9	ug/kg	Benzene (DSB)	X	X	X
R7.9	ug/kg	Toluene (DSB)	X	X	X
R7.9	ug/kg	Ethyl benzene (DSB)	X	X	X
R*	mg/kg	Gasoline Range Organics	X	X	X
R7.9	ug/kg	m,p-Xylene (DSB)	X	X	X
R7.9	ug/kg	o-Xylene (DSB)	X	X	X
R*	mg/kg	Sulphur (Elemental) (DSB)		< 500	
R7.22	mg/kg	PAH Total		90.3	
*\$	p/a	Asbestos fibres		X	

Asbestos Fibres Key

- 0-No asbestos detected
- 1-Chrysotile (white asbestos)
- 2-Amosite (brown asbestos)
- 3-Crocidolite (blue asbestos)
- 4-Chrysotile and Amosite
- 5-Chrysotile and Crocidolite

Interim Report

Laboratory Number			49464502	49464503	49464504
Sampling Date			12/04/2003	12/04/2003	12/04/2003
Sample Point			WS12 2D 0.50-1.20	WS13 2D 0.50-1.00	WS14 1D 0.40-0.80
Method Code	Units	Determinands			
R3.6	-	pH (soil)	9.4		10.4
R11.3	%	Solids air dried	91	89.6	87.7
R11.1	%	Total Solids			
R11.1	%	Total Ash Solids (DSB)			
R11.7	%	Stones greater than 10mm	62.1	44.1	44.1
R3.6	-	pH (filtered)			9.3
R2.5.1	mg/kg	Cyanide(total) (DSB)			
R*	kJ/kg	Calorific value			
R2.21.2	mg/kg	Phenol monohydric (DSB)			
R*	mg/kg	Sulphide (DSB)			
R9B	ug/l	Arsenic (leach)			12.6
R8B	mg/l	Cadmium(leach)			< 0.0002
R8B	mg/l	Chromium(leach)			< 0.002
R8B	mg/l	Lead(leach)			< 0.005
R9A	ug/l	Mercury (leach)			0.08
R9B	ug/l	Selenium (Leach)			< 0.8
R8B	mg/l	Copper(leach)			0.029
R8B	mg/l	Nickel(leach)			0.007
R8B	mg/l	Zinc (leach)			< 0.01
R8B	mg/l	Boron (leach)			0.14
R8B	mg/kg	Arsenic (soil)	3.96		24.8
R8B	mg/kg	Cadmium (soil)	0.21		3.48
R8B	mg/kg	Chromium (soil)	10		59
R8B	mg/kg	Lead (soil)	24.9		382
R8B	mg/kg	Mercury (soil)	0.27		1.73
R8B	mg/kg	Selenium (soil)	< 0.40		1.47
R8B	mg/kg	Copper (soil)	11.5		418
R8B	mg/kg	Nickel (soil)	15.3		49.4
R*8B	mg/kg	Zinc (soil)	55.2		470
R8B	mg/kg	Boron (soil)	< 100		< 100
R7.25	mg/kg	Total Petroleum hydro-c	X	X	3330
R7.25	mg/kg	Diesel Range Organics	X	X	1660
R7.25	mg/kg	Lubricating Range Org	X	X	1670
R7.9	ug/kg	Benzene (DSB)		X	X
R7.9	ug/kg	Toluene (DSB)		X	X
R7.9	ug/kg	Ethyl benzene (DSB)		X	X
R*	mg/kg	Gasoline Range Organics		X	X
R7.9	ug/kg	m,p-Xylene (DSB)		X	X
R7.9	ug/kg	o-Xylene (DSB)		X	X
R*	mg/kg	Sulphur (Elemental) (DSB)			
R7.22	mg/kg	PAH Total			
*\$	p/a	Asbestos fibres			

Asbestos Fibres Key

- 0-No asbestos detected
- 1-Chrysotile (white asbestos)
- 2-Amosite (brown asbestos)
- 3-Crocidolite (blue asbestos)
- 4-Chrysotile and Amosite
- 5-Chrysotile and Crocidolite

Interim Report

Laboratory Number			49464505	49464506	49464507	49464508
Sampling Date			12/04/2003	12/04/2003	12/04/2003	12/04/2003
Sample Point			WS5 1D 0.20-0.50	WS9 1D 0.40-1.00	WS10 1D 0.20-0.50	WS15 1D 0.50-1.00
Method Code	Units	Determinands				
R3.6	-	pH (soil)	10.3			9.7
R11.3	%	Solids air dried	94.3	92	89.1	91.6
R11.1	%	Total Solids	92.1			
R11.1	%	Total Ash Solids (DSB)	90.5			
R11.7	%	Stones greater than 10mm	25.5	40.5	42.5	33.3
R3.6	-	pH (filtered)	7.4			7.3
R2.5.1	mg/kg	Cyanide(total) (DSB)				
R*	kJ/kg	Calorific value	3190			
R2.21.2	mg/kg	Phenol monohydric (DSB)				
R*	mg/kg	Sulphide (DSB)				
R9B	ug/l	Arsenic (leach)	2.5			1.2
R8B	mg/l	Cadmium(leach)	< 0.0002			< 0.0002
R8B	mg/l	Chromium(leach)	< 0.002			< 0.002
R8B	mg/l	Lead(leach)	< 0.005			< 0.005
R9A	ug/l	Mercury (leach)	< 0.05			< 0.05
R9B	ug/l	Selenium (Leach)	< 0.8			1.3
R8B	mg/l	Copper(leach)	0.003			< 0.002
R8B	mg/l	Nickel(leach)	< 0.005			< 0.005
R8B	mg/l	Zinc (leach)	< 0.01			< 0.01
R8B	mg/l	Boron (leach)	0.08			0.09
R8B	mg/kg	Arsenic (soil)	26.2			7.45
R8B	mg/kg	Cadmium (soil)	1.93			0.21
R8B	mg/kg	Chromium (soil)	46.9			12.9
R8B	mg/kg	Lead (soil)	318			31.9
R8B	mg/kg	Mercury (soil)	0.86			0.14
R8B	mg/kg	Selenium (soil)	2.14			0.68
R8B	mg/kg	Copper (soil)	63.9			11.8
R8B	mg/kg	Nickel (soil)	39.9			20.5
R*8B	mg/kg	Zinc (soil)	167			61.7
R8B	mg/kg	Boron (soil)	< 100			< 100
R7.25	mg/kg	Total Petroleum hydro-c	13500	5060	3080	574
R7.25	mg/kg	Diesel Range Organics	8670	1660	1300	75.4
R7.25	mg/kg	Lubricating Range Org	4810	3400	1780	499
R7.9	ug/kg	Benzene (DSB)	X	X	X	X
R7.9	ug/kg	Toluene (DSB)	X	X	X	X
R7.9	ug/kg	Ethyl benzene (DSB)	X	X	X	X
R*	mg/kg	Gasoline Range Organics	X	X	X	X
R7.9	ug/kg	m,p-Xylene (DSB)	X	X	X	X
R7.9	ug/kg	o-Xylene (DSB)	X	X	X	X
R*	mg/kg	Sulphur (Elemental) (DSB)				
R7.22	mg/kg	PAH Total				
*\$	p/a	Asbestos fibres				

Asbestos Fibres Key

- 0-No asbestos detected
- 1-Chrysotile (white asbestos)
- 2-Amosite (brown asbestos)
- 3-Crocidolite (blue asbestos)
- 4-Chrysotile and Amosite
- 5-Chrysotile and Crocidolite

Interim Report

Laboratory Number			49464509	49464510	49464511	49464512	49464513
Sampling Date			12/04/2003	12/04/2003	12/04/2003	12/04/2003	12/04/2003
Sample Point			TP1 1D 0.10	TP3 1D 0.10	TP4 1D 0.20	TP4 2D 0.60	TP6 1D 0.15
Method Code	Units	Determinands					
R3.6	-	pH (soil)		8.6	8.4	8.2	8.7
R11.3	%	Solids air dried	88.2	91.2	86.3	86.6	89.1
R11.1	%	Total Solids					85.8
R11.1	%	Total Ash Solids (DSB)					86.7
R11.7	%	Stones greater than 10mm	48.6	62.7	34.7	47.9	56.1
R3.6	-	pH (filtered)		7.4	7.5		7.6
R2.5.1	mg/kg	Cyanide(total) (DSB)		< 0.50	< 0.50		
R*	kJ/kg	Calorific value					3970
R2.21.2	mg/kg	Phenol monohydric (DSB)		< 1.50	< 1.50		
R*	mg/kg	Sulphide (DSB)		7.6	17.6		
R9B	ug/l	Arsenic (leach)		1.6	< 0.8		1.3
R8B	mg/l	Cadmium(leach)		< 0.0002	< 0.0002		< 0.0002
R8B	mg/l	Chromium(leach)		0.002	< 0.002		0.007
R8B	mg/l	Lead(leach)		< 0.005	< 0.005		< 0.005
R9A	ug/l	Mercury (leach)		< 0.05	< 0.05		< 0.05
R9B	ug/l	Selenium (Leach)		< 0.8	< 0.8		< 0.8
R8B	mg/l	Copper(leach)		0.005	0.002		0.005
R8B	mg/l	Nickel(leach)		< 0.005	< 0.005		< 0.005
R8B	mg/l	Zinc (leach)		< 0.01	< 0.01		< 0.01
R8B	mg/l	Boron (leach)		0.06	0.07		0.05
R8B	mg/kg	Arsenic (soil)		20.5	18.8	15.5	29.4
R8B	mg/kg	Cadmium (soil)		1.92	1.06	0.87	4.8
R8B	mg/kg	Chromium (soil)		53.6	33.6	23.2	150
R8B	mg/kg	Lead (soil)		200	183	129	815
R8B	mg/kg	Mercury (soil)		0.21	0.29	0.45	0.24
R8B	mg/kg	Selenium (soil)		1.03	1.18	0.55	1.39
R8B	mg/kg	Copper (soil)		185	120	70.9	523
R8B	mg/kg	Nickel (soil)		44.7	30.2	26.6	68.1
R*8B	mg/kg	Zinc (soil)		467	330	291	2090
R8B	mg/kg	Boron (soil)		< 100	< 100	< 100	< 100
R7.25	mg/kg	Total Petroleum hydro-c	774	729	5640	1030	1080
R7.25	mg/kg	Diesel Range Organics	272	298	5180	847	503
R7.25	mg/kg	Lubricating Range Org	502	431	462	187	580
R7.9	ug/kg	Benzene (DSB)					
R7.9	ug/kg	Toluene (DSB)					
R7.9	ug/kg	Ethyl benzene (DSB)					
R*	mg/kg	Gasoline Range Organics					
R7.9	ug/kg	m,p-Xylene (DSB)					
R7.9	ug/kg	o-Xylene (DSB)					
R*	mg/kg	Sulphur (Elemental) (DSB)		< 500	X		
R7.22	mg/kg	PAH Total		51.9	19.2		
*\$	p/a	Asbestos fibres		X			

Asbestos Fibres Key

- 0-No asbestos detected
- 1-Chrysotile (white asbestos)
- 2-Amosite (brown asbestos)
- 3-Crocidolite (blue asbestos)
- 4-Chrysotile and Amosite
- 5-Chrysotile and Crocidolite

Interim Report

Laboratory Number			49464514	49464515	49464516	49464517	49464518
Sampling Date			12/04/2003	12/04/2003	12/04/2003	12/04/2003	12/04/2003
Sample Point			TP7 1D 0.25	TP8 1D 0.10	TP30 1D 0.20	TP32 1D 0.50	WS1 2D 0.25
Method Code	Units	Determinands					
R3.6	-	pH (soil)	8.7	10	8.5	8.6	8
R11.3	%	Solids air dried	89.7	78.9	87.9	90.4	82.2
R11.1	%	Total Solids	83.3		82.4	84.5	
R11.1	%	Total Ash Solids (DSB)	79.1		80.5	88.6	
R11.7	%	Stones greater than 10mm	52.8	40.5	49.2	58.4	29.3
R3.6	-	pH (filtered)	7.4	7.2	7.2	7.5	7.2
R2.5.1	mg/kg	Cyanide(total) (DSB)	< 0.50			< 0.50	
R*	kJ/kg	Calorific value	6930		5780	1500	
R2.21.2	mg/kg	Phenol monohydric (DSB)	< 1.50			< 1.50	
R*	mg/kg	Sulphide (DSB)	67.8			26.5	
R9B	ug/l	Arsenic (leach)	1.4	2.2	< 0.8	< 0.8	0.9
R8B	mg/l	Cadmium(leach)	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
R8B	mg/l	Chromium(leach)	0.002	0.004	< 0.002	< 0.002	< 0.002
R8B	mg/l	Lead(leach)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
R9A	ug/l	Mercury (leach)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
R9B	ug/l	Selenium (Leach)	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
R8B	mg/l	Copper(leach)	0.009	0.011	0.004	0.004	< 0.002
R8B	mg/l	Nickel(leach)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
R8B	mg/l	Zinc (leach)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
R8B	mg/l	Boron (leach)	< 0.05	< 0.05	0.06	0.09	< 0.05
R8B	mg/kg	Arsenic (soil)	23.8	16.4	28.5	11.5	13.9
R8B	mg/kg	Cadmium (soil)	2.18	2.65	6.02	2.88	0.58
R8B	mg/kg	Chromium (soil)	72.7	584	140	34.5	20.9
R8B	mg/kg	Lead (soil)	270	542	1360	557	75.8
R8B	mg/kg	Mercury (soil)	0.24	0.79	0.24	0.17	0.12
R8B	mg/kg	Selenium (soil)	1.87	1.89	1.75	1.12	0.59
R8B	mg/kg	Copper (soil)	302	204	672	265	36.8
R8B	mg/kg	Nickel (soil)	53.6	46.5	72.1	30.1	18.8
R*8B	mg/kg	Zinc (soil)	507	1090	3280	794	173
R8B	mg/kg	Boron (soil)	< 100	< 100	< 100	< 100	< 100
R7.25	mg/kg	Total Petroleum hydro-c	426	15700	4920	5560	
R7.25	mg/kg	Diesel Range Organics	368	6040	2170	3040	
R7.25	mg/kg	Lubricating Range Org	57.5	9640	2750	2520	
R7.9	ug/kg	Benzene (DSB)					
R7.9	ug/kg	Toluene (DSB)					
R7.9	ug/kg	Ethyl benzene (DSB)					
R*	mg/kg	Gasoline Range Organics					
R7.9	ug/kg	m,p-Xylene (DSB)					
R7.9	ug/kg	o-Xylene (DSB)					
R*	mg/kg	Sulphur (Elemental) (DSB)	X			X	
R7.22	mg/kg	PAH Total	23.7			197	
*\$	p/a	Asbestos fibres	X			X	

Asbestos Fibres Key

- 0-No asbestos detected
- 1-Chrysotile (white asbestos)
- 2-Amosite (brown asbestos)
- 3-Crocidolite (blue asbestos)
- 4-Chrysotile and Amosite
- 5-Chrysotile and Crocidolite

Interim Report

Laboratory Number			49464519	49464520	49464521	49464522
Sampling Date			12/04/2003	12/04/2003	12/04/2003	12/04/2003
Sample Point			WS7 2D 1.50-2.00	WS9 2D 1.10-2.00	WS13 2D 0.20-0.50	TP1 2D 0.50
Method Code	Units	Determinands				
R3.6	-	pH (soil)	7.6	9	11.1	7.9
R11.3	%	Solids air dried	84.8	85.7	89.5	82
R11.1	%	Total Solids	83.9	85.4		82.5
R11.1	%	Total Ash Solids (DSB)	95.1	95.1		85.9
R11.7	%	Stones greater than 10mm	0	6.2	62.5	29.8
R3.6	-	pH (filtered)	8	7.8	11.1	8.8
R2.5.1	mg/kg	Cyanide(total) (DSB)				< 0.50
R*	kJ/kg	Calorific value	< 100	< 100		9620
R2.21.2	mg/kg	Phenol monohydric (DSB)				< 1.50
R*	mg/kg	Sulphide (DSB)				4.5
R9B	ug/l	Arsenic (leach)	< 0.8	< 0.8	< 0.8	< 0.8
R8B	mg/l	Cadmium(leach)	< 0.0002	< 0.0002	< 0.0002	< 0.0002
R8B	mg/l	Chromium(leach)	< 0.002	< 0.002	0.002	< 0.002
R8B	mg/l	Lead(leach)	< 0.005	< 0.005	< 0.005	< 0.005
R9A	ug/l	Mercury (leach)	< 0.05	< 0.05	< 0.05	< 0.05
R9B	ug/l	Selenium (Leach)	< 0.8	< 0.8	< 0.8	< 0.8
R8B	mg/l	Copper(leach)	< 0.002	< 0.002	0.003	0.003
R8B	mg/l	Nickel(leach)	< 0.005	< 0.005	< 0.005	< 0.005
R8B	mg/l	Zinc (leach)	< 0.01	< 0.01	< 0.01	< 0.01
R8B	mg/l	Boron (leach)	< 0.05	< 0.05	< 0.05	0.08
R8B	mg/kg	Arsenic (soil)	4.57	7.36	3.91	27.7
R8B	mg/kg	Cadmium (soil)	0.23	0.31	0.42	0.71
R8B	mg/kg	Chromium (soil)	22	30.3	15	30.5
R8B	mg/kg	Lead (soil)	12.1	37.3	28.7	109
R8B	mg/kg	Mercury (soil)	0.12	0.14	0.18	0.19
R8B	mg/kg	Selenium (soil)	< 0.40	0.49	< 0.40	0.85
R8B	mg/kg	Copper (soil)	14.8	18.2	13.3	144
R8B	mg/kg	Nickel (soil)	31.6	24.5	11.8	39.3
R*8B	mg/kg	Zinc (soil)	48.7	51.6	36.2	171
R8B	mg/kg	Boron (soil)	< 100	< 100	< 100	< 100
R7.25	mg/kg	Total Petroleum hydro-c				
R7.25	mg/kg	Diesel Range Organics				
R7.25	mg/kg	Lubricating Range Org				
R7.9	ug/kg	Benzene (DSB)				
R7.9	ug/kg	Toluene (DSB)				
R7.9	ug/kg	Ethyl benzene (DSB)				
R*	mg/kg	Gasoline Range Organics				
R7.9	ug/kg	m,p-Xylene (DSB)				
R7.9	ug/kg	o-Xylene (DSB)				
R*	mg/kg	Sulphur (Elemental) (DSB)				X
R7.22	mg/kg	PAH Total				39
*\$	p/a	Asbestos fibres				X

Asbestos Fibres Key

- 0-No asbestos detected
- 1-Chrysotile (white asbestos)
- 2-Amosite (brown asbestos)
- 3-Crocidolite (blue asbestos)
- 4-Chrysotile and Amosite
- 5-Chrysotile and Crocidolite

Interim Report

Laboratory Number			49464523	49464524	49464525	49464526	49464527
Sampling Date			12/04/2003	12/04/2003	12/04/2003	12/04/2003	12/04/2003
Sample Point			TP1 4D 1.50	TP2 2D 0.30	TP2 3D 0.80	TP3 3D 0.50	TP5 1D 0.10
Method Code	Units	Determinands					
R3.6	-	pH (soil)	8.3	7.6	7.4	8.1	7.7
R11.3	%	Solids air dried	88.1	81.5	84	89.1	86.9
R11.1	%	Total Solids	86.8	80.6	78.8		80.4
R11.1	%	Total Ash Solids (DSB)	95.6	81.3	76		83.1
R11.7	%	Stones greater than 10mm	0	13.6	39.1	41.6	39.5
R3.6	-	pH (filtered)	7.3	6.8			7.3
R2.5.1	mg/kg	Cyanide(total) (DSB)	< 0.50	< 0.50			< 0.50
R*	kJ/kg	Calorific value	< 100	12800	9490		4860
R2.21.2	mg/kg	Phenol monohydric (DSB)	< 1.50	< 1.50			< 1.50
R*	mg/kg	Sulphide (DSB)	< 1.0	6.1			5.9
R9B	ug/l	Arsenic (leach)	< 0.8	< 0.8			< 0.8
R8B	mg/l	Cadmium(leach)	< 0.0002	< 0.0002			< 0.0002
R8B	mg/l	Chromium(leach)	< 0.002	< 0.002			0.004
R8B	mg/l	Lead(leach)	< 0.005	< 0.005			< 0.005
R9A	ug/l	Mercury (leach)	< 0.05	< 0.05			< 0.05
R9B	ug/l	Selenium (Leach)	1	0.9			< 0.8
R8B	mg/l	Copper(leach)	< 0.002	< 0.002			< 0.002
R8B	mg/l	Nickel(leach)	< 0.005	< 0.005			< 0.005
R8B	mg/l	Zinc (leach)	< 0.01	< 0.01			< 0.01
R8B	mg/l	Boron (leach)	< 0.05	0.07			< 0.05
R8B	mg/kg	Arsenic (soil)	7.26	43.9	47.5	35.2	25.2
R8B	mg/kg	Cadmium (soil)	0.08	0.52	0.41	1.49	6.41
R8B	mg/kg	Chromium (soil)	15.6	29.2	34.9	40.8	159
R8B	mg/kg	Lead (soil)	11	82	86.8	247	1100
R8B	mg/kg	Mercury (soil)	0.14	0.29	0.21	0.19	0.16
R8B	mg/kg	Selenium (soil)	< 0.40	1.74	1.8	1.33	1.94
R8B	mg/kg	Copper (soil)	19	168	210	197	404
R8B	mg/kg	Nickel (soil)	16.5	57.9	61	50.5	80.3
R*8B	mg/kg	Zinc (soil)	31.1	105	130	551	5270
R8B	mg/kg	Boron (soil)	< 100	< 100	< 100	< 100	< 100
R7.25	mg/kg	Total Petroleum hydro-c					
R7.25	mg/kg	Diesel Range Organics					
R7.25	mg/kg	Lubricating Range Org					
R7.9	ug/kg	Benzene (DSB)					
R7.9	ug/kg	Toluene (DSB)					
R7.9	ug/kg	Ethyl benzene (DSB)					
R*	mg/kg	Gasoline Range Organics					
R7.9	ug/kg	m,p-Xylene (DSB)					
R7.9	ug/kg	o-Xylene (DSB)					
R*	mg/kg	Sulphur (Elemental) (DSB)	X	X			X
R7.22	mg/kg	PAH Total	< 5.00	39.9			< 5.00
*\$	p/a	Asbestos fibres	X				X

Asbestos Fibres Key

- 0-No asbestos detected
- 1-Chrysotile (white asbestos)
- 2-Amosite (brown asbestos)
- 3-Crocidolite (blue asbestos)
- 4-Chrysotile and Amosite
- 5-Chrysotile and Crocidolite

Interim Report

Laboratory Number			49464528	49464529	49464530	49464531	49464532
Sampling Date			12/04/2003	12/04/2003	12/04/2003	12/04/2003	12/04/2003
Sample Point			TP9 1D 0.10	TP10 1D 0.15	TP11 1D 0.20	TP12 1D 0.30	TP13 1D 0.50
Method Code	Units	Determinands					
R3.6	-	pH (soil)	7.2	7.1	7.1	7.1	8.7
R11.3	%	Solids air dried	87.2	86.2	86.4	88.6	87.9
R11.1	%	Total Solids					
R11.1	%	Total Ash Solids (DSB)					
R11.7	%	Stones greater than 10mm	0	0	19.3	0	70.2
R3.6	-	pH (filtered)	6	7	7	6.1	6.9
R2.5.1	mg/kg	Cyanide(total) (DSB)					
R*	kJ/kg	Calorific value					
R2.21.2	mg/kg	Phenol monohydric (DSB)					
R*	mg/kg	Sulphide (DSB)					
R9B	ug/l	Arsenic (leach)	2.8	1.9	10.4	< 0.8	< 0.8
R8B	mg/l	Cadmium(leach)	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
R8B	mg/l	Chromium(leach)	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
R8B	mg/l	Lead(leach)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
R9A	ug/l	Mercury (leach)	0.1	< 0.05	< 0.05	< 0.05	< 0.05
R9B	ug/l	Selenium (Leach)	< 0.8	< 0.8	< 0.8	1.1	< 0.8
R8B	mg/l	Copper(leach)	0.006	0.003	0.01	< 0.002	0.007
R8B	mg/l	Nickel(leach)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
R8B	mg/l	Zinc (leach)	< 0.01	< 0.01	0.01	< 0.01	< 0.01
R8B	mg/l	Boron (leach)	< 0.05	< 0.05	< 0.05	< 0.05	0.21
R8B	mg/kg	Arsenic (soil)	24.3	4.64	25	2.82	9.78
R8B	mg/kg	Cadmium (soil)	0.51	0.15	1.05	0.23	0.99
R8B	mg/kg	Chromium (soil)	25.4	11.8	25.7	30	88.9
R8B	mg/kg	Lead (soil)	81.8	19.4	138	17.8	256
R8B	mg/kg	Mercury (soil)	0.19	< 0.10	0.35	0.1	0.36
R8B	mg/kg	Selenium (soil)	0.75	0.6	1.28	0.44	1.08
R8B	mg/kg	Copper (soil)	47.9	57	95.9	21.9	144
R8B	mg/kg	Nickel (soil)	25.5	44.2	35.8	45.5	38.9
R*8B	mg/kg	Zinc (soil)	189	36.7	703	95.4	455
R8B	mg/kg	Boron (soil)	< 100	< 100	< 100	< 100	< 100
R7.25	mg/kg	Total Petroleum hydro-c					
R7.25	mg/kg	Diesel Range Organics					
R7.25	mg/kg	Lubricating Range Org					
R7.9	ug/kg	Benzene (DSB)					
R7.9	ug/kg	Toluene (DSB)					
R7.9	ug/kg	Ethyl benzene (DSB)					
R*	mg/kg	Gasoline Range Organics					
R7.9	ug/kg	m,p-Xylene (DSB)					
R7.9	ug/kg	o-Xylene (DSB)					
R*	mg/kg	Sulphur (Elemental) (DSB)					
R7.22	mg/kg	PAH Total					
*\$	p/a	Asbestos fibres					

Asbestos Fibres Key

- 0-No asbestos detected
- 1-Chrysotile (white asbestos)
- 2-Amosite (brown asbestos)
- 3-Crocidolite (blue asbestos)
- 4-Chrysotile and Amosite
- 5-Chrysotile and Crocidolite

Interim Report

Laboratory Number			49464533	49464534	49464535	49464536	49464537
Sampling Date			12/04/2003	12/04/2003	12/04/2003	12/04/2003	12/04/2003
Sample Point			TP14 1D 0.50	TP15 2D 1.50	TP16 1D 1.00	TP16 2D 2.00	TP17 1D 0.15
Method Code	Units	Determinands					
R3.6	-	pH (soil)	8.2	8.1	8.8	10.6	7.2
R11.3	%	Solids air dried	96.5	87.9	88.9	96	71.9
R11.1	%	Total Solids					
R11.1	%	Total Ash Solids (DSB)					
R11.7	%	Stones greater than 10mm	19.8	33	50.6	19.6	0
R3.6	-	pH (filtered)	7.5	6.8	7.5	9.8	6.8
R2.5.1	mg/kg	Cyanide(total) (DSB)					
R*	kJ/kg	Calorific value					
R2.21.2	mg/kg	Phenol monohydric (DSB)					
R*	mg/kg	Sulphide (DSB)					
R9B	ug/l	Arsenic (leach)	4	1.7	2.3	22.4	1.1
R8B	mg/l	Cadmium(leach)	< 0.0002	< 0.0002	< 0.0002	0.0002	< 0.0002
R8B	mg/l	Chromium(leach)	< 0.002	< 0.002	< 0.002	0.007	< 0.002
R8B	mg/l	Lead(leach)	< 0.005	< 0.005	< 0.005	0.017	< 0.005
R9A	ug/l	Mercury (leach)	< 0.05	< 0.05	< 0.05	0.12	< 0.05
R9B	ug/l	Selenium (Leach)	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
R8B	mg/l	Copper(leach)	0.004	0.006	< 0.002	0.059	0.003
R8B	mg/l	Nickel(leach)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
R8B	mg/l	Zinc (leach)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
R8B	mg/l	Boron (leach)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
R8B	mg/kg	Arsenic (soil)	2.25	12.5	13.3	3.03	21.5
R8B	mg/kg	Cadmium (soil)	0.18	1.28	0.65	0.27	0.5
R8B	mg/kg	Chromium (soil)	15	43.8	31.9	22	34.9
R8B	mg/kg	Lead (soil)	30.7	130	41.7	22.8	78.5
R8B	mg/kg	Mercury (soil)	< 0.10	0.2	0.11	0.13	0.25
R8B	mg/kg	Selenium (soil)	< 0.40	0.44	< 0.40	< 0.40	1.03
R8B	mg/kg	Copper (soil)	18.6	147	37.6	21.8	32.1
R8B	mg/kg	Nickel (soil)	7.78	29.1	22.4	9.4	35
R*8B	mg/kg	Zinc (soil)	35.8	315	87.4	37.4	88.1
R8B	mg/kg	Boron (soil)	< 100	< 100	< 100	< 100	< 100
R7.25	mg/kg	Total Petroleum hydro-c					
R7.25	mg/kg	Diesel Range Organics					
R7.25	mg/kg	Lubricating Range Org					
R7.9	ug/kg	Benzene (DSB)					
R7.9	ug/kg	Toluene (DSB)					
R7.9	ug/kg	Ethyl benzene (DSB)					
R*	mg/kg	Gasoline Range Organics					
R7.9	ug/kg	m,p-Xylene (DSB)					
R7.9	ug/kg	o-Xylene (DSB)					
R*	mg/kg	Sulphur (Elemental) (DSB)					
R7.22	mg/kg	PAH Total					
*\$	p/a	Asbestos fibres		X	X		

Asbestos Fibres Key

- 0-No asbestos detected
- 1-Chrysotile (white asbestos)
- 2-Amosite (brown asbestos)
- 3-Crocidolite (blue asbestos)
- 4-Chrysotile and Amosite
- 5-Chrysotile and Crocidolite

Interim Report

Laboratory Number			49464538	49464539	49464540	49464541	49464542
Sampling Date			12/04/2003	12/04/2003	12/04/2003	12/04/2003	12/04/2003
Sample Point			TP18 1D 0.10	TP20 1D 0.10	TP21 1D 0.10	TP23 1D 0.10	TP24 1D 0.10
Method Code	Units	Determinands					
R3.6	-	pH (soil)	7.2	7.8	5	5.6	5.4
R11.3	%	Solids air dried	80.3	84.2	81.5	80.8	76.8
R11.1	%	Total Solids		80.1			
R11.1	%	Total Ash Solids (DSB)		79.9			
R11.7	%	Stones greater than 10mm	0	33.1	0	0	0
R3.6	-	pH (filtered)	6.6	7.3		5.3	
R2.5.1	mg/kg	Cyanide(total) (DSB)					
R*	kJ/kg	Calorific value		4810			
R2.21.2	mg/kg	Phenol monohydric (DSB)					
R*	mg/kg	Sulphide (DSB)					
R9B	ug/l	Arsenic (leach)	5.5	10.5		1.4	
R8B	mg/l	Cadmium(leach)	< 0.0002	< 0.0002		< 0.0002	
R8B	mg/l	Chromium(leach)	< 0.002	< 0.002		< 0.002	
R8B	mg/l	Lead(leach)	0.013	< 0.005		< 0.005	
R9A	ug/l	Mercury (leach)	< 0.05	< 0.05		< 0.05	
R9B	ug/l	Selenium (Leach)	< 0.8	< 0.8		< 0.8	
R8B	mg/l	Copper(leach)	0.009	0.003		0.002	
R8B	mg/l	Nickel(leach)	< 0.005	< 0.005		< 0.005	
R8B	mg/l	Zinc (leach)	0.02	< 0.01		< 0.01	
R8B	mg/l	Boron (leach)	< 0.05	< 0.05		< 0.05	
R8B	mg/kg	Arsenic (soil)	26.1	12.9	22.8	17.8	14.9
R8B	mg/kg	Cadmium (soil)	0.72	0.39	0.49	0.53	0.56
R8B	mg/kg	Chromium (soil)	25.5	20	35.1	27.3	24.7
R8B	mg/kg	Lead (soil)	103	65.7	77	58.5	48.3
R8B	mg/kg	Mercury (soil)	0.22	0.12	0.28	0.2	0.14
R8B	mg/kg	Selenium (soil)	0.86	0.77	0.94	0.79	0.45
R8B	mg/kg	Copper (soil)	49.8	87.1	33.3	22	18.6
R8B	mg/kg	Nickel (soil)	32.1	38.3	26.8	25.5	28.2
R*8B	mg/kg	Zinc (soil)	116	64.8	90.5	84.3	78.3
R8B	mg/kg	Boron (soil)	< 100	< 100	< 100	< 100	< 100
R7.25	mg/kg	Total Petroleum hydro-c					
R7.25	mg/kg	Diesel Range Organics					
R7.25	mg/kg	Lubricating Range Org					
R7.9	ug/kg	Benzene (DSB)					
R7.9	ug/kg	Toluene (DSB)					
R7.9	ug/kg	Ethyl benzene (DSB)					
R*	mg/kg	Gasoline Range Organics					
R7.9	ug/kg	m,p-Xylene (DSB)					
R7.9	ug/kg	o-Xylene (DSB)					
R*	mg/kg	Sulphur (Elemental) (DSB)					
R7.22	mg/kg	PAH Total					
*\$	p/a	Asbestos fibres					

Asbestos Fibres Key

- 0-No asbestos detected
- 1-Chrysotile (white asbestos)
- 2-Amosite (brown asbestos)
- 3-Crocidolite (blue asbestos)
- 4-Chrysotile and Amosite
- 5-Chrysotile and Crocidolite

Interim Report

Laboratory Number			49464543	49464544	49464545
Sampling Date			12/04/2003	12/04/2003	12/04/2003
Sample Point			TP25 1D 0.10	TP30 2D 0.60	TP31 1D 0.50
Method Code	Units	Determinands			
R3.6	-	pH (soil)	6	7.8	7.7
R11.3	%	Solids air dried	83.4	83.8	87.6
R11.1	%	Total Solids			82.5
R11.1	%	Total Ash Solids (DSB)			84.9
R11.7	%	Stones greater than 10mm	0	0	60.3
R3.6	-	pH (filtered)	6		7.2
R2.5.1	mg/kg	Cyanide(total) (DSB)			< 0.50
R*	kJ/kg	Calorific value			6430
R2.21.2	mg/kg	Phenol monohydric (DSB)			< 1.50
R*	mg/kg	Sulphide (DSB)			250
R9B	ug/l	Arsenic (leach)	1.2		1.4
R8B	mg/l	Cadmium(leach)	< 0.0002		0.0003
R8B	mg/l	Chromium(leach)	< 0.002		< 0.002
R8B	mg/l	Lead(leach)	< 0.005		< 0.005
R9A	ug/l	Mercury (leach)	< 0.05		< 0.05
R9B	ug/l	Selenium (Leach)	< 0.8		< 0.8
R8B	mg/l	Copper(leach)	0.005		0.002
R8B	mg/l	Nickel(leach)	< 0.005		< 0.005
R8B	mg/l	Zinc (leach)	< 0.01		0.01
R8B	mg/l	Boron (leach)	< 0.05		0.08
R8B	mg/kg	Arsenic (soil)	17.9	12.9	24.7
R8B	mg/kg	Cadmium (soil)	0.56	0.15	9.41
R8B	mg/kg	Chromium (soil)	28.5	31.2	65.5
R8B	mg/kg	Lead (soil)	50.9	25.9	321
R8B	mg/kg	Mercury (soil)	0.18	0.11	0.53
R8B	mg/kg	Selenium (soil)	0.71	0.46	1.37
R8B	mg/kg	Copper (soil)	17.3	27.1	661
R8B	mg/kg	Nickel (soil)	27.9	25.8	57.4
R*8B	mg/kg	Zinc (soil)	81.1	70.3	1230
R8B	mg/kg	Boron (soil)	< 100	< 100	< 100
R7.25	mg/kg	Total Petroleum hydro-c			
R7.25	mg/kg	Diesel Range Organics			
R7.25	mg/kg	Lubricating Range Org			
R7.9	ug/kg	Benzene (DSB)			
R7.9	ug/kg	Toluene (DSB)			
R7.9	ug/kg	Ethyl benzene (DSB)			
R*	mg/kg	Gasoline Range Organics			
R7.9	ug/kg	m,p-Xylene (DSB)			
R7.9	ug/kg	o-Xylene (DSB)			
R*	mg/kg	Sulphur (Elemental) (DSB)			X
R7.22	mg/kg	PAH Total			34.8
*\$	p/a	Asbestos fibres			X

Asbestos Fibres Key

- 0-No asbestos detected
- 1-Chrysotile (white asbestos)
- 2-Amosite (brown asbestos)
- 3-Crocidolite (blue asbestos)
- 4-Chrysotile and Amosite
- 5-Chrysotile and Crocidolite