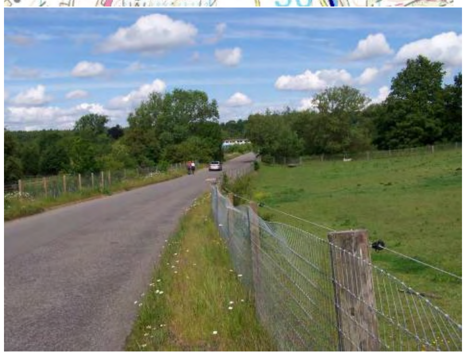
Isles Quarry, Borough Green

Geo-environmental and Geotechnical Ground Conditions Report 2010

April 2011



Prepared for

Crest Nicholson

Revision Schedule

Geo-environmental and Geotechnical Ground Conditions Report
April 2011

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Appendices:

1 Introduction

Terms of Reference

1.1 Crest Nicholson Ltd (Crest) requires an assessment of the ground conditions of the former Isles Quarry located on Quarry Hill Road, Borough Green, Kent.

1.2 The purpose of the assessment was to review data previously collected for the site (up to 2008), and undertake additional works where data gaps were identified in order to undertake a due diligence appraisal of geo-environmental and geotechnical ground conditions for the sites potential purchase.

Methodology

1.3 The following methodology was adopted to successfully undertake the requirements of the study:

- Review of existing desktop study and ground investigation (GI) data previously collected at the site
- Identification of data gaps, formulation of a preliminary Conceptual Site Model (CSM) based on the above information
- Scoping and management of additional GI at the site as a result of the preliminary CSM
- Formulation of a refined CSM
- Assessment of the ground conditions and parameters with respect to the geotechnical aspects of the proposed developments
- Updated assessment of risks and outline mitigation options to support the planned residential development of the site.

Information Sources

1.4 The following sources of information were used in preparing this report:

Client Supplied Data:

- Site plans showing extent of the site boundary.
- Plans of the proposed redevelopment project
- Previous GI reports:

Information in the Public Domain (taken from previous GI reports)

- Historical Ordnance Survey (OS) mapping from the Envirocheck Report.
- Geological mapping data

2010 Ground Investigation (current investigation)

- Site walkover observations

- Exploratory borehole logs
- Chemical testing laboratory results
- Field measured data (i.e. groundwater and ground-gas monitoring data)

List of Previous Investigations Undertaken at the Site

1.5 The following reports were provided to URS/Scott Wilson by Crest for review:

- *Isles Quarry Borough Green, Kent Site Investigation Phase 1 Desk Study Report* – Bettridge, Turner and Partners (August 2006)
- *Isles Quarry, Borough Green, Kent, Phase 2 Site Investigation Interpretative Report* – Hyder/BT&P (August 2008)
- *Isles Quarry, Borough Green, Additional Geo-environmental Ground Investigation – Proposed Access Road Review* – Hyder/BT&P (late 2008)
- Stockpile Sampling Results – undertaken in December 2008 and February 2009.

Proposed Site Use

1.6 It is understood that the site is to be developed for a residential end use. The current proposed layout comprises of 207 low rise residential units up to a maximum of 3 storeys with associated hardcovered parking, private gardens and soft landscaping. To ensure that levels around the boundary remain largely unchanged significant amounts of filling are proposed in the central area of the site to create a suitable ground profile.

Limitation of the Study and Assessment

1.7 The results of the study are based on the information made available to URS/Scott Wilson by the client at the time of the site reconnaissance such, historical GI investigation data and information from the public domain. The opinions presented in this report are partly based on the information obtained from the organisations contacted. Although URS/Scott Wilson believes this information to be reliable, it cannot and does not guarantee the authenticity or reliability of the information. It is also possible that there is other documentation concerning the site which URS/Scott Wilson has no knowledge of.

1.8 The opinions presented within this report are also based on additional GI works undertaken on site under the direction of URS/Scott Wilson. At the time that the GI was conducted, it is possible that certain indications of ground conditions were latent or otherwise not visible. The opinion of URS/Scott Wilson can only be based on what was visible at the time of the site visit.

1.9 At the time of the GI, it is possible that certain areas of ground conditions were not identified. Any investigation can only sample a small portion of any site. The results of the investigation do not necessarily indicate geo-environmental and geotechnical conditions in between the locations sampled and tested. The opinions of URS/Scott Wilson can only be based on the individual areas investigated during the site visit.

2 Description of Site and Surrounding Area

2.1 The description of the site has been determined from a combination of site reconnaissance observations collected by URS/Scott Wilson and review of previous investigations and desktop study data for the site.

2.2 Previously Hyder sub-divided the site into five separate areas based on the levels across the site and its former uses – and the sub-division of these areas has been retained for this investigation.

Location and Site Description

2.3 The table below summarises the findings of the site walkover and during the ground investigation survey with information collated from the available Envirocheck Report.

2.4 A site location plan is presented as part of the Appendix C, Figure F1, and a plan showing the five distinct areas displayed in Appendix A.

Address	**Isles Quarry, Quarry Hill Road, Borough Green, Kent**
National Grid Reference	X: 560450; Y:156770 (centre)
Size (ha)	Approx 4.5
Occupier(s)/Land use	Operational metal and paint works, derelict buildings, backfilled quarry and on-site stockpiles
On-site Operations	Area 5 occupied with 'Invicta' skip manufacturing with metal and paint works
Buildings	Workshop building (Area 5) Derelict building (Area 1) Disused sheds (Areas 2 and 4)
Ancillary Structures (tanks) etc	Disused fuel bowser (Area 5) Three Electricity substations (Area 5, Area 3 and Quarry Hill Road)
Hard standing/Landscaping	Area 1: Hardstanding and gravelled area Area 2: Mostly hardstanding – very thick slab Area 3 : Mostly soft landscaping (backfilled quarry) Area 4: Quarry hill road and soft landscaped area with localised concrete slab and small sheds Area 5: Mostly hardstanding.
Areas of Fill	Area 3: Backfilled quarry with significant thickness of Made Ground.
General Ground Slope	Area 1: Elevated terrace area bounded with retaining wall. Sloping eastwards Area 2: Relatively flat area sloping south westwards Area 3: Elevated area with moderate slope towards a

	terrace (backfilled) area north westwards, ending on moderate slope along the area's boundary. Area 4: Flat area along the Quarry Hill Road Area 5: Generally flat with slight slope south-eastwards.
Additional Comments	Stockpiles covering about 40% of Area 1 and 80% of Area 2.

Surrounding Area

2.5 A summary of surrounding land-uses is provided in the following table:

North	Road and Borough Green urban area beyond. New industrial estate bound the north-western corner of the site
East	Quarry Hill Road, a stream (ditch), green field (disused quarry), and southern part of Borough Green beyond. One works building north east of the site.
South	Green field, tracks and drain
West	Green Field (disused quarry) and drain beyond.

Storage of Oils, Fuels and Chemicals

2.6 At the time of the site walkover, an exhumed fuel tank was located within Area 1 (derelict workshop), although it is was not clear where this tank was exhumed from. Also, a maintenance pit was located within this derelict building.

2.7 Area 5 included a disused fuel bowser. No evidence of an underground storage tank was present (overlying concrete slabs, filling points) which suggests that the tank may have been above ground and hence removed from site.

Waste Storage and Disposal

2.8 A waste storage area with waste stored in a skip is present at the back of the building (southern corner of Area 5). This area is situated on gravel surfacing with no hardstanding beneath.

Electrical Transformers

2.9 The Envirocheck Report shows three electrical substations to be present on site, which was confirmed by the site walkover observations. One is located on Quarry Hill Road, close to the waybridge. The second electricity substation is present within Area 2, adjacent to the remaining shed. The third one is located within Area 5 adjacent to the site boundary on its south-eastern side.

3 History of the Site and Surrounding Area

Site History from Ordnance Survey Maps

3.1 The following summary of history of the site and surrounding area has been determined from the historical OS mapping within the Envirocheck report included in the 2006 Phase 1 desk study and discussed further in the 2008 Phase 2 Site Investigation Interpretative Report (Appendix B).

On site:

3.2 Prior to 1871, the site appears to be largely undeveloped except for a small quarry in its eastern part. From 1936, quarries developed across most part of the site, while Areas 1 and 2 are shown to contain industrial buildings (workshops, use unknown).

3.3 By 1962, Area 4, located on the southern edge of the quarry site, is shown to contain an unknown works building.

3.4 The quarry was progressively backfilled between 1974 and 1992. Area 2 shows a platform (believed to be concrete platform) by 1979. Previous buildings in this area are no longer present.

3.5 The site and its surrounding appear to remain largely unchanged until present time as per shown on the OS map 2009 (scale 1:10,000)

Off Site

3.6 Site surroundings were mainly developed as quarry and backfilled at approximately the same time as on-site quarrying and backfilling operations.

3.7 The industrial estate northwest of the site was first developed by 1968. It was extended in 1983 and remained unchanged on the latest Ordnance Map. However, the site walkover shows this area to be redeveloped as a new industrial estate with a total of four buildings.

3.8 East of the site, industrial buildings (use unknown) were developed by 1961, and remain until demolition by 1984, with only one workshop building remaining and shown on the 2009 OS Map.

4 Environmental Setting

Introduction

4.1 This section of the report presents data on the geology, groundwater and surface water conditions at the site together with other environmental data relating to the environmental setting of the site, such as the nearby presence of sensitive environmental habitats or potentially contaminative industries. It is used to input into the CSM for the site, particularly with respect to identifying potential historical contamination sources and pathways for which the contaminants may move along.

Geological Mapping

4.2 The following description of geology of the area is based on British Geological Survey (BGS) mapping at 1:50,000 scale (Sevenoaks, Sheet No. 287, 2000) indicating the site to be underlain at depth by members of the Lower Greensand Formation (Folkestone, Sandgate and Hythe Formation).

Geological Unit	Age	Description	Aquifer Status
Head	Recent	Clay, silts, sands and gravels	Minor Aquifer
Folkestone Formation (Area 1 north eastern part of the site)	Cretaceous	Coarse sands, weakly cemented sandstone, calcareous sandstone	Major Aquifer
Sandgate Formation (Area 2, 3 and 4)	Cretaceous	Sandstone and mudstone	Major Aquifer
Hythe Formation (Area 5)	Cretaceous	Sandstone and Limestone	Major Aquifer

Groundwater Vulnerability

4.3 According to the Envirocheck Data Report the site lies on a Major Aquifer which is the Lower Greensand Group that includes Folkestone Formation, Sandgate Formation and Hythe Beds. These are described as fractured or potentially fractured rocks, which do not have a high primary permeability, or other formations of variable permeability including unconsolidated deposits. Although not producing large quantities of water for abstraction, they are important for local supplies and in supplying base flow to rivers.

4.4 The Soil Classification of the site is Intermediate Leaching Potential (I1) which means that soils can possibly transmit a wide range of pollutants.

4.5 However, the site is known from historical map data to have been extensively quarried and backfilled with imported material that might have different leaching properties.

4.6 According to the Environment Agency website, the site is located within a Source Protection Zone 3 (SPZ 3) and within a Nitrate Vulnerable Zone (NVZ).

Surface Water Features

4.7 The Envirocheck Data Report shows the closest river to be the River Bourne, located 200m to the south of the site. Also, are identified a ditch (stream) along the Quarry Hill Road, and a culverted drain located 85 northwest of the site. This drain flow southwards along the eastern boundary of the site.

Flooding

4.8 According to the Environment Agency website the site is located approximate 50m northwest of an area at risk of flooding from river without defences.

Regulatory Entries

4.9 The following table summarise the regulatory entry on site or within its surroundings.

Type	Name	Location	Distance/Direction	Date issued / Status
LAPPC Air	ARC Greenways Ltd	Standgate Quarry	200m south	1992 revoked
IPPC	Borough Green Sands Pit	Borough Green Inert Landfill	Adjacent South	2005 Effective
PICW	None – Mining	Adjacent to buterwoths – River Bourne	Adjacent South	1994 Minor Incident (Misc/other)
PICW	None – Mining	The Lodge - Stream	30m South	1994 Minor Incident (Misc/other)
PICW	None – Residential	Harrison Road – Stream	80m Northeast	1992 Minor (oil)
PICW	None – Residential	Mill Lane - River	90m southeast	1999 Minor (Organic chemicals, diesel)
PICW	ARC	Standgate Quarry	190m southeast	1994 Minor (Misc/Other)
PICW	Unknown	Upstream of Butterworths	220 southeast	1993 Minor (Misc/Other)
LWMF	West Recycling Group	Standgate West Landfill	10m South	1995 Active (Household, Commercial and Industrial >75,000t per year))
LWMF	Hogarth Tyre Shredders Ltd	Borough Green	On site (Area 1)	1984 Physical Treatment of scrap rubber (<10,000t per year) Inactive
LARLS	Standgate Quarry	Unknown	20m South	Unknown

LAPPC: Local Authority Pollution Prevention and Control
IPPC: Integrated Pollution Prevention and Control
PICW: Pollution Incident to Controlled Waters
Misc: Miscellaneous
LWMF: Licensed Waste Management Facilities
LARLS: Local Authority Recorded Landfill sites

4.10 In summary, significant information that can be obtained from the regulatory information provided is:

- The possible presence of a former landfill south of the site (near Area 5)

- Former tyre operations having taken place in Area 1
- No records of major spills or pollution incidents having taken place on or in the near vicinity of the site

Water Abstractions

4.11 The Envirocheck Report lists one water abstraction license within 250 m of the site. It is an abstraction point used at Butterworths Services (ltd). Groundwater is abstracted for general industrial use.

4.12 The closest abstraction point benefitting from the SPZ is located approximately 900m north of the site.

Contemporary Trade Directory Entries

4.13 The Envirocheck Data Report lists five potentially contaminative industries within 250 m of the site, summarised within the table below:

Name	Activity	Address	Distance and direction from the site	Status
Alcontrol Ltd	Engineers	Crowhurst Lane, borough Green	On site	Inactive
Invicta Containers ltd (Area 5)	Container manufacturer	Standgate Quarry	On Site (Area 5)	Active
Hanson Aggregates	Quarries	81, Quarry Hill Road	30m northeast	Active
Hogarth Tyre Shredders Ltd (Area 1)	Waste Recycling	Greenways, Standgate Quarry	On Site (Area 1)	Inactive
Greenways Landfill	Waste Disposal Service	Standgate Quarry, Quarry Hill Rd	150m south	Inactive

Fuel Station Entries

4.14 The Envirocheck Data Report does not list any fuel stations within 250 m of the site. However, a disused fuel bowser was located on site at the entrance of the Area 5. No evidence of an underground tank was identified in the vicinity however.

5 Summary of Previous Ground Investigations

5.1 This section of the report summarises the investigations and findings of the previous investigation reports provided to URS/Scott Wilson by Crest (as listed in Section 1.5).

5.2 Note that the 2008 Hyder GI Interpretative Report, itself summarises a TA Millard report on trial pit investigations undertaken in Area 1 in 2007, and this data has also been assessed as part of this review.

5.3 Exploratory hole location plans for the investigations are provided in the summarised reports. In addition, the exploratory hole plan for the original 2008 Hyder investigation has been transposed onto a site plan included in this report (Appendix A).

5.4 The geotechnical works undertaken in 2008 are incorporated in the assessment of the ground parameters and geotechnical evaluation of the site (Sections 11 and 12)

Scope of Works for Each Investigation

TA Millard Investigation (2007)

5.5 Ten trial pits (TP) to a maximum depth of 3m below ground level (bgl) were completed at the site in Area 1. Laboratory analysis was subsequently undertaken on soil samples including leachate analysis.

Hyder Ground Investigations (2008)

5.6 2008 Ground investigation comprised 20 cable percussive boreholes (BH) with depths ranging from 5.3 to 19 mbgl and 20 window sampling (WS) holes with depths ranging from 0.5 to 5m bgl. Additionally five trial pits (STP) were dug for soakaway testing, to depths between 3.1 and 4.0m bgl.

5.7 Five exploratory holes were installed with 30mm gas monitoring standpipes to a maximum depth of 12.5m bgl. Additionally, four exploratory holes were installed with 50mm groundwater and ground gas monitoring standpipes.

5.8 In situ PID readings were completed on one sample from each cable percussive borehole location (10 in total)

5.9 Laboratory analysis was completed on soils, leachates and groundwater samples. A total of 68 soil samples and three groundwater samples were analysed. Very limited leachate analysis was undertaken on selected samples.

5.10 Ground gas monitoring was undertaken on six occasions after fieldwork completion provided methane, carbon dioxide and oxygen concentrations, though no ground gas flow measurements were recorded.

Hyder Additional Ground Investigations (late 2008)

5.11 Additional ground investigations comprised 11 machine excavated trial pits (TP) to a maximum depth of 3.2m bgl. 33 soil samples were analysed for a range of contaminants including metals, sulphates, cyanide, phenol, PAHs and TPH.

5.12 Note that the locations of the trial pits were outside of the proposed development area. (north of Area 1) The purpose of the investigation was to provide information on the likely waste classification of material to be excavated during the construction of a proposed access road and to determine whether any of this material would be suitable for reuse as a capping layer in the private gardens of the proposed residential development.

5.13 Following excavation in this area, materials were understood to have been stockpiled in Areas 1 and 2 (as identified in walkover observations described in Section 2). Subsequent sampling and laboratory analysis of these stockpiles was undertaken.

Ground Conditions Encountered During GI Works

5.14 During the ground investigation 2008, Made Ground was encountered at every exploratory hole location. Thicknesses varied according to the part of the site investigated. The site was divided into three separate terraces, summarised as follows.

- Terrace I: Area 2 that is approximately 79m AOD elevation
- Terrace II: Area 1, at approximately 85m AOD
- Terrace III is the southern part of the site that comprises the Area 3, 4 and 5. These are at an approximate level of 83m AOD in Area 3, dropping to 81m AOD in Area 4 and sloping slights (to approximately 82m AOD) in Area 5.

5.15 Exploratory hole locations in each Area are summarised as follows:

- Area 1: WS1 to WS4, BH6, and TP1 to TP10
- Area 2: WS5 to WS9
- Area 3: BH1 to BH5, BH7, BH7A and WS13
- Area 4: WS10 to WS12, BH8 and STP2, STP3, STP3B and STP4
- Area 5: WS14, WS15, WS17 to WS20, BH9 and BH10 and STP1
- Proposed Access Road Area: TPA to TPK
- Stockpile Samples: designated by Zones (Zones 1 to 3).

5.16 Terrace I was found to contain Made Ground varying from 0.3 to 4.4m thickness. The proven depth of the Lower Greensand is 5m bgl, but the base of this stratum was not reached.

5.17 Terrace II was found to contain Made Ground varying from 0.4 to 5.7m thickness, on top of Lower Greensand to a maximum proven depth of 9.2mbgl.

5.18 Terrace III was found to contain Made Ground between 1 to 19m thick although the base of the Made Ground was not proven when found to be 19m thick. Lower Greensand was found with a maximum thickness of 5.5m and a maximum proven depth of 16mbgl.

5.19 The proposed access road area was divided into three parts, the upper half (west), the lower half (east) and TPD, on derelict workshop land. The upper half of the road is made of top soil directly underlain with Folkestone Formation, The lower half is underlain with Made Ground up to 1.6m thick, with some waste content such as metal and plastic with black ash/clinker at TPA, and some ash noted in TPB. Made Ground directly overlies Folkestone Formation.

Groundwater Conditions

5.20 Occasional groundwater strikes were observed during fieldworks at a depth ranging from 2 to 17.5m bgl within the Made Ground, which was considered to be perched groundwater.

5.21 Groundwater monitoring rounds undertaken after drilling works shows the water table to vary between 6.5mbgl and 9.6mbgl; however, as survey levels for monitoring wells were not provided to URS/Scott Wilson to allow for an assessment of groundwater flow direction to be made.

Observations of Contamination

5.22 The following table summarises the observation of potential contamination encountered during the previous ground investigations.

Exploratory Hole	Observation of contamination	Depth
TP1	Hydrocarbon odour getting stronger	0.05-0.7mbgl
TP2	Slight to strong hydrocarbon odour	0.3 – 1.4mbgl
TP3A	Very strong hydrocarbon odour with pocket of black oily sand	0.2-0.7mbgl
TP3B	Slight hydrocarbon odour associated with layer of black/grey clinker	0.3-1.0mbgl
TP5	Slight hydrocarbon odour with layer of black/grey clinker	Unknown
TP6	Slight to strong hydrocarbon odour with layer of brown sand and clinker	0-1.15mbgl
TP10	Strong hydrocarbon odour	0.9-1.3mbgl
BH3	Slight organic odour	6.7-8.5mbgl
BH4	Slight organic odour	6.5-7.9mbgl and 14mbgl
BH5	Slight organic odour with occasional black staining	9.5-10.5mbgl
BH6	Slight organic odour	0-0.7mbgl
BH7A	Black slightly clayey gravelly sand	1.2-2.2mbgl
WS2	Strong hydrocarbon odour	0-0.3mbgl
WS3	Slight hydrocarbon	0-04mbgl
WS3	Black staining	4.6-5.0mbgl
WS5	Moderate hydrocarbon odour	0-0.2mbgl
WS8/WS8A	Strong hydrocarbon odour with black staining	0.3-0.5mbgl
WS9	Strong hydrocarbon odour	1.0mbgl
WS12	Black sandy gravel	0-0.2mbgl
STP3	Slight organic odour	0-1.1mbgl
STP4	Slight hydrocarbon odour	0-08mbgl

Assessment of Contamination Investigation Results

Soils

5.23 Assessment of trial pits for the 2007 investigation was undertaken against Dutch Intervention guidelines, which are no longer relevant for assessment. Hydrocarbon odours, staining and concentrations were shown to generally decrease with depth, suggesting contamination to be associated with point sources (most likely derived from former tyre shredding operations).

5.24 For the 2008 Hyder Investigation, interpretation was undertaken on an area by area basis, and further subdivided into; soils within the top metre, and depths below this.

5.25 The guidelines values for residential land use with plant uptake were chosen to assess the site with respect to the proposed residential development of houses with gardens.

5.26 A breakdown of the key soil contamination findings across the areas has been summarised as follows by URS/Scott Wilson:

- Area 1: <1m = Area wide PAH contamination, potentially area wide TPH impacts
  >1m = No contamination (limited sampling only)
- Area 2: <1m = Area wide PAH contamination, potentially area wide TPH impacts
  >1m = No contamination (limited sampling only)
- Area 3: <1m = Some area wide PAH impacts,
  >1m = Significant PAH impacts
- Area 4: <1m = possible hotspot (WS12)
  >1m = clean
- Area 5: <1m = possible hotspot (BH10)
  >1m = clean

5.27 No volatiles in the form of benzene, toluene, ethylbenzene and xylenes (BTEX) were identified at the site in appreciable concentrations

5.28 A summary of exceedances for the GIs carried out 2008 and 2010 and investigation data are shown in Appendix D.

Groundwater and Leachates

5.29 Three groundwater samples collected from BH2 were sampled for analysis and results compared to Environmental Quality Standard (EQS) and/or UK Drinking Water Standards (UK DWS). Groundwater was found to exceed guideline values for metals (comprising boron, copper, iron, nickel) and sulphate.

5.30 Sufficient water was not present in remaining installations to allow for groundwater to be collected.

5.31 Limited leachate testing of samples taken from contaminated soil samples, and all were within the first metre of Made Ground. Assessment identified elevated results for arsenic (in WS20), TPH (WS2 and BH10) and PAHs (in WS2).

Ground-Gas

5.32 Ground-gas monitoring undertaken by Hyder reported elevated concentrations of carbon dioxide and methane in Area 3.

Hyder Conclusions of the Contamination Assessment

5.33 Hyder concluded the following from the investigations:

- Shallow PAH contamination in Areas 1, 2, 3 and 5
- Shallow TPH contamination in Areas 1 to 5
- Hotspots of metals including arsenic, chromium, lead and nickel.
- Underground services potentially at risk of corrosion/contamination from ground contaminant comprising sulphate, arsenic and copper.
- Construction of new roads would require specific PPE to prevent construction workers from direct exposure to contaminated soil dusts.
- Leachate assessment from the most contaminated soils samples show limited leaching potential of soil contaminants. However, due to some exceedances, the potential for leachate from soil to impact deeper groundwater cannot be ruled out.
- Groundwater quality assessment at the site is based on very limited information from one borehole location only, and shows marginal exceedances of EQS and or DWS for some metals and sulphate. This indicates some potential for contamination to migrate through groundwater
- That due to the lack of information for deeper strata, for groundwater and the old nature of the data available, it was recommended that further ground investigations are undertaken to provide comprehensive and updated data on ground and groundwater conditions at the site.

Assessment of On-Site Stockpiles

5.34 Stockpiled material from the access road was placed in Areas 1 and 2 and subsequent laboratory analysis was undertaken. Stockpiles comprised:

- Tarmac and concrete
- General excavated soils

5.35 Assessment of the soil stockpiles indicated elevated concentrations of PAHs and to a lesser extent TPH and arsenic above human health screening criteria.

5.36 From a review of this data, the following has been identified:

- Some exceedances of Environmental Quality Standards for Freshwater (EQS) for copper in selected samples.
- The main stockpile located in Area 2 recorded low pH in selected samples (minimum of 4.9)

6 Preliminary Conceptual Site Model and Data Gap Assessment

6.1 A preliminary CSM has been developed from the review of the available desktop and historical GI data, as summarised in Sections 2 to 5 of this report.

6.2 This CSM has subsequently been used to identify data gaps on which the scope of works for the 2010 GI has been formulated.

Contamination Sources

6.3 A summary of potentially contaminating sources and associated chemicals of concern impacting on the development has been summarised as follows:

Backfill of Former Quarrying Operations (Area 3)

- PAHs
- Metals
- Other inorganics (cyanide)
- TPH
- Volatile Organic Compounds (VOCs)
- Semi-volatile Organic Compounds (SVOCs)
- Asbestos
- Ground-Gas

General Made Ground (Site wide)

- PAHs
- Metals
- TPH

6.4 And to a lesser extent, asbestos, VOCs, SVOCs, and other inorganics

Tyre Shredding Operations (Area 1)

6.5 Localised (point) sources of contamination associated with tanks and other infrastructure, predominantly comprising:

- TPH (including volatile components)
- PAHs
- VOCs and SVOCs

Former 'Works' (Area 2)

- TPH (including volatile components)

- PAHs
- VOCs and SVOCs
- Metals
- PCBs – associated with electrical transformer

Area 5 Operations

6.6 Disused fuel storage works comprising:

- TPH (including volatile components)
- PAHs
- PCBs – associated with electrical transformer

Off-site Quarrying and Landfill Works

- Ground-gas

Receptors and Pathways

6.7 Potential receptor and pathway transport linkages, and their significance have been assessed as follows:

Receptor	Pathway	Assessment Rating
Construction workers/future maintenance workers	Dermal contact, ingestion, inhalation of contaminated dusts or contaminated groundwater during construction works. Inhalation of vapours and ground gases, particularly in excavations and service trenches	Moderate
Future site users (residential)	Dermal contact, ingestion, inhalation of exposed contaminated soils in proposed garden and public open space areas Inhalation of ground gases Inhalation of VOC vapours (in areas of localised TPH/volatile contamination only)	Moderate - High
Surface water (drain that runs adjacent to the site on the south	Direct run-off of contaminants from contaminated soil exposure Groundwater migration	Moderate
Groundwater	Leaching from overlying soils From potential piling works	Moderate
Water Abstraction Point (located 900m north of site)	Groundwater migration	Low (based on distance to site)
Buildings and services	Direct contact with impacted soils and groundwater resulting in chemical attack.	Moderate (previous investigations assessed a required sulphate class of DS-3 and an ACEC class of

Receptor	Pathway	Assessment Rating
		AC-3
Plants and vegetation	Direct contact with soils, primarily through root uptake	Low-Moderate

Data Gaps and Requirements for Additional Investigations

6.8 From the review of the available information, the following data gaps were identified as existing:

- Limited deep sampling of Made Ground
- No assessment of PCBs in the vicinity of transformers on-site
- Limited assessment of metals
- Limited leachate analysis
- Limited shallow groundwater assessment
- No assessment of deep groundwater
- The extent of localised TPH contamination in Area 1

6.9 In addition to the above data gaps, there was also a requirement to obtain more information in order to:

- Provide more defined recommendations for any remediation requirements
- Assess settlement issues
- Input into foundation design
- Input into construction earthworks

6.10 The above requirements were consequently used to form the basis of the 2010 GI.

7 2010 Ground Investigation Works Package

7.1 Drilling works were undertaken by Soil Mechanics, under the part-time supervision of a URS/Scott Wilson geo-environmental specialist.

7.2 A description of GI works undertaken by Soil Mechanics, exploratory hole records, in-situ monitoring and laboratory certificates is provided in the factual report prepared by Soil Mechanics, attached as Appendix C.

Scope of Works

7.3 The scope of works for the 2010 GI comprised the following:

- Drilling of 6 cable percussive boreholes (BH101 – BH106) to a maximum depth of 18.2m bgl.
- Drilling of 15 window sample boreholes (WS201 – WS213, WS205A, WS210A) to a maximum depth of 5mbgl.
- 6 machine dug trial pits (TP301 – TP306) to a maximum depth of 3.5mbgl.
- 3 shored trial pits (TP401 – TP403) to a maximum depth of 1.5mbgl.
- Sampling of the stockpiles (SS) located on site.
- Conversion of exploratory holes to groundater/ground-gas monitoring well installations
- Gas monitoring
- Groundwater monitoring

Drilling Investigation

7.4 A breakdown of the borehole and trial pit locations within each of the five areas is provided as follows:

- Area 1: WS206 to WS209, BH106
- Area 2: WS210 to WS213, WS210A, BH105, TP402
- Area 3: TP301 to TP306, TP401, BH101 and BH103
- Area 4: WS204 to WS205, WS205A, TP403 and BH104.
- Area 5: WS201 to WS203 and BH102.

7.5 The exploratory hole location plan indicating drilling locations is presented in Appendix A.

7.6 Note that due to hard refusal when drilling, boreholes BH105 and WS210 were moved slightly and re-drilled (as BH105A and WS210A).

Purpose of Cable Percussion Boreholes

7.7 The purpose of the cable percussion boreholes was to drill beyond the base of Made Ground, into natural soils at the site, in order to:

- Allow for geotechnical assessment to be undertaken
- Allow for assessment of deep contamination
- Allow for assessment of deep groundwater in natural soils beneath the site.

7.8 During drilling works, hard conditions occurred in BH101, BH103, BH104, BH105A and BH106 where natural soils were encountered. Subsequent chiselling typically resulted in extension of boreholes less than 0.5m in 60 minutes.

7.9 The maximum depth that boreholes extended into natural soils was 6.5m (in BH106) and 3.2m (in BH103)

Purpose of Window Sampling Boreholes and Trial Pits

7.10 The purpose of window sample boreholes and trial pits was to:

- Allow for further assessment of shallow contamination to be made (window sample and unshored trial pit locations)
- Allow for further assessment of ground-gas risks (window sample locations)
- Allow for geotechnical assessment to be made (shored trial pit and window sample locations).

Soil Sampling Works

7.11 Soil sample were collected at a minimum frequency of every metre at window sample and borehole locations, and at a minimum of two metress in unshored trial pits and cable percussive boreholes.

Monitoring Well Installations

7.12 Groundwater and ground-gas monitoring well installations were completed at the following exporatory hole locations:

- BH101 to BH104, BH105A and BH106
- WS201 to WS204, WS205A, WS207-WS209, WS210A, WS211 and WS13.

7.13 Groundwater level and ground-gas monitorng was undertaken from each monitoring well location where groundwater was encountered. Groundwater samples were collected where sufficient water was present.

7.14 Gas monitoring was undertaken for methane, carbon dioxide, oxygen, carbon monoxide, and hydrogen sulfide for all 2010 installations. In addition, ground-gas monitoring was also undertaken from BH1, BH2, BH4 (installations drilled in 2008).

Geo-environmental Laboratory Testing

7.15 The majority of soil encountered at the site was Made Ground. Consequently, 43 soil samples from Made Ground were selected for analysis, comprising at least one sample of Made Ground from each BH, WS and TP (unshored) location.

7.16 Additionally two samples from underlying natural soils Hythe Beds (natural soils) were selected for laboratory analysis.

7.17 Three samples of Made Ground were tested for Waste Acceptance Criteria (WAC) Suite to assess the suitability of the Made Ground for disposal to landfill.

7.18 Leachate fractions from 13 Made Ground samples were also analysed by the laboratory to assess risks to Controlled Waters.

7.19 One sample (SS8) collected from a stockpile where evidence of TPH was identified was selected for analysis.

7.20 Groundwater colelcted from BH104, BH2, BH3 and WS207 was submitted for laboratory analysis.

7.21 Soil, leachate and groundwater samples were analysed for one or more of the following chemicals:

- Suite of Metals
- Criteria Working Group TPH
- Speciated PAHs
- Suite of VOCs
- Suite of SVOCs
- Cyanide
- PCBs
- pH
- Sulphate
- Ammonia
- Water Hardness

Geotechnical Laboratory Testing

7.22 The laboratory testing was scheduled by URS/Scott Wilson and the majority of tests were carried out in Soil Mechanics' laboratory.

7.23 The laboratory testing is summarised below and is presented in detail in Soil Mechanics' factual report, attached as Appendix C:

- Moisture Content Determination
- Index Properties (Atterberg Limits)
- One Dimensional Consolidation tests

- Particle Size Distribution Analyses
- Unconsolidated Undrained Triaxial Compression Tests without the Measurement of Pore Pressure (UU)
- Chemical Tests (Water and acid soluble sulphate, total sulphur and pH) – undertaken as part of the geo-environmental testing suite

8 Assessment of Geology and Hydrogeology

Ground Conditions

8.1 The ground profile encountered during the current GI generally confirmed the anticipated geology as inferred from the BGS map and historical borehole data (Table below) showing Made Ground overlying Lower Greensand deposits.

8.2 In some window samples in the area of terrace ii some horizons were logged as Head deposits. Since this stratum was not identified consistently throughout the site it appears to be localised or a result of inconsistent logging. In this report these horizons are considered to be the top part of the Hythe Beds, since similar soils were logged as the latter, and have therefore not been separately assessed.

8.3 The Lower Greensand Formation comprises the Hythe Beds, Sandgate and Folkestone Formation which are all formed in a shallow marine depositional environment. During the current ground investigation deposits of the Lower Greensand Formation were consistently logged as Hythe Beds. This might be a result of field logging and some deposits logged as Hythe Beds might be actually part of other Formations of the Lower Greensand Formation. However, in the following the strata assignation used in the exploratory hole logs was kept for consistency purposes.

8.4 The following generalised ground profile has been compiled by using historical data and the ground conditions encountered in the current ground investigation:

Stratum	Maximum Base Depth - mbgl	Maximum Base Level (mOD)	Soil Description
Made Ground	Terrace i - 5mbgl (BH105A) Terrace ii - 5mbgl (WS207*) Terrace iii 17.3mbgl (BH104)	Terrace i - 73.7 (BH105A) Terrace ii - 81.03 (WS207*) Terrace iii - 64.26 (BH104)	Clay, sand and gravel with brick, flint, coal, clinker, metal and rubble
Lower Greensand Formation (Hythe Beds)	Terrace i - 5.83mbgl (BH105A*) Terrace ii - 7.6mbgl (BH106*) Terrace iii - 17.67mbgl (BH104*)	Terrace I - 72.94 (BH105A*) Terrace ii - 77.4 (BH106*) Terrace iii - 64 (BH104*)	Dense to very dense clayey gravelly sand localised cemented and encountered as mudstone or sandstone.

*Note: * Base not proven at that location*

8.5 Generally the distribution and thickness of the Made Ground was highly variable throughout the site reflecting the different quarry activities in the respective areas of the site.

8.6 An attempt was made to distinguish the site into areas that are considered to have similar predominant characteristics. The relevant exploratory holes for the respective areas (GI 2010) are as follows:

- Terrace i (Area 2) – WS210 to WS213, WS210A, BH105, TP402

- Terrace ii (Area 1) – WS206 to WS209, BH106
- Terrace iii (Area 3, 4 and 5) - TP301 to TP306, TP401, BH101, BH103, WS204 to WS205, WS205A, TP403, BH104, WS201 to WS203 and BH102.

8.7 However, there remains still some uncertainty about the levels of the natural in-situ materials underlying the Made Ground due to the following:

- Due to the observed variability of fill materials and encountered levels of in-situ materials, no homogenous pattern of distribution could be determined
- Made Ground has been mainly derived from in-situ materials (Hythe Beds) and therefore depicts similar characteristics. It seems that some logs have identified in-situ materials erroneously at shallow depth
- The log description carried out during the two main ground investigations (GI 2008 and 2010) show inconsistencies
- Some boreholes could not identify the underlying natural ground and terminated in fill material due to either refusals in dense/coarse material or the proposed shallow depth

Strata Description

Made Ground

8.8 Typically the Made Ground was encountered to depths of about 10mbgl to 15.5mbgl and occasionally to depths greater 19mbgl (GI 2008) in the area of Terrace iii. In the area of Terrace i and Terrace ii the Made Ground was encountered to a maximum depth of about 5mbgl to 6mbgl and possibly locally below that depth since samples were logged as 'possible Made Ground' in BH6 to greater than 9m depth. The ground conditions encountered during the GI 2010 generally confirmed the results of the previous investigation.

8.9 The Made Ground is variable in composition comprising a heterogeneous mixture of granular materials comprising slightly clayey to clayey silty gravelly sands, occasionally with cobbles and cohesive soils comprising very sandy, sometimes gravelly clay.

8.10 The strength characteristics of the Made Ground were highly variable and no increase with depth is apparent from the in-situ testing results.

8.11 Typically the sands were recorded as medium dense, locally loose. Occasionally long chiselling times were recorded which suggests the presence of cobbles and other hard strata within the Made Ground. These hard horizons seem to be concentrated in the eastern part of terrace iii in the area around boreholes BH101, BH7 and BH4 and parts of terrace ii (BH105) where long chiselling and SPT refusals were recorded.

8.12 The materials logged as clays were predominantly of soft to firm consistency according to the log descriptions and low SPT blow counts.

8.13 These soft cohesive layers were recorded to significant depth. (13mbgl in BH2;11.2 in BH3; 9.2 in BH6 of the previous GI and 13.6mbgl in BH101 and 15.5 in BH103 of the current GI). The distribution of Made Ground and cohesive layers within the Made Ground is presented in Appendix E.

8.14 The majority of the Made Ground seems to have been derived from the in-situ materials of the Hythe Beds. It should be noted that some of the granular materials were recorded as Made Ground even though not unambiguously determined due to their similarity to the underlying Hythe Bed deposits and in some cases the reverse may be true.

8.15 In some window samples (e.g. WS10, 11, 12 etc. in Area 4) the levels of the Hythe Beds were recorded to be at very shallow depth and are not consistent with the close by borehole BH8. These shallow levels are considered to be logged in error.

Hythe Beds

8.16 Where encountered the Hythe Beds underlie the Made Ground at highly variable levels and depth associated with the former quarry activities. The Hythe Beds typically underlie the Made Ground between about 10m to 15mbgl in terrace iii, only occasionally in excess of 19m (BH4) (base was not proven). In terrace i and ii the top of the Hythe Beds is likely to be at shallower depth, however, there remains some uncertainty due to refusal of exploratory holes and logs which seem to have erroneously identified the Hythe Beds at shallow depth.

8.17 In some of the shallower exploratory holes the interface between Made Ground and Hythe Beds was not proven. Generally the distribution of levels reflects the quarry activities and no uniform surface slope or pattern could be determined due to the limited amount of exploratory holes.

8.18 The Hythe Beds were typically described as dense to very dense (occasionally recorded as loose to medium dense) clayey gravelly sand and very sandy clay with some horizons indicating more cohesive characteristics.

8.19 The more cohesive layers which tend to be at the top of the stratum (Terrace ii) were recorded as soft to firm. In some window samples these cohesive horizons were logged as Head deposits. Since this stratum was not assigned consistently these deposits were taken as part of the Hythe Beds in this report. It is considered that there is significant uncertainty if these soft to firm cohesive horizons are correctly logged as Hythe Beds and it is likely that they are Made Ground due to their soft/firm consistency.

8.20 The Hythe Beds might be locally cemented and encountered as mudstone or sandstone. Due to the drilling technique used (cable percussion) these layers could not be identified in detail.

Hydrogeology

8.21 Shallow groundwater was encountered in one shallow window sample location (WS207) in the 2010 investigation.

8.22 Groundwater strikes were observed during drilling in Made Ground in two deeper (cable percussion) boreholes:

- BH101 at 5.5m (Area 3)
- BH104 at 3.1m and 17m (Area 4)

8.23 The following table summarises groundwater conditions in deeper (cable percussion) boreholes for both the 2008 and 2010 investigations

Area	Borehole	Drilled Depth (m bgl) and Stratum	Base of Hole (AOD)	Water Strike Level (m bgl)	Subsequent GW Levels in 2010 (m bgl)
Area 1	BH6	9.2 – drilled (Made Ground/Hythe Beds) 5.7 – installed (Made Ground)	-	None	Not found
	BH106	7.5 – Hythe Beds	+77.7	None	Dry
Area 2	BH105A	5.8 – Possible Hythe Beds	+72.94	None	Dry
Area 3	BH1	16 – drilled (Hythe Beds) 10 – installed (Made Ground)	-	None	9.80 9.80 9.61
	BH2	13.5 – drilled (Hythe Beds) 12 – installed (Made Ground)	-	2.8 8.2	7.97 8.86 8.80
	BH3	13.7 – drilled (Hythe Beds) 10.3 – installed (Made Ground)	-	None	8.4
	BH4	19 – drilled (Made Ground) 15 – installed (Made Ground)	-	2 15.5 17.5	Dry
	BH5	17.5 – drilled (Hythe Beds) 12.5 – installed (Made Ground)	-	None	Dry
	BH7	5.3 – drilled (Made Ground)	-	None	No installation
	BH101	16.2 – drilled (Hythe Beds) 14.2 – installed (Made Ground)	+65.68	5.5 rising to 5.1	14
	BH103	18.2 – drilled (Hythe Beds) 13 – installed (Made Ground)	+65.37	None	Dry
Area 4	BH8	13.7 – drilled (Hythe Beds)	-	None	No installation
	BH104	17.3 – drilled (Hythe Beds) 17.0 – installed (Made Ground – Hythe Beds interface)	+63.99	3.1 rising to 2.7	No installation
				17 rising to 15.8	15.58 16.30 16.35
Area 5	BH102	10 – Made Ground	+71.57	None	Dry
	BH9	10.5 – Made Ground	-	8.9	Dry
	BH10	13.5 – Hythe Beds	-	None	Not found

Perched Water in Areas 3 and 5

8.24 Assessment of groundwater levels in the 2008 and 2010 GIs identified the presence of shallow 'perched' water within Made Ground in Area 3, as evidenced by water strikes and/or subsequent water level readings in wells BH1, BH2, BH3, BH4 and BH101 being within the Made Ground layer.

8.25 Due to the insufficient number of surveyed (2010 GI) installations making water, a shallow groundwater flow direction at the site could not be determined. A comparison between BH101 and BH103 (both located in Area 3) shows that although BH101 was drilled to a shallower depth (mAOD), it made water, whereas BH103 did not. This provides evidence that shallow groundwater present in Area 3 is discontinuous with no appreciable flow direction, and is instead influenced by difference in porosity and permeability which varies significantly across the site.

8.26 In Area 5, a groundwater strike was reported as occurring in BH9 within reported Made Ground, although no water was present in this installation during 2010 monitoring.

Groundwater in Area 4

8.27 A groundwater strike was recorded in BH104 during drilling, reported as being at the Made Ground/Hythe Beds interface. Due to the difficulty in drilling through the encountered Hythe Beds, the response zone of the well was installed over both strata. Subsequent water level monitoring identified approximately 0.7m of water within this installation.

8.28 Based on the above, it is difficult to establish whether observed water in this installation is associated with perched water in Made Ground, or groundwater within the Hythe Beds. BH104 was drilled to the deepest depth (+63.99m AOD) across the site, and hence may have been the only borehole that extended down to the water table. However as overlying Made Ground was noted as being predominantly sandy, and hence not acting as a confining layer, this suggests rather that perched groundwater is infiltrating to the base of this stratum, with the underlying sandstone acting as a barrier to further infiltration. This is further evidenced by the base of the installation being at the interface of Made Ground and Hythe Beds.

8.29 Further evidence of observed groundwater in BH104 being associated with perched water infiltration is shown from laboratory results with measurements for pH, and concentrations of anions and cations generally similar to those reported in shallower installations.

9 Contamination Results

Contamination Observations

9.1 The following table shows a summary of field observation of contamination during the ground investigation.

Area	Borehole Location	Depth (mbgl)	Observations
1	WS206	Below concrete slab	TPH odour
	WS207	Concrete slab	Slab is discoloured from oil staining
2	WS213	1.2-2.2	Slight chemical odour
3	TP301	0.9	TPH/solvent odour
	TP304	0.45-0.85	Slight chemical odour
	TP305	0.8	Black oily shiny product, moderate chemical odour
		1.0	Grey ashy gravelly sand, moderate sweet odour
	TP306	2.3-2.5	Slight chemical odour
	BH103	12-13	Slight organic odour
1	Stockpile 8	Not Applicable	Strong TPH odour and oily product

9.2 Also, frequent clinker and 'bands' of macadam were found within Made Ground across the site.

Laboratory Contamination Results – Soils

Soil Screening Guidance Criteria

9.3 Where available, laboratory results have been compared to Soil Guideline Values (SGVs) published by the Environment Agency, which have been generated by the Contaminated Land Exposure Assessment (CLEA) model.

9.4 In addition to the above, derived Generic Assessment Criteria (GACs) for 30 compounds have recently been published by Contaminated Land Applications in Real Environments (CLAIRE).

9.5 In the absence of EA SGVs and CLAIRE GACs, URS/Scott Wilson derived GACs, also generated in accordance with the CLEA methodology (using CLEA Software V1.06) have been adopted.

9.6 SGVs and GACs have been selected for a *'Residential with Plant Uptake'* end land-use based on the proposed development incorporating private gardens.

9.7 Assessment of phytotoxic (vegetation) risks was not made based on the assumption that imported topsoil would be placed in all proposed garden and public open space areas.

Soil Results

9.8 All 2010 laboratory results are contained within the Soil Mechanics Factual Report (Appendix C).

9.9 The following guideline exceedances were reported:

- Arsenic in Area 1 – associated with general Made Ground
- Benzo(a)pyrene (PAH) in Areas 1, 2, 4 and 5.
- Other PAHs in Areas 1, 3 and 4
- TPH in Areas 1, 2 and 4

9.10 A site plan of these exceedances along with exceedances recorded in the 2008 investigation is included in Appendix D.

9.11 No other exceedances in soil were recorded at the site. VOCs and SVOCs were either below, or close to adopted assessment criteria where they existed.

9.12 Field observations noted in 9.1 above were generally not verified by laboratory results, with no organics detected above guideline values, with exception on PAHs in TP305.

9.13 No asbestos was identified in any samples.

Mean and Maximum Value Testing

9.14 In line with UK accepted approach to contamination risk assessment, contamination results have been subjected to mean and maximum value testing, in order to identify whether the average value (the mean of the 95th percentile) for each contaminant population was elevated above corresponding guideline values, and whether high concentrations can be regarded as hotspots. Contaminated Land Report 7 (CLR7) sets out the methodology for completing mean value and maximum value testing.

9.15 The mean of the 95th percentile upper bound values from the data sets need to be derived in order to compare against CLEA derived guideline values for the site. Where the calculated 95th percentile upper bound mean value exceeds these values, it is deemed the whole site would fail for this particular contaminant.

9.16 The Mean Value Test was conducted for each contaminant where results were observed above guideline values within the dataset.

9.17 Unusually high figures in a data set (known as outliers) have the ability to skew average results. In order to test for the presence of any outliers within the soil results, a maximum value test must be undertaken in conjunction with the mean value test. Any detected outliers could then be attributed to the presence of contamination 'hotspots' and removed prior to conducting the mean value test.

Statistical Assessment

9.18 The statistical assessment was carried out on combined data sets from the 2007, 2008 and 2010 GIs for arsenic, speciated PAHs and speciated TPH.

9.19 Data was subdivided into the five site areas, and further subdivided into results within the upper 1m of material, and results below 1m.

9.20 The findings of the statistical assessment are summarised in the table that follows and the statistical datasheets are located in Appendix F.

Area	Depth (m)	Analytes	Mean > GAC (Y/N)	Can we reject Ho	Outliers (Y/N)	Can we reject Ho without outliers (Y/N)	Comments
1	0-1	Arsenic	N	Y	N	NA	Exceedance is considered to be marginal and remediation is not required
		TPH (Aromatic C10-C12 and C12-C16)	N	Y	N	NA	Exceedance is considered to be marginal and remediation is not required
		TPH (Aromatic C16-C21)	Y	N	N	NA	Remediation is required
		PAHs (B[a]P, Naphthalene, B[a]A, Chrysene, B[k]F, D[a,h]A, I[1,2,3-cd]P)	Y	N	N	NA	Remediation is required
		Phenanthrene	N	Y	N	NA	Exceedance is considered to be marginal and remediation is not required
		B[b]F, B[g,h,i]P	Y	N	Y	Y	Significant impact due to hotspots in north western corner of the site including WS1 and WS2 locations
	>1	Arsenic	N	Y	Y	NA	Hotspot in WS209@2mbgl
		PAHs (B[a]P, B[a]A, Chrysene, B[b]F, D[a,h]A, I[1,2,3-cd]P)	Y	N	Y	Y	Hotspot in WS3@5mbgl
2	0-1	TPH (Aromatic C16-C21)	Y	N	N	NA	Remediation is required
		TPH (Aromatic C21-C35)	N	N	N	NA	Remediation is required
		B[a]P, Naphthalene, B[a]A, Chrysene, B[b]F, B[k]F, D[a,h]A, I[1,2,3-cd]P	Y	N	N	NA	Remediation is required
		Phenanthrene, B[g,h,i]P,	N	N	N	NA	Remediation is required
		Fluoranthene	N	Y	N	NA	Exceedance is considered to be marginal and remediation is not required
	>1	B[a]P	N	N	Y	Data set to small (3 samples only)	It is estimated that contamination in WS213@1.4mbgl is localised hotspot
3	0-1	TPH (aliphatic fraction C10-C12)	N	Y	Y	Y	Hotspot in WS13@0.2mbgl
		B[a]P	Y	N	Y	N	Remediation is required

Area	Depth (m)	Analytes	Mean > GAC (Y/N)	Can we reject Ho	Outliers (Y/N)	Can we reject Ho without outliers (Y/N)	Comments
		Naphthalene, Chrysene	N	Y	N	NA	Exceedance is considered to be marginal and remediation is not required
		B[a]A	N	N	N	NA	Remediation is required
		D[a,h]A	N	N	Y	Y	Hotspot in BH1@0.5mbgl
		B[b]F, B[k]F, I[1,2,3-cd]P	N	Y	Y	Y	Exceedance is considered to be marginal and remediation is not required
	>1	TPH (C12-C16, C16-C21 and C21-C35)	N	Y	N	NA	Exceedance is considered to be marginal and remediation is not required
		B[a]P, B[a]A, Chrysene, B[b]F, D[a,h]A, I[1,2,3-cd]P	Y	N	N	NA	Remediation is required
		Naphthalene	N	N	Y	Y	Hotspot at BH3@1.1mbgl
		Phenanthrene, B[k]F, B[g,h,i]P	N	Y	N	NA	Exceedance is considered to be marginal and remediation is not required
4	0-1	B[a]P	N	N	Y	Y	Uncertainty due to high limit of detection. Exceedance is considered to be marginal and remediation is not required
	>1	B[a]P	Y	N	Y	Y	Slightly gravelly clayey sand identified as being contaminated layer
5	0-1	TPH (aromatic fraction C21-C35	N	Y	N	NA	Exceedance is considered to be marginal and remediation is not required
		B[a]P	Y	N	N	NA	Remediation is required
		B[a]A	Y	N	Y	Y	Hotspot in BH10@0.5mbgl
		Chrysene, B[k]F, B[a,h]A	N	N	Y	Y	Hotspot in BH10@0.5mbgl
		B[b]F	N	N	N	Y	Hotspot in BH10@0.5mbgl
	>1	B[a]P	Y	N	Y	Y	Hotspot in WS203@1.5mbgl

Ho = the hypothesis that the true mean is equal to or greater than the adopted GAC value
Y: Yes; N: No, NA: Not Applicable

Site Wide Impacts

9.21 Assessment of the table above identified impacts in Made Ground across the site at concentrations requiring mitigation for a ‘residential with plant uptake’ end-use – associated predominantly with PAHs, and to a lesser extent, TPH and arsenic. Based on the exceedances being present throughout general Made Ground and present at both shallow and deep depths, it is not feasible to apply ‘hotspot’ remediation techniques to the site.

Localised Impacts

9.22 Based on field observations, knowledge of previous site uses and laboratory results, investigations in Area 1 contains localised shallow contamination associated with historical operations in this area (workshop building, likely fuel storage operations etc). Significant hydrocarbon staining and odours were identified in soils during 2007 and 2008 investigation works, and exceedances of TPH (as well as PAHs) were reported in laboratory results.

9.23 Field observations also identified the possible presence of organic contaminants in Made Ground in Area 3, although these observations generally did not collaborate with laboratory results. These impacts would be associated with contaminants in Made Ground used to backfill this area, rather than from ‘point’ sources.

Laboratory Contamination Results – Leachates

9.24 Leachate analysis was undertaken to provide a measure of the risk to Controlled Waters from soil leaching (i.e. to inform on drainage issues).

9.25 Results were compared against published Environmental Quality Standards (EQS) for Freshwater, as well as UK Drinking Water Standards (DWS).

9.26 Leachate analysis was undertaken on 13 samples of Made Ground from shallow and deeper depths across the site:

- Area 1: WS206, WS207, BH106.
- Area 2: WS210, WS213
- Area 3: TP301, TP305, BH101, BH103
- Area 4: WS204, WS205A
- Area 5: WS203, BH102

9.27 A summary of results is presented in the following table, with the full results included in the Soil Mechanics factual report (Appendix C):

Exceeded Contaminant	EQS (Freshwater)	UK DWS	Number of Samples Exceeding	Locations
Arsenic	0.05 mg/L	0.01 mg/L	3 of 13 (DWS only)	TP301, WS205A, WS207
Total PAH	-	0.1 ug/L	3 of 11	WS203, WS205A, WS207
Benzo(a)pyrene	0.03 ug/L	0.01 ug/L	0 of 11	
Total TPH	-	10 ug/L	3 of 8	WS203, WS205A, WS207
Xylene	0.03 ug/L	-	1 of 13	WS207

9.28 The table indicates that with the exception of xylene in WS207, no samples reported leachable concentrations of analytes above EQS values. WS207 was located in Area 1, where 'point' source contamination associated with former activities has been identified.

9.29 While some samples reported leachable concentrations of analytes above UK DWS values, this is considered to be less relevant based on the absence of registered potable groundwater abstraction wells in the vicinity of site.

9.30 Depending on the method of laboratory analysis (i.e. where SVOC suite analysis was undertaken), some limits of detection were greater than the guideline value for several organics (particularly benzo(a)pyrene), and consequently in these instances some potential exists for leachable concentrations to be present at concentrations above EQS values that were not detected.

Laboratory Contamination Results - Groundwater

9.31 Groundwater results were compared against published EQS and DWS values.

9.32 Due to there being insufficient/no water in a number of installations, groundwater was only collected from BH2, BH3, BH104 (Area 3) and WS207 (Area 1).

9.33 A summary of results is presented in the following table, with the full results included in the Soil Mechanics factual report:

Exceeded Contaminant	EQS (Freshwater)	UK DWS	Number of Samples Exceeding	Locations
Nickel	0.2 mg/L	0.02 mg/L	4 of 4 (DWS only)	BH2, BH3, BH104, WS207
Copper	0.028 mg/L	2 mg/L	1 of 4 (EQS only)	BH2
Total PAH	-	0.1 ug/L	1 of 4	WS207

9.34 The table above indicates no exceedances of EQS values, with the exception of copper in BH2, which was marginally (less than two times) the guideline value.

9.35 As with leachate analysis, where SVOC suite analysis was undertaken, some limits of detection were greater than the guideline value for several organics (particularly benzo(a)pyrene) and consequently in these instances some potential exists for leachable concentrations to be present at concentrations above EQS values that were not detected.

Ground Gas Assessment

9.36 Ground gas monitoring results were collected during three rounds of measurement over a period of 5 weeks on the 28/04/2010, the 11/05/2010 and 25/05/2010. Results from the monitoring rounds are shown in the Ground Investigation Factual Report in Appendix C. The following table shows a summary of the maximum results obtained during each of the monitoring rounds.

Location	Max Flow (L/hr)	CH4 (%vol)	O2 (%vol)	CO2 (%vol)	CO (ppm)	H2S (ppm)
WS207	0	1.4	17.5	2.0	0.0	1.5
WS208	0	0.0	14.8	4.0	0.0	0.0
WS209	0	0.0	7.3	8.0	0.0	0.0
BH106	0	0.0	12.7	4.0	0.0	0.0
Area 1 - maximum	**0**	**1.4**	**7.3**	**8.0**	**0.0**	**1.5**
WS210A	0	0.0	16.9	2.0	0.0	0.0
WS211	0	0.0	15.9	3.2	0.0	0.0
WS213	0	0.0	19.4	0.5	0.0	0.0
BH105A	0	0.0	17.2	2.8	0.0	0.0
Area 2 - maximum	**0**	**0.0**	**15.9**	**3.2**	**0.0**	**0.0**
BH101	0	0.1	5.7	7.3	0.0	1.8
BH102	0	0.0	19.3	1.0	0.0	0.0
BH103	0	0.0	12.1	2.5	0.0	0.0
BH1	0.1	1.4	3.4	5.2	0.0	1.5
BH2	0	0.7	4.2	6.4	0.0	1.8
BH4	0	0.0	14.4	3.2	0.0	0.0
Area 3 - maximum	**0.1**	**1.4**	**3.4**	**6.4**	**0.0**	**1.8**
WS204	0	0.0	18.6	1.8	0.0	0.0
WS205A	0	0.0	19.8	0.0	0.0	0.0
BH104	0	0.0	18.6	0.4	18.0	0.0
Area 4 - maximum	**0**	**0.0**	**18.6**	**1.8**	**18.0**	**0.0**
WS201	0	0.0	19.2	0.6	0.0	0.0
WS202	0	0.0	20.0	0.1	0.0	0.0
WS203	0	0.0	20.0	0.3	0.0	0.0
Area 5 - maximum	**0**	**0.0**	**19.2**	**0.6**	**0.0**	**0.0**

9.37 Flow rates recorded at the site were 0 apart from one occasion at BH1 where a flow of 0.1L/hr was recorded. Generally low concentrations of ground gas (CH_4, CO_2, CO and H_2S) were recorded at the site, although the concentrations identified did suggest some ground gas was being generated. The presence of H_2S at the site also suggested evidence of anaerobic conditions.

9.38 Gas Screening Values (GSVs) are calculated as the maximum flow rate (l/hr) x maximum gas concentration (%). As no flow rate was recorded for the majority of installations, this could generally not be recorded.

9.39 The exception was in BH1 where a flow rate of 0.1 was recorded on one occasion resulting in a calculated **GSV of 0.0064**.

9.40 When this flow rate (0.1) was applied to the highest concentration across the site (8% CO_2 in Area 1) this resulted in a calculated **GSV of 0.008**.

9.41 In accordance with guidance from CIRIA C665: *Assessing Risks Posed by Hazardous Ground Gases to Buildings* (2005), this results in a 'Characteristic Situation 1 – Very Low Risk' for all ground gases across the site, suggesting that no special precautions with respect to addressing ground-gas risks are necessary in the design of buildings.

9.42 However, with respect to oxygen, depleted concentrations were recorded in Areas 1 and 3 which suggests that oxygen is being displaced by other gases in these areas. Consequently, based on this and a proportion of the site comprising a backfilled quarry, it may be prudent to incorporate basic gas protection measures commensurate with a 'Characteristic Situation 2 – Low Risk' in the design of on-site dwellings.

9.43 Additionally, the presence of oxygen at low concentrations may potentially pose an asphyxiation risk in excavations and confined spaces such as proposed maintenance inspection pits.

10 Refined CSM and Risk Assessment

10.1.1 This section of the report sets out the potential risks arising from contamination encountered at the site associated with its proposed development.

10.2 It also aims to identify land which could be adversely affected by contamination such that it could affect the value or re-use of the land, or that mitigation would be required for certain end uses of the land. The assessment also aims to identify land which would be regarded as 'contaminated land' under the terms of Part IIA of the Environmental Protection Act 1990. Land is considered to be contaminated if either:

- The land is causing significant harm to people, ecosystems or infrastructure, or there is a significant possibility that such harm could be caused, or
- Pollution of controlled waters is being, or is likely to be caused.

10.3 The following situations are defined as being where harm is to be regarded as significant:

- Chronic or acute toxic effect, serious injury or death to humans
- Irreversible or other adverse harm to the ecological system
- Substantial damage to, or failure of buildings
- Disease, other physical damage or death of livestock or crops
- Pollution of controlled waters

10.4 The risk assessment uses a *Source - Pathway – Receptor* methodology for assessing whether a source of contamination could potentially lead to harmful consequences, that is there needs to be a pollutant linkage for harm to be caused, consisting of:

- A source of pollution
- A pathway for the pollutant to move along
- A receptor that is affected by the pollutant.

10.4.1 The source-pathway-receptor methodology relationship allows an assessment of the environmental risk to be determined, based on the nature of the source, the degree of exposure of the receptor to the source and the sensitivity of the receptor.

10.5 This section of the report is based on the information set out in the previous sections, and should not be read independently of the other sections of the report.

Refined Conceptual Site Model

10.6 The following table provides an updated source-pathway-receptor assessment based on the assessment findings of the 2010 GI, as well as review and assessment of previous investigations.

Contamination Source	Pathway	Receptor	Assessed Risk
Contamination from general Made Ground across the site (PAHs, metals, TPH and ground-gas/depleted oxygen)	Dermal contact, ingestion, inhalation of dust in garden/public open-space areas	Future residents	Moderate to High
	Airborne contaminated soil dusts during construction works	Construction workers	Moderate
	Leaching	Groundwater	Low to Moderate
	Direct run-off of contaminants from contaminated soil exposure	Surface water (drain that runs adjacent to the site on the south)	Low
	Groundwater migration	Surface water	Low to Moderate
	Direct uptake and dust deposition	Flora	Low to Moderate
	Ground gas / Depleted oxygen	Future residents	Low to Moderate
		Construction / maintenance workers	Moderate
Localised TPH/organic contamination in Area 1	Dermal contact, ingestion, inhalation of dust in garden/public open-space areas	Future residents	Moderate to High
	Airborne contaminated soil dusts during construction works	Construction workers	Low to Moderate
	Leaching	Groundwater	Moderate
	Direct uptake and dust deposition	Flora	Moderate

Risk Assessment

10.7 The significance of the pollutant linkage risks summarised in the table above is discussed in more detail in the subsections that follow. Risks associated with concrete attack from aggressive soils are discussed in Section 12 of this report.

Risks to Future Residents

10.8 Statistical analysis of Made Ground across the site indicated the requirement for mitigation in areas where gardens are proposed as a result of PAHs and to a lesser extent metals and TPH. Risks from these contaminants are related to direct contact/ingestion/inhalation exposure pathways, therefore this risk would be mitigated by the implementation of clean fill cover in garden areas.

10.9 Generally low concentrations of short-chain TPH were identified in general Made Ground and consequently vapour inhalation risks are not considered to be an issue across the site.

10.10 Ground-gas assessment detected some evidence of gas generation although low flow rates were generally recorded. Based on the above, it would be prudent to implement basic gas-protection measures in proposed buildings.

10.11 In Area 1, localised TPH impacts were identified with hydrocarbon odours and staining recorded. Due to the presence of on-site infrastructure and stockpiles, the extent and concentrations of localised hydrocarbon impacts in Area 1 could not be undertaken. Consequently, hotspot 'mitigation' may be required in this area to address this issue.

10.12 Due to access constraints, no assessment could be undertaken in the near vicinity of the electrical transformer in Area 5. However, as the station was located on an area of hardstanding with no signs of staining on the ground identified, the contamination risk associated with this structure is considered to be low.

Risks to Construction and Maintenance Workers

10.13 Concentrations of contaminants in Made Ground were generally below commercial/industrial guideline values. Additionally, any exposure to contaminants would be expected to be of short-term duration only (i.e. during construction works).

10.14 However, exceedances of commercial/industrial guideline values for PAHs and TPH were identified across the site, and localised TPH contamination (as evidenced by odours and staining) are also present in Area 1.

10.15 Additionally, depleted concentrations of oxygen were recorded in Area 1 and Area 3, which potentially pose an asphyxiation risk to construction workers and future maintenance workers in excavations/confined spaces.

10.16 Consequently, it would be prudent to undertake any redevelopment works under appropriate site management and health and safety plans. Plans should have regards to (but not be limited to the following):

- Provision of appropriate Personal Protective Equipment (PPE), including the use of chemical resistant gloves and dust masks when in direct contact with soils
- Provision of appropriate hygiene facilities
- Gas monitoring within any excavations, and appropriate precautions, including assessment of asphyxiation risks from depleted oxygen concentrations for workers potentially entering the excavations
- Provision of appropriate mitigation measures to minimise the release of contaminants to the environment during site works (i.e. generation of potentially contaminated dust particles, surface water run-off control).

10.17 A component of the proposed development will comprise the excavation of shallow trenches for the subsequent placement of underground services. It is recommended that the excavated 'corridors' where services are proposed are backfilled with 'inert' materials, to minimise exposure risks from potentially contaminated Made Ground to site workers undertaking works within these service corridors in the future.

Risks to Groundwater

10.18 Shallow (perched) groundwater was identified on occasion in Made Ground across the site, although no appreciable flow direction is determinable.

10.19 Assessment to the top of the Hythe Beds did not identify a liner as existing between the Made Ground and underlying natural soils. Although some evidence of groundwater was identified at the base of one borehole, this has been assessed as indicative of perched groundwater and not the underlying aquifer.

10.20 Concentrations indicated minor exceedances of EQS values for copper in one sample only. Leachate analysis undertaken on Made Ground soils across the site reported leachable concentrations of xylene in WS207 (Area 1 TPH hotspot) above EQS values only.

10.21 While some groundwater and leachable concentrations of analytes were above UK DWS values, this is not considered to be a risk based on of registered potable groundwater abstraction wells in the vicinity of site.

10.22 Based on the information above, the risks to deep groundwater (Major Aquifer) at the site, are not considered to be appreciably increased as a result of proposed development works.. The reasons for this being:

- The site is currently not covered in hardstanding over the majority of the site, and hence significant surface water infiltration would be expected to be occurring in the current site state, and hence the proposed development would in effect not be increasing the current infiltration.
- No liner is present, thereby a contamination pathway between Made Ground and natural soils already potentially exists in the current site state
- Made Ground was shown as not being significantly leachable – with concentrations generally below EQS values across the site (leachate results are generally considered "worst case" as actual leaching insitu is generally less)
- Localised TPH impacts (associated with xylene in WS207) would be removed as part of proposed remediation at the site, this will remove the source of the contamination breaking the potential contamination pathway
- Although groundwater was identified to the base of the investigation, this appears to be indicative of perched groundwater and not the underlying Major Aquifer. In addition the concentrations of contaminants within the perched water have not been significantly elevated

10.23 Note that where SVOC suite analysis was undertaken, some limits of detection were greater than the guideline value for several organics (particularly benzo(a)pyrene) and consequently in these instances some potential exists for leachable concentrations to be present at concentrations above EQS values that were not detected.

10.24 Preliminary discussions with the EA indicate that they would object against the use of soakaways on-site in the absence of further assessment, based on the presence of filled 'Waste' over much of the site. No soakaways are planed as part of the development of the site. If this changes and soakaways are proposed, further assessment such as; modelling of surface water infiltration from proposed soakaways, additional leachate assessment, and possibly groundwater contaminant modelling may be required to further explore the option of soakaway use.

Risks to Groundwater – Piling Works

10.25 The use of piled foundations would be a design solution in all areas where no competent underlying material for shallow foundations can be proven or anticipated settlements are unacceptably. This is discussed in detail in Section 12. Piled foundations may be appropriate in Area 3 and Area 1.

10.26 It is considered that the Hythe Beds will be an appropriate bearing stratum for the piles to support the residential houses.

10.27 The Lower Greensand Formation is indicated as a Major Aquifer and consequently, risk exists with respect to the creation of contaminant migration pathways from Made Ground.

10.28 However, GI works suggest that the Made Ground is directly underlain by natural soils with no liner separating them. As a contamination pathway therefore potentially already exists between these strata.

10.29 Given the concentrations of contaminants identified within the fill material and concentrations within perched water, it is considered that there is a low risk of significant contamination within the underlying aquifer

10.30 Nevertheless, a method of piling will need to be adopted that satisfies the EA that the risk of groundwater pollution from overlying soils to the underlying Major Aquifer is minimised. Guidance is provided in the EA document *Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention (2001).*

Risks to Surface Waters

10.31 The risk to surface water receptors from direct run-off would be mitigated through the development being covered in a mixture of buildings, roads, and imported topsoil/inert materials in areas of soft landscaping.

10.32 The risk to surface water from groundwater migration are partially dependent on the risks to the Major Aquifer as assessed above, although the risks from perched groundwater are considered to be low, based on its inconsistent presence and low reported leachability in soils, and the depth to perched water indicates that it is unlikely to be in hydraulic continuity with the surface water receptors.

Risks to Flora

10.33 The importation of inert topsoil/subsoil will effectively mitigate the risk to the majority of vegetation proposed as part of the development.

10.34 Where large trees are proposed, it is recommended that Made Ground approximately $1m^3$ is excavated and replaced by clean topsoil/subsoil.

Other Issues

10.35 Correspondence in the form of an email from Sarah Oliver from Millard Consulting to Joel Morris of Allington, stated that the EA had confirmed that the stockpiles at the site would not be classified as waste under CLAIRE guidance, and that the material would not need an exemption or permit if reused on site provided it can be proven to the EA that the material:

- Will be used in appropriate amounts

- Is suitable for that use without further treatment
- Will not cause harm to human health or the environment

11 Geotechnical Properties

11.1 The Made Ground and Hythe Beds have been assessed based on the results from the current (GI 2010) and previous (GI 2008) ground investigations including the interpretation of the laboratory and in-situ testing results.

11.2 Due to their highly variable extent and characteristics global soil parameters of the Made Ground and Hythe Beds have been derived based on log descriptions, in-situ and laboratory tests as outlined in the following section.

Made Ground

Classification

11.3 Sixteen particle size distribution tests (PSD) were carried out during the current ground investigation on samples taken from the Made Ground which were logged as predominantly cohesive materials (i.e. sandy and gravelly clays). These tests show variable content of cohesive and granular components varying between slightly gravelly slightly sandy clay and slightly clayey sandy gravel. Very sandy clay / very clayey sands predominate within the Made Ground and the majority of the samples showed a fines content of below 35% which classifies the samples as granular. It is suggested that the majority of the samples which were recorded as ‘clay’ were very clayey sands in accordance with the BS 5930 classification but with sufficient cohesive characteristics to lead to an incorrect description. This was corroborated by the records in some of the exploratory hole logs of the GI 2008 where sands were described as ‘soft’ and ‘firm’, which are terms for use with cohesive soils, suggesting an intermediate soil character between cohesive and granular.

11.4 The fairly high granular content and similar PSDs to the underlying Hythe Beds suggest that the majority of the Made Ground has been derived from the latter. Further PSD test results are presented in the Hyder report 2008 (Appendix B).

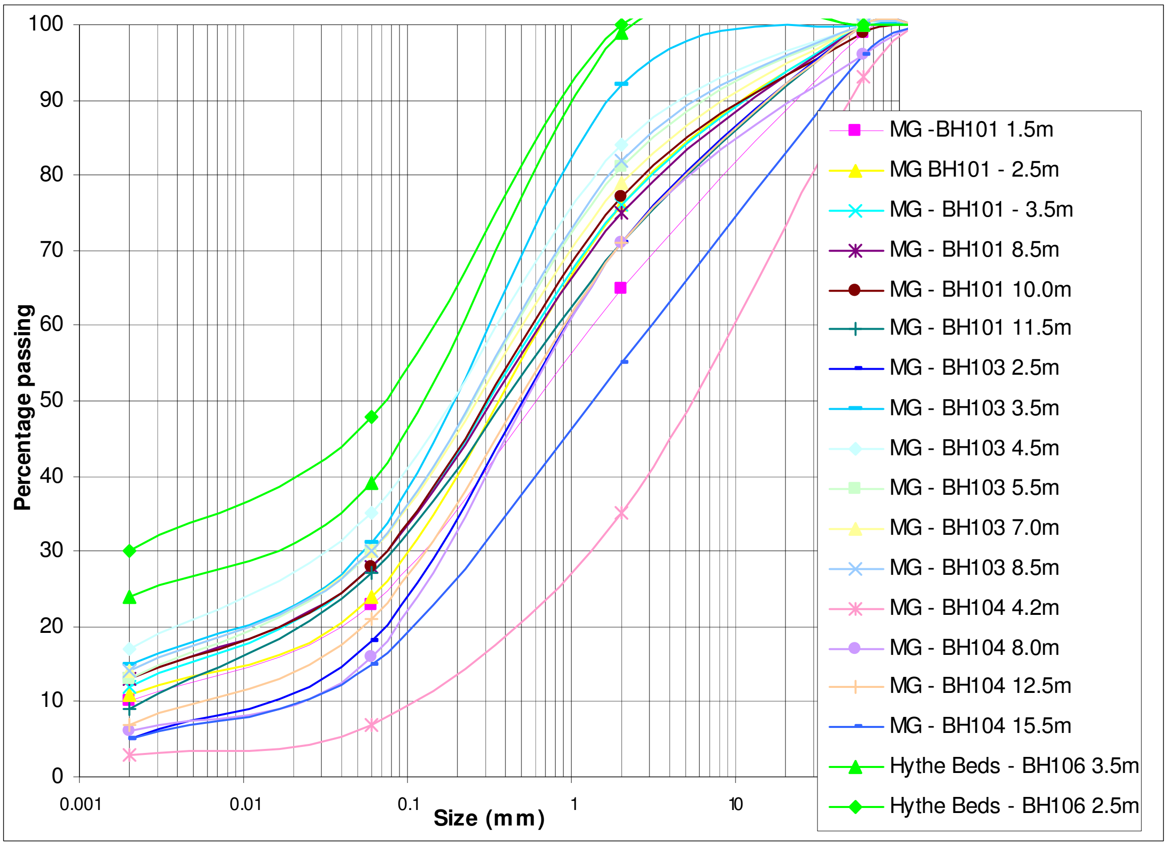


Figure G2 Particle Size Distribution of Made Ground and Hythe Beds (GI 2010)

11.5 The results of eleven moisture content (NMC) and Atterberg Limit tests conducted on cohesive samples taken from the Made Ground are presented in Figure G3 and Figure G4. No clear trend with depth is apparent. However, there is significantly more scatter in the top 4m.This is evident in Figure G4 indicating a wide range of LL, PI and NMC in the top 4m. It should be noted that the moisture content is determined on the whole soil but that the Atterberg Limits are determined on the portion of the soil finer than 0.425mm.

11.6 The data from the GI 2010 is summarised in the Table G1.

	NMC (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index
No of tests	11	11	11	11
Range (%)	9 to 33	29 to 76	15 to 31	10 to 45
Average (%)	20	39	19	20

Table G1 Summary of Atterberg Limits and Natural Moisture Contents in the Made Ground

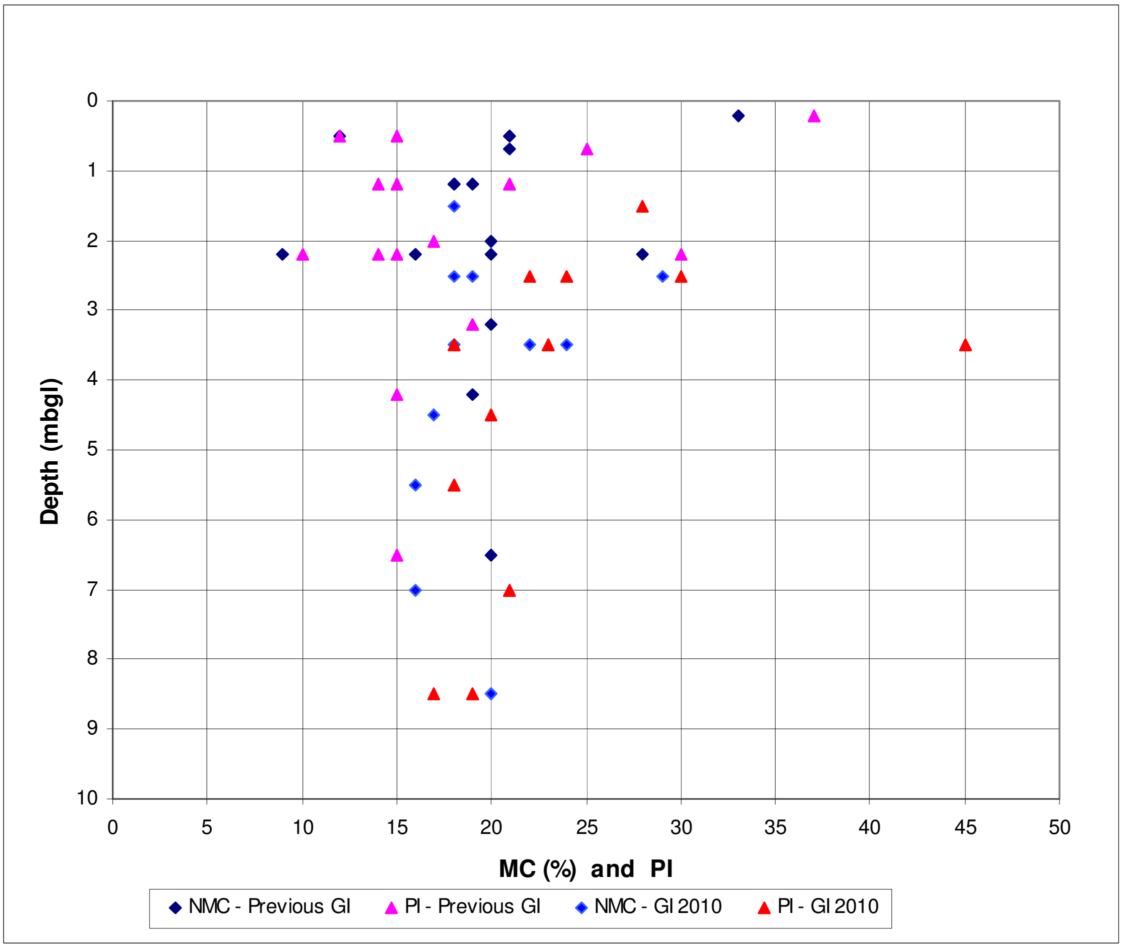


Figure G3 Natural Moisture Content and Plasticity Index; data from GI 2008 and GI 2010 (note that samples with two PIs and one NMC value have been tested twice)

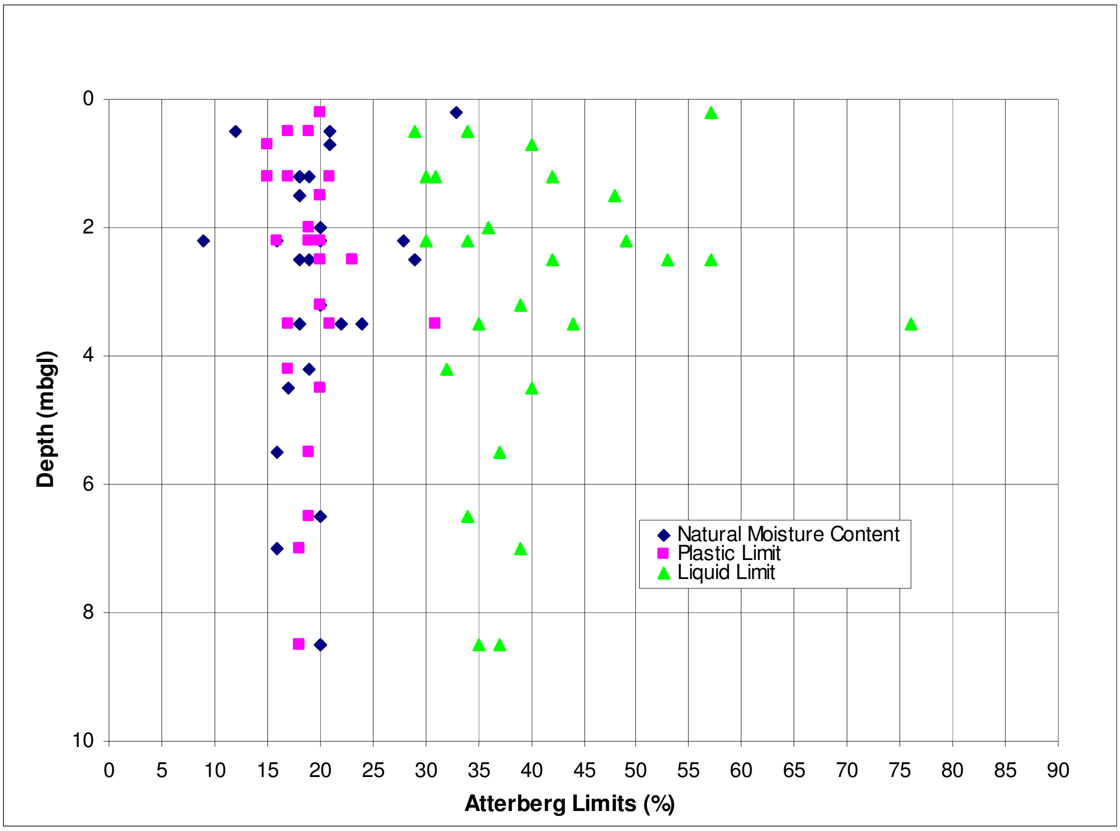


Figure G4 Atterberg Limits with depth (Made Ground); combined data from GI 2008 and GI 2010

11.7 The test results as shown in Figure G5 indicated the samples to be typically of low to intermediate plasticity (CL - CI) with some outliers (of high and very high plasticity).

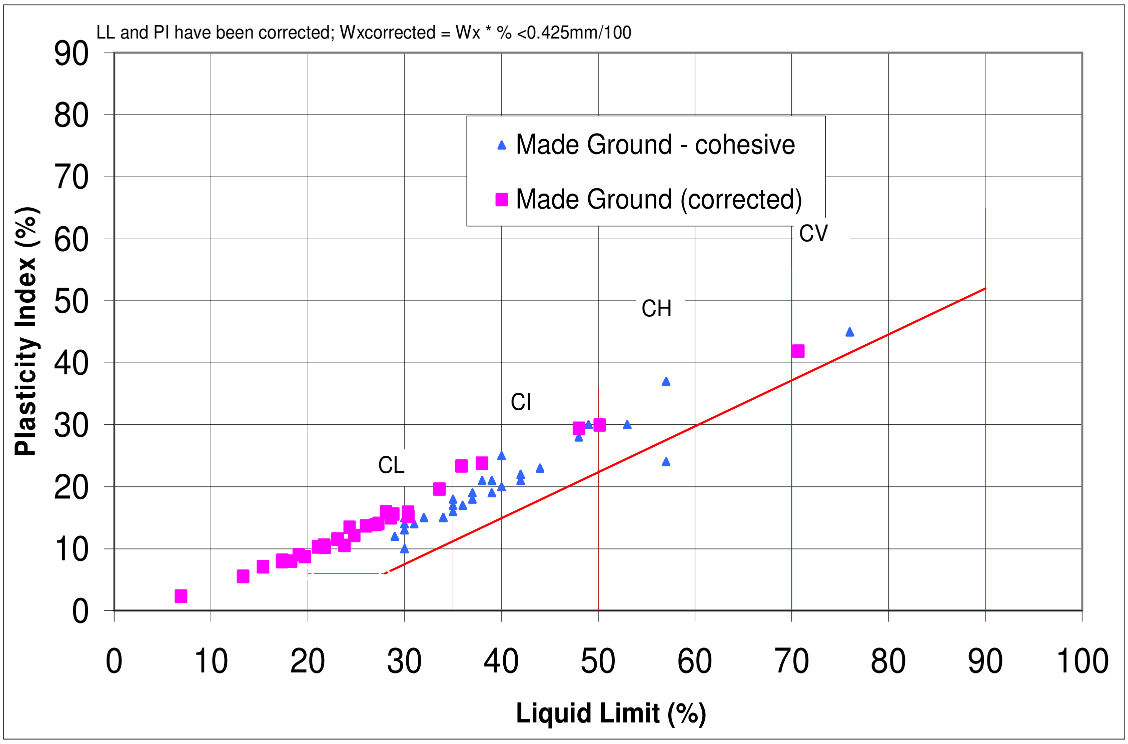


Figure G5 Atterberg Limits (uncorrected and corrected); data from GI 2008 and GI 2010

11.8 Due to the high granular content of the samples the Liquid Limits and Plasticity Limit were corrected using the following formula

$W_{corrected}$ = Wx x % (<425mm)/100

11.9 The corrected Liquid Limits and Plasticity Indices plot significantly lower on the plasticity chart than the uncorrected data indicating very low to inter-mediate plasticity which are the anticipated results based on the high granular content of the Made Ground. The findings of both GIs (2008 and 2010) were generally consistent.

11.10 However, it should be noted that most of the samples in the Made Ground were described as non-plastic.

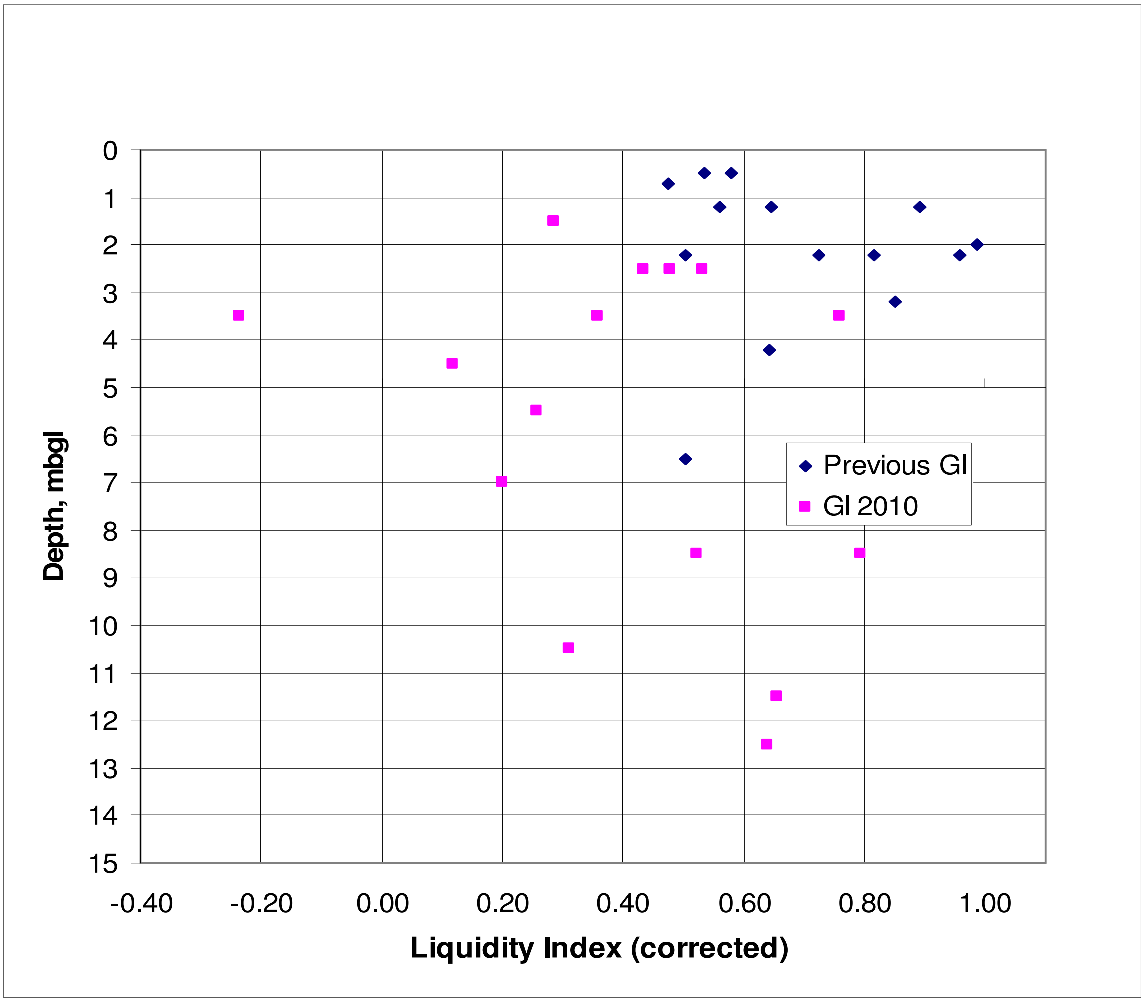


Figure G6 Corrected Liquidity Index with depth (Made Ground); data from GI 2008 and GI 2010

11.11 The corrected Liquidity Indices with depth show a wide scatter and only a slightly decreasing trend with depth. Typically the results plot between 0 and 1.0 with a maximum frequency between 0.4 and 0.6 indicating moisture contents typically above the Plastic Limit and rarely close to the Liquid Limit. This generally suggests the samples being of soft to firm consistency with some outliers being firm to stiff which is in agreement with the field records and the SPT test results.

Shear Strength

11.12 In the borehole logs the cohesive materials within the Made Ground were generally described as soft and firm, rarely stiff.

11.13 If encountered as granular the stratum was typically described as medium dense, occasionally as loose, dense or very dense.

Standard Penetration Testing

11.14 Forty five Standard Penetration Tests (SPT) were carried out in granular and cohesive deposits of the Made Ground. The results are presented together with the results of the

GI 2008 in Figure G7 generally showing a wide scatter of SPT N-values with the majority falling between 7 and 50. No clear trend with depth is apparent. It should be noted that a significant number of SPTs refused and full penetration could not be achieved. These tests are recorded in the plot as N-value of 100.

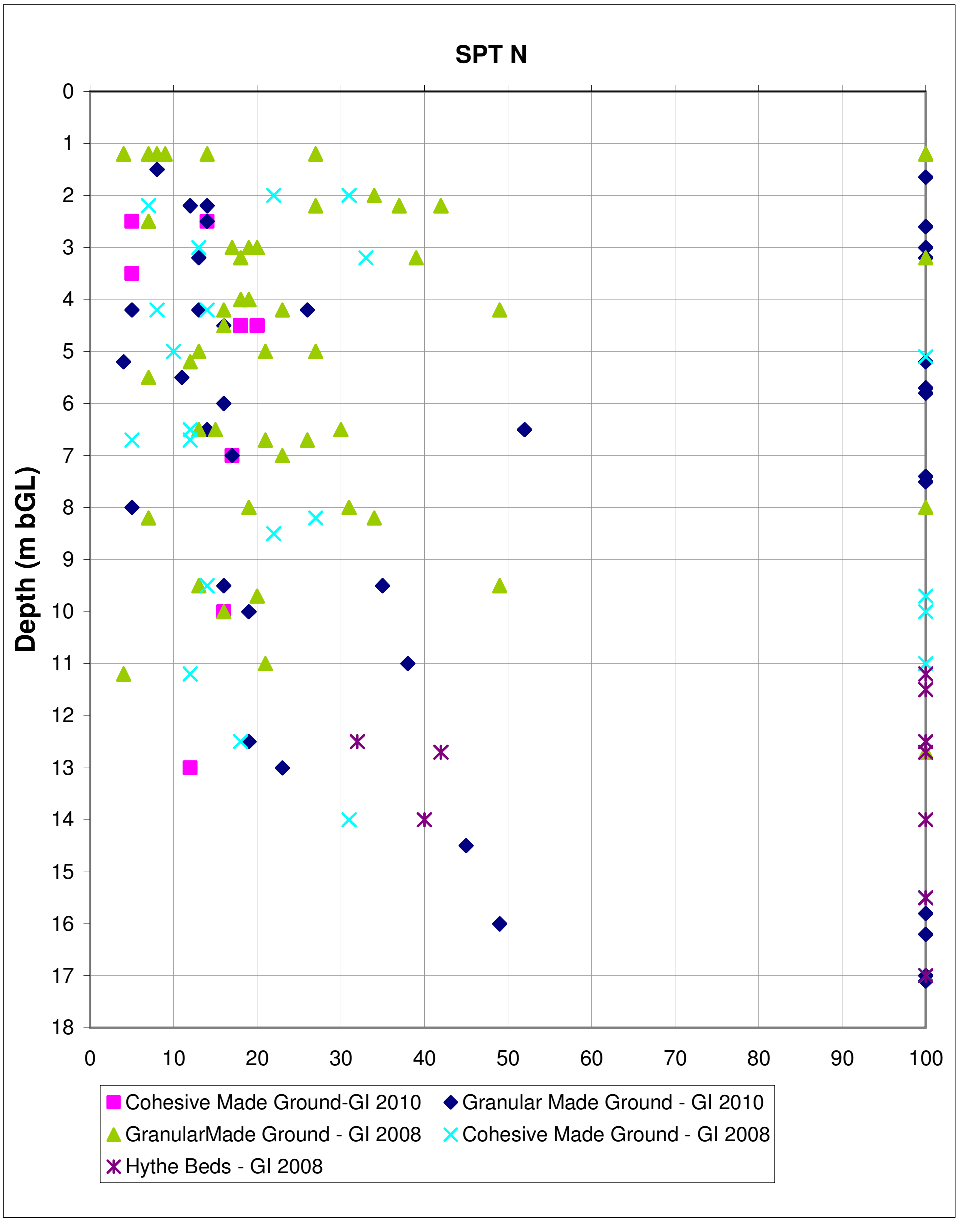


Figure G7 SPT N-values with depth (and data source)

Undrained Shear Strength

11.15 The undrained shear strength was assessed from results of triaxial tests (UU) carried out on undisturbed U100 samples recovered from cable percussive boreholes combined with values derived from the correlation with SPTs (Cu=4.5xN; after Stroud) undertaken in the boreholes. The triaxial tests were generally carried out on 100mm samples as single stage undrained triaxial tests without pore pressure measurements.

11.16 A total of 10 unconsolidated undrained triaxial compression tests (UU) without pore pressure measurement were available from undisturbed samples taken in the Made Ground. All tests were carried out as single stage tests on 100mm diameter sample. The results show a wide scatter predominantly between about 20kPa and 150kPa. As anticipated for the heterogeneous nature of the Made Ground no clear trend of increasing strength with depth is apparent.

11.17 A total of thirty six SPTs were carried out in the cohesive Made Ground for which the N-values ranged from 11 to above 50 (refusal) corresponding to about 50 kPa to about 225 kPa. No correction for overburden pressure has been made. It should be noted that the Cu of 450 coincides with refusals within the Made Ground and does not represent the in-situ strength of the ground.

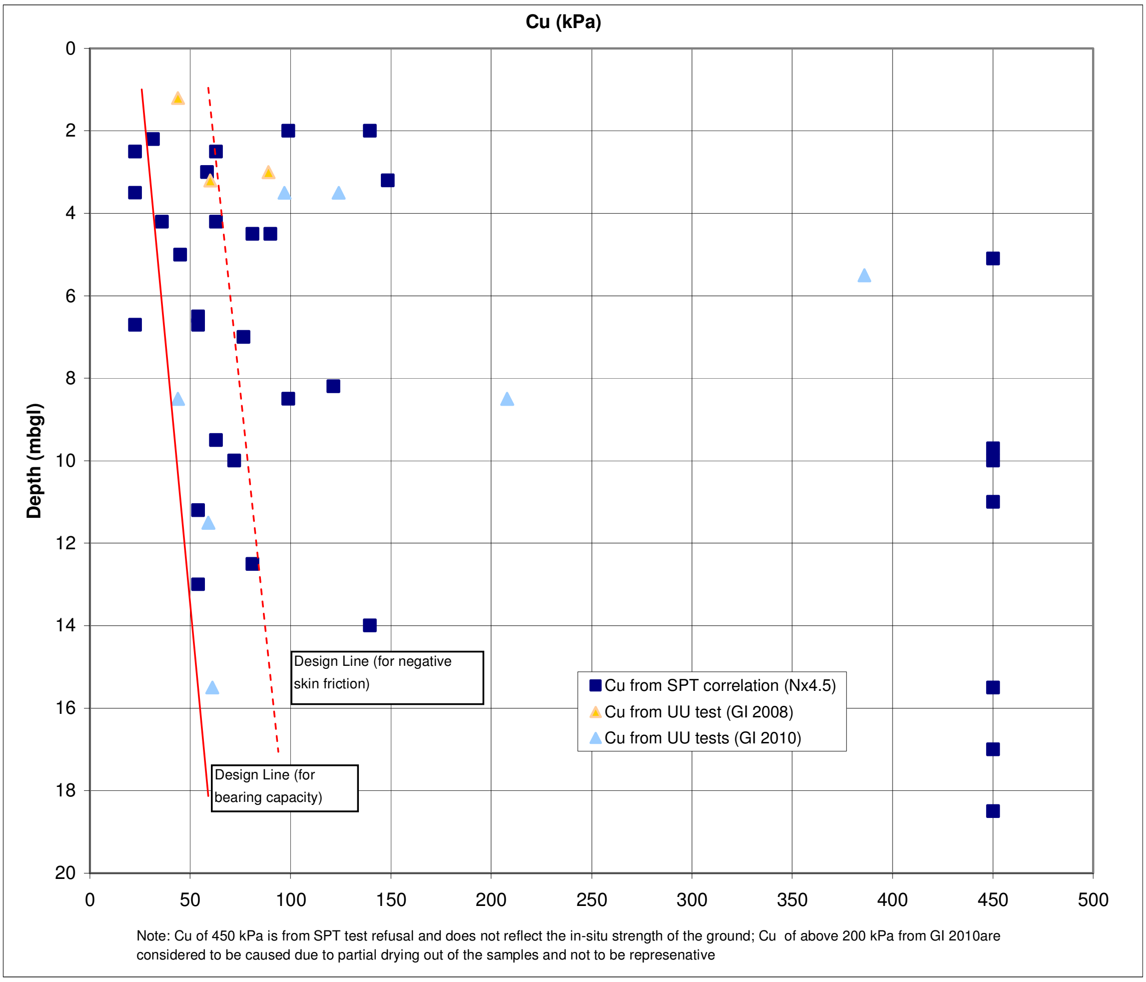


Figure G8 Undrained shear strength with depth (Made Ground) with suggested design lines

11.18 The Cu values above 200 kPa derived from the Triaxial testing (BH103@5.5m and BH103@8.5m) and SPT refusals are not considered to be representative for the overall in-situ strength of the Made Ground but may reflect locally cemented material from the Hythe Beds which was not broken down in the filling process. However, the SPT results and triaxial tests are generally fairly consistent giving results in the same range with the same wide scatter.

11.19 The combined plot of the Cu derived from the triaxial and correlation from uncorrected SPT N-values from the GI 2008 and GI 2010 (after Stroud) is presented in Figure G8.

11.20 Based on the data outlined above the cohesive materials within the Made Ground have a highly variable strength and a conservative design value of 20 kPa to 50 kPA is recommended for the cohesive materials over the depth of Made Ground for any bearing capacity calculations with a slightly increasing trend with depth. For down drag on piles higher values of between about 50kPa and 80kPa should be adopted.

Drained Shear Strength

11.21 Results of SPTs in granular materials of the Made Ground showed a wide scatter with SPT N-values between 4 and >50 (refusal). The majority of results fall between 5 and 25. Based on the SPT data performed in the Made Ground and log descriptions, for effective stress analysis a value for ϕ' of 30 degrees with a cohesion (c') of zero is recommended for any granular soils.

11.22 For the cohesive horizons a ϕ' of 25 degrees based on the PI with a cohesion (c') of zero should be adopted in accordance with BS 8002 for long term analysis.

Compressibility and Stiffness

11.23 A total of eleven one-dimensional consolidation tests (four from the GI 2008 and seven from the GI 2010) have been carried out on undisturbed samples taken from the Made Ground at different depths. The results are presented in detail in the GI report by Soil Mechanics (see Appendix C) and the laboratory data has been summarised in Figure G9. The data is subdivided by depth ranges in Figure G10.

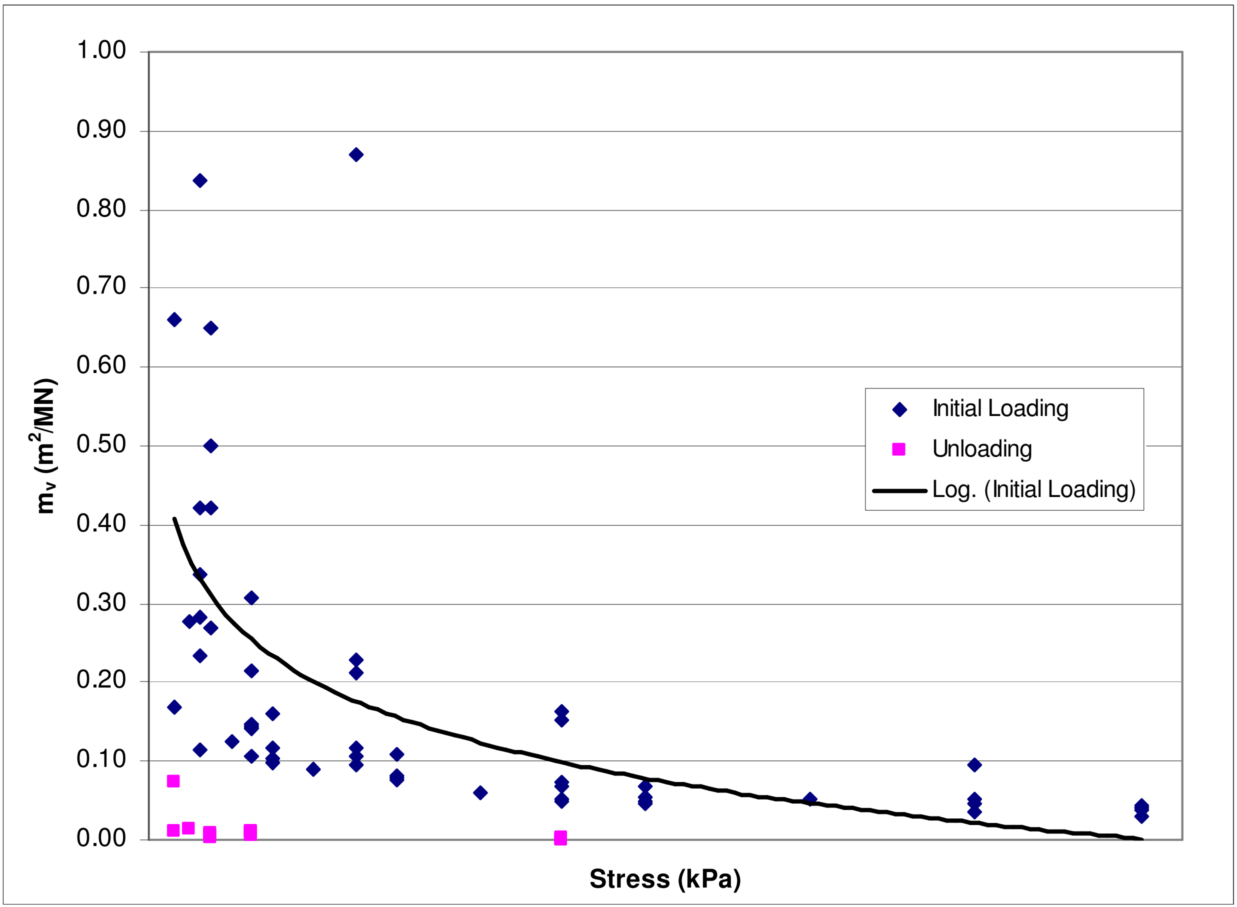


Figure G9 Compressibility as function of load for cohesive materials of the Made Ground (from one-dimensional consolidation tests)

11.24 The following general observations have been made:

- There is a clear trend in the laboratory results of decreasing compressibility of the Made Ground with depth which can be seen from the lower mv values for the samples taken at greater depth. This is the expected behaviour, but it should be noted that the Made Ground is highly heterogeneous and the decrease of compressibility with depth may not be consistent across the site.
- The in-situ effective stress differences between the samples are not strongly reflected in the initial mv values and samples from different depths show a similar compressibility. The mv values show a decreasing trend under increasing loads which suggests a considerable effect of sample disturbance. Lower mv-values would be expected for load increases up to the in-situ effective overburden pressure with higher mv values in the normally consolidated stress range.
- The first loading curves show a significantly softer behaviour than on unloading where mv values are close to zero, supporting the concern regarding sample disturbance. However, a significantly lower unloading value might as well reflect the high content of granular content within the samples tested.
- It is probable that the values above 0.6 reflect sample disturbance. Excluding these outliers the results generally indicated compressibility values (mv) between 0.5 m2/MN and 0.036 m2/MN under applied loads of 50 kN/m2 to 800 kN/m2.

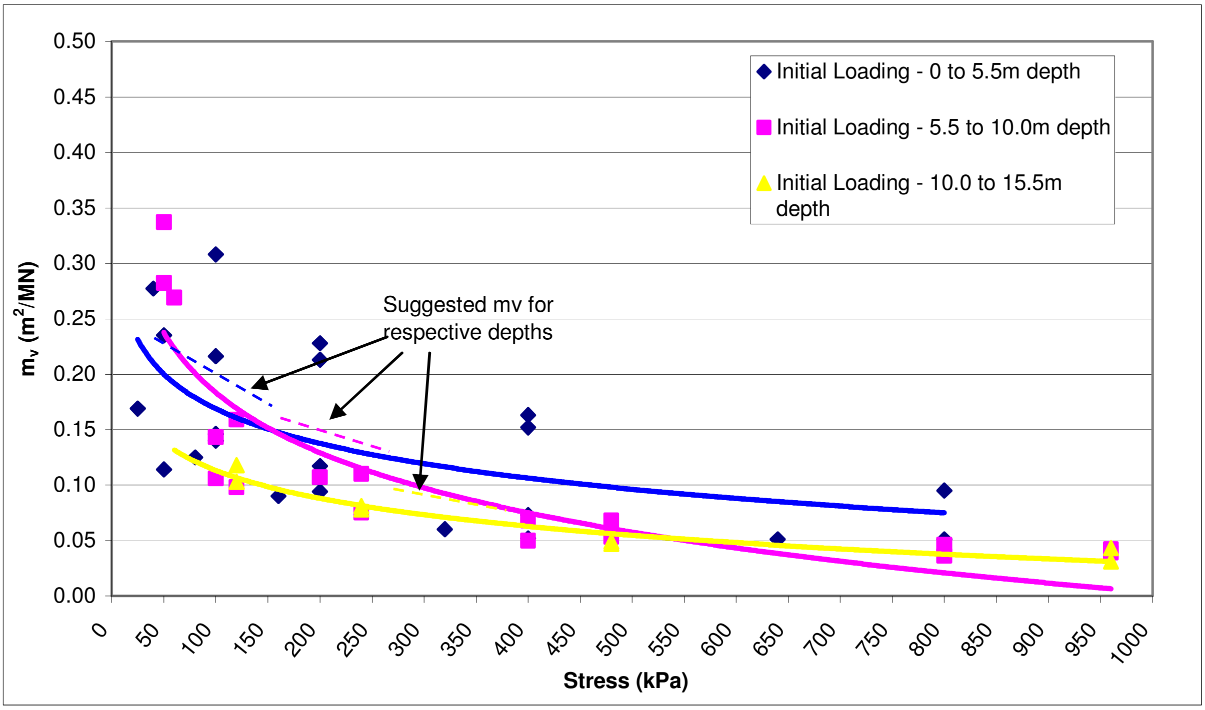


Figure G10 Compressibility with depth as function of load for the cohesive materials of the Made Ground (from one-dimensional consolidation tests) – selected data

11.25 Under an assumed applied stress for the current project between 50 kN/m2 and about 200 kN/m2, mv values typically ranged between 0.1 m2/MN and 0.5 m2/MN with an average of about 0.31 m2/MN. The consolidation test results are presented in Figure G10 including all data obtained from the ground investigations 2008 and 2010. For the depth ranges shown, values of 0.23 m2/MN, 0.17 m2/MN and 0.09 m2/MN have been inferred for the depth range of 0-5.5m, 5.5 to 10.0m and 10 to 15.5m respectively.

11.26 The general range of mv value results indicate the soils to be generally of medium and high compressibility. Highly compressible soils are quoted in the literature with mv values of around 0.3 m2/MN to 1.5 m2/MN.

11.27 Based on the assessment outlined above an mv value ranging from 0.23 m2/MN at the surface to 0.1 m2/MN at 10m depth for stress increases up to 75 kPa is considered appropriate.

11.28 A detailed reassessment of the compressibility should be carried out based on all available GI data and once the design loads induced by the proposed structures and their exact locations are known taking into account the actual ground conditions identified.

Stiffness

11.29 Three Plate load tests were carried out at 1.5mbgl in mainly granular deposits of the Made Ground (TP401, TP402 and TP403). The tests were performed with a 762mm diameter plate and a tracked excavator used as kentledge. The maximum load applied was 208 kPa. The detailed results are presented in C.

11.30 The results indicate fairly variable characteristics of the underlying ground.

11.31 TP 401 was carried out in Area 3 in material that was logged, in the trial pit down to the test level, as clayey gravelly sand; the near by borehole BH103 recorded soft to firm sandy gravelly clay at 1.5m. The test showed a settlement of 6.14mm under the maximum load of 208kPa with a Young's modulus (secant) of about 13MPa under 90kPa applied pressure. The general behaviour of the tested ground shows an almost linear increase with settlement and a constant (very slight stiffening) E-modulus value under larger applied pressure.

11.32 Plate load tests TP 402 and TP 403 were both carried out in clayey sand in Area 2 and Area 5 respectively and showed a significantly softer behaviour of the ground than TP401. The results of both plate load tests gave similar result recording settlements of 26.52mm and 33.17mm respectively under the maximum applied pressure of 167 kPa and 208 kPA respectively. These results suggest a clear decrease of E-modulus values with increasing strains. Generally E-modulus values were in the order of 2MPa to 6MPa depending on the load and modulus type applied.

11.33 Compressibility values (mv) derived from back-analysis of the plate load tests gave a value of about 0.04 m2/MN indicating a very low compressibility for TP 401. TP402 and TP403 showed significantly higher compressibility with mv values of about 0.24 m2/MN and 0.145 m2/MN.

11.34 The latter results compare well with the results derived from the one dimensional compression tests. However, it should be noted that these mv-values are only applicable for the near surface layers due to the restricted depth of influence of a Plate Load Test with a plate diameter of 0.762m. This might as well be a reason for the mv-values that are not as expected for the materials recorded in the trial pits as the soils seem to be softer and more cohesive in TP 402 and TP403 and stronger in TP401 than suggested by the trial pit logs. However, it should be noted that the soils described in the trial pit lie above the test elevation and there may be changes in the soils below the test elevation.

11.35 Another approach to derive the stiffness is empirical and based on SPT in-situ tests. Bowles (1997) proposes the following relationship between stiffness and SPT N-value for clayey sands:

$$E's = 320\ (N+15)\quad (E's \text{ in kPa})$$

11.36 Based on a conservative SPT design N-value of 5 to 10 the expected stiffness of the encountered loose to medium dense predominantly granular Made Ground can be estimated to be about 6.4 MPa to 8.0 MPa.

11.37 As expected for the Made Ground the stiffness is highly variable as shown by the in-situ tests carried out on site and the above values should be used with caution and refined based on the ground conditions actually encountered in the respective site area.

Density

11.38 The results of the dry density and bulk density tests carried out on samples of the Made Ground are presented in Table 8 below:

	Dry Density Mg/m^3	Bulk Density Mg/m^3
No of tests	30	30
Range	1.42 to 1.90	1.85 to 2.12
Average	1.70	2.0

Table G2 Summary of density results in the Made Ground

11.39 It is recommended that bulk unit weights of 18 kN/m3 for bearing capacity calculations and 20 kN/m3 for earth pressure calculations be used for the Made Ground (cohesive and granular horizons).

Hythe Beds

Classification

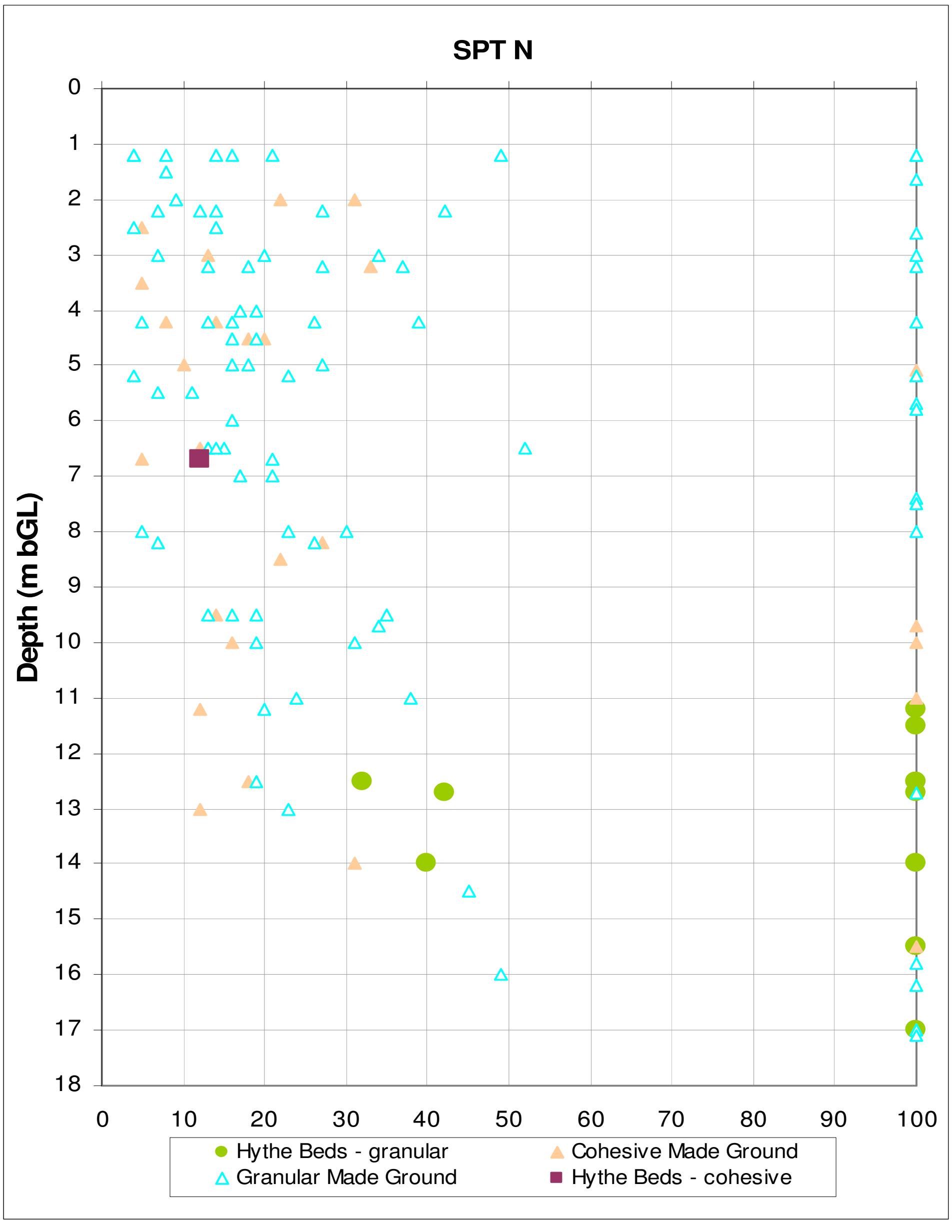
11.40 Two PSDs were carried out on samples taken from samples that were recorded as Hythe Beds. These tests identified the deposits as sandy Clay. Some of the description of the Hythe Beds however record a clayey sand and gravel with occasional cemented layers. The above PSDs therefore represent the cohesive horizons within the Hythe Beds which seems to be typically at the top of the stratum. As outlined these soils might have been logged as Hythe Beds in error being Made Ground. Generally Made Ground and Hythe Beds show similar PSD results, which suggests that the Made Ground is predominantly built up from the underlying natural stratum.

Shear Strength

11.41 In the exploratory logs the Hythe Beds were typically described as medium to very dense when encountered as sand and soft to firm when cohesive. A total of thirteen standard penetration tests were carried out in the Hythe Beds to determine the in situ density. The majority of the tests were carried out during the GI 2008 and one SPT during the GI 2010. Generally N values ranged between 32 to greater than 50 (refusal) predominantly recording refusal (as shown in Graph G1).

11.42 The N-values of 100 in the Figure represent refusals possibly caused by very dense or partly cemented horizons within the stratum. No trend in the variation of SPT N value with depth is noticeable from the data. It is suggested that the majority of the granular horizons of the Hythe Beds will be at least dense (possibly very dense) and a moderately conservative constant design value of N = 40 is considered appropriate for the Hythe Beds corresponding to a dense state unless otherwise proven.

11.43 The cohesive materials logged as the Hythe Beds which overlie the granular parts of the Hythe Beds and mainly encountered in Area 1 should be expected to be soft to firm. This is based on the log descriptions and SPT N-value of 13. These cohesive horizons seem to be localised in the area of terrace ii. However, as discussed in Section XX the strata designation is not always unambiguous.



Graph G1: SPT results with depth (all strata from GI 2008 and GI 2010)

Stiffness

11.44 The drained Young's modulus, E' of the Hythe Beds for use in settlement calculations can be based on the approach by Stroud (1989) correlating the stiffness directly with the mean SPT N value.

11.45 Stroud proposes the following relationship between stiffness and SPT N-value for granular materials:

E'v = 1500 to 2500N (E'v in kPa)

11.46 Based on the recommended SPT design value of 40 the expected stiffness of the encountered Hythe Beds can be estimated to be about 60 MPa to 100 MPa.

Density

11.47 No direct density tests were carried out on the Hythe Beds due to its mainly granular nature. However, based on SPT results and PSD tests a bulk density of 21 kN/m3 is recommended for design.

Earth Pressure

11.48 In the absence of in situ horizontal stress measurements in the Hythe Beds and Made Ground the coefficient of earth pressure at rest (Ko) can be estimated from Jaky's (1944) equation:

$$Ko = 1 - \sin \varphi'$$

11.49 Based on a moderately conservative constant volume friction angle of 38°, the Ko value for the Hythe Beds is estimated to be 0.38. For lateral support design purposes a value of Ko = 0.4 is recommended.

11.50 For any earth pressure calculations in the Made Ground passive and active earth pressure coefficients should be derived based on the friction angles recommended in the above assessments.

12 Geotechnical Evaluation

Proposed Development

12.1 It is understood that the proposed development will be mainly residential and comprise one or two storey buildings with associated parking, roads, pavements and some landscaping.

12.2 It is currently proposed to raise the site in some areas by up to about 6 m. The final ground levels currently proposed will be between 79 mOD at the southern site boundary and about 89mOD in the northwest.

12.3 Some re-grading will be required to obtain acceptable angles for current slopes and roads.

12.4 A detailed description of the development is given in Section1 ‘Proposed Site Use’.

Foundations

12.5 The current design approach favours piled foundations for all buildings due to the expected high differential and total settlements under shallow foundations which would be built on fill.

12.6 An assessment summarising the main considerations for foundations is given below.

Shallow Foundations

12.7 Generally high settlements (total and differential) should be expected if shallow foundations (i.e. rafts) are placed on untreated fill material.

12.8 For lightly loaded structures there might be the possibility to adopt shallow foundations in the Area 5, Area 4 and Area 2 where Fill material was encountered as granular or Hythe Beds were found to be at shallow depth. (see drawing in Appendix E)

12.9 Preliminary settlement calculations were carried out for the Area 4 where Made Ground comprises predominantly granular materials. For such areas of granular soils and raft foundations with a maximum bearing pressure of 50kN/m2 total settlements of about 40mm to 60mm for rafts of 10mx10m and 15mx30m respectively are likely to occur based on homogenous granular soils. Differential settlements are likely to be about 2/3 of these values. These areas of anticipated comparably smaller settlements include the southern part of Terrace iii and Terraces in the east (Area 5, Area 4 and Area 2 on the exploratory hole location plan in Appendix A). However, since the material encountered was highly variable in strength and composition these settlement calculations should be reviewed once the exact design approach and actual locations of the buildings are known.

12.10 In areas of predominantly cohesive soils it is likely that settlements under foundations on untreated soils are significantly larger occurring in the medium and long term than would be the case for granular soils. Therefore, it is not recommended to adopt raft foundations on untreated Made Ground in these site areas.

12.11 If the above settlements and remaining uncertainties are not tolerable then the application of a surcharge might be considered in order to consolidate the existing ground before placing the raft foundations. A surcharge of about 3m of earth fill (60 kPa) above the final terrace level might be appropriate if subsequent raft foundations of <50kPa bearing pressure are adopted. In this case ground bearing slabs might be acceptable if placed directly on the Made Ground after removal of the surcharge. The currently proposed raising of the site could result in an additional stiffening of the upper part of the ground if placed as engineered fill.

12.12 The stability of the slope adjacent to the road along the eastern and southern boundary will need to be assessed in detail if shallow foundations are to be considered near to the crest of the slope.

Pile Foundations

12.13 The ground conditions encountered on site were highly variable and Made Ground extended to variable depth in some areas in excess of 19m as shown on the drawing in Appendix E.

12.14 Therefore settlements, total as well as differential, will be a major issue on site in particular in areas that indicate cohesive Made Ground.

12.15 The use of piled foundations would be a design solution in all areas where no competent underlying material for shallow foundations can be proven or anticipated settlements are unacceptably high. Piled foundations should be considered in Area 3 (part of terrace iii) and Area 1 (part of terrace ii). These parts of the site indicated predominantly soft and firm cohesive soils interlayered with sands and will result in excessive settlements likely to be above 100 mm in the medium and long term under rafts if no surcharge has been used.

12.16 For the order of loads anticipated, it is considered that the Hythe Beds will be an appropriate bearing stratum for the piles to support the residential houses. However, it should be noted that levels of the competent strata will be highly variable and detailed piling schemes should allow for this. Dense to very dense zones within the Made Ground could lead to driving refusal at inadequate depth prior to reaching the Hythe Beds.

12.17 Piles will act mainly as end bearing in the Hythe Beds. Negative skin friction will need to be taken into consideration for detailed pile design. This is expected to induce down drag over most of the Made Ground horizon which will be governing the overall bearing capacity of the piles.

12.18 The shear strength as determined in the parameter section above has been used to assess preliminary pile capacities. A Factor of Safety of 3 has been adopted.

12.19 It is considered that bearing capacities for pre-cast concrete piles of 350mm will achieve a safe bearing capacity of about 500kN adopting a moderately conservative soil profile and negative skin friction to 15.5mbgl. The negative skin friction for such a depth of Made Ground is estimated to be up to about 1100 kN to 1200 kN on a 350mm square pile.

12.20 For 350mm piles of 12m length adopting a less conservative ground profile of 10.0m of Made Ground the down drag is expected to be about 700 kN to 750 kN. The overall pile capacity is likely to be in the order of 350kN assuming a penetration depth of 2m into the Hythe Beds (with a Factor of Safety of 3).

12.21 A minimum penetration depth of 2.0 m into the Hythe Beds with a preliminary average pile length of 17.5m is recommended. It is likely that in some areas the Made Ground might extend to depth below or above this and flexible pile lengths of a maximum preliminary length of 20m above current elevation should be allowed for during the pile construction.

12.22 However, the following difficulties are likely to be encountered if a driven pile foundation is adopted:

- Constructability issues due to highly variable levels
- It might be difficult to determine whether the Hythe Beds have been encountered since some of driven piles might refuse in dense and/or coarse materials in the Made Ground and not penetrating through potentially soft soils below this. (i.e. Made Ground might be mistaken for in-situ materials of the Hythe Beds)

12.23 Generally the Lower Greensand Formation is indicated as a major aquifer and is sensitive to contamination and therefore it should be avoided to create pathways into the underlying strata.

12.24 Pile load tests should be used to confirm the above design calculations and to prove that piles are adequate if stopping short of the recommended depth. Provided that the test results from preliminary pile tests taken to ultimate load confirm the design ultimate capacity taking negative skin friction into account, the Factor of Safety may be reduced to toward the lower end of the range, between 2 and 3, as recommended in BS8004.

12.25 Generally a variety of piling techniques will be feasible for the proposed development but it is considered that driven cast in-situ piles might be preferable in areas where driving is feasible due to the expected low costs and minimising of spoil.

12.26 In some areas it is considered that driven piles might not be feasible due to dense granular or coarse materials. This would as well be the case if a very dense engineered fill is placed to raise the site.

12.27 It is considered that bored piles (CFA or conventionally bored) would be advantageous if piled foundations would be adopted in Area 2, the eastern part of Area 4 and Area 1. In these parts of the site generally the ground investigation indicated difficult drilling and long chiselling times. The pile boring rig would be able to penetrate through possible obstructions and the underlying in-situ stratum could be determined unambiguously during the drilling process. This would require close supervision and logging by engineering geologists during the piling contract.

12.28 Furthermore, adjacent to the front slope where there has been evidence of shallow slips it may be unwise to use driven piles. The use of CFA piles within one slope height behind the slope crest is advisable.

12.29 If pile tests generally prove the design capacity then a lower Factor of Safety may allow for shorter piles to be used.

12.30 Pile group effects might need consideration for large groups or for a spacing of less than 3 times pile diameter as pile groups typically have a lower bearing capacity per pile and higher settlement characteristics than single piles.

12.31 Any calculated working load should be taken as a preliminary assessment and reviewed and confirmed by appropriate pile load testing.

Settlements

12.32 Due to the site's history one of the main concerns of the proposed development is considered to be the anticipated settlements. Therefore this should be given due recognition and is assessed below.

12.33 Settlements under increased effective stress will be large both with respect to total as well as differential. This is mainly a result of the following:

- Great thickness of the Made Ground encountered
- Made Ground has not been placed as engineered fill under close supervision
- Variability of the materials placed and levels of the underlying in-situ stratum
- Compressible soils were encountered to considerable depth and of highly variable thickness

12.34 Generally the areas underlain by clay will be most affected by settlements. Areas underlain by granular fill will settle by much smaller amounts and it is not expected that there will be significant creep settlements in the granular deposits.

12.35 Most of the materials encountered on site predominantly in Areas 5, 4 and 2 are relatively free draining and excess porewater pressure is unlikely to develop under a normal loading case. In these free draining horizons any settlements due to the increase of effective stresses will occur immediately i.e. during construction.

12.36 The clayey soils mainly encountered in Area 3 and Area 1, which are relatively impermeable, will undergo time dependent movements under increased loads. This is associated with the primary consolidation as excess porewater pressures dissipate and subsequent secondary compression (i.e. creep) which occurs once all excess porewater has dissipated. Creep will continue in the long term. However, it is considered that this is of small scale on the site since the backfill of the quarry started 1974 with the bulk of the work finished by 1992 and most of the creep in the Made Ground under the current effective stresses should have occurred by now.

12.37 Furthermore, the soils encountered were typically granular, of low organic content and low plasticity if encountered as cohesive and not encountered in lumps/clods of soils which suggest that the creep settlements rate will be low.

12.38 Settlement on inundation is not considered to affect the site since groundwater levels were consistently recorded below the Made Ground and only rarely in the top of the Hythe Beds at significant depth. No lowering of the groundwater levels have been carried out and therefore no recharge is expected.

12.39 Currently the development proposes to raise the site by about 1m to 6m. It is understood that the Area 3 (northwest) will be subject to the highest additional Fill material and there will be less towards the southern boundary of the site.

12.40 Generally settlements induced by raising the site will be governed by the compressibility of the underlying cohesive soils, their extent and the increase in effective stresses within the Made Ground. Settlements in the underlying Hythe Beds are considered negligible. Based on the GI logs an attempt was made to identify these areas as shown in Appendix E.

12.41 In these areas a raised level of about 6m above current ground level is likely to induce approximately 250mm to 350mm settlements of the underlying Made Ground based on the compressibility assessment given in the ground parameter section. Reduced settlements of about 180mm to 220mm for 4m of additional fill and about 110mm to 140mm for 2.5m fill are likely to occur in the medium term (about 1 to 5 years).

12.42 These settlement assessments were based on the assumptions that any fill used to raise the site will be clean granular materials and compacted appropriately to at least 95% of its maximum dry density (MDD). Any settlement within the additional fill is assumed to occur immediately (i.e. during construction).

12.43 The use of fill obtained from cut at the site is considered to be only suitable in areas that will not be used as a founding stratum. Generally cohesive additional fill will undergo settlements under its own weight in the medium term which will need to be accommodated if these soils are used. Some granular materials from site might be suitable for load bearing fill. This will need to be assessed based on the actual source of materials chosen.

12.44 If the above mentioned settlements cannot be accommodated other measures could be taken to accelerate these settlements. This could comprise the surcharging of the areas underlain by soft clays to increase effective stresses and hence accelerate the consolidation of the soft layers. This could be supplemented by granular drains if required. The amount of surcharge and duration is heavily dependent on acceptable settlements and the time constraints of the project. The detailed design of such measures should be undertaken once performance criteria have been defined. Typically a surcharge would comprise several metres of additional fill placed for a long enough period to induce consolidation of the underlying soft materials which could be accelerated by inserting vertical drains (either sand or prefabricated).

12.45 Based on the laboratory data and soil descriptions it is likely that the majority (greater 90% in areas without large thicknesses of cohesive ground) of the settlements will occur within the first year after raising of the site and no additional measures will need to be taken. This is based on conservative compression indices derived from the one-dimensional consolidation tests as well as moderately conservative lengths of drainage paths. However, drains are considered to have a significantly beneficial effect in the areas of predominantly cohesive soils (Area 3) and should be preliminarily incorporated in further planning processes.

12.46 Due to the great variability and quick lateral changes in the Made Ground the predictions of total settlements, their local distribution and the time dependent settlements are difficult. Therefore the ‘observational method’ is recommended if the site is being raised and an appropriate monitoring system should be installed to verify and monitor the actual settlements. It is likely that settlement gauges at the top of the Made Ground with monitoring every week (first month) and every two weeks thereafter for a year would be suitable. The frequency of monitoring should be reviewed concurrently to the monitoring process and might be reduced or extended depending on actual settlements observed. The monitoring process is generally recommended to commence with the start of construction of the surcharge.

Earthworks and Slope Stability

12.47 It is understood that the proposed works will include earthworks that will involve the importation of fill material to raise the site to between about 1m and 6m generally resulting in generally flatter slopes and more gradual relief throughout the site. However, the crests and slopes at the site boundaries (north and south-east) are currently proposed to be kept.

Northern Boundary

12.48 The current slopes forming the northern boundary of the site are considered to be predominantly formed of in-situ material of the Hythe Beds at angles between 1:2.9 (V:H) and 1:1(V:H). The heights vary mainly between about 4m and 6.5m but will reduce partly by raising the site to the currently proposed levels of 89mOD in the north western end falling to about 82mOD towards the south east.

12.49 The slopes are vegetated and some slippages (possibly recent) seem to have occurred in some sections of the slope suggesting that the slope is at least in parts only marginally stable.

12.50 The slope angles of 1:1 (V:H) to 1:1.7 (V:H) are considered too steep for the materials described for some parts of the Hythe Beds and Made Ground. Based on the available information for the soils these slope angles are considered marginal and some slopes will need to be flattened to achieve acceptable factors of safety.

12.51 A slope angle of 1:2 to 1:2.25 (V:H) is considered appropriate for slopes in the Hythe Beds. These angles might be steepened to 1:1.75 (V:H) depending on the material actually encountered in the slope since some parts of the Hythe Beds depict some cementation/apparent cohesion.

12.52 Flattening of the slopes or appropriate remedial measures to stabilise the slope will need to be considered in sections where proposed slope angles are being identified as too steep. This will likely be the case at the southern corner of the new northern industrial park where slopes are understood to be proposed at angles of about 1:1 (V:H).

South eastern Boundary

12.53 The slope at the south eastern end of the site is located immediately beneath and forming the southern boundary of the land occupied by Invicta Skips. It seems to have been formed before 1968 when the access track and associated slopes towards the current area occupied by the Invicta workshop was built.

12.54 The slope generally runs in a SW-NE direction with slopes heights of between about 2m (in the north eastern section) and about 8m (in the south western part of the slope). The toe of the slope is formed by an access track which itself forms the crest of another slope towards the public Quarry Hill Road which lies roughly parallel to the access track.

12.55 The crest of the slope is at about 82.5mOD covered by hardstanding and currently used as storage area for empty skips some of which are placed close to the crest. The access road slopes gradually from NE to SW from 78.5mOD to 73.8mOD

12.56 Typical slope angles are understood to be about 1:1.9 to 1:1 (V:H). Locally the slopes are steeper and might be about 1:0.75 (V:H) to near vertical.

12.57 Based on the geological maps and nearby ground investigation data, the majority of the slope is likely to comprise slightly clayey gravelly Sand with occasional cobbles of sandstone and limestone. The sand is locally slightly cemented and encountered sandstone generally highly weathered. The observed outcrops and historical maps suggest that the slope is formed of Made Ground comprising reworked materials of the Hythe Beds.

12.58 The slope exhibits several shallow slope failures which are located in all parts of the slope.

12.59 Historic slip failures even if only shallow suggest that the factor of safety of the slope is marginal.

12.60 The slope angles of 1:1 (V:H) to 1:1.6 (V:H) are considered too steep for the soil generally encountered in the Made Ground. Based on the PSDs, log descriptions and lab data for the granular Made Ground these slope angles are considered marginal and some slopes will need to be flattened to achieve acceptable factors of safety.

12.61 The Ciria Report 199 recommends for embankments in River Terrace Gravel (considered to have 'better' geotechnical characteristics than the fill) a slope angle of 1:1.75 (V:H) for heights up to 5m. A slope angle of 1:2 to 1:2.25 (V:H) is considered more appropriate for the materials described.

12.62 Furthermore, cohesive layers might be encountered within the predominantly granular fill which could act as slip surfaces and further lower the overall stability

12.63 It is understood that the slope height will not be increased and general slope angles are intended to be kept at the existing levels.

12.64 Generally an increase of the slope height would increase the effective stress within the materials forming the slope. This will cause a change to the slope and could cause instability in marginally stable slopes. Any change of the stresses either at the toe or the crest will change the pressure distributions and could potentially cause instability. Therefore a raising of the site and hence the slope should be avoided.

12.65 The current slopes are considered at least partially of marginal stability and porewater pressures are mainly controlled by vegetation which is likely to have a significant beneficial effect. Therefore, any change to the current vegetation or disturbance to the slope should be avoided in order to prevent changes in stress distributions or porewater pressures within the slope.

12.66 It is likely that the slopes will need to be designed to modern standards and stability of the slopes to be proven by acceptable factors of safety. Therefore, it is considered that some sections of the slope at the south eastern boundary of the site and sections of the slope north of Quarry Hill Road will require remedial stabilisation work (probably slopes steeper than 1:1.75 (V:H)) This solution might include Gabions, soil nailing or a vertical retaining solution to achieve an acceptable factor of safety.

12.67 Gabions might be adopted and placed at the toe of the slope (approximately 2m to 3m high) with appropriate re-profiling of the slope angle. This would have two major beneficial effects on the slope stability a) by gravitational/physical strengthening of the toe and associated stabilisation of potential slip surfaces (i.e. would act like a gravity wall) and b) improve internal drainage of the slope to prevent any excess porewater pressures from developing.

12.68 The actual design solution should be based on the criteria set out by the relevant bodies and constraints by the proposed development.

12.69 A detailed topographical survey, detailed geo-morphological mapping and additional ground investigation is recommended to allow for an accurate slope stability analysis to be carried out at detailed design stage. This is intended to confirm the extent and type of the remedial measures to be taken.

12.70 Houses proposed at the southern site boundary close to the existing slopes will need to be built at an appropriate distance away from the crest and a zone should be kept clear in order to avoid any surcharge which could trigger instability in the slope. It is considered to be appropriate to keep an area clear of any structure which is behind an imaginary line to the toe of the slope of an angle of 1:2 (V:H).

12.71 Any earth pressure calculations for retaining structures should be carried out based on the parameter assessment as part of the detailed design. However, it is currently understood that no retaining walls are proposed in the current design approach.

Groundwater During Construction

12.72 A detailed assessment of the groundwater conditions is given under Section 8.

12.73 Based on the available groundwater data it is considered that the groundwater will be generally perched within the Made Ground as recorded in the boreholes and window samples. The groundwater records indicate minor water strikes and seepages at varying depths generally of limited amount which are likely to be governed by the cohesive layers within the Made Ground forming a less permeable horizon. However, this perched water will be localised and likely to occur in disconnected pockets and lenses of granular soils and does not form a consistent water table.

12.74 The major aquifer underlying the site is in the Hythe Beds and is expected to be at considerable depth (below about 64mOD in BH104) as outlined in detail in the ground water section of this report. Environmental constraints and issues associated with this aquifer are assessed in Section 10.

12.75 Only minor excavations are expected as part of the proposed development mainly for possible rafts, pile caps or replacement of soils.

12.76 Some water ingress was recorded during drilling works within the Made Ground which should be anticipated in any excavation within this stratum. These water ingresses should be controlled with standard site measures.

12.77 Trial pits were generally recorded to be stable and only minor collapse was observed. Shallow excavations carried out in the Made Ground are therefore considered to stay stable at fairly steep angles in the short term.

12.78 Any excavation deeper than 1.2m should be appropriately shored if staying open in the long term. Generally workers should not enter unshored excavations in any material greater than 1.2m deep.

12.79 Assuming that the superficial groundwater within the Made Ground is appropriately dealt with, for deeper excavations battering back of the slope might be feasible for temporary excavations with associated monitoring during construction and remedial action (shoring and propping or lowering of the slope angle). Due consideration should be taken of nearby structures. However, deeper excavations are currently not proposed and the above should be reassessed at detailed design stage.

Concrete in Aggressive Ground

12.80 An assessment of the buried concrete durability has been carried out in general accordance with BRE Special Digest 1(29) (SD1).

12.81 The assessment was undertaken on 30 soil samples taken from the Made Ground at varying depth considered to be representative of the overall ground conditions. The following parameters were analysed in order to determine the design class for concrete in aggressive ground:

- Soluble S04 (g/L)
- Total potential sulphate (%)
- pH

12.82 Material encountered at the site are not anticipated to contain pyrite, therefore no assessment of the pyritic nature of the ground was carried out.

12.83 The results for soluble sulphate at the site generally do not exceed 367mg/kg, the pH lies between 7.1 to 7.8 and acid soluble sulphate contents were generally very low.

12.84 In accordance with BRE Special Digest 1(29) (SD1) and adopting mobile groundwater conditions for a brownfield site all samples fall within class DS-1, AC-1.

12.85 The assessment of six samples was carried out during the ground investigation 2008. In the Hyder report 2008 it is recommended to adopt a concrete class of DS-3, and AC-3. However, the summary of the results as well as the raw data show values of water soluble sulphate concentrations between 0.03g/l and 0.17g/l with pH values of above 7.1 which all classify the samples as concrete class DS-1, AC-1

12.86 Hence, it can be concluded that the ground should not be classified as potentially aggressive to concrete and underground structures in contact with the Made Ground and a design concrete class of DS-1 and ACEC of AC-1 is recommended.

13 Conclusions and Recommendations

Geo-environmental Conclusions and Recommendations including Remediation Options

13.1 Contamination assessment has identified a requirement to undertake mitigation measures associated with direct contact exposure risks from impacted Made Ground across the site. Additionally, the extent of point source TPH impacts in Area 1 was not able to be delineated and consequently, there may be some requirement to undertake mitigation works specific to this area.

13.2 Leachate and groundwater investigations undertaken across the site identified generally low leachable concentrations of contaminants across the site with subsequently low risks to groundwater as a result. Note that due to timing constraints for project reporting, leachate analysis was scheduled at the same time as soil analysis and consequently the most impacted soil samples were not necessarily tested for leachable fractions.

Capping of Made Ground

13.3 In order to mitigate direct exposure risks to future site users, it is recommended that a layer of ‘clean fill’ material is placed over Made Ground in all proposed private garden areas.

13.4 It is understood that as part of the proposed development, existing site levels across a proportion of the site (predominantly Area 3) will be raised by approximately 6m. Provided this imported material comprises ‘clean fill’ (e.g. inert subsoil overlain by clean topsoil), this would effectively mitigate exposure risks in this area.

13.5 In remaining areas of the site, it is recommended that a capping layer with a thickness of 600mm of soil placed down in proposed garden areas. Ideally, this would be expected to comprise inert subsoil overlain by clean topsoil.

13.6 To mitigate ongoing future risks to residents associated with digging activities in private gardens, it is further recommended that this fill material is directly underlain by a combination of:

1. A brightly covered semi-permeable barrier to allow water to penetrate through, but act as a deterrent to digging through to Made Ground; and
2. Crushed concrete digging break of minimum thickness of 100mm below this semi-permeable layer.

13.7 In areas of hardstanding, no concrete break or capping layer will be required.

13.8 An appropriate soil testing and validation sampling program will need to be implemented and sign-off will be required by a suitably qualified contamination consultant or remediation contractor.

13.9 With regards to risks to underground services, comparison with WRAS guidance note (9-04-03 October 2002) values indicated the potential requirement for protection measures to be incorporated into the selection of water supply pipes.

13.10 However, ultimately it is the local water authority who is responsible for determining what precautions are required, and this report and site data should be supplied to the water authority to allow them to determine what, if any, precautionary measures are required.

Localised TPH Impacts (Area 1)

13.11 Due to on-site infrastructure and stockpiles, the extent of point source TPH impacts in Area 1 could not be determined. Consequently, some potential for more specific mitigation measures to be implemented in this area may be required, depending on whether more significant TPH impacts not yet identified are present. Further assessment will need to be undertaken in Area 1 in order to fully assess TPH contamination risks in this part of the site.

13.12 In order to facilitate this process, investigation works should be undertaken following, or in conjunction with infrastructure demolition and removal activities as GI works indicated impacts within the derelict building. Work should be undertaken under the direction of a suitably qualified contamination consultant or remediation contractor who will be responsible for investigation works.

13.13 Characterisation of excavated soils will determine the quantities and suitability of material for re-use or disposal off-site.

On-site Stockpiles

13.14 Off-site disposal of tarmac and concrete stockpiles is recommended.

13.15 Results indicate that remaining (soil) stockpiles will be suitable for re-use on-site seeing as they comprise site generated materials and are representative of general site conditions.

General Earthworks

13.16 During site construction works, should field evidence of gross contamination be identified, further contamination assessment may be required regarding risks to health and safety of the site workers, future site users and the environment.

13.17 Earthworks should be undertaken under appropriate construction and health and safety management plans, to be formulated by the works contractor(s).

Groundwater

13.18 No remediation of groundwater is considered necessary, based on the discontinuous nature of encountered groundwater, laboratory results for groundwater and the proposed development not incorporating any abstraction wells.

13.19 With regards to piling works, Made Ground is directly underlain by natural soils with no liner separating them, and GI results indicated contaminants throughout the Made Ground profile (i.e. at both shallow and deep depths). Consequently, a contamination pathway therefore potentially already exists between these strata.

13.20 Nevertheless, a method of piling will need to be adopted that satisfies the EA that the risk of groundwater pollution from overlying soils to the underlying Major Aquifer is minimised. Guidance is provided in the EA document Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention (2001).

Ground-Gas

13.21 In accordance with guidance from CIRIA C665: *Assessing Risks Posed by Hazardous Ground Gases to Buildings* (2005), ground gas monitoring results indicated a 'Characteristic Situation 1 – Very Low Risk' for all ground gases across the site, suggesting that no special precautions with respect to addressing ground-gas risks are necessary in the design of buildings.

13.22 However, with respect to oxygen, depleted concentrations were recorded in Areas 1 and 3 which suggests that oxygen is being displaced by other gases in these areas. Consequently, based on this and a proportion of the site comprising a backfilled quarry, it may be prudent to incorporate basic gas protection measures commensurate with a 'Characteristic Situation 2 – Low Risk' in the design of on-site dwellings.

13.23 Additionally, the presence of oxygen at low concentrations may potentially pose an asphyxiation risk in excavations and confined spaces such as proposed maintenance inspection pits. These risks are to be communicated to the site contractor in order to allow for them to be adequately mitigated.

Geotechnical Conclusions

13.24 The current ground investigation carried out generally confirmed the ground conditions encountered in previous ground investigations comprising Made Ground overlying Lower Greensand deposits (Hythe Beds).

13.25 Generally the distribution and thickness of the Made Ground was highly variable throughout the site reflecting the different quarry activities in the respective areas of the site. There remains some uncertainty about the levels of the natural in-situ materials underlying the Made Ground since most of the Made Ground has similar characteristics as the underlying in-situ strata

13.26 The ground investigations showed that Made Ground was typically to depths of about 10mbgl to 15.5mbgl occasionally to depths greater 19mbgl (GI 2008) in the area of Terrace iii. In the area of Terrace i and Terrace ii the Made Ground was encountered to a maximum depth of about 5mbgl to 6mbgl possibly locally to greater 9m.

13.27 The Made Ground is variable in composition and strength comprising a heterogeneous mixture of granular materials of silty gravelly sands, occasionally with cobbles and cohesive soils of very sandy clay. The Made Ground was typically more granular in the Area 5, 4 and 2 and cohesive with soft and firm clays to significant depth in Area 3 and 1.

13.28 The Hythe Beds were typically described as dense to very dense (occasionally recorded as loose to medium dense) clayey gravelly sand and very sandy clay. The Hythe Beds might be locally cemented and encountered as mudstone or sandstone.

13.29 Geotechnical parameters have been derived by analysis of the ground investigation data comprising in-situ test results and subsequent laboratory testing

Settlements

13.30 Settlements under increased effective stress will be large both with respect to total as well as differential, which is a result of the following:

- Great thickness of the Made Ground encountered

- Made Ground has not been placed as engineered fill under close supervision
- Variability of the materials placed and levels of the underlying in-situ stratum
- Compressible soils were encountered to considerable depth and of highly variable thickness

13.31 Generally the areas underlain by clay will be most affected by settlements under increased loads. Areas underlain by granular fill will settle by much smaller amounts

13.32 Generally settlements induced by raising the site will be significant. A raised level of about 6m above current ground level is likely to induce approximately 250mm to 350mm settlements of the underlying Made Ground. This will need to be considered when buildings are piled.

13.33 It is likely that the majority of the settlements will occur within the first year after raising of the site and no additional measures will need to be taken. However, drains are considered to have a significantly beneficial effect in the areas of predominantly cohesive soils (Area 3) and should be preliminarily incorporated in further planning processes.

13.34 Creep settlements are expected to be of small scale and the rate will be low based on the character of the Made Ground and the main quarry backfill having been completed by the early 90's.

13.35 Due to the great variability and quick lateral changes in the Made Ground the predictions of total settlements, their local distribution and the time dependent settlements are difficult and therefore the 'observational method' is recommended if the site is being raised. An appropriate monitoring system should be installed to verify and monitor the actual settlements.

Shallow Foundations

13.36 Generally high settlements (total and differential) should be expected if shallow foundations (i.e. rafts) are placed on untreated fill material.

13.37 For lightly loaded structures there might be the possibility to adopt shallow foundations in the Area 5, Area 4 and Area 2 where Fill material was encountered as granular or Hythe Beds were found to be at shallow depth.

13.38 For areas of granular soils raft foundations with a maximum bearing pressure of 50kN/m^2 will be subject to total settlements of about 40mm to 60mm based on a homogenous ground profile of granular soils.

13.39 In areas of predominantly cohesive soils it is likely that settlements under foundations on untreated soils are significantly larger occurring in the medium and long term and in these areas shallow foundations are not recommended.

13.40 If the above settlements and remaining uncertainties are not tolerable then the application of a surcharge might be considered in order to consolidate the existing ground before placing the raft foundations. A surcharge of about 3m (60 kPa) above the final terrace level might be appropriate if subsequent raft foundations of <50kPa bearing pressure are adopted.

13.41 Houses proposed at the southern site boundary close to the existing slopes will need to be built at an appropriate distance away from the crest if placed on shallow foundations or be piled in order to avoid compromising the slope stability.

Piled Foundations

13.42 The use of piled foundations would be a design solution in all areas where no competent underlying material for shallow foundations can be proven or anticipated settlements are unacceptably high. Piled foundations should be considered in Area 3 (part of terrace iii) and Area 1 (part of terrace ii). These parts of the site indicated predominantly soft and firm cohesive soils to significant depth

13.43 It is considered that the Hythe Beds will be an appropriate bearing stratum for the piles to support the residential houses.

13.44 The following difficulties are likely to be encountered if a driven pile foundation is adopted:

- Constructibility issues due to highly variable levels
- Difficulty in determining the Hythe Beds (i.e. Made Ground might be mistaken for in-situ materials and soft soils might potentially remain the toe of the pile)

13.45 In some areas it is considered that driven piles might not be feasible due to dense granular or coarse materials. It is considered that bored piles (CFA or conventionally bored) would be advantageous if piled foundations would be adopted in Area 2, the eastern part of Area 4 and Area 1.

13.46 Any piled building will settle significantly less than the surrounding ground if the site is being raised. The time dependent settlements of the Made Ground should be considered when a pile solution is adopted. The surrounding ground might need to be re-levelled at a later stage if piled buildings are constructed before settlements induced by additional fill materials have been completed.

Slope Angles

13.47 The slope angles of 1:1 (V:H) to 1:1.7 (V:H) at the northern site boundary are considered too steep for the materials described for some parts of the Hythe Beds and Made Ground. Flattening of the slope or remedial measures should be considered. A slope angle of 1:2 to 1:2.25 is considered appropriate for slopes in the Hythe Beds.

13.48 The observed slope angles of 1:1 (V:H) to 1:1.6 (V:H) at the southern site boundary are considered too steep for the soil generally encountered in the Made Ground.

13.49 Therefore, along the southern edge of the site additional measures are recommended to stabilise the slope. (South eastern boundary of the site and sections of the slope north of Quarry Hill Road). This might include Gabions, soil nailing or a vertical retaining solution in order to achieve acceptable factors of safety of the slope.

Concrete Structures

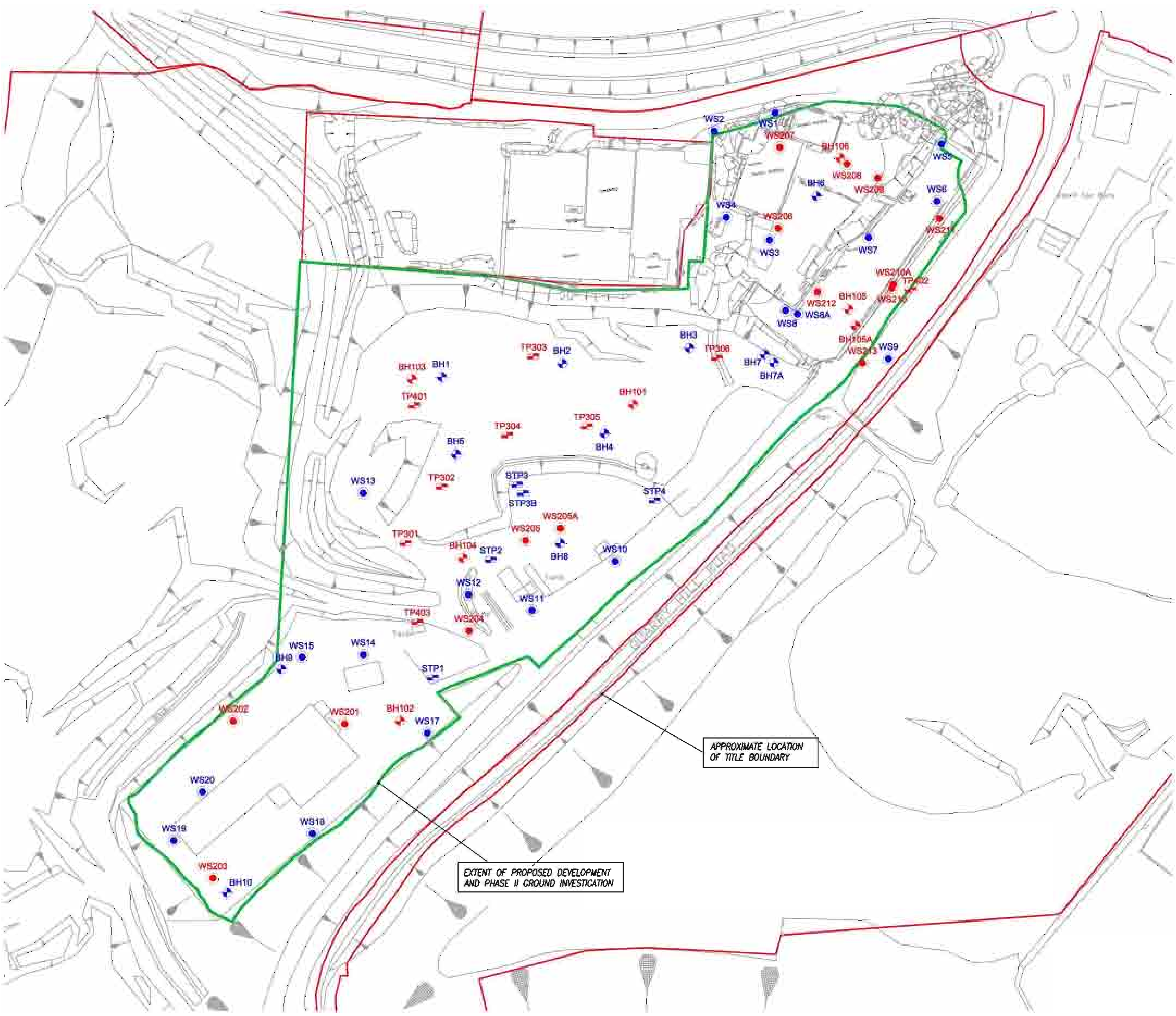
13.50 In accordance with BRE Special Digest 1(29) (SD1) and adopting mobile groundwater conditions for a brownfield site all samples fall within class DS-1, AC-1 and is therefore not classified as potentially aggressive to concrete.

Appendix A

Exploratory Hole Location Plan (GI 2008 and 2010)

NOTE:

1. DO NOT SCALE, IF IN DOUBT ASK.



- WINDOW SAMPLE (2010 GROUND INVESTIGATION)
- TRIAL PIT (2010 GROUND INVESTIGATION)
- BOREHOLE (2010 GROUND INVESTIGATION)
- WINDOW SAMPLE (2008 GROUND INVESTIGATION)
- SOAKAGE TRIAL PIT (2008 GROUND INVESTIGATION)
- BOREHOLE (2008 GROUND INVESTIGATION)

Revision Details	By / Check	Date	Suffix

Drawing Status

Client

ISLES QUARRY
BOROUGH GREEN
KENT

Drawing Title

EXPLORATORY HOLE LOCATIONS
(DATED 2008 AND 2010)

Scale at A2			
1:1250			
Drawn		Approved	
MG		CC	
Stage 1 check	Stage 2 check	Originated	Date

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Drawing Number	Rev
D129371-000	A

Appendix B

Previous Ground Investigation and Envirocheck Reports (Electronic copy)

Appendix C

Soil Mechanics Factual Report (Draft)

Report No G0028-10

Isles Quarry Ground Investigation

Factual Report on Ground Investigation

Carried out for:

Crest Nicholson (Eastern) Limited

Engineer:

Scott Wilson Limited

June 2010

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ISLES QUARRY GROUND INVESTIGATION

FACTUAL REPORT ON GROUND INVESTIGATION

Report No: G0028-10

Date: June 2010

Employer:

Crest Nicholson (Eastern) Ltd
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Brentwood
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Engineer:

Scott Wilson Limited
6-8 Greencoat Place
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Issue No	Date	Details
1	June 2010	

Soil Mechanics is a trading name of Environmental Services Group Limited
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www.soil-mechanics.com

CONTENTS

1 INTRODUCTION

During April 2010 Soil Mechanics (SM) were commissioned by Scott Wilson Ltd (SWL), on behalf of Crest Nicholson (Eastern) Ltd, to carry out a ground investigation at Isles Quarry in Borough Green, Kent. The investigation was required to obtain geotechnical and geoenvironmental information for a proposed residential development in a disused quarry.

The scope of the investigation, which was specified by SWL, comprised cable percussion boreholes, window sampling, trial pits, in situ testing and laboratory testing. The investigation was carried out in accordance with the contract specification and relevant standards (see References). The fieldwork was carried out between 6 and 21 April 2010.

This report presents the factual records of the fieldwork and laboratory testing. The data is also presented separately in digital format following AGS (2005).

A previous investigation had been carried out by SM and was recalled for reference at the outset of the current investigation. (Report No G8026 dated September 2008).

2 THE SITE AND GEOLOGY

2.1 The Site

Isles Quarry is situated approximately 800m south west of the village of Borough Green and 600m east of Ightham, see Site Location Plan in Enclosure F. The site is at National Grid reference TQ 604 567.

The site can be divided into three individual areas. The largest area is in the middle of the site and is approximately 110 m by 110 m and generally level. The access road runs north to south along the eastern side of this area, approximately 2 metres lower than the site area, which comprises a raised thinly vegetated area consisting of grass and shrubs. The eastern boundary is formed by the access road with all the other boundaries being marked by a security fence.

The northern section of the site is the smallest area and is situated around abandoned quarry buildings. This area is approximately 25 m by 25 m, generally level with the boundaries consisting of Heras fencing or security fencing. Around the derelict buildings are concrete slabs and sparse scrubs and grass. This area is some five to six metres higher than the main site area.

The southern part of the site is occupied by a company repairing skips and recycling containers. This area is approximately 50 m by 40 m in plan and is level. A steel clad two storey building occupies the centre of this area and the remainder is laid to hardstanding. This area of the site is enclosed by a metal security fence.

2.2 Published Geology

The published geological map covering the site, BGS Sheet 287 (1971), indicates that the site is underlain by Hythe Beds. A previous investigation at the site two years ago by SM confirmed the presence of Hythe Beds, overlain by Made Ground, comprising mainly previously excavated Hythe Beds.

3 FIELDWORK

3.1 General

The fieldwork was carried out in general accordance with BS EN 1997-2 (2007) and its related standards together with the relevant section of BS 5930 (1999).

The exploratory holes and in situ test locations were selected by SWL. The locations were set out from local features. The co-ordinates and reduced levels were surveyed by SM who surveyed final positions to National Grid and Ordnance Datum. The exploratory hole and in situ test locations are shown on the Site Plan in Enclosure F.

3.2 Exploratory Holes

The exploratory holes are listed in the following table.

SUMMARY OF EXPLORATORY HOLES

TYPE	QUANTITY	MAXIMUM DEPTH (m)	REMARKS
Cable Percussion Boring	6	18.20	
Trial Pits	9	3.50	machine dug

TYPE	QUANTITY	MAXIMUM DEPTH (m)	REMARKS
Window Sampling	13	5.00	
Stockpile Sampling	6	+3.00	Machine dug

The exploratory hole records are presented in Enclosure A and should be read in conjunction with the Key included therein. The records provide descriptions of the materials encountered, in accordance with the standards referenced on the Key, details of the samples taken, together with observations made during boring, pitting, stock pile sampling and window sampling

On completion of the fieldwork all geotechnical samples were transported to the SM Maidstone office for temporary retention prior to dispatch for testing. Geoenvironmental samples were transported from site directly to the Scientifics laboratory.

3.3 Instrumentation and Monitoring

The instruments installed in the exploratory holes are shown on the logs and detailed in Enclosure B. Records of groundwater and gas monitoring carried out by SM during and for a five week period after the fieldwork are presented in Enclosure B.

3.4 In Situ Testing

In situ testing was carried in accordance with BS 5930 (1999) and BS 1377-9 (1990) unless otherwise stated. The testing is summarised below and the results are presented in Enclosure C.

SUMMARY OF IN SITU TESTING

TYPE	QUANTITY	REMARKS
Hand vane test	3	
Plate Load test	3	

4 LABORATORY TESTING

4.1 Geotechnical Testing

The testing was scheduled by SWL and was carried out in accordance with BS 1377 (1990). The testing is summarised below and the results are presented in Enclosure D.

SUMMARY OF GEOTECHNICAL LABORATORY TESTING

TYPE	REMARKS
Moisture Content Determination	18 No
Atterberg Limit Determination	16 No
Particle Size Distribution Analysis	18 No
Unconsolidated Undrained Triaxial Compression Testing	7 No
One Dimensional Oedometer Consolidation Testing	7 No

4.2 Geoenvironmental Testing

The testing was scheduled by SWL and was carried out by Scientifics at their Burton on Trent laboratory. The results are presented in Enclosure E.

Prepared By	**M. Ratcliffe BSc**
Reviewed By	**K. White BSc., MSc.**
Approved for Issue By	**R. Saunders BEng., MSc.**

DRAFT

REFERENCES

AGS : 2005 : Electronic transfer of geotechnical and geoenvironmental data (Edition 3.1 including addendum May 2005). Association of Geotechnical and Geoenvironmental Specialists.

BS 1377 : 1990 : Methods of test for soils for civil engineering purposes. British Standards Institution.

BS 5930 : 1999 : Code of practice for site investigations. British Standards Institution.

BS EN ISO 1997-2 : 2007 : Eurocode 7 - Geotechnical design - Part 2 - Ground investigation and testing. British Standards Institution.

EA : 2005 : Guidance on sampling and testing to meet landfill acceptance procedures. Version 1. Environment Agency, Bristol

BGS England and Wales Sheet 287 : 1971 : Sevenoaks. 1:50000 geological map (solid & drift). Geological Survey of Great Britain

Soil Mechanics : Report No. G8026 : September 2008 : Isles Quarry, Borough Green, Factual Report on Ground Investigation. Soil Mechanics.

ENCLOSURE A

EXPLORATORY HOLE RECORDS

Key to Exploratory Hole Records	Key
Borehole Logs	BH101 to BH106, BH105A
Trial Pit Logs	TP301 to TP306, TP401 to TP403
Window Sampler Hole Logs	WS201 to WS213, WS205A, WS210A
Stockpile Sample Descriptions	SS1 to SS9
SPT Hammer Certificates	SM05, SM11

Key to Exploratory Hole Records

Soil Mechanics

SAMPLES

Undisturbed

U	Driven tube sample } nominally 100 mm diameter and full recovery unless otherwise stated
TW	Pushed thin wall tube sample } nominally 100 mm diameter and full recovery unless otherwise stated
P	Pushed piston sample } nominally 100 mm diameter and full recovery unless otherwise stated
L	Liner sample (from Windowless or similar sampler), full recovery unless otherwise stated
CBR	CBR mould sample
BLK	Block sample
CS	Core sample (from rotary core) taken for laboratory testing
AMAL	Amalgamated sample

Disturbed

D	Small sample
B	Bulk sample

Other

W	Water sample
G	Gas sample
	Environmental chemistry samples (in more than one container where appropriate)
ES	Soil sample
EW	Water sample

Comments Sample reference numbers are assigned to every sample taken. A sample reference of 'NR' indicates that attempt was made to take a tube sample, however, there was no recovery.

Monitoring samples taken after completion of hole construction are not shown on the exploratory hole logs.

TESTS

SPT S or SPT C Standard Penetration Test, open shoe (S) or solid cone (C)

The Standard Penetration Test is defined in BS EN ISO 22476-3 (2005). The incremental blow counts are given in the Field Records column; each increment is 75 mm unless stated otherwise and any penetration under self weight in mm (SW) is noted. Where the full 300 mm test drive is achieved the total number of blows for the test drive is presented as N = ** in the Test column. Where the test drive blows reach 50 the total blow count beyond the seating drive is given (without the N = prefix).

IV	*in situ* Vane shear strength, peak (p) and remoulded (r)
HV	Hand vane shear strength, peak (p) and remoulded (r)
PP	Pocket penetrometer test, converted to shear strength
KFH, KRH, KPI	Permeability tests (KFH = falling head, KRH = rising head; KPI = packer inflow); results provided in Field Records column (one value per stage for packer tests)

DRILLING RECORDS

The mechanical indices (TCR/SCR/RQD & If) are defined in BS 5930 with Amendment 1(1999/2007)

TCR	Total Core Recovery, %
SCR	Solid Core Recovery, %
RQD	Rock Quality Designation, %
If	Fracture spacing, mm. Minimum, typical and maximum spacings are presented. The term non-intact (NI) is used where the core is fragmented.

Flush returns, estimated percentage with colour where relevant, are given in the Records column

CRF	Core recovered (length in m) in the following run
AZCL	Assessed zone of core loss
NR	Not recovered

GROUNDWATER

▼	Groundwater strike
▽	Groundwater level after standing period

Notes:

Project	Isles Quarry Ground Investigation	**Key**
Project No.	G0028-10	
Carried out for	Crest Nicholson (Eastern) Ltd	

Key to Exploratory Hole Records

Soil Mechanics

INSTALLATION

Standpipe/ piezometer

Details of standpipe/piezometer installations are given on the Record. Legend column shows installed instrument depths including slotted pipe section or tip depth, response zone filter material type and layers of backfill.

The type of instrument installed is indicated by a code in the Legend column at the depth of the response zone:

SP Standpipe
SPIE Standpipe piezometer
PPIE Pneumatic piezometer
EPIE Electronic piezometer

Inclinometer or Slip Indicator

The installation of vertical profiling instruments is indicated on the Record. The base of tubing is shown in the Legend column.

The type of instrument installed is indicated by a code in the Legend column at the base of the tubing:

ICE Biaxial inclinometer
ICM Inclinometer tubing for use with probe
SLIP Slip indicator

Settlement Points or Pressure Cells

The installation of single point instruments is indicated on the Record. The location of the measuring device is shown in the Legend column.

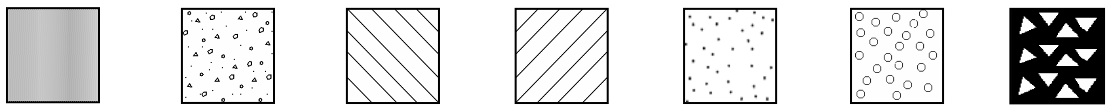
The type of instrument installed is indicated by a code in the Legend column:

ESET Electronic settlement cell/gauge
ETM Magnetic extensometer settlement point
EPCE Electronic embedment pressure cell
PPCE Electronic push in pressure cell

INSTALLATION LEGENDS

A legend describing the installation is shown in the rightmost column. Legends additional to BS5930 are used to describe the backfill materials as indicated below.

Arisings Concrete Grout Bentonite Sand Gravel Macadam



NOTES

1 Soils and rocks are described in accordance with BS EN ISO 14688-1 (2002), 14688-2 (2004), 14689-1 (2003) and BS 5930 with Amendment 1 (1999/2007) as clarified by Baldwin et al (2007).

2 Strata legends are in accordance with BS 5930 with Amendment 1 (1999/2007).

3 Water level observations of discernible entries during the advancing of the exploratory hole are given at the foot of the log and in the Legend column. The term "none observed" is used where no discrete entries are identified although this does not necessarily indicate that the hole has not been advanced below groundwater level. Under certain conditions groundwater cannot be observed, for instance, drilling with water flush or overwater, or boring at a rate much faster than water can make its way into the borehole (ref BS5930 : 1999, Clause 47.2.7). In addition, where appropriate, water levels in the hole at the time of recovering individual samples or carrying out in situ tests and at shift changes are given in the Records column.

4 Evidence of the occurrence of very coarse particles (cobbles and boulders) is presented on the logs, however, because of their size in relation to the exploratory hole these records may not be fully representative of their size and frequency in the ground mass.

5 The borehole logs present the results of Standard Penetration Tests recorded in the field without correction or interpretation. However, in certain ground conditions (eg high hydraulic head or where very coarse particles are present) some judgement may be necessary in considering whether the results are representative of in situ mass conditions.

6 The declination of bedding and joints is given with respect to the normal to the core axis. Thus in a vertical borehole this will be the dip.

7 The assessment of SCR, RQD and Fracture Spacing excludes artificial fractures

Key to Exploratory Hole Records

Soil Mechanics

REFERENCES

Baldwin M, Gosling R C and Brownlie N : 2007 : Soil and rock descriptions - a practical guide to the implementation of BS EN ISO 14688 and 14689. Ground Engineering, Vol 40 No 7 July.

BS EN ISO 14688-1 : 2002 : Geotechnical investigation and testing - Identification and classification of soil - Part 1 Identification and description. British Standards Institution.

BS EN ISO 14688-2 : 2004 : Geotechnical investigation and testing - Identification and classification of soil - Part 2 Principles for a classification. British Standards Institution.

BS EN ISO 14689-1 : 2003 : Geotechnical investigation and testing - Identification and classification of rock - Part 1 Identification and description. British Standards Institution.

BS EN ISO 22476-3 : 2005 : Geotechnical investigation and testing - Field testing - Part 3 Standard penetration test. British Standards Institution.

BS 5930 with Amendment 1 : 1999/2007 : Code of Practice for site investigations. British Standards Institution

Updated July 2009

Borehole Log

Soil Mechanics

Drilled	LM	Start 16/04/2010	Equipment, Methods and Remarks
Logged	MR	End 17/04/2010	Dando 175
Checked	RJS		Hand dug inspection pit to 1.20m then cable tool boring to 16.20m.

Depth from	to	Diameter	Casing Depth
0.00m	1.20m	300mm	13.80m
1.20m	16.20m	200mm	

Ground Level +81.88 mOD
Coordinates National Grid E 560483.15 N 156783.01
Chainage

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
0.50	D 1			
1.00	D 2			
1.00	ES 3	PID = 8.1ppm		
1.50-1.95	SPT S	N=8 (2,2/3,1,2,2)	1.50	dry
1.50-1.95	D 4			
1.50-2.00	B 5			
2.50-2.95	SPT S	N=10 (2,2/3,2,2,3)	2.50	dry
2.50-2.95	D 6			
2.50-3.00	B 7			
3.00	ES 8	PID = 8.7ppm		
3.50-3.95	SPT S	N=5 (1,1/1,1,1,2)	3.50	dry
3.50-4.00	B 10			
3.50-3.95	D 9			
4.50-4.95	SPT S	N=20 (3,4/5,5,6,4)	4.50	dry
4.50-4.95	D 11			
4.50-5.00	B 12			
5.00	ES 13	PID = 4.9ppm		
5.50-5.95	SPT S	N=11 (2,3/2,3,3,3)	5.50	dry
5.50-5.95	D 14			
5.50-6.00	B 15			
7.00-7.45	SPT S	N=17 (1,2/3,4,5,5)	7.00	dry
7.00-7.45	D 16			
7.00-7.50	B 17			
7.00	ES 18	PID = 7.7ppm		
8.50-8.95	U 19	40 blows	8.50	dry
9.00	D 20			
9.00	ES 21	PID = 6.8ppm		

*

Strata

Description	Depth, *Level* (Thickness)
Grass over firm brown sandy gravelly CLAY. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of brick, concrete, macadam, flint and occasional chalk. (MADE GROUND)	(2.00) 2.00 *+79.88*
Soft greenish grey slightly gravelly sandy CLAY. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone and flint. (MADE GROUND)	(3.50) 5.50 *+76.38*
Medium dense greenish brown slightly gravelly clayey SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone and limestone. (MADE GROUND) 8.50-8.95 m Firm brown slightly gravelly sandy CLAY	(3.50) 9.00 *+72.88*
Brown slightly clayey very gravelly SAND. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of flint, concrete, brick and macadam. (MADE GROUND)	(1.00)

Legend | Backfill/ Instruments

1
1

Depth	Type & No	Records	Date Casing	Time Water

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)
1	5.50	Rose to 5.10 m after 20 minutes.	-

Depth Related Remarks *

From	to (m)	
1.20	16.20	Hammer ID = SM11 Rod type = BW

Chiselling

Depths (m)	Time	Tools used
2.20 -2.40	30 mins	Chisel

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project: Isles Quarry Ground Investigation
Project No.: G0028-10
Carried out for: Crest Nicholson (Eastern) Ltd

Borehole **BH101**

Borehole Log

Soil Mechanics

Drilled LM Logged MR Checked RJS	Start 16/04/2010 End 17/04/2010	Equipment, Methods and Remarks Dando 175 Hand dug inspection pit to 1.20m then cable tool boring to 16.20m.	Depth from / to / Diameter / Casing Depth 0.00m 1.20m 300mm 13.80m 1.20m 16.20m 200mm	Ground Level +81.88 mOD Coordinates E 560483.15 National Grid N 156783.01 Chainage

Samples and Tests / Strata

Depth	Type & No	Records	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
10.00-10.45 10.00-10.45 10.00-10.50	SPT S D 22 B 23	N=16 (2,3/4,4,4,4)	10.00	dry	Firm yellowish brown slightly gravelly sandy CLAY. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone. (MADE GROUND)	10.00 *+71.88*		
11.00	ES 24	PID = 5.9ppm				(2.00)		
11.50-11.95	U 25	40 blows	11.50	dry				
12.00	D 26				Firm brown sandy gravelly CLAY. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of brick, concrete, macadam and flint. (MADE GROUND)	12.00 *+69.88*		
						(1.60)		
13.00-13.45 13.00 13.00-13.45 13.00-13.50	SPT S ES 27 D 28 B 29	N=12 (1,2/3,3,3,3) PID = 8.5ppm	13.00	dry	13.00 m Recovered as soft.			
					Dense yellow slightly clayey gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone. (MADE GROUND)	13.60 *+68.28*		
14.50-14.95 14.50-14.95 14.50-15.00	SPT S D 30 B 31	N=45 (4,4/6,11,14,14)	14.50	dry		(1.60)		SP
15.20	D 32				Very dense yellowish brown GRAVEL. Gravel is subangular to subrounded fine to coarse of medium strong sandstone. (HYTHE BEDS)	15.20 *+66.68*		
15.80 15.80	SPT S D 33	(25 for 0mm/50 for 0mm)	15.80	dry		(1.00)		
16.20 16.20	SPT S D 34	(25 for 0mm/50 for 0mm)	16.20	dry	EXPLORATORY HOLE ENDS AT 16.20 m	16.20 *+65.68*		

Depth	Type & No	Records	Date Casing	Time Water

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

Depth Related Remarks *

From	to (m)

Chiselling

Depths (m)	Time	Tools used
13.60 -13.80	60 mins	Chisel
13.80 -14.20	60 mins	Chisel
14.20 -14.50	60 mins	Chisel
15.60 -15.80	60 mins	Chisel
15.80 -16.20	60 mins	Chisel

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project: Isles Quarry Ground Investigation
Project No.: G0028-10
Carried out for: Crest Nicholson (Eastern) Ltd

Borehole
BH101

Borehole Log

Soil Mechanics

Drilled	MR	Start	Equipment, Methods and Remarks
Logged	MKR	14/04/2010	Hand dug inspection pit to 1.20m then cable tool boring to 10.00m.
Checked	KW	End 15/04/2010	

Depth from	to	Diameter	Casing Depth
0.00m	1.20m	500mm	9.50m
1.20m	10.00m	200mm	

Ground Level	+81.87 mOD
Coordinates	E 560392.52
National Grid	N 156659.79
Chainage	

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
0.00-0.50	B 1			
1.00	D 2			
1.00	ES 3	PID = 3.6 ppm		
1.20-1.65	U 4	* 47 blows	1.20	dry
2.00	D 5			
2.20-2.65	SPT S	N=12 (3,3/4,3,2,3)	2.20	dry
2.20-2.65	D 6			
2.20-2.70	B 7			
3.00	D 8			
3.00	ES 9	PID = 3.6 ppm		
3.20-3.65	U 10	49 blows	3.20	dry
4.00	D 11			
4.20-4.65	SPT S	N=13 (2,3/3,4,3,3)	4.20	dry
4.20-4.65	D 12			
4.20-4.70	B 13			
5.00	D 14			
5.00	ES 15	PID = 3.4 ppm		
5.20-5.65	U 16	40 blows	5.20	dry
6.00	D 17			
6.50-6.95	SPT S	N=14 (4,4/3,4,3,4)	6.50	dry
6.50-6.95	D 18			
6.50-7.00	B 19			
7.00	ES 20			
7.00	D 21			
7.50	D 22			
8.00-8.45	U 23	89 blows	8.00	dry
8.50-9.00	B 24			
9.00	ES 25			
9.00	D 26			
9.50-9.95	SPT S	N=16 (4,4/5,4,3,4)	9.50	dry
9.50-9.95	D 27			
9.50-10.00	B 28			

Strata

Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
Greyish brown slightly clayey sandy GRAVEL. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of concrete and metal. High cobble content of concrete. (MADE GROUND)	(0.30) 0.30 *+81.57*		
Brownish grey slightly clayey SAND. Sand is fine to coarse. Rare subangular fine to medium gravel of concrete. (MADE GROUND)	(1.70) 2.00 *+79.87*		
Medium dense greyish brown silty SAND. Sand is fine to coarse. Occasional subangular fine to medium gravel of weakly cemented sandstone. (MADE GROUND)	(8.00)		
7.50-9.00 m Fine to medium gravel sized pockets of very soft greyish brown clay.			

EXPLORATORY HOLE ENDS AT 10.00 m

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)	
1.20	10.00	Hammer ID = SM05 Rod type = B

Chiselling

Depths (m)	Time	Tools used
4.80 -5.00	45 mins	Chisel
8.50 -8.70	45 mins	Chisel

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project	Isles Quarry Ground Investigation
Project No.	G0028-10
Carried out for	Crest Nicholson (Eastern) Ltd

Borehole

BH102

Borehole Log

Soil Mechanics

Drilled LM Logged MR/KW Checked KW	Start 13/04/2010 End 14/04/2010	Equipment, Methods and Remarks Dando 175 Inspection pit to 1.20m then cable tool boring to 18.20m	Depth from / to / Diameter / Casing Depth 0.00m 1.20m 500mm 4.50m 1.20m 18.20m 200mm	Ground Level +83.57 mOD Coordinates E 560397.11 National Grid N 156792.75 Chainage

Samples and Tests / Strata

Depth	Type & No	Records	Date Casing	Time Water
0.50	D 1			
1.00	D 2			
1.00	ES 3	PID = 1.4 ppm *		
1.50-1.95	U 4	55 blows 350 mm rec	1.50	dry
2.00	D 5			
2.50-2.95	SPT S	N=14 (2,6/3,4,3,4)	2.50	dry
2.50-2.95	D 6			
2.50-3.00	B 7			
3.00	ES 8	PID = 0.8 ppm		
3.50-3.95	U 9	33 blows	3.00	dry
4.00	D 10			
4.50-4.95	SPT S	N=18 (3,4/4,4,5,5)	3.00	dry
4.50-4.95	D 11			
4.50-5.00	B 12			
5.00	ES 13	PID = 0.9 ppm		
5.50-5.95	U 14	45 blows	3.00	dry
6.00	D 15			
7.00-7.45	SPT S	N=17 (3,3/4,5,4,4)	3.00	dry
7.00	ES 16	PID = 0.8 ppm		
7.00-7.45	D 17			
7.00-7.50	B 18			
8.50-8.95	U 19	45 blows	3.00	dry
9.00	D 20			
9.00	ES 21	PID = 0.4 ppm		

Description	Depth, *Level* (Thickness)
Soft dark brown occasionally mottled red and white slightly sandy slightly gravelly CLAY. Sand is fine to coarse, gravel is angular to subangular fine to medium of brick, chalk and flint. (MADE GROUND) 1.00 m Firm	(1.80) 1.80 *+81.77*
Firm dark brown to brown slightly gravelly sandy CLAY. Sand is fine to coarse, gravel is angular fine to coarse of brick, clinker and sandstone. (MADE GROUND)	(1.10) 2.90 *+80.67*
Soft to firm, locally stiff, light brown rarely dark brown slightly gravelly sandy CLAY. Sand is fine to coarse, gravel is angular fine to coarse of sandstone. (MADE GROUND) 4.00 m Firm	(2.10) 5.00 *+78.57*
Firm brown slightly sandy slightly gravelly CLAY interbedded with light brown clayey fine SAND. Sand is fine to coarse, gravel is subangular fine to medium of sandstone. (MADE GROUND)	(2.00) 7.00 *+76.57*
Soft light brown slightly gravelly sandy CLAY. Sand is fine to coarse, gravel is angular to subangular fine to coarse of sandstone. (MADE GROUND) 8.50-8.95 m Very stiff	(2.00) 9.00 *+74.57*
Medium dense light brown slightly gravelly very clayey SAND. Sand is fine to coarse, gravel is angular fine to medium of sandstone. (MADE GROUND)	

Stratum continues to 12.00 m

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)	
1.20	18.00	Hammer ID = SM11 Rod type = BW

Chiselling

Depths (m)	Time	Tools used
2.20 -2.50	45 mins	Chisel

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

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Project: Isles Quarry Ground Investigation
Project No.: G0028-10
Carried out for: Crest Nicholson (Eastern) Ltd

Borehole **BH103**

Borehole Log

Soil Mechanics

Drilled LM Logged MR/KW Checked KW	Start 13/04/2010 End 14/04/2010	Equipment, Methods and Remarks Dando 175 Inspection pit to 1.20m then cable tool boring to 18.20m	Depth from / to / Diameter / Casing Depth 0.00m 1.20m 500mm 4.50m 1.20m 18.20m 200mm	Ground Level +83.57 mOD Coordinates E 560397.11 National Grid N 156792.75 Chainage

Samples and Tests / Strata

Depth	Type & No	Records	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
10.00-10.45 10.00-10.45 10.00-10.50	SPT S D 22 B 23	N=19 (3,4/5,5,4,5)	3.00	dry	Medium dense light brown slightly gravelly very clayey SAND. Sand is fine to coarse, gravel is angular fine to medium of sandstone. (MADE GROUND) 10.00-10.50 m Cobble sized pockets of clay	(3.00)		
11.00	ES 24	PID = 1.2 ppm						
11.50-11.95	U 25		3.00	dry				
12.00	D 26				Very weakly cemented greenish grey SAND. Sand is fine to coarse. Frequent fine to coarse gravel sized pockets of firm greenish grey clay. Occasional plant remains. Slight organic odour. (MADE GROUND)	12.00 *+71.57* (1.00)		
12.90 13.00-13.45 13.00-13.45 13.00-13.50 13.00	D 27 SPT S D 28 B 29 ES 30	N=23 (4,5/5,6,6,6) PID = 1.5 ppm	4.50	dry	Medium dense yellowish brown slightly gravelly very clayey SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone. Frequent fine to coarse gravel size pockets of firm greenish grey clay. Occasional plant remains. (MADE GROUND)	13.00 *+70.57* (2.00)		SP
14.50-14.95	U 31	45 blows 50 mm rec	4.50	dry				
15.00 15.00	D 32 ES 33	PID = 1.5 ppm			Soft greenish brown slightly gravelly slightly sandy CLAY. sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone. (MADE GROUND)	15.00 *+68.57* (0.50)		
15.50	D 34				Very dense light greenish brown clayey gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone and limestone. (HYTHE BEDS)	15.50 *+68.07*		
16.00-16.33 16.00-16.45 16.00-16.50	SPT S D 35 B 36	49 (8,9/12,17,20 for 30mm)	4.50	dry		(2.50)		
17.00 17.00-17.45	D 37 U NR	100 blows No recovery	4.50	dry				
					Driller reports SANDSTONE - no recovery. (HYTHE BEDS)	18.00 *+65.57* 18.20 *+65.37*		
					EXPLORATORY HOLE ENDS AT 18.20 m			
Depth	Type & No	Records	Date Casing	Time Water				

Groundwater Entries

No. | Struck (m) | Post strike behaviour | Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From | to (m)

Chiselling

Depths (m)	Time	Tools used
18.00 -18.20	45 mins	Chisel

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project Isles Quarry Ground Investigation

Project No. G0028-10

Carried out for Crest Nicholson (Eastern) Ltd

Borehole

BH103

Borehole Log

Soil Mechanics

Drilled	MR	Start 12/04/2010	Equipment, Methods and Remarks
Logged	MR/KW	End 14/04/2010	Dando 2000
Checked	KW		Hand dug inspection pit to 1.20m then cable tool boring to 17.27m.

Depth from	to	Diameter	Casing Depth
0.00m	1.20m	500mm	17.00m
1.20m	13.00m	200mm	
13.00m	17.00m	150mm	

Ground Level	+81.26 mOD
Coordinates	E 560416.99
National Grid	N 156723.21
Chainage	

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
0.00-0.50	B 1			
1.00	D 2			
1.00	ES 3	PID = 1.4 ppm		
1.20-1.65	U 4	* 150 blows 360 mm rec	1.20	dry
2.00	D 5			
2.20-2.65	SPT S	N=14 (4,12/5,2,3,4)	2.20	dry
2.20-2.65	D 6			
2.20-2.70	B 7			
3.00	D 8			
3.00	ES 9	PID = 1.2 ppm		
3.10	W 10			
3.20-3.65	SPT S	N=13 (6,4/2,3,4,4)	3.20	2.40
3.20-3.65	D 11			
3.20-3.70	B 12			
4.00	D 13			
4.20-4.65	SPT S	N=5 (2,2/1,1,1,2)	4.20	3.00
4.20-4.65	D 14			
4.20-4.70	B 15			
5.00	D 16			
5.00	ES 17	PID = 1.2 ppm		
5.20-5.65	SPT S	N=4 (3,2/1,1,1,1)	5.20	3.80
5.20-5.65	D 18			
5.20-5.70	B 19			
6.00	D 20			
6.50-6.94	SPT S	52 (4,3/2,2,24,24 for 60mm)	6.50	5.10
6.50-6.95	D 21			
6.50-7.00	B 22			
7.00	D 23			
7.00	ES 24	PID = 1.1 ppm		
7.50	D 25			
8.00-8.45	SPT S	N=5 (2,2/1,1,2,1)	8.00	6.80
8.00-8.45	D 26			
8.00-8.50	B 27			
9.00	D 28			
9.00	ES 29	PID = 1.2 ppm		
9.50-9.95	SPT S	N=35 (6,10/17,10,4,4)	9.50	8.30
9.50	D 30			
9.50-9.95	D 31			
9.50-10.00	D 32			

Strata

Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
Grass over firm brown slightly sandy gravelly CLAY. Sand is fine to coarse, gravel is angular to subangular fine to coarse of brick, chalk, sandstone, concrete and macadam. (MADE GROUND)	(2.00) 2.00 *+79.26*		
Medium dense yellow slightly clayey SAND. Sand is fine to coarse with high cobble content of medium strong sandstone. (MADE GROUND)	(1.00) 3.00 *+78.26*		1
Loose yellow slightly clayey to clayey very gravelly SAND. Sand is fine to coarse, gravel is angular fine to coarse High cobble content of medium strong sandstone. (MADE GROUND) 4.20-4.70 m Clayey sandy GRAVEL 6.50-6.94 m Very dense	(6.50) 9.50 *+71.76*		1
Dense light brown subangular COBBLES of sandstone.			

Stratum continues to 11.00 m

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)
1	3.10	Rose to 2.70 m after 20 minutes.	3.10

Depth Related Remarks *

From	to (m)	
1.20	17.27	Hammer ID = SM05 Rod type = B

Chiselling

Depths (m)	Time	Tools used
2.40 -2.50	30 mins	Shell
6.70 -6.90	30 mins	Shell

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project	Isles Quarry Ground Investigation
Project No.	G0028-10
Carried out for	Crest Nicholson (Eastern) Ltd

Borehole

BH104

Borehole Log

Soil Mechanics

Drilled MR Logged MR/KW Checked KW	Start 12/04/2010 End 14/04/2010	Equipment, Methods and Remarks Dando 2000 Hand dug inspection pit to 1.20m then cable tool boring to 17.27m.	Depth from / to / Diameter / Casing Depth 0.00m 1.20m 500mm 17.00m 1.20m 13.00m 200mm 13.00m 17.00m 150mm	Ground Level +81.26 mOD Coordinates E 560416.99 National Grid N 156723.21 Chainage

Samples and Tests / Strata

Depth	Type & No	Records	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
					(MADE GROUND)	(1.50)		
10.50	D 33							
11.00-11.45	SPT S	N=38 (4,6/10,10,11,7)	11.00	9.90	Medium dense to dense light brown clayey gravelly SAND. Sand is fine to coarse, gravel is angular to subangular fine to coarse of sandstone and angular fine of clinker. Frequent coarse gravel sized pockets of soft dark brown clay. (MADE GROUND)	11.00 *+70.26*		
11.00-11.45	D 34							
11.00-11.50	B 35							
11.00	ES 36	PID = 1.0 ppm						
11.50	D 37							
12.00	D 38							
12.50-12.95	SPT S	N=19 (3,2/3,5,4,7)	12.50	11.00				
12.50-12.95	D 39							
12.50-13.00	B 40							
13.00	ES 41							
13.50	D 42							
14.00-14.45	U 43	146 blows	14.00	dry		(6.00)		
14.50	D 44							
15.00	45							
15.50-15.95	U 46	47 blows	15.50	dry	15.50-15.95 m SAND and GRAVEL			
16.18	W							
16.50-17.00	B 47							
17.00	SPT C	(25 for 0mm/50 for 0mm)	17.00	15.80	Medium strong locally strong brown SANDSTONE recovered as angular coarse gravel. (HYTHE BEDS)	17.00 *+64.26* (0.27)		SP
17.00	D 48							
17.00	W 49							
17.10-17.27	SPT S	50 (25/27,23 for 20mm)	17.00	16.10		17.27 *+63.99*		
17.10	D 50				EXPLORATORY HOLE ENDS AT 17.27 m			

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)
2	17.00	Rose to 15.80 m after 20 minutes.	15.80

Depth Related Remarks *
From to (m)

Chiselling

Depths (m)	Time	Tools used
14.40 -14.50	30 mins	Shell
17.00 -17.10	60 mins	Shell

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project Isles Quarry Ground Investigation
Project No. G0028-10
Carried out for Crest Nicholson (Eastern) Ltd

Borehole
BH104

Borehole Log

Soil Mechanics

Drilled MR Logged MR Checked KW	Start 15/04/2010 End 16/04/2010	Equipment, Methods and Remarks Dando 2000 Hand dug inspection pit to 1.00m. Pit terminated on obstruction.	Depth from 0.00m, to 1.00m, Diameter 500mm, Casing Depth	Ground Level +78.82 mOD Coordinates E 560567.12 National Grid N 156819.91 Chainage

Samples and Tests / Strata

Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
0.00-0.50	B 1	*			Light brown sandy GRAVEL. Sand is fine to coarse, gravel is angular coarse of brick and sandstone. (MADE GROUND)	(1.00)		
1.00	D 2					1.00 *+77.82*		
1.00	ES 3	PID = 8.5ppm			EXPLORATORY HOLE ENDS AT 1.00 m			

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)	
0.00		Hammer ID = SM05 Rod type = B

Chiselling

Depths (m)	Time	Tools used

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project	Isles Quarry Ground Investigation
Project No.	G0028-10
Carried out for	Crest Nicholson (Eastern) Ltd

Borehole

BH105

Borehole Log

Soil Mechanics

Drilled MR **Logged** MR **Checked** KW	**Start** 16/04/2010 **End** 17/04/2010	**Equipment, Methods and Remarks** Dando 2000 Hand dug inspection pit to 1.20m then cable tool boring to 5.80m.	**Ground Level** +78.74 mOD **Coordinates** E 560569.84 **National Grid** N 156813.48 **Chainage**

Depth from	to	Diameter	Casing Depth
0.00m	1.20m	300mm	5.80m
1.20m	5.80m	200mm	

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
1.00	ES 3	PID = 0.3ppm		
1.20-1.65	U NR	* 100 blows No recovery		dry
1.65-1.67 1.65 1.65-2.05	SPT C D 4 B 5	21 (25 for 10mm/21 for 10mm)	1.65	dry
2.60-2.62 2.60-3.00	SPT C B 6	50 (25 for 0mm/50 for 20mm)	2.60	dry
3.00 3.00 3.00	SPT C D 7 ES 8	(25 for 0mm/50 for 0mm) PID = 8.1ppm	3.00	dry
3.20-3.36 3.20-3.50	SPT C B 9	50 (21,4 for 0mm/ 38,12 for 10mm)	3.20	dry
4.00	D 10			
4.20-4.65 4.20-4.65 4.20-4.70	SPT C D 11 D 12	N=26 (6,7/9,5,5,7)	4.20	dry
5.00 5.00	ES 13 D 14	PID = 8.7ppm		
5.20-5.35	SPT C	50 (19,6 for 0mm/ 38,12 for 0mm)	5.20	dry
5.70	SPT C	(25 for 0mm/50 for 0mm)	5.70	dry
5.80-5.82	SPT C	50 (25 for 10mm/50 for 10mm)	5.80	dry

Strata

Description	Depth, *Level* (Thickness)
Grey sandy GRAVEL with high cobble content. Sand is fine to coarse, gravel is angular fine to coarse of macadam and concrete. Cobbles are of concrete and macadam. (MADE GROUND) 0.00-1.00 m No samples taken (see BH105)	(0.50) 0.50 *+78.24*
Light brown clayey gravelly SAND. Sand is fine to coarse, gravel is angular medium to coarse of limestone. (MADE GROUND)	(0.70) 1.20 *+77.54*
Very dense light brown slightly clayey gravelly SAND with high cobble content. Sand is fine to coarse, gravel is subangular coarse of limestone. Cobbles are subangular of limestone. (MADE GROUND) 3.00 m Very clayey. 4.20-4.46 m Medium dense	(3.80) 5.00 *+73.74*
Very dense light brown slightly clayey gravelly SAND. Sand is mainly fine to medium, gravel is subangular fine to coarse of limestone. (HYTHE BEDS?)	(0.80) 5.80 *+72.94*
EXPLORATORY HOLE ENDS AT 5.80 m	

Legend | Backfill/ Instruments

SP

Depth	Type & No	Records	Date Casing	Time Water

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)	
1.20	5.80	Hammer ID = SM05 Rod type = B

Chiselling

Depths (m)	Time	Tools used
2.50 -2.60	60 mins	Chisel
2.60 -3.00	60 mins	Chisel
3.00 -3.20	60 mins	Chisel
5.30 -5.70	120 mins	Chisel
5.70 -5.80	60 mins	Chisel

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project Isles Quarry Ground Investigation

Project No. G0028-10

Carried out for Crest Nicholson (Eastern) Ltd

Borehole BH105A

Borehole Log

Soil Mechanics

Drilled LM **Logged** MR **Checked** RJS	**Start** 20/04/2010 **End** 21/04/2010	**Equipment, Methods and Remarks** Dando 175 Inspection pit then cable tool boring to 7.50m.	**Depth from** / **to** / **Diameter** / **Casing Depth** 0.00m / 1.20m / 500mm / 7.00m 1.20m / 7.55m / 200mm /	**Ground Level** +85.20 mOD **Coordinates** E 560563.66 **National Grid** N 156878.99 **Chainage**

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
0.20	D 1			
0.60	D 2			
1.00	D 3			
1.00	ES 4	PID = 0.5 ppm *		
1.50-1.95	U 5	30 blows	1.50	dry
2.00	D 6			
2.50-2.95	SPT S	N=14 (2,3/3,3,4,4)	2.50	dry
2.50-2.95	D 7			
2.50-3.00	B 8			
3.00	ES 9	PID = 0.4 ppm		
3.50-3.95	U 10	30 blows	3.50	dry
4.00	D 11			
4.50-4.95	SPT S	* N=16 (3,4/3,4,5,4)	4.50	dry
4.50-4.95	D 12			
4.50-5.00	B 13			
5.00	ES 14	PID = 0.1 ppm		
6.00-6.45	SPT S	N=16 (10,9/6,2,5,3)	6.00	damp
6.00-6.45	D 15			
6.00-6.50	B 16			
7.00	D 17			
7.40	SPT S	(25 for 0mm/50 for 0mm)	7.00	damp
7.40-7.86	D 18			
7.50	SPT S	(25 for 0mm/50 for 0mm)	7.00	damp
7.50-7.55	D 19			

Strata

Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
Black very sandy GRAVEL. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of concrete, macadam, brick and sandstone. (MADE GROUND)	(1.00) 1.00 *+84.20*		
Firm orangish brown very sandy CLAY. Sand is fine to coarse. (HYTHE BEDS)	(1.50) 2.50 *+82.70*		
Frim becoming stiff greenish grey sandy CLAY. Sand is fine to medium. (HYTHE BEDS)	(1.50) 4.00 *+81.20*		
Stiff orangish brown slightly sandy CLAY. Sand is fine to coarse. (HYTHE BEDS)	(0.50) 4.50 *+80.70*		
Medium dense greenish grey clayey gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone. (HYTHE BEDS)	(1.50) 6.00 *+79.20*		
Dense yellowish brown sandy GRAVEL. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone. (HYTHE BEDS) 7.40-7.50 m Driller reports strong sandstone	(1.50) 7.50 *+77.70*		
EXPLORATORY HOLE ENDS AT 7.50 m			SP

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)	
1.20	7.50	Hammer ID = SM11 Rod type = BW
4.50	6.90	Water added to aid boring.

Chiselling

Depths (m)	Time	Tools used
7.10 -7.40	60 mins	Chisel
7.40 -7.50	60 mins	Chisel
7.50 -7.50	60 mins	Chisel

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project Isles Quarry Ground Investigation
Project No. G0028-10
Carried out for Crest Nicholson (Eastern) Ltd

Borehole
BH106

Trial Pit Log

Soil Mechanics

Logged MR Checked RS	Start 14/04/2010 End 14/04/2010	Equipment, Methods and Remarks JCB 3CX Machine dug trial pit.	Dimensions and Orientation Width 3.00 m Length 0.60 m	Ground Level +81.61 mOD Coordinates E 560394.58 National Grid N 156729.02 Chainage

Samples and Tests / Strata

Depth	Type & No.	Date Records	Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
0.20	ES 1	PID = 1.0 ppm	Grass over soft brown sandy slightly gravelly CLAY. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of brick, concrete, macadam, flint and chalk. Occasional subangular cobbles of brick and macadam. (MADE GROUND)	(0.60) 0.60 *+81.01*		
			Brown slightly clayey gravelly SAND with medium cobble content. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of brick, concrete and macadam. Cobbles are angular of brick, concrete and macadam. (MADE GROUND)	(0.30) 0.90 *+80.71*		
1.00	ES 2	PID = 1.4 ppm	Greenish grey slightly gravelly very clayey SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to medium of brick and concrete (MADE GROUND)	(0.40) 1.30 *+80.31*		
			Yellow slightly clayey slightly gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone, brick, chalk and concrete. (MADE GROUND)	(1.70)		
3.00	ES 3	PID = 1.3 ppm	EXPLORATORY HOLE ENDS AT 3.00 m	3.00 *+78.61*		

Depth	Type & No.	Records Date				

Groundwater Entries
No. Struck (m) | Post Strike Behaviour

None observed (see Key Sheet)

Depth Related Remarks *
From | to (m)

Stability All sides stable

Shoring Not required

Weather Good

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:25

Project Isles Quarry Ground Investigation

Project No. G0028-10

Carried out for Crest Nicholson (Eastern) Ltd

Trial Pit

TP301

Trial Pit Log

Soil Mechanics

Logged MR **Checked** RS	**Start** 14/04/2010 **End** 14/04/2010	**Equipment, Methods and Remarks** JCB 3CX Machine dug trial pit.	**Dimensions and Orientation** Width 0.60 m Length 3.00 m A B C D -	**Ground Level** +82.24 mOD **Coordinates** E 560408.72 **National Grid** N 156750.92 **Chainage**

Samples and Tests / Strata

Depth	Type & No.	Date Records	Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
0.20	ES 1	PID = 1.1 ppm	Grass over brown gravelly very clayey SAND. Sand is fine to coarse, gravel is angular to subrounded fine to coares of brick, flint and wood. Frequent roots and rootlets. (MADE GROUND)	(0.50) 0.50 *+81.74*		
			Yellow very silty gravelly SAND. Sand is fine to coarse, gravel is subangular to rounded fine to coarse of flint. (MADE GROUND)	0.75 *+81.49*		
			Orangeish brown very clayey GRAVEL. Gravel is subangular to rounded fine to coarse of flint. (MADE GROUND)	0.85 *+81.39*		
1.00	ES 2	PID = 1.3 ppm	Greyish brown clayey sandy GRAVEL with low cobble content. Sand is fine to coarse, gravel is angular to rounded fine to coarse of flint, brick, concrete and occasional chalk. Cobbles are of brick and concrete. Cobble sized pocketes of firm grey clay. (MAE GROUND)	(0.45) 1.30 *+80.94*		
3.00	ES 3	PID = 1.2 ppm	Yellow very clayey gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone and occasional brick. (MADE GROUND)	(2.20) 3.50 *+78.74*		
			EXPLORATORY HOLE ENDS AT 3.50 m			
Depth	Type & No.	Records Date				

Groundwater Entries

No. Struck (m) **Post Strike Behaviour**

None observed (see Key Sheet)

Depth Related Remarks *

From to (m)

Stability All sides stable

Shoring Not required

Weather Good

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:25

Project **Isles Quarry Ground Investigation**

Project No. **G0028-10**

Carried out for **Crest Nicholson (Eastern) Ltd**

Trial Pit **TP302**

Trial Pit Log

Soil Mechanics

Logged MR Checked RS	Start 14/04/2010 End 14/04/2010	Equipment, Methods and Remarks JCB 3CX Machine dug trial pit.	Dimensions and Orientation Width 0.60 m Length 3.00 m	Ground Level +81.82 mOD Coordinates E 560444.34 National Grid N 156801.66 Chainage

Samples and Tests / Strata

Depth	Type & No.	Date Records	Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
			Grass over firm brown slightly gravelly sandy CLAY. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of wood, concrete, brick, and flint. (MADE GROUND)	(1.00)		
1.00	ES 1	PID = 1.7 ppm	Grey slightly clayey gravelly SAND with medium cobble and boulder content. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of flint, concrete, plastic pipe and brick. Cobbles and boulders are of concrete and macadam. (MADE GROUND)	1.00 *+80.82* (0.70)		
			Black BOULDER of macadam.	1.70 *+80.12*		
			Grey CONCRETE with steel reinforcing.	1.85 *+79.97*		
2.30	ES 2	PID = 1.4 ppm	Brown clayey very gravelly SAND with medium cobble and boulder content. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of flint, concrete, macadam and brick. Cobbles and boulders are of concrete and macadam. (MADE GROUND)	2.10 *+79.72* 2.30 *+79.52*		
3.00	ES 3	PId = 1.0 ppm	Stiff yellow slightly gravelly sandy CLAY. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of sandstone. (MADE GROUND)	(1.10)		
			Orangish brown slightly clayey fine to coarse SAND. (MADE GROUND)	3.40 *+78.42*		
			EXPLORATORY HOLE ENDS AT 3.50 m	3.50 *+78.32*		

Depth	Type & No.	Records Date				

Groundwater Entries
No. Struck (m) Post Strike Behaviour
None observed (see Key Sheet)

Depth Related Remarks *
From to (m)

Stability All sides stable
Shoring Not required
Weather Good

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.
Scale 1:25

Project Isles Quarry Ground Investigation
Project No. G0028-10
Carried out for Crest Nicholson (Eastern) Ltd

Trial Pit
TP303
Sheet 1 of 1

Trial Pit Log

Soil Mechanics

Logged MR Checked RS	Start 14/04/2010 End 14/04/2010	Equipment, Methods and Remarks JCB 3CX Machine dug trial pit	Dimensions and Orientation Width 0.60 m Length 3.00 m	Ground Level +81.93 mOD Coordinates E 560434.23 National Grid N 156770.97 Chainage

Samples and Tests / Strata

Depth	Type & No.	Date Records	Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
			Grass over brown gravelly very clayey SAND. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of wood, brick and flint. Frequent roots and rootlets. (MADE GROUND)	(0.45) 0.45 *+81.48*		
0.50	ES 1	PID = 1.4 ppm	Brown slightly clayey very sandy GRAVEL with medium boulder content. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of macadam, brick, flint and concrete. Slight chemical odour. Boulders are of concrete and sandstone. (MADE GROUND)	(0.40) 0.85 *+81.08*		
1.00	ES 2	PID = 1.5 ppm	Yellow gravelly very silty SAND. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of sandstone, brick macadam, concrete and plastic. (MADE GROUND	(0.95) 1.80 *+80.13*		
			Firm yellow very sandy slightly gravelly CLAY. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone. (MADE GROUND)	(1.70)		
3.00	ES 3	PID = 1.6 ppm				
3.30	ES 4	PID = 1.4 ppm	3.30 m Lens of grey slightly gravelly very sandy clay	3.50 *+78.43*		
			EXPLORATORY HOLE ENDS AT 3.50 m			

Groundwater Entries	Depth Related Remarks *	
No. Struck (m) / Post Strike Behaviour None observed (see Key Sheet)	From to (m)	Stability All sides stable Shoring Not required Weather Good

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:25

Project: Isles Quarry Ground Investigation
Project No.: G0028-10
Carried out for: Crest Nicholson (Eastern) Ltd

Trial Pit **TP304**

Trial Pit Log

Soil Mechanics

Logged MR Checked RS	Start 14/04/2010 End 14/04/2010	Equipment, Methods and Remarks JCB 3CX Machine dug trial pit.	Dimensions and Orientation Width 0.60 m Length 3.00 m A B C D -	Ground Level +81.92 mOD Coordinates E 560465.21 National Grid N 156774.45 Chainage

Samples and Tests / Strata

Depth	Type & No.	Date Records	Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
0.30	ES 1	PID = 1.4 ppm	Grass over firm brown sandy slightly gravelly CLAY. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of brick, concrete, plastic and wood. (MADE GROUND)	(0.40) 0.40 *+81.52*		
			Firm orangeish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of flint, occasional brick and concrete. (MADE GROUND)	(0.35) 0.75 *+81.17*		
1.00	ES 2	PID = 1.3 ppm	Firm to stiff yellow streaked dark grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of brick, macadam, flint and concrete. Moderate chemical odour. (MADE GROUND)	(0.35) 1.10 *+80.82*		
1.30	ES 3	PID = 1.4 ppm	Firm to stiff grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of brick, macadam, chalk, flint and concrete. Moderate sweet odour. (MADE GROUND)	1.30 *+80.62*		
2.40	ES 4	PID = 1.4 ppm	Grey slightly gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone and rare brick. (MADE GROUND) 2.30-2.60 m Becomes clayey	(1.30) 2.60 *+79.32*		
			Yellow slightly clayey gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone. (MADE GROUND)	(0.90) 3.50 *+78.42*		
3.50	ES 5	PId = 4.7 ppm	EXPLORATORY HOLE ENDS AT 3.50 m			

Depth	Type & No.	Records Date

Groundwater Entries
No. Struck (m) Post Strike Behaviour
None observed (see Key Sheet)

Depth Related Remarks *
From to (m)

Stability All sides stable
Shoring Not required
Weather Good

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:25

Project Isles Quarry Ground Investigation
Project No. G0028-10
Carried out for Crest Nicholson (Eastern) Ltd

Trial Pit
TP305

Trial Pit Log

Soil Mechanics

Logged MR Checked RS	Start 14/04/2010 End 14/04/2010	Equipment, Methods and Remarks JCB 3CX Machine dug trial pit.	Dimensions and Orientation Width 0.60 m Length 3.00 m	Ground Level +80.88 mOD Coordinates E 560515.77 National Grid N 156801.13 Chainage

Samples and Tests / Strata

Depth	Type & No.	Date Records	Description	Depth, *Level* (Thickness)
			Grass over firm brown sandy slightly gravelly CLAY. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of chalk, brick, concrete, flint and sandstone. Occasional roots and rootlets. (MADE GROUND)	0.20 *+80.68*
0.40	ES 1	PID = 4.3 ppm	Brown slightly clayey sandy GRAVEL with high cobble content. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of macadam, concrete, brick and flint. Cobbles are of brick and macadam. (MADE GROUND)	(0.40) 0.60 *+80.28*
1.00	ES 2	PId = 4.8 ppm	Yellow clayey gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone and occasional concrete and brick. (MADE GROUND)	(1.70) 2.30 *+78.58*
2.40	ES 3	PID = 4.3 ppm	Dark grey clayey gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of macadam, brick, glass fabric and flint. Slight chemical odour. (MADE GROUND)	2.50 *+78.38*
			Yellow slightly clayey gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone and occasional brick. (MADE GROUND)	(1.10) 3.60 *+77.28*
			EXPLORATORY HOLE ENDS AT 3.60 m	

Groundwater Entries
No. Struck (m) Post Strike Behaviour
None observed (see Key Sheet)

Depth Related Remarks *
From to (m)

Stability All sides stable
Shoring Not required
Weather Good

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:25

Project	Isles Quarry Ground Investigation
Project No.	G0028-10
Carried out for	Crest Nicholson (Eastern) Ltd

Trial Pit **TP306**

Trial Pit Log

Soil Mechanics

Logged MR Checked RS	Start 20/04/2010 End 20/04/2010	Equipment, Methods and Remarks 360 tracked excavator Machine dug trial pit to 1.50m Plate load test carried out in base of pit.	Dimensions and Orientation Width 1.00 m Length 4.00 m	Ground Level +82.96 mOD Coordinates National Grid E 560398.04 N 156782.59 Chainage

Samples and Tests / Strata

Depth	Type & No.	Date Records	Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
			Grass over firm brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of flint and occasional brick. (MADE GROUND)	0.20 *+82.76*		
			Light brown clayey gravelly SAND. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of sandstone, limestone, brick and concrete. (MADE GROUND)	(1.15) 1.35 *+81.61*		
			Black slightly clayey very gravelly SAND. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of brick, concrete, macadam, glass and plastic. (MADE GROUND)	1.50 *+81.46*		
			EXPLORATORY HOLE ENDS AT 1.50 m			

Depth	Type & No.	Records Date				

Groundwater Entries
No. Struck (m) | Post Strike Behaviour

None observed (see Key Sheet)

Depth Related Remarks *
From | to (m)

Stability Stable
Shoring Trench Box
Weather Dry/Warm

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:25

Project	**Isles Quarry Ground Investigation**
Project No.	**G0028-10**
Carried out for	**Crest Nicholson (Eastern) Ltd**

Trial Pit
TP401

Trial Pit Log

Soil Mechanics

Logged MR Checked RS	Start 21/04/2010 End 21/04/2010	Equipment, Methods and Remarks 360° tracked excavator Machine dug trial pit. Plate load test at 1.50m	Dimensions and Orientation Width 1.00 m Length 4.00 m	Ground Level +78.52 mOD Coordinates E 560591.17 National Grid N 156827.53 Chainage

Samples and Tests / Strata

Depth	Type & No.	Date Records	Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
			Grass and shrubs over firm brown sandy slightly gravelly CLAY. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of flint, brick and concrete. Frequent roots and rootlets. (MADE GROUND)	(0.30) 0.30 *+78.22*		
			Medium strong black MACADAM. 60% aggregate of subangular to subrounded igneous material. (MADE GROUND)	(0.30) 0.60 *+77.92*		
			Yellow sandy GRAVEL with high cobble and boulder content. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of weak sandstone. Cobbles and boulders are of sandstone. (HEAD)	(0.80) 1.40 *+77.12*		
			Brown silty SAND. Sand is fine to coarse. (HEAD)	1.50 *+77.02*		
			EXPLORATORY HOLE ENDS AT 1.50 m			

Depth	Type & No.	Records Date

Groundwater Entries
No. Struck (m) Post Strike Behaviour
None observed (see Key Sheet)

Depth Related Remarks *
From to (m)

Stability All sides stable
Shoring Trench box
Weather Good

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:25

Project Isles Quarry Ground Investigation
Project No. G0028-10
Carried out for Crest Nicholson (Eastern) Ltd

Trial Pit
TP402

Trial Pit Log

Soil Mechanics

Logged MR / Checked RS	Start 21/04/2010 / End 21/04/2010	Equipment, Methods and Remarks	Dimensions and Orientation	Ground Level / Coordinates / National Grid / Chainage
Logged: MR Checked: RS	Start: 21/04/2010 End: 21/04/2010	360° tracked excavator Machine dug trial pit. Plate load test at 1.50m.	Width 1.00 m Length 4.00 m	Ground Level +81.31 mOD Coordinates E 560399.19 National Grid N 156698.29 Chainage

Samples and Tests / Strata

Depth	Type & No.	Date Records	Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
			Grass over brown slightly gravelly clayey SAND. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of concrete, brick, flint and sandstone. (MADE GROUND)	(0.40)		
			Dark grey slightly clayey very gravelly SAND with high cobble and boulder content. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of metal, brick, concrete, plastic and sandstone. Cobbles and boulders are of concrete. (MADE GROUND)	0.40 *+80.91* (1.10)		
			EXPLORATORY HOLE ENDS AT 1.50 m	1.50 *+79.81*		

Depth	Type & No.	Records Date

Groundwater Entries

No.	Struck (m)	Post Strike Behaviour

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)

Stability All sides stable

Shoring Trenchbox

Weather Good

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:25

Project	**Isles Quarry Ground Investigation**
Project No.	**G0028-10**
Carried out for	**Crest Nicholson (Eastern) Ltd**

Trial Pit

TP403

Dynamic Sampler Hole Log

Soil Mechanics

Drilled JK **Logged** MR **Checked** RS	**Start** 19/04/2010 **End** 19/04/2010	**Equipment, Methods and Remarks** Terrier Rig Hand dug inspection pit to 1.20m then lined window sampling to 5.00m.	**Ground Level** +81.92 mOD **Coordinates** E 560370.94 **National Grid** N 156658.61 **Chainage**

Depth from	to	Diameter	Casing Depth
0.00m	1.20m	300mm	
1.20m	2.00m	102mm	
2.00m	3.00m	87mm	
3.00m	4.00m	76mm	
4.00m	5.00m	76mm	

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
0.30	ES 1	PID = 8.6ppm		
0.80-1.20	B 2			
		*		
1.50	ES 3	PID = 9.7ppm		
		*		
2.50	ES 4	PID = 9.2ppm		
		*		
3.20-3.70	B 5			
3.50	ES 6	PID = 8.2ppm		
		*		
4.60	ES 7	PID = 8.2ppm		

Strata

Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
Strong light grey CONCRETE. 40 - 60% aggregate of subangular to subrounded fine to coarse igneous material.	0.20 *+81.72*		
Yellowish brown clayey gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone, limestone and occasional flint. (MADE GROUND)	(2.80) 3.00 *+78.92*		
Yellowish brown clayey very gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone, limestone and occasional flint. (MADE GROUND)	(2.00) 5.00 *+76.92*		SP
EXPLORATORY HOLE ENDS AT 5.00 m			

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)	
1.20	2.00	500mm Recovery.
2.00	3.00	500mm Recovery.
3.00	4.00	700mm Recovery.
4.00	5.00	600mm Recovery.

Chiselling

Depths (m)	Time	Tools used

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project Isles Quarry Ground Investigation

Project No. G0028-10

Carried out for Crest Nicholson (Eastern) Ltd

Borehole WS201

Dynamic Sampler Hole Log

Soil Mechanics

Drilled JK **Logged** MR **Checked** RS	**Start** 19/04/2010 **End** 19/04/2010	**Equipment, Methods and Remarks** Terrier Rig Hand dug inspection pit to 1.20m then lined window sampling to 5.00m.	**Ground Level** +82.14 mOD **Coordinates** E 560328.38 **National Grid** N 156658.13 **Chainage**

Depth from	to	Diameter	Casing Depth
0.00m	1.20m	300mm	
1.20m	2.00m	102mm	
2.00m	3.00m	87mm	
3.00m	4.00m	76mm	
4.00m	5.00m	76mm	

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
0.50	ES 1			
0.60-1.20	B 2			
		*		
1.50	ES 3	PID = 5.6ppm		
		*		
2.50	ES 4	PID = 8.0ppm		
2.50	ES 5	PID = 8.6ppm		
2.50-3.00	B 6			
		*		
		*		

Strata

Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
Strong light grey MACADAM. 70% aggregate of subangular to subrounded igneous material. (MADE GROUND)	0.20 *+81.94*		
Strong light grey CONCRETE. 60% aggregate of subangular to subrounded fine to coarse igneous material and flint. (MADE GROUND)	0.35 *+81.79*		
Yellow slightly clayey gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone and limestone. (MADE GROUND)	(4.65) 5.00 *+77.14*		SP
EXPLORATORY HOLE ENDS AT 5.00 m			

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)	
1.20	2.00	800mm Recovery.
2.00	3.00	700mm Recovery.
3.00	4.00	700mm Recovery.
4.00	5.00	No Recovery.

Chiselling

Depths (m)	Time	Tools used

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project Isles Quarry Ground Investigation

Project No. G0028-10

Carried out for Crest Nicholson (Eastern) Ltd

Borehole

WS202

Dynamic Sampler Hole Log

Soil Mechanics

Drilled JK **Logged** MR **Checked** RS	**Start** 19/04/2010 **End** 19/04/2010	**Equipment, Methods and Remarks** Terrier Rig Hand dug inspection pit to 1.20m then lined window sampling to 5.00m.	**Depth from / to / Diameter / Casing Depth** 0.00m 1.20m 300mm 1.20m 2.00m 102mm 2.00m 3.00m 87mm 3.00m 4.00m 76mm 4.00m 5.00m 76mm	**Ground Level** +82.42 mOD **Coordinates National Grid** E 560319.66 N 156598.48 **Chainage**

Samples and Tests / Strata

Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
0.50 0.50-1.00	ES 1 B 2	PID = 6.7ppm			Brown slightly silty gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of flint, brick and road chippings. (MADE GROUND)	0.15 *+82.27* 0.25 *+82.17* (0.75)		
1.20-2.00	B 4	*			Grey sandy GRAVEL. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of road chippings. (MADE GROUND)	1.00 *+81.42*		
1.50	ES 3	PID = 4.1ppm *			Yellow slightly clayey gravelly SAND. Sand is fine to coarse. gravel is subangular to subrounded fine to coarse of sandstone, limestone and occasional flint. (MADE GROUND)	(1.00) 2.00 *+80.42*		
2.50	ES 5	PID = 5.3ppm *			Yellow weakly cemented sandstone. Sandstone is medium to coarse grained. (MADE GROUND)			
3.50	ES 6	PID = 2.9ppm *			Yellow gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone and limestone. (MADE GROUND)	(3.00)		
4.50	ES 7	PID = 6.3ppm						SP
					EXPLORATORY HOLE ENDS AT 5.00 m	5.00 *+77.42*		

Depth	Type & No	Records	Date Casing	Time Water

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)	
1.20	2.00	800mm Recovery.
2.00	3.00	900mm Recovery.
3.00	4.00	900mm Recovery.
4.00	5.00	500mm Recovery

Chiselling

Depths (m)	Time	Tools used

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project Isles Quarry Ground Investigation

Project No. G0028-10

Carried out for Crest Nicholson (Eastern) Ltd

Borehole

WS203

Dynamic Sampler Hole Log

Soil Mechanics

Drilled JK Logged MR Checked RS	Start 19/04/2010 End 19/04/2010	Equipment, Methods and Remarks
		Terrier Rig Hand dug inspection pit to 1.20m then lined window sampling to 5.00m.

Depth from	to	Diameter	Casing Depth
0.00m	1.20m	300mm	
1.20m	2.00m	102mm	
2.00m	3.00m	87mm	
3.00m	4.00m	76mm	
4.00m	5.00m	76mm	

Ground Level +80.44 mOD
Coordinates National Grid E 560419.75 N 156694.77
Chainage

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
0.50	ES 1	PID = 7.4ppm		
0.50-1.00	B 2			
1.30	ES 3	* PID = 4.8ppm		
		*		
2.20-2.70	B 4			
2.50	ES 5	PID = 2.9ppm		
		*		
3.50	ES 6	PID = 3.9ppm		
		*		
4.50	ES 7	PID = 6.1ppm		

Strata

Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
Grass over soft brown slightly gravelly slightly sandy CLAY. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of brick, concrete, sandstone and chalk. (MADE GROUND)	0.20 *+80.24* 0.30 *+80.14* (0.95)		
Medium strong light grey CONCRETE. No obvious aggregate. (MADE GROUND)	1.25 *+79.19*		
Yellowish brown slightly clayey slightly gravelly SAND. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of sandstone and occasional limestone. (MADE GROUND)	1.40 *+79.04*		
Dark grey slightly clayey sandy GRAVEL. sand is fine to coarse, gravel is angular to subrounded fine to coarse of brick, concrete, macadam, flint and sandstone. (MADE GROUND)			
Yellow slightly clayey slightly gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone and limestone. (MADE GROUND)	(3.60)		SP
EXPLORATORY HOLE ENDS AT 5.00 m	5.00 *+75.44*		

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)	
1.20	2.00	800mm Recovery.
2.00	3.00	800mm Recovery.
3.00	4.00	500mm Recovery.
4.00	5.00	500mm Recovery.

Chiselling

Depths (m)	Time	Tools used

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project Isles Quarry Ground Investigation
Project No. G0028-10
Carried out for Crest Nicholson (Eastern) Ltd

Borehole
WS204

Dynamic Sampler Hole Log

Soil Mechanics

Drilled JK **Logged** MR **Checked** RS	**Start** 19/04/2010 **End** 19/04/2010	**Equipment, Methods and Remarks** Terrier Rig Hand dug inspection pit to 1.00m. Hole terminated at 1.00m due to sandstone obstructon.	**Depth from** 0.00m **to** 1.00m **Diameter** 500mm **Casing Depth**	**Ground Level** +79.83 mOD **Coordinates** E 560441.35 **National Grid** N 156710.32 **Chainage**

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
0.40	ES 1	PID = 6.6ppm		

Strata

Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
Medium strong black MACADAM. 70% aggregate of igneous material. (MADE GROUND)	0.20 *+79.63*		
Reddish brown slightly clayey very sandy GRAVEL. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of brick, concrete, macadam and flint. High cobble content of brick, concrete and sandstone. (MADE GROUND)	(0.80) 1.00 *+78.83*		

EXPLORATORY HOLE ENDS AT 1.00 m

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)

Chiselling

Depths (m)	Time	Tools used

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project Isles Quarry Ground Investigation
Project No. G0028-10
Carried out for Crest Nicholson (Eastern) Ltd

Borehole
WS205

Dynamic Sampler Hole Log

Soil Mechanics

Drilled JK Logged MR Checked rs	Start 19/04/2010 End 19/04/2010	Equipment, Methods and Remarks Terrier Rig Hand dug inspection pit to 1.20m then lined window sampling to 2.00m. Hole terminated due to obstruction.	Depth from / to / Diameter / Casing Depth 0.00m 1.20m 300mm 1.20m 2.00m 102mm	Ground Level +79.33 mOD Coordinates E 560454.90 National Grid N 156734.73 Chainage

Samples and Tests / Strata

Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
					Medium strong black MACADAM. 70% aggregate of igneous material.	0.20 *+79.13*		
1.20-2.00	B 2	*			Reddish brown slightly clayey very sandy GRAVEL. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of brick, concrete, macadam and flint. High cobble content of brick, concrete and sandstone. (MADE GROUND)	(0.80) 1.00 *+78.33*		
1.50	ES 1	PID = 5.4ppm			Greyish yellow slightly clayey gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone, limestone, brick and concrete. (MADE GROUND)	(1.00) 2.00 *+77.33*		SP
					EXPLORATORY HOLE ENDS AT 2.00 m			

Groundwater Entries

No. Struck (m) | Post strike behaviour | Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)	
1.20	2.00	800mm Recovery.

Chiselling

Depths (m) | Time | Tools used

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project	Isles Quarry Ground Investigation
Project No.	G0028-10
Carried out for	Crest Nicholson (Eastern) Ltd

Borehole

WS205A

Dynamic Sampler Hole Log

Soil Mechanics

Drilled JK Logged MR Checked RS	Start 16/04/2010 End 16/04/2010	Equipment, Methods and Remarks Terrier Rig Hand dug inspection pit to 1.30m. Window sample follow on cancelled due lack of access for rig.	Depth from 0.00m, to 1.30m, Diameter 500mm, Casing Depth	Ground Level +86.19 mOD Coordinates E 560593.62 National Grid N 156851.54 Chainage

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
0.30	ES 1	PID = 4.0ppm		
1.20	ES 2			

Strata

Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
Yellow slightly clayey slightly gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone and limestone. (MADE GROUND) 0.25-0.30 m Dark grey staining.	0.25 *+85.94* (0.75)		
Grey slightly clayey gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone, concrete and brick. (MADE GROUND)	1.00 *+85.19* (0.30)		
Orange slightly clayey SAND. Sand is fine to coarse. (MADE GROUND)	1.30 *+84.89*		

EXPLORATORY HOLE ENDS AT 1.30 m

Depth	Type & No	Records	Date Casing	Time Water

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)

Chiselling

Depths (m)	Time	Tools used

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project	Isles Quarry Ground Investigation
Project No.	G0028-10
Carried out for	Crest Nicholson (Eastern) Ltd

Borehole

WS206

Dynamic Sampler Hole Log

Soil Mechanics

Drilled JK Logged MR Checked RS	Start 16/04/2010 End 16/04/2010	Equipment, Methods and Remarks Terrier Rig Hand dug inspection pit to 1.20m then lined window sampling to 5.00m.	Depth from	to	Diameter	Casing Depth	Ground Level +86.05 mOD Coordinates E 560540.31 National Grid N 156883.01 Chainage
			0.00m	1.20m	500mm		
			1.20m	2.00m	102mm		
			2.00m	3.00m	87mm		
			3.00m	4.00m	76mm		
			4.00m	5.00m	76mm		

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
0.75	ES 1	PID = 52.4ppm		
1.00-1.75	B 3			
		*		
1.75	ES 2	PID = 9.7ppm		
		*		
2.70	ES 5	PID = 8.4ppm		
3.00-3.60	B 4	*		
3.40	W			
3.70	ES 6	PID = 12.2ppm		
		*		
4.70	ES 7	PID = 8.1ppm		

Strata

Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
Strong light grey CONCRETE. 70% aggregate of subangular to subrounded fine to coarse igneous material. (MADE GROUND)	(0.40) 0.40 *+85.65*		
Greenish grey slightly clayey SAND. Sand is fine to coarse. (MADE GROUND)	(0.60) 1.00 *+85.05*		
Orange mottled grey clayey SAND. Sand is fine to coarse. (MADE GROUND)	(1.70) 2.70 *+83.35*		
Firm greenish brown sandy CLAY. Sand is fine to coarse. (MADE GROUND)	(0.90) 3.60 *+82.45*		
Firm orange slightly sandy CLAY. Sand is fine to coarse. (MADE GROUND)	(0.40) 4.00 *+82.05*		
4.00-4.15 m Soft.			
Stiff brownish grey slightly sandy CLAY. Sand is fine to coarse. (MADE GROUND)	(1.00) 5.00 *+81.05*		SP

EXPLORATORY HOLE ENDS AT 5.00 m

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)	
1.20	2.00	800mm Recovery
2.00	3.00	1000mm Recovery
3.00	4.00	1000mm Recovery
4.00	5.00	700mm Recovery.

Chiselling

Depths (m)	Time	Tools used

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project	Isles Quarry Ground Investigation
Project No.	G0028-10
Carried out for	Crest Nicholson (Eastern) Ltd

Borehole

WS207

Dynamic Sampler Hole Log

Soil Mechanics

Drilled JK Logged MKR Checked RS	Start 16/04/2010 End 16/04/2010	Equipment, Methods and Remarks Dando Terrier Inspection pit to 1.20m then lined window sampling to 5.00m.	Depth from / to / Diameter / Casing Depth 0.00m 1.20m 300mm 1.20m 2.00m 100mm 2.00m 3.00m 89mm 3.00m 4.00m 79mm 4.00m 5.00m 66mm	Ground Level +85.46 mOD Coordinates E 560566.39 National Grid N 156876.53 Chainage

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
0.00-0.50	B 2			
0.30	ES 1	PID = 0.8ppm		
0.50-1.20	B 3			
		*		
1.30-1.50	ES 4	PID = 1.5ppm		
1.50-1.90	B 5			
2.00-2.50	ES 6	* PID = 1.5ppm		
2.60-3.00	B 7			
3.00-3.50	ES 8	* PID = 2.1ppm		
		*		
4.60-5.00	ES 9	PID = 1.5ppm		

Strata

Description	Depth, *Level* (Thickness)
Brown slightly clayey gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of brick, concrete, limestone, flint and tile. Medium cobble content of limestone. (MADE GROUND)	(0.50) 0.50 *+84.96* (0.75)
Yellowish brown mottled green very silty SAND. Sand is fine to coarse. (HYTHE BEDS)	1.25 *+84.21* (0.70)
Firm yellowish brown mottled green very sandy CLAY. Sand is fine to coarse. (HYTHE BEDS)	1.95 *+83.51* (0.65)
Orangeish brown occasionally mottled grey very silty SAND. Sand is fine to coarse. (HYTHE BEDS)	2.60 *+82.86*
Green mottled brown very silty SAND. Sand is fine to coarse. (HYTHE BEDS)	(1.30) 3.90 *+81.56*
Firm greenish grey mottled brown slightly sandy CLAY. Sand is fine to coarse. (HYTHE BEDS) 4.20-4.25 m Band of orange brown medium to coarse silty sand.	(0.50) 4.40 *+81.06*
Reddish brown slightly silty SAND. Sand is fine to coarse. (HYTHE BEDS)	4.60 *+80.86* (0.40)
Greenish grey slightly silty gravelly SAND. Sand is fine to coarse, gravel is subangular fine to coarse of weakly cemented sandstone. (HYTHE BEDS)	5.00 *+80.46*

EXPLORATORY HOLE ENDS AT 5.00 m

Legend | Backfill/Instruments: SP

Depth	Type & No	Records	Date Casing	Time Water

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)	
1.00	2.00	1000mm recovery
2.00	3.00	1000mm recovery
3.00	4.00	800mm recovery
4.00	5.00	900mm recovery

Chiselling

Depths (m)	Time	Tools used

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project	Isles Quarry Ground Investigation
Project No.	G0028-10
Carried out for	Crest Nicholson (Eastern) Ltd

Borehole

WS208

Dynamic Sampler Hole Log

Soil Mechanics

Drilled JK **Logged** MKR **Checked** RS	**Start** 16/04/2010 **End** 16/04/2010	**Equipment, Methods and Remarks** Dando Terrier Inspection pit to 1.20m then lined window sampling to 4.80m.	**Depth from / to / Diameter / Casing Depth** 0.00m 1.20m 300mm 1.20m 2.00m 100mm 2.00m 3.00m 89mm 3.00m 4.00m 79mm 4.00m 4.80m 66mm	**Ground Level** +84.47 mOD **Coordinates National Grid** E 560578.37 N 156871.13 **Chainage**

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
0.40	ES 1	PID = 1.3ppm		
0.50-1.00	B 2			
		*		
1.60-2.00	ES 3	PID = 1.7ppm		
2.00-2.50	ES 4	* PID = 1.5ppm		
2.50-3.00	B 5			
		*		
3.60-4.00	ES 6	PID = 2.4ppm		
4.00-4.70	ES 7	* PID = 2.3ppm		

Strata

Description	Depth, *Level* (Thickness)
MACADAM (MADE GROUND)	(0.30) 0.30 *+84.17*
Brown clayey gravelly SAND. Sand is fine to coarse. gravel is subangular to subrounded fine to coarse of flint, plastic, clinker, limestone, brick and chalk. (MADE GROUND)	(1.30) 1.60 *+82.87*
Brown silty SAND. Sand is fine to coarse. (HYTHE BEDS)	(0.40) 2.00 *+82.47*
Firm orangeish brown mottled grey sandy CLAY. Sand is fine to coarse. (HYTHE BEDS) 3.10-3.25 m Band of greenish grey fine to coarse sand.	(1.60) 3.60 *+80.87*
Orangeish brown mottled grey clayey SAND. Sand is fine to coarse. (HYTHE BEDS) 3.80-3.90 m Band of orange mottled grey sandy clay. Sand is fine to coarse.	(1.10) 4.70 *+79.77*
Orangeish brown clayey gravelly SAND. Sand is fine to coarse, gravel is subangular fine to coarse of sandstone. (HYTHE BEDS)	4.80 *+79.67*
EXPLORATORY HOLE ENDS AT 4.80 m	

Legend | Backfill/Instruments

SP

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)	
1.00	2.00	900mm recovery
2.00	3.00	1000mm recovery
3.00	4.00	900mm recovery
4.00	4.80	600mm recovery

Chiselling

Depths (m)	Time	Tools used

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project Isles Quarry Ground Investigation

Project No. G0028-10

Carried out for Crest Nicholson (Eastern) Ltd

Borehole **WS209**

Dynamic Sampler Hole Log

Soil Mechanics

Drilled JK **Logged** KW **Checked** RS	**Start** 20/04/2010 **End** 20/04/2010	**Equipment, Methods and Remarks** Terrier Rig Hand dug inspection pit to 0.50m. Refusal on compacted gravel. Moved 3m to WS210A	**Depth from** / **to** / **Diameter** / **Casing Depth**

Ground Level +78.63 mOD
Coordinates E 560583.96
National Grid N 156828.23
Chainage

Samples and Tests / Strata

Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
0.40	ES 1	PID = 1.8ppm			Grass over dark brown silty gravelly SAND. Sand is fine to medium locally coarse, gravel is angular fine to coarse of limestone and clinker. (MADE GROUND)	0.20 *+78.43*		
					Light brown gravelly SAND. Sand is fine to coarse, gravel is angular fine to coarse of macadam and limestone. (MADE GROUND)	(0.30) 0.50 *+78.13*		
					EXPLORATORY HOLE ENDS AT 0.50 m			

Depth	Type & No	Records	Date Casing	Time Water

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)

Chiselling

Depths (m)	Time	Tools used

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project Isles Quarry Ground Investigation
Project No. G0028-10
Carried out for Crest Nicholson (Eastern) Ltd

Borehole
WS210

Dynamic Sampler Hole Log

Soil Mechanics

Drilled	JK	Start	20/04/2010	Equipment, Methods and Remarks	Depth from	to	Diameter	Casing Depth	Ground Level	+78.61 mOD
Logged	KW	End	20/04/2010	Terrier Rig Hand dug inspection pit to 1.20m then lined window sampling to 2.30m. Refusal at 2.30m on sandstone.	0.00m 1.20m 2.00m	1.20m 2.00m 2.30m	500mm 102mm 87mm		Coordinates National Grid	E 560584.53 N 156829.71
Checked	RS								Chainage	

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
0.30	ES 1	PID = 5.4ppm		
0.70-1.00	B 2			
		*		
1.40	ES 3	PID = 5.2ppm		
1.50-2.00	B 4			
2.00	D 5	*		

Strata

Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
Grass over soft dark brown CLAY. (TOPSOIL)	0.10 *+78.51*		
Light brown to grey gravelly SAND. Sand is fine to coarse, gravel is angular fine to coarse of limestone and macadam. (MADE GROUND)	(0.30) 0.40 *+78.21*		
Light grey angular fine to coarse GRAVEL of limestone. (MADE GROUND)	(0.30) 0.70 *+77.91*		
Orangish brown slightly clayey gravelly SAND. Sand is mainly fine to medium, gravel is angular fine to coarse of flint. Rare clinker and sandstone gravel. (MADE GROUND) 1.40-2.00 m No clinker. 2.30 m High cobble content of strong light grey sandstone.	(1.60) 2.30 *+76.31*		
EXPLORATORY HOLE ENDS AT 2.30 m			SP

Depth	Type & No	Records	Date Casing	Time Water

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)	
1.20	2.00	800mm Recovery.
2.00	2.30	300mm Recovery.

Chiselling

Depths (m)	Time	Tools used

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project	Isles Quarry Ground Investigation
Project No.	G0028-10
Carried out for	Crest Nicholson (Eastern) Ltd

Borehole

WS210A

Dynamic Sampler Hole Log

Soil Mechanics

Drilled JK Logged KW Checked RS	Start 20/04/2010 End 20/04/2010	Equipment, Methods and Remarks Terrier Rig Hand dug inspection pit to 1.20m then lined window sampling to 2.30m. Refusal at 2.30m on sandstone cobble.	Depth from / to / Diameter / Casing Depth 0.00m 1.20m 500mm 1.20m 2.00m 102mm 2.00m 2.30m 87mm	Ground Level +78.63 mOD Coordinates National Grid E 560602.42 N 156855.34 Chainage

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
0.30	ES 1	PID = 4.9ppm		
0.80-1.00	B 2			
1.30	ES 3	* PID = 4.3ppm		
2.00-2.30	D 4	*		

Strata

Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
Grass over dark brown gravelly SAND. Sand is fine to coarse, gravel is angular fine to coarse of macadam, flint, concrete and limestone. (MADE GROUND)	(0.60) 0.60 *+78.03*		
Orangish brown silty gravelly SAND. Sand is mainly fine to medium, gravel is angular fine to coarse of limestone and occasional brick and clinker. (MADE GROUND)	(0.80) 0.80 *+77.83*		
Orangish brown slightly clayey gravelly SAND. Sand is mainly fine to medium, gravel is subangular fine of sandstone. (HEAD) 1.40-1.50 m Angular cobbles of sandstone. Rare angular medium flint gravel. 1.50-2.30 m Frequent gravel sized pockets of soft brown sandy clay.	(2.30) 2.30 *+76.33*		SP

EXPLORATORY HOLE ENDS AT 2.30 m

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)	
1.20	2.00	800mm Recovery.
2.00	2.30	300mm recovery

Chiselling

Depths (m)	Time	Tools used

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project Isles Quarry Ground Investigation

Project No. G0028-10

Carried out for Crest Nicholson (Eastern) Ltd

Borehole **WS211**

Dynamic Sampler Hole Log

Soil Mechanics

Drilled JK Logged KW Checked RS	Start 20/04/2010 End 20/04/2010	Equipment, Methods and Remarks Terrier Rig Hand dug inspection pit to 0.50m. Hole terminated due to thickness of concrete.	Depth from 0.00m to 0.50m Diameter 500mm Casing Depth	Ground Level +78.92 mOD Coordinates National Grid E 560552.61 N 156824.19 Chainage

Samples and Tests / Strata

Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
					TOPSOIL	0.20 *+78.72*		
					CONCRETE	(0.30) 0.50 *+78.42*		
					EXPLORATORY HOLE ENDS AT 0.50 m			

Groundwater Entries			
No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *
From to (m)

Chiselling
Depths (m) Time Tools used

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project: Isles Quarry Ground Investigation
Project No.: G0028-10
Carried out for: Crest Nicholson (Eastern) Ltd

Borehole
WS212

Dynamic Sampler Hole Log

Soil Mechanics

Drilled JK **Logged** KW **Checked** RS	**Start** 20/04/2010 **End** 20/04/2010	**Equipment, Methods and Remarks** Terrier Rig Hand dug inspection pit to 1.20m then lined window sampling to 4.30m. Hole collapsed back to 1.50m.	**Depth from / to / Diameter / Casing Depth** 0.00m 1.20m 500mm 1.20m 2.00m 102mm 2.00m 3.00m 87mm 3.00m 4.00m 87mm 4.00m 4.30m 87mm	**Ground Level** +78.14 mOD **Coordinates National Grid** E 560572.48 N 156799.07 **Chainage**

Samples and Tests

Depth	Type & No	Records	Date Casing	Time Water
0.50	ES 1	PID = 0.2ppm		
0.50	B 2			
0.80-1.20	ES 3	PID = 8.0ppm		
		*		
1.40-1.80	ES 4	PID = 4.7ppm		
		*		
2.40	ES 5	PID = 4.6ppm		
2.50-3.00	B 6			
3.00-3.50	B 8	*		
3.70-4.00	ES 7	PID = 3.7ppm		
		*		

Strata

Description	Depth, *Level* (Thickness)	Legend	Backfill/ Instruments
Grass/scrub vegetation over light brown gravelly SAND. Sand is fine to coarse, gravel is subangular to rounded fine to course of sandstone and flint. (MADE GROUND)	(0.80) 0.80 *+77.34*		
Black gravelly SAND. Sand is fine to coarse, gravel is angular fine to coarse of macadam and charcoal. (MADE GROUND)	(0.40) 1.20 *+76.94*		
Light brown gravelly SAND with medium cobble content. Sand is fine to coarse, gravel is angular fine to coarse of sandstone. Slight chemical odour. (MADE GROUND)	(1.00) 2.20 *+75.94*		SP
Orangeish brown slightly silty slightly gravelly to gravelly SAND. Sand is fine to medium, gravel is angular to subangular medium to coarse of flint. (HEAD)	(1.50) 3.70 *+74.44*		
Firm orangish brown slightly sandy CLAY. Sand is fine to medium. Rare angular medium sandstone gravel. (HEAD)	(0.30) 4.00 *+74.14* (0.30) 4.30 *+73.84*		
Recovered as light brown very gravelly SAND. Sand is fine to coarse, gravel is angular fine to coarse of sandstone. (HYTHE BEDS)			
EXPLORATORY HOLE ENDS AT 4.30 m			

Depth	Type & No	Records	Date Casing	Time Water

Groundwater Entries

No.	Struck (m)	Post strike behaviour	Depth sealed (m)

None observed (see Key Sheet)

Depth Related Remarks *

From	to (m)	
1.20	2.00	800mm Recovery.
2.00	3.00	1000mm Recovery.
3.00	4.00	1000mm Recovery.
4.00	4.30	300mm Recovery..

Chiselling

Depths (m)	Time	Tools used

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

Project Isles Quarry Ground Investigation

Project No. G0028-10

Carried out for Crest Nicholson (Eastern) Ltd

Borehole

WS213

Stockpile Sample Descriptions

Soil Mechanics

Hole ID	Sample Type	Sample No	Top m BGL	Base m BGL	Description
SS1	ES	1	0.00		Brown clayey gravelly SAND. sand is fine to coarse, gravel is angular ot subrounded fine to coarse of granite, brick, flint and concrete. (MADE GROUND)
SS2	ES	1	0.00	0.00	Grey very gravelly SAND. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of macadam, metal, glass, flint, brick and concrete. (MADE GROUND)
SS3	ES	1	0.00	0.00	Yellowish brown gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone, brick, flint and concrete. (MADE GROUND)
SS4	ES	1	0.00	0.00	Orangish brown slightly clayey gravelly SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of concrete, brick, flint and sandstone. (MADE GROUND)
SS5	ES	1	0.00	0.00	Brownish grey sandy GRAVEL. Sand is fine to coarse, gravel is angular to subrounded fine to coarse of macadam, flint, granite, brick and concrete. (MADE GROUND)
SS6-1	ES	1	0.00	0.00	Soft orangish brown sandy slightly gravelly CLAY. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone, brick, concrete and macadam. (MADE GROUND)
SS6-2	ES	1	0.00	0.00	Soft orangish brown sandy slightly gravelly CLAY. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone, brick, concrete and macadam. (MADE GROUND)
SS6-3	ES	1	0.00	0.00	Soft orangish brown sandy slightly gravelly CLAY. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone, brick, concrete and macadam. (MADE GROUND)
SS7	ES	1	0.00	0.00	Dark brown slightly gravelly very clayey SAND. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone. (MADE GROUND)
SS8	ES	1	0.00	0.00	Soft brownish grey sandy slightly gravelly CLAY. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of sandstone. (MADE GROUND)
SS9	ES	1	0.00	0.00	Soft dark brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse, gravel is subangular to subrounded fine to coarse of flint. Frequent rootlets. (MADE GROUND)

Notes: Prepared: 27/05/2010 11:12

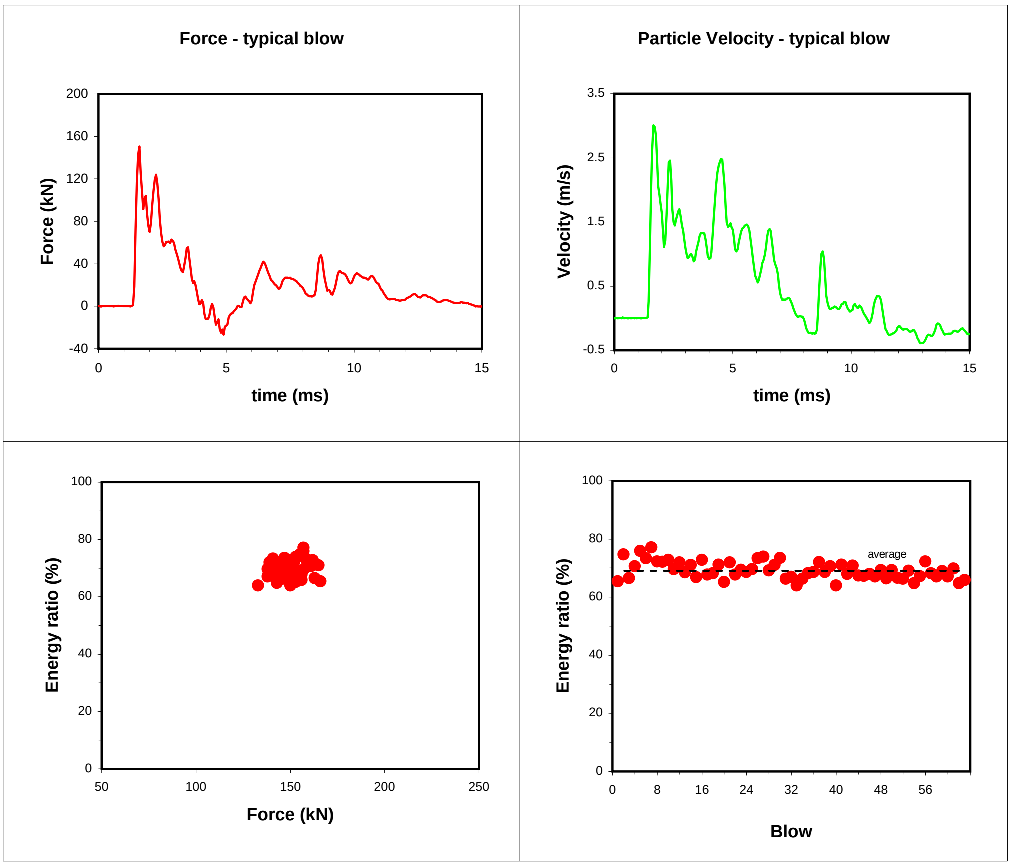
Project	**Isles Quarry Ground Investigation**	**Table**
Project No.	**G0028-10**	**SS1 to SS9**
Carried out for	**Crest Nicholson (Eastern) Ltd**	Sheet 1 of 1

SPT Hammer Energy Report

Soil Mechanics

Date of test:	13/12/2008	**Hammer ID:**	SM05
		Hammer mass (*m*)	63.5 kg
Instrumented rod:		**Fall height (*h*)**	0.76 m
Type	BW		
Cross-sectional area (*A* a)	11.30 cm^2	**Rig:**	Dando 2000
Young's modulus (*E* a)	207000 MPa	**Rig ID:**	CT57
Length	0.60 m	**Type:**	Cable Percussion
SPT rod type:	NWY	**Foreman:**	M Randall

Remarks:
Data obtained from test carried out on Project No. A8156, BH1, at depth of 4.45 mbgl.
N-value for test is 50. Energy determined from every blow.



Theoretical energy (E_{theor}) = *m x g x h* = **0.473 kN-m (473 J)**

Measured energy (E_{meas}) *average of 63 blows* = **0.327 kN-m**

Energy ratio = $\frac{E_{meas}}{E_{theor}}$ = **69 %**

Test carried out by: Rob Cooke

Test carried out in accordance with BS EN ISO 22476-3:2005

Signed for issue:

Equipment used: SPT Analyzer Serial No. 4032T

SPT Hammer Energy Report

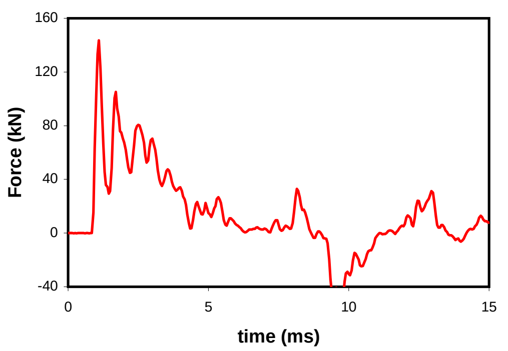
Soil Mechanics

Date of test:	30/09/2009	**Hammer ID:**	SM11
		Hammer mass (*m*)	63.5 kg
Instrumented rod:		**Fall height (*h*)**	0.76 m
Type	BW	**Manufacturer:**	Archway
Cross-sectional area (*A* a)	11.30 cm^2	**Model:**	Automatic Trip Hammer
Young's modulus (*E* a)	207000 MPa		
Length	0.60 m	**Rig:**	Dando 3000
SPT rod type:	B	**Rig ID:**	CT61
		Type:	Cable Percussion
		Foreman:	L Meek

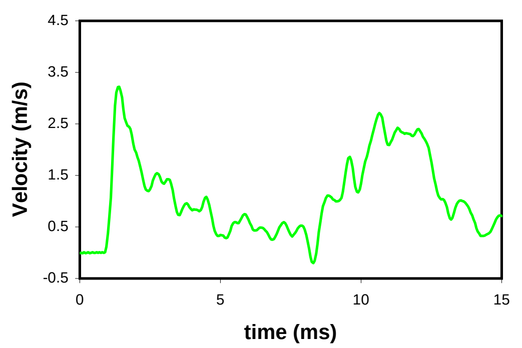
Remarks:

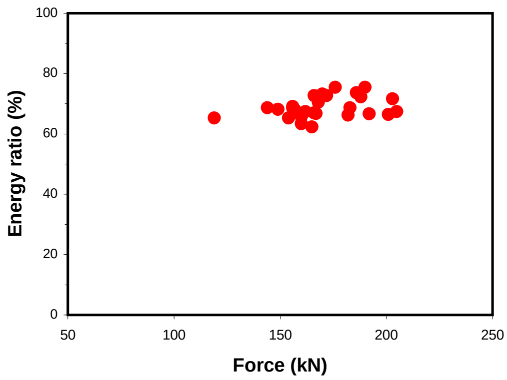
Data obtained from test carried out on Project No. D9902, CH59, at depth of 15.77 mbgl.
N-value for test is 21. Energy determined from every blow.

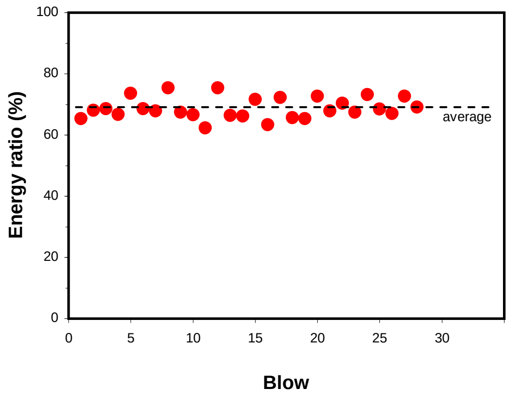
Force - typical blow



Particle Velocity - typical blow







Theoretical energy (E_{theor}) = $m \times g \times h$ = **0.473 kN-m (473 J)**

Measured energy (E_{meas}) *average of 28 blows* = **0.325 kN-m**

Energy ratio = $\frac{E_{meas}}{E_{theor}}$ = **69 %**

Test carried out by:	Ben Swallow	Test carried out in accordance with BS EN ISO 22476-3:2005	
Signed for issue:	BLBS.	Equipment used: SPT Analyzer Serial No. 4032T	

ENCLOSURE B

INSTRUMENTATION AND MONITORING

Groundwater Installation Details

Soil Mechanics

Hole No	Instrument ID	Installation Type	Date of Installation	Reference depth (mBGL)	Piezometer Diameter (mm)	Top of response zone (mBGL)	Base of response zone (mBGL)	Tubing Completion Details	Headworks	Remarks
BH1		SPIE		0.00	50	1.00	10.00	Gas tap	Gas barrel	See previous report
BH2		SP	24 Apr 2008	0.00	50	1.00	12.00	Gas tap	Gas barrel	See previous report
BH3		SP	22 Apr 2008	0.00	50	1.00	10.00	Gas tap	Gas barrel	See previous report
BH4		SP	22 Apr 2008	0.00	50	1.00	15.00	Gas tap	Gas barrel	See previous report
BH5		SP	25 Apr 2008	0.00	50	1.00	12.50	Gas tap	Gas barrel	See previous report
BH9		SP	29 Apr 2008	0.00	50	8.00	10.50	Gas tap	Gas barrel	See previous report
BH101		SP	17 Apr 2010	0.00	50	1.00	14.20	Gas tap	Gas barrel	
BH102		SP	15 Apr 2010	0.00	50	1.00	10.00	Gas tap	Gas barrel	
BH103		SP	14 Apr 2010	0.00	50	1.00	13.00	Gas tap	Gas barrel	
BH104		SP	14 Apr 2010	0.00	50	16.00	17.00	Gas tap	Gas barrel	
BH105A		SP	17 Apr 2010	0.00	50	1.00	5.80	Gas tap	Gas barrel	
BH106		SP	21 Apr 2010	0.00	50	1.50	7.50	Gas tap	Stop cock cover	
WS14		SPIE	24 Apr 2008	0.00	19	1.00	3.50	Gas tap	Gas barrel	See previous report
WS16		SPIE	28 Apr 2008	0.00	19	1.00	5.00	Gas tap	Gas barrel	See previous report
WS201		SP	19 Apr 2010	0.00	40	1.00	4.50	Gas tap	Gas barrel	
WS202		SP	19 Apr 2010	0.00	40	1.00	4.50	Gas tap	Gas barrel	
WS203		SP	19 Apr 2010	0.00	40	1.00	4.50	Gas tap	Gas barrel	
WS204		SP	19 Apr 2010	0.00	40	1.00	4.70	Gas tap	Gas barrel	
WS205A		SP	19 Apr 2010	0.00	50	1.00	2.00	Gas tap	Gas barrel	
WS207		SP	16 Apr 2010	0.00	40	1.00	4.50	Gas tap	Gas barrel	
WS208		SP	16 Apr 2010	0.00	40	1.00	5.00	Gas tap	Stop cock cover	
WS209		SP	16 Apr 2010	0.00	40	1.00	4.80	Gas tap	Stop cock cover	
WS210A		SP	20 Apr 2010	0.00	50	1.00	2.30	Gas tap	Gas barrel	
WS211		SP	20 Apr 2010	0.00	50	1.00	2.30	Gas tap	Gas barrel	
WS213		SP	20 Apr 2010	0.00	50	1.00	1.50	Gas tap	Gas barrel	

Notes: Type: SP - Standpipe, SPIE - Standpipe Piezometer, HPIE - Hydraulic Piezometer, PPIE - Pneumatic Piezometer, EPIE - Electronic Piezometer Prepared: 27/05/2010 11:20

AGS

Project **Isles Quarry Ground Investigation**

Project No. **G0028-10**

Carried out for **Crest Nicholson (Eastern) Ltd**

Table

B1

Sheet 1 of 1

Environmental Services Group Limited

Gas Monitoring Record

Project No	G0028-10	Project	Isles Quarry Ground Investigation
Date	28/04/2010	State of Ground	Dry
		Wind	Calm
Operator	MR	Wind Direction	
		Cloud Cover	Slight
Equipment Used	Gas meter, dipmeter	Precipitation	None

Sheet No: B1/1

Borehole ID	Inst ID	Barometric Pressure (mbars)	Air temp (^oC)	Depth of Installation (m BGL)	Time of Reading hh:mm:ss	Depth to Groundwater (m BGL)	Reading Depth (mBGL)	Differential Pressure (Pa)	FlowRate (l/hr)	CH4 (% vol)	CH4 (% LEL)	O2 (% vol)	CO2 (% vol)	CO (ppm)	H2S (ppm)	Nitrogen (%vol)	Remarks
								Detection Limits									
BH101		1017		14.20		13.96		0.0	0.00	0.0	0.0	19.9	0.0	0.0	0.0		
BH101		1017		14.20		13.96		0.0	0.00	0.0	0.0	19.9	0.0	0.0	0.0		
BH101		1017		14.20		13.96		0.0	0.00	0.0	0.0	19.9	0.0	0.0	0.0		
BH101		1017		14.20		13.96		0.0	0.00	0.0	0.0	19.9	0.0	0.0	0.0		
BH101		1017		14.20		13.96		0.0	0.00	0.0	0.0	19.9	0.0	0.0	0.0		
BH102		1017		10.00		Dry		0.0	0.00	0.0	0.0	19.4	1.0	0.0	0.0		
BH102		1017		10.00		Dry		0.0	0.00	0.0	0.0	19.3	0.9	0.0	0.0		
BH102		1017		10.00		Dry		0.0	0.00	0.0	0.0	19.3	0.9	0.0	0.0		
BH102		1017		10.00		Dry		0.0	0.00	0.0	0.0	19.3	0.9	0.0	0.0		
BH102		1017		10.00		Dry		0.0	0.00	0.0	0.0	19.3	0.9	0.0	0.0		
BH103		1019		13.00		12.97		0.0	0.00	0.0	0.0	16.9	2.0	0.0	0.0		
BH103		1019		13.00		12.97		0.0	0.00	0.0	0.0	12.0	2.3	0.0	0.0		
BH103		1019		13.00		12.97		0.0	0.00	0.0	0.0	12.1	2.1	0.0	0.0		
BH103		1019		13.00		12.97		0.0	0.00	0.0	0.0	12.2	2.0	0.0	0.0		
BH103		1019		13.00		12.97		0.0	0.00	0.0	0.0	12.4	2.0	0.0	0.0		
BH104		1019		17.00		15.58		0.0	0.00	0.0	0.0	19.6	0.0	0.0	0.0		
BH104		1019		17.00		15.58		0.0	0.00	0.0	0.0	19.6	0.0	0.0	0.0		
BH104		1019		17.00		15.58		0.0	0.00	0.0	0.0	19.6	0.0	0.0	0.0		
BH104		1019		17.00		15.58		0.0	0.00	0.0	0.0	19.6	0.0	0.0	0.0		
BH104		1019		17.00		15.58		0.0	0.00	0.0	0.0	19.6	0.0	0.0	0.0		
BH105A		1015		5.80		Dry		0.0	0.00	0.0	0.0	19.9	0.8	0.0	0.0		
BH105A		1015		5.80		Dry		0.0	0.00	0.0	0.0	19.5	0.8	0.0	0.0		
BH105A		1015		5.80		Dry		0.0	0.00	0.0	0.0	19.5	0.8	0.0	0.0		
BH105A		1015		5.80		Dry		0.0	0.00	0.0	0.0	19.5	0.8	0.0	0.0		
BH105A		1015		5.80		Dry		0.0	0.00	0.0	0.0	19.5	0.8	0.0	0.0		

Environmental Services Group Limited

Gas Monitoring Record

Project No	G0028-10	Project	Isles Quarry Ground Investigation
Date	28/04/2010	State of Ground	Dry
		Wind	Calm
Operator	MR	Wind Direction	
		Cloud Cover	Slight
Equipment Used	Gas meter, dipmeter	Precipitation	None

Sheet No: B1/2

Detection Limits

Borehole ID	Inst ID	Barometric Pressure (mbars)	Air temp (^oC)	Depth of Installation (m BGL)	Time of Reading hh:mm:ss	Depth to Groundwater (m BGL)	Reading Depth (mBGL)	Differential Pressure (Pa)	FlowRate (l/hr)	CH4 (% vol)	CH4 (% LEL)	O2 (% vol)	CO2 (% vol)	CO (ppm)	H2S (ppm)	Nitrogen (%vol)	Remarks
BH106		1013		7.50		Dry		0.0	0.00	0.0	0.0	16.2	4.3	0.0	0.0		
BH106		1013		7.50		Dry		0.0	0.00	0.0	0.0	15.5	4.3	0.0	0.0		
BH106		1013		7.50		Dry		0.0	0.00	0.0	0.0	15.3	4.3	0.0	0.0		
BH106		1013		7.50		Dry		0.0	0.00	0.0	0.0	15.3	4.3	0.0	0.0		
BH106		1013		7.50		Dry		0.0	0.00	0.0	0.0	15.3	4.3	0.0	0.0		
WS201		1013		4.50		Dry		0.0	0.00	0.0	0.0	19.4	0.6	0.0	0.0		
WS201		1013		4.50		Dry		0.0	0.00	0.0	0.0	19.4	0.6	0.0	0.0		
WS201		1013		4.50		Dry		0.0	0.00	0.0	0.0	19.4	0.6	0.0	0.0		
WS201		1013		4.50		Dry		0.0	0.00	0.0	0.0	19.4	0.6	0.0	0.0		
WS201		1013		4.50		Dry		0.0	0.00	0.0	0.0	19.4	0.6	0.0	0.0		
WS202		1013		4.50		Dry		0.0	0.00	0.0	0.0	20.0	0.1	0.0	0.0		
WS202		1013		4.50		Dry		0.0	0.00	0.0	0.0	20.0	0.1	0.0	0.0		
WS202		1013		4.50		Dry		0.0	0.00	0.0	0.0	20.0	0.1	0.0	0.0		
WS202		1013		4.50		Dry		0.0	0.00	0.0	0.0	20.0	0.1	0.0	0.0		
WS202		1013		4.50		Dry		0.0	0.00	0.0	0.0	20.0	0.1	0.0	0.0		
WS203		1013		4.50		Dry		0.0	0.00	0.0	0.0	20.0	0.3	0.0	0.0		
WS203		1013		4.50		Dry		0.0	0.00	0.0	0.0	20.0	0.3	0.0	0.0		
WS203		1013		4.50		Dry		0.0	0.00	0.0	0.0	20.0	0.3	0.0	0.0		
WS203		1013		4.50		Dry		0.0	0.00	0.0	0.0	20.0	0.3	0.0	0.0		
WS203		1013		4.50		Dry		0.0	0.00	0.0	0.0	20.0	0.3	0.0	0.0		
WS204		1019		4.70		Dry		0.0	0.00	0.0	0.0	19.5	1.4	0.0	0.0		
WS204		1019		4.70		Dry		0.0	0.00	0.0	0.0	18.6	1.8	0.0	0.0		
WS204		1019		4.70		Dry		0.0	0.00	0.0	0.0	18.6	1.8	0.0	0.0		
WS204		1019		4.70		Dry		0.0	0.00	0.0	0.0	18.6	1.8	0.0	0.0		
WS204		1019		4.70		Dry		0.0	0.00	0.0	0.0	18.6	1.8	0.0	0.0		

Environmental Services Group Limited

Gas Monitoring Record

Project No	G0028-10	Project	Isles Quarry Ground Investigation	Sheet No	
Date	28/04/2010	State of Ground	Dry		B1/3
		Wind	Calm		
Operator	MR	Wind Direction			
		Cloud Cover	Slight		
Equipment Used	Gas meter, dipmeter	Precipitation	None		

Borehole ID	Inst ID	Barometric Pressure (mbars)	Air temp (^{o}C)	Depth of Installation (m BGL)	Time of Reading hh:mm:ss	Depth to Groundwater (m BGL)	Reading Depth (mBGL)	Differential Pressure (Pa)	FlowRate (l/hr)	CH4 (% vol)	CH4 (% LEL)	O2 (% vol)	CO2 (% vol)	CO (ppm)	H2S (ppm)	Nitrogen (%vol)	Remarks
									Detection Limits								
WS205A		1017		2.00		Dry		0.0	0.00	0.0	0.0	20.0	0.0	0.0	0.0		
WS205A		1017		2.00		Dry		0.0	0.00	0.0	0.0	19.9	0.0	0.0	0.0		
WS205A		1017		2.00		Dry		0.0	0.00	0.0	0.0	19.8	0.0	0.0	0.0		
WS205A		1017		2.00		Dry		0.0	0.00	0.0	0.0	19.8	0.0	0.0	0.0		
WS205A		1017		2.00		Dry		0.0	0.00	0.0	0.0	19.8	0.0	0.0	0.0		
WS207		1015		4.50		3.40		0.0	0.00	0.0	0.4	17.7	1.9	0.0	1.4		
WS207		1015		4.50		3.40		0.0	0.00	0.0	0.7	17.6	1.9	0.0	1.5		
WS207		1015		4.50		3.40		0.0	0.00	0.0	1.2	17.6	1.9	0.0	1.4		
WS207		1015		4.50		3.40		0.0	0.00	0.0	1.4	17.5	2.0	0.0	1.5		
WS207		1015		4.50		3.40		0.0	0.00	0.0	1..4	17.5	2.0	0.0	1.5		
WS208		1016		5.00		Dry		0.0	0.00	0.0	0.0	16.0	3.2	0.0	0.0		
WS208		1016		5.00		Dry		0.0	0.00	0.0	0.0	15.8	3.3	0.0	0.0		
WS208		1016		5.00		Dry		0.0	0.00	0.0	0.0	15.8	3.3	0.0	0.0		
WS208		1016		5.00		Dry		0.0	0.00	0.0	0.0	15.8	3.3	0.0	0.0		
WS208		1016		5.00		Dry		0.0	0.00	0.0	0.0	15.8	3.3	0.0	0.0		
WS209		1016		4.80		Dry		0.0	0.00	0.0	0.0	12.7	5.9	0.0	0.0		
WS209		1016		4.80		Dry		0.0	0.00	0.0	0.0	11.6	6.0	60.0	0.0		
WS209		1016		4.80		Dry		0.0	0.00	0.0	0.0	11.3	6.0	0.0	0.0		
WS209		1016		4.80		Dry		0.0	0.00	0.0	0.0	11.3	6.0	0.0	0.0		
WS209		1016		4.80		Dry		0.0	0.00	0.0	0.0	11.3	6.0	0.0	0.0		
WS210A		1015		2.30		Dry		0.0	0.00	0.0	0.0	19.9	0.9	0.0	0.0		
WS210A		1015		2.30		Dry		0.0	0.00	0.0	0.0	19.9	0.9	0.0	0.0		
WS210A		1015		2.30		Dry		0.0	0.00	0.0	0.0	19.9	0.9	0.0	0.0		
WS210A		1015		2.30		Dry		0.0	0.00	0.0	0.0	19.9	0.9	0.0	0.0		
WS210A		1015		2.30		Dry		0.0	0.00	0.0	0.0	19.9	0.9	0.0	0.0		

Environmental Services Group Limited

Gas Monitoring Record

Project No	G0028-10	Project	Isles Quarry Ground Investigation	Sheet No	
Date	28/04/2010	State of Ground	Dry		B1/4
		Wind	Calm		
Operator	MR	Wind Direction			
		Cloud Cover	Slight		
Equipment Used	Gas meter, dipmeter	Precipitation	None		

Borehole ID	Inst ID	Barometric Pressure (mbars)	Air temp (^oC)	Depth of Installation (m BGL)	Time of Reading hh:mm:ss	Depth to Groundwater (m BGL)	Reading Depth (mBGL)	Differential Pressure (Pa)	FlowRate (l/hr)	CH4 (% vol)	CH4 (% LEL)	O2 (% vol)	CO2 (% vol)	CO (ppm)	H2S (ppm)	Nitrogen (%vol)	Remarks
								Detection Limits									
WS211		1015		2.30		Dry		0.0	0.00	0.0	0.0	17.9	1.8	0.0	0.0		
WS211		1015		2.30		Dry		0.0	0.00	0.0	0.0	17.7	1.7	0.0	0.0		
WS211		1015		2.30		Dry		0.0	0.00	0.0	0.0	17.7	1.7	0.0	0.0		
WS211		1015		2.30		Dry		0.0	0.00	0.0	0.0	17.7	1.7	0.0	0.0		
WS211		1015		2.30		Dry		0.0	0.00	0.0	0.0	17.7	1.7	0.0	0.0		
WS213		1015		1.50		Dry		0.0	0.00	0.0	0.0	20.0	0.3	0.0	0.0		
WS213		1015		1.50		Dry		0.0	0.00	0.0	0.0	20.0	0.3	0.0	0.0		
WS213		1015		1.50		Dry		0.0	0.00	0.0	0.0	20.0	0.3	0.0	0.0		
WS213		1015		1.50		Dry		0.0	0.00	0.0	0.0	20.0	0.3	0.0	0.0		
WS213		1015		1.50		Dry		0.0	0.00	0.0	0.0	20.0	0.3	0.0	0.0		

Environmental Services Group Limited **Gas Monitoring Record**

Project No	G0028-10	Project	Isles Quarry Ground Investigation	Sheet No	
Date	28/04/2010	State of Ground	Dry		B1/5
		Wind	Calm		
Operator	MR	Wind Direction			
		Cloud Cover	Slight		
Equipment Used	Gas meter, dipmeter	Precipitation	None		

Borehole ID	Inst ID	Barometric Pressure (mbars)	Air temp (°C)	Depth of Installation (m BGL)	Time of Reading hh:mm:ss	Depth to Groundwater (m BGL)	Reading Depth (mBGL)	Differential Pressure (Pa)	FlowRate (l/hr)	CH4 (% vol)	CH4 (% LEL)	O2 (% vol)	CO2 (% vol)	CO (ppm)	H2S (ppm)	Nitrogen (%vol)	Remarks
								Detection Limits									
BH1		1019		10.00		9.80		0.2	0.10	0.6	13.1	1.6	5.9	0.0	0.0		
BH1		1019		10.00		9.80		0.2	0.10	0.7	12.9	1.8	5.7	0.0	0.0		
BH1		1019		10.00		9.80		0.2	0.10	0.6	12.7	2.3	5.7	0.0	0.0		
BH1		1019		10.00		9.80		0.2	0.10	0.6	14.2	2.3	5.6	0.0	0.0		
BH1		1019		10.00		9.80		0.2	0.10	0.6	13.4	2.3	5.6	0.0	0.0		
BH2		1016		12.00		7.97		0.0	0.00	0.2	5.5	13.2	3.0	0.0	0.0		
BH2		1016		12.00		7.97		0.0	0.00	0.0	2.0	13.6	2.0	0.0	0.0		
BH2		1016		12.00		7.97		0.0	0.00	0.0	1.0	16.5	1.5	0.0	0.0		
BH2		1016		12.00		7.97		0.0	0.00	0.0	0.4	17.1	1.0	0.0	0.0		
BH2		1016		12.00		7.97		0.0	0.00	0.0	0.1	17.5	0.9	0.0	0.0		
BH4		1016		15.00		Dry		0.0	0.00	0.0	0.0	18.7	0.4	0.0	0.0		
BH4		1016		15.00		Dry		0.0	0.00	0.0	0.0	18.3	0.5	0.0	0.0		
BH4		1016		15.00		Dry		0.0	0.00	0.0	0.0	17.7	0.7	0.0	0.0		
BH4		1016		15.00		Dry		0.0	0.00	0.0	0.0	17.8	0.6	0.0	0.0		
BH4		1016		15.00		Dry		0.0	0.00	0.0	0.0	17.7	0.7	0.0	0.0		
BH3				10.00		8.40											
BH5				12.50		Dry											
BH6																	Unable to locate
BH9				10.50		Dry											
BH10																	Unable to locate
WS14				3.50		Dry											
WS16				5.00		Dry											
WS20																	Unable to locate

Environmental Services Group Limited

Gas Monitoring Record

Project No	G0028-10	Project	Isles Quarry Ground Investigation
Date	11/05/2010	State of Ground	Dry
		Wind	Light
Operator	MR	Wind Direction	
		Cloud Cover	Slight
Equipment Used	Gas memter, dipmeter	Precipitation	None

Sheet No: B2/1

Borehole ID	Inst ID	Barometric Pressure (mbars)	Air temp (°C)	Depth of Installation (m BGL)	Time of Reading hh:mm:ss	Depth to Groundwater (m BGL)	Reading Depth (mBGL)	Differential Pressure (Pa)	FlowRate (l/hr)	CH4 (% vol)	CH4 (% LEL)	O2 (% vol)	CO2 (% vol)	CO (ppm)	H2S (ppm)	Nitrogen (%vol)	Remarks
Detection Limits																	
WS207		1013		4.50		2.90		0.0	0.00	0.0	0.0	19.2	0.3	0.0	0.0		
WS207		1013		4.50		2.90		0.0	0.00	0.0	0.0	19.3	0.1	0.0	0.0		
WS207		1013		4.50		2.90		0.0	0.00	0.0	0.0	19.2	0.0	0.0	0.0		
WS207		1013		4.50		2.90		0.0	0.00	0.0	0.0	19.2	0.0	0.0	0.0		
WS207		1013		4.50		0.90		0.0	0.00	0.0	0.0	19.2	0.0	0.0	0.0		
WS208		1013		5.00		dry		0.0	0.00	0.0	0.0	16.7	2.6	0.0	0.0		
WS208		1013		5.00		dry		0.0	0.00	0.0	0.0	16.3	2.8	0.0	0.0		
WS208		1013		5.00		dry		0.0	0.00	0.0	0.0	15.7	3.2	0.0	0.0		
WS208		1013		5.00		dry		0.0	0.00	0.0	0.0	15.0	3.8	0.0	0.0		
WS208		1013		5.00		dry		0.0	0.00	0.0	0.0	14.8	4.0	0.0	0.0		
WS209		1012		4.80		dry		0.0	0.00	0.0	0.0	9.7	7.4	0.0	0.0		
WS209		1012		4.80		dry		0.0	0.00	0.0	0.0	7.8	7.6	0.0	0.0		
WS209		1012		4.80		dry		0.0	0.00	0.0	0.0	7.6	7.6	0.0	0.0		
WS209		1012		4.80		dry		0.0	0.00	0.0	0.0	7.4	7.8	0.0	0.0		
WS209		1012		4.80		dry		0.0	0.00	0.0	0.0	7.3	7.8	0.0	0.0		
BH106		1012		7.50		dry		0.0	0.00	0.0	0.0	13.4	3.7	0.0	0.0		
BH106		1012		7.50		dry		0.0	0.00	0.0	0.0	13.0	3.7	0.0	0.0		
BH106		1012		7.50		dry		0.0	0.00	0.0	0.0	12.8	3.7	0.0	0.0		
BH106		1012		7.50		dry		0.0	0.00	0.0	0.0	12.7	3.7	0.0	0.0		
BH106		1012		7.50		dry		0.0	0.00	0.0	0.0	12.7	3.7	0.0	0.0		
WS213		1011		1.50		dry		0.0	0.00	0.0	0.0	19.7	0.3	0.0	0.0		
WS213		1011		1.50		dry		0.0	0.00	0.0	0.0	19.6	0.2	0.0	0.0		
WS213		1011		1.50		dry		0.0	0.00	0.0	0.0	19.6	0.2	0.0	0.0		
WS213		1011		1.50		dry		0.0	0.00	0.0	0.0	19.6	0.2	0.0	0.0		
WS213		1011		1.50		dry		0.0	0.00	0.0	0.0	19.6	0.2	0.0	0.0		

Environmental Services Group Limited

Gas Monitoring Record

Project No: G0028-10
Date: 11/05/2010
Operator: MR
Equipment Used: Gas meter, dipmeter

Project: Isles Quarry Ground Investigation
State of Ground: Dry
Wind: Light
Wind Direction:
Cloud Cover: Slight
Precipitation: None

Sheet No: B2/2

Borehole ID	Inst ID	Barometric Pressure (mbars)	Air temp (°C)	Depth of Installation (m BGL)	Time of Reading hh:mm:ss	Depth to Groundwater (m BGL)	Reading Depth (mBGL)	Differential Pressure (Pa)	FlowRate (l/hr)	CH4 (% vol)	CH4 (% LEL)	O2 (% vol)	CO2 (% vol)	CO (ppm)	H2S (ppm)	Nitrogen (%vol)	Remarks
								Detection Limits									
BH105A		1011		6.00		dry		0.0	0.00	0.0	0.0	18.3	2.6	0.0	0.0		
BH105A		1011		6.00		dry		0.0	0.00	0.0	0.0	17.7	2.7	0.0	0.0		
BH105A		1011		6.00		dry		0.0	0.00	0.0	0.0	17.5	2.7	0.0	0.0		
BH105A		1011		6.00		dry		0.0	0.00	0.0	0.0	17.5	2.7	0.0	0.0		
BH105A		1011		6.00		dry		0.0	0.00	0.0	0.0	17.5	2.7	0.0	0.0		
WS210A		1011		2.30		dry		0.0	0.00	0.0	0.0	17.6	2.7	0.0	0.0		
WS210A		1011		2.30		dry		0.0	0.00	0.0	0.0	17.0	2.8	0.0	0.0		
WS210A		1011		2.30		dry		0.0	0.00	0.0	0.0	17.0	2.8	0.0	0.0		
WS210A		1011		2.30		dry		0.0	0.00	0.0	0.0	17.0	2.8	0.0	0.0		
WS210A		1011		2.30		dry		0.0	0.00	0.0	0.0	17.0	2.8	0.0	0.0		
WS211		1011		2.30		dry		0.0	0.00	0.0	0.0	16.0	2.9	0.0	0.0		
WS211		1011		2.30		dry		0.0	0.00	0.0	0.0	15.9	3.0	0.0	0.0		
WS211		1011		2.30		dry		0.0	0.00	0.0	0.0	16.0	2.8	0.0	0.0		
WS211		1011		2.30		dry		0.0	0.00	0.0	0.0	16.0	2.7	0.0	0.0		
WS211		1011		2.30		dry		0.0	0.00	0.0	0.0	16.1	2.8	0.0	0.0		
BH101		1011		14.20		14.09		0.0	0.00	0.1	2.1	7.8	7.3	0.0	1.8		
BH101		1011		14.20		14.09		0.0	0.00	0.1	1.9	5.8	7.5	0.0	1.8		
BH101		1011		14.20		14.09		0.0	0.00	0.0	1.2	5.8	7.3	0.0	1.8		
BH101		1011		14.20		14.09		0.0	0.00	0.0	1.0	5.7	7.1	0.0	1.8		
BH101		1011		14.20		14.09		0.0	0.00	0.0	1.0	5.7	7.1	0.0	1.8		
BH103		1011		13.00		dry		0.0	0.00	0.0	0.0	13.9	2.2	0.0	0.0		
BH103		1011		13.00		dry		0.0	0.00	0.0	0.0	12.8	2.3	0.0	0.0		
BH103		1011		13.00		dry		0.0	0.00	0.0	0.0	12.5	2.3	0.0	0.0		
BH103		1011		13.00		dry		0.0	0.00	0.0	0.0	12.4	2.3	0.0	0.0		
BH103		1011		13.00		dry		0.0	0.00	0.0	0.0	12.4	2.3	0.0	0.0		

Environmental Services Group Limited

Gas Monitoring Record

Project No	G0028-10	Project	Isles Quarry Ground Investigation	Sheet No	
Date	11/05/2010	State of Ground	Dry		B2/3
		Wind	Light		
Operator	MR	Wind Direction			
		Cloud Cover	Slight		
Equipment Used	Gas meter, dipmeter	Precipitation	None		

Borehole ID	Inst ID	Barometric Pressure (mbars)	Air temp (^oC)	Depth of Installation (m BGL)	Time of Reading hh:mm:ss	Depth to Groundwater (m BGL)	Reading Depth (mBGL)	Differential Pressure (Pa)	FlowRate (l/hr)	CH4 (% vol)	CH4 (% LEL)	O2 (% vol)	CO2 (% vol)	CO (ppm)	H2S (ppm)	Nitrogen (%vol)	Remarks
									Detection Limits								
BH104		1011		17.00		16.30		0.0	0.00	0.0	0.0	18.5	0.5	0.0	0.0		
BH104		1011		17.00		16.30		0.0	0.00	0.0	0.0	18.6	0.4	18.0	0.0		
BH104		1011		17.00		16.30		0.0	0.00	0.0	0.0	18.7	0.4	0.0	0.0		
BH104		1011		17.00		16.30		0.0	0.00	0.0	0.0	18.7	0.4	0.0	0.0		
BH104		1011		17.00		16.30		0.0	0.00	0.0	0.0	18.7	0.4	0.0	0.0		
WS204		1011		4.70		dry		0.0	0.00	0.0	0.0	18.8	0.9	0.0	0.0		
WS204		1011		4.70		dry		0.0	0.00	0.0	0.0	18.7	0.9	0.0	0.0		
WS204		1011		4.70		dry		0.0	0.00	0.0	0.0	18.7	0.9	0.0	0.0		
WS204		1011		4.70		dry		0.0	0.00	0.0	0.0	18.7	0.9	0.0	0.0		
WS204		1011		4.70		dry		0.0	0.00	0.0	0.0	18.7	0.9	0.0	0.0		
WS205A		1011		2.00		dry		0.0	0.00	0.0	0.0	20.0	0.0	0.0	0.0		
WS205A		1011		2.00		dry		0.0	0.00	0.0	0.0	20.0	0.0	0.0	0.0		
WS205A		1011		2.00		dry		0.0	0.00	0.0	0.0	20.0	0.0	0.0	0.0		
WS205A		1011		2.00		dry		0.0	0.00	0.0	0.0	20.0	0.0	0.0	0.0		
WS205A		1011		2.00		dry		0.0	0.00	0.0	0.0	20.0	0.0	0.0	0.0		
BH102		1011		10.00		dry		0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
BH102		1011		10.00		dry		0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
BH102		1011		10.00		dry		0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
BH102		1011		10.00		dry		0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
BH102		1011		10.00		dry		0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS201		1011		4.50		dry		0.0	0.00	0.0	0.0	19.2	0.6	0.0	0.0		
WS201		1011		4.50		dry		0.0	0.00	0.0	0.0	19.0	0.6	0.0	0.0		
WS201		1011		4.50		dry		0.0	0.00	0.0	0.0	19.0	0.6	0.0	0.0		
WS201		1011		4.50		dry		0.0	0.00	0.0	0.0	19.0	0.6	0.0	0.0		
WS201		1011		4.50		dry		0.0	0.00	0.0	0.0	19.0	0.6	0.0	0.0		

Environmental Services Group Limited

Gas Monitoring Record

Project No	G0028-10	Project	Isles Quarry Ground Investigation
Date	11/05/2010	State of Ground	Dry
		Wind	Light
Operator	MR	Wind Direction	
		Cloud Cover	Slight
Equipment Used	Gas meter, dipmeter	Precipitation	None

Sheet No: B2/4

Borehole ID	Inst ID	Barometric Pressure (mbars)	Air temp (^oC)	Depth of Installation (m BGL)	Time of Reading hh:mm:ss	Depth to Groundwater (m BGL)	Reading Depth (mBGL)	Differential Pressure (Pa)	FlowRate (l/hr)	CH4 (% vol)	CH4 (% LEL)	O2 (% vol)	CO2 (% vol)	CO (ppm)	H2S (ppm)	Nitrogen (%vol)	Remarks
							Detection Limits										
WS202		1011		4.50		dry		0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS202		1011		4.50		dry		0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS202		1011		4.50		dry		0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS202		1011		4.50		dry		0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS202		1011		4.50		dry		0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS203		1011		4.50		dry		0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS203		1011		4.50		dry		0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS203		1011		4.50		dry		0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS203		1011		4.50		dry		0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS203		1011		4.50		dry		0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		

Environmental Services Group Limited

Gas Monitoring Record

Project No	G0028-10	Project	Isles Quarry Ground Investigation
Date	11/05/2010	State of Ground	Dry
		Wind	Light
Operator	MR	Wind Direction	
		Cloud Cover	Slight
Equipment Used	Gasmeter, dipmeter	Precipitation	None

Sheet No: B2/5

Borehole ID	Inst ID	Barometric Pressure (mbars)	Air temp (^oC)	Depth of Installation (m BGL)	Time of Reading hh:mm:ss	Depth to Groundwater (m BGL)	Reading Depth (mBGL)	Differential Pressure (Pa)	FlowRate (l/hr)	CH4 (% vol)	CH4 (% LEL)	O2 (% vol)	CO2 (% vol)	CO (ppm)	H2S (ppm)	Nitrogen (%vol)	Remarks
								Detection Limits									
BH1		1011		10.00		9.80		0.0	0.00	1.3	26.6	4.1	5.1	0.0	1.2		
BH1		1011		10.00		9.80		0.0	0.00	1.3	27.0	3.8	5.1	0.0	1.5		
BH1		1011		10.00		9.80		0.0	0.00	1.3	27.7	3.6	5.2	0.0	1.4		
BH1		1011		10.00		9.80		0.0	0.00	1.4	28.3	3.4	5.2	0.0	1.4		
BH1		1011		10.00		9.80		0.0	0.00	1.4	28.6	3.4	5.2	0.0	1.4		
BH2		1011		12.00		8.86		0.0	0.00	0.7	14.4	4.2	6.4	0.0	1.8		
BH2		1011		12.00		8.86		0.0	0.00	0.6	14.7	4.5	6.2	0.0	1.6		
BH2		1011		12.00		8.86		0.0	0.00	0.5	13.9	4.6	6.2	0.0	1.6		
BH2		1011		12.00		8.86		0.0	0.00	0.5	13.1	4.9	6.0	0.0	1.4		
BH2		1011		12.00		8.86		0.0	0.00	0.4	12.5	5.4	5.8	0.0	1.2		
BH4		1011		15.00		dry		0.0	0.00	0.0	0.0	15.5	2.6	0.0	0.0		
BH4		1011		15.00		dry		0.0	0.00	0.0	0.0	15.8	1.0	0.0	0.0		
BH4		1011		15.00		dry		0.0	0.00	0.0	0.0	17.2	0.4	0.0	0.0		
BH4		1011		15.00		dry		0.0	0.00	0.0	0.0	18.7	0.3	0.0	0.0		
BH4		1011		15.00		dry		0.0	0.00	0.0	0.0	18.7	0.3	0.0	0.0		

Environmental Services Group Limited

Gas Monitoring Record

Project No	G0028-10	Project	Isles Quarry Ground Investigation	Sheet No
Date	25/05/2010	State of Ground	Dry	B3/1
		Wind	Light	
Operator	MR	Wind Direction		
		Cloud Cover	Slight	
Equipment Used	Gas meter, dipmeter	Precipitation	None	

Borehole ID	Inst ID	Barometric Pressure (mbars)	Air temp (°C)	Depth of Installation (m BGL)	Time of Reading hh:mm:ss	Depth to Groundwater (m BGL)	Reading Depth (mBGL)	Differential Pressure (Pa)	FlowRate (l/hr)	CH4 (% vol)	CH4 (% LEL)	O2 (% vol)	CO2 (% vol)	CO (ppm)	H2S (ppm)	Nitrogen (%vol)	Remarks
								Detection Limits									
WS207		1013		4.50		3.05		0.0	0.00	0.0	0.0	19.0	0.3	0.0	0.0		
WS207		1013		4.50		3.05		0.0	0.00	0.0	0.0	19.0	0.5	0.0	0.0		
WS207		1013		4.50		3.05		0.0	0.00	0.0	0.0	18.9	0.5	0.0	0.0		
WS207		1013		4.50		3.05		0.0	0.00	0.0	0.0	18.9	0.4	0.0	0.0		
WS207		1013		4.50		3.05		0.0	0.00	0.0	0.0	19.0	0.4	0.0	0.0		
WS208		1013		5.00		dry		0.0	0.00	0.0	0.0	16.2	2.8	0.0	0.0		
WS208		1013		5.00		dry		0.0	0.00	0.0	0.0	15.7	3.2	0.0	0.0		
WS208		1013		5.00		dry		0.0	0.00	0.0	0.0	15.3	3.5	0.0	0.0		
WS208		1013		5.00		dry		0.0	0.00	0.0	0.0	14.9	3.7	0.0	0.0		
WS208		1013		5.00		dry		0.0	0.00	0.0	0.0	14.7	3.8	0.0	0.0		
WS209		1012		4.80		dry		0.0	0.00	0.0	0.0	9.3	7.0	0.0	0.0		
WS209		1012		4.80		dry		0.0	0.00	0.0	0.0	8.6	7.4	0.0	0.0		
WS209		1012		4.80		dry		0.0	0.00	0.0	0.0	7.7	7.9	0.0	0.0		
WS209		1012		4.80		dry		0.0	0.00	0.0	0.0	7.3	8.0	0.0	0.0		
WS209		1012		4.80		dry		0.0	0.00	0.0	0.0	6.9	7.8	0.0	0.0		
BH106		1012		7.50		dry		0.0	0.00	0.0	0.0	13.6	3.7	0.0	0.0		
BH106		1012		7.50		dry		0.0	0.00	0.0	0.0	13.2	3.9	0.0	0.0		
BH106		1012		7.50		dry		0.0	0.00	0.0	0.0	13.0	4.0	0.0	0.0		
BH106		1012		7.50		dry		0.0	0.00	0.0	0.0	12.9	4.0	0.0	0.0		
BH106		1012		7.50		dry		0.0	0.00	0.0	0.0	12.9	4.0	0.0	0.0		
WS213		1011		1.50		dry		0.0	0.00	0.0	0.0	19.4	0.5	0.0	0.0		
WS213		1011		1.50		dry		0.0	0.00	0.0	0.0	19.5	0.4	0.0	0.0		
WS213		1011		1.50		dry		0.0	0.00	0.0	0.0	19.7	0.3	0.0	0.0		
WS213		1011		1.50		dry		0.0	0.00	0.0	0.0	19.7	0.3	0.0	0.0		
WS213		1011		1.50		dry		0.0	0.00	0.0	0.0	19.7	0.3	0.0	0.0		

Environmental Services Group Limited **Gas Monitoring Record**

Project No	G0028-10	Project	Isles Quarry Ground Investigation	Sheet No	
Date	25/05/2010	State of Ground	Dry		B3/2
		Wind	Light		
Operator	MR	Wind Direction			
		Cloud Cover	Slight		
Equipment Used	Gas meter, dipmeter	Precipitation	None		

Borehole ID	Inst ID	Barometric Pressure (mbars)	Air temp (^oC)	Depth of Installation (m BGL)	Time of Reading hh:mm:ss	Depth to Groundwater (m BGL)	Reading Depth (mBGL)	Differential Pressure (Pa)	FlowRate (l/hr)	CH4 (% vol)	CH4 (% LEL)	O2 (% vol)	CO2 (% vol)	CO (ppm)	H2S (ppm)	Nitrogen (%vol)	Remarks
								Detection Limits									
BH105A		1011		6.00		dry		0.0	0.00	0.0	0.0	18.0	2.8	0.0	0.0		
BH105A		1011		6.00		dry		0.0	0.00	0.0	0.0	17.4	2.7	0.0	0.0		
BH105A		1011		6.00		dry		0.0	0.00	0.0	0.0	17.2	2.6	0.0	0.0		
BH105A		1011		6.00		dry		0.0	0.00	0.0	0.0	17.2	2.6	0.0	0.0		
BH105A		1011		6.00		dry		0.0	0.00	0.0	0.0	17.2	2.6	0.0	0.0		
WS210A		1011		2.30		dry		0.0	0.00	0.0	0.0	17.4	2.8	0.0	0.0		
WS210A		1011		2.30		dry		0.0	0.00	0.0	0.0	17.0	2.8	0.0	0.0		
WS210A		1011		2.30		dry		0.0	0.00	0.0	0.0	17.0	2.9	0.0	0.0		
WS210A		1011		2.30		dry		0.0	0.00	0.0	0.0	16.9	2.9	0.0	0.0		
WS210A		1011		2.30		dry		0.0	0.00	0.0	0.0	16.9	2.8	0.0	0.0		
WS211		1011		2.30		dry		0.0	0.00	0.0	0.0	16.2	3.0	0.0	0.0		
WS211		1011		2.30		dry		0.0	0.00	0.0	0.0	15.9	3.2	0.0	0.0		
WS211		1011		2.30		dry		0.0	0.00	0.0	0.0	15.8	3.1	0.0	0.0		
WS211		1011		2.30		dry		0.0	0.00	0.0	0.0	16.0	2.9	0.0	0.0		
WS211		1011		2.30		dry		0.0	0.00	0.0	0.0	16.1	2.9	0.0	0.0		
BH101		1011		14.20		14.09		0.0	0.00	0.0	0.0	7.0	6.6	0.0	0.0		
BH101		1011		14.20		14.09		0.0	0.00	0.1	0.0	6.4	6.8	0.0	0.0		
BH101		1011		14.20		14.09		0.0	0.00	0.0	0.0	6.4	6.7	0.0	0.0		
BH101		1011		14.20		14.09		0.0	0.00	0.0	0.0	6.4	6.7	0.0	0.0		
BH101		1011		14.20		14.09		0.0	0.00	0.0	0.0	6.4	6.7	0.0	0.0		
BH103		1011		13.00		dry		0.0	0.00	0.0	0.0	13.1	1.9	0.0	0.0		
BH103		1011		13.00		dry		0.0	0.00	0.0	0.0	12.7	2.2	0.0	0.0		
BH103		1011		13.00		dry		0.0	0.00	0.0	0.0	12.4	2.4	0.0	0.0		
BH103		1011		13.00		dry		0.0	0.00	0.0	0.0	12.2	2.5	0.0	0.0		
BH103		1011		13.00		dry		0.0	0.00	0.0	0.0	12.1	2.5	0.0	0.0		

Environmental Services Group Limited

Gas Monitoring Record

Project No	G0028-10	Project	Isles Quarry Ground Investigation	Sheet No	
Date	25/05/2010	State of Ground	Dry		B3/4
		Wind	Light		
Operator	MR	Wind Direction			
		Cloud Cover	Slight		
Equipment Used	Gas meter, dipmeter	Precipitation	None		

Borehole ID	Inst ID	Barometric Pressure (mbars)	Air temp (^oC)	Depth of Installation (m BGL)	Time of Reading hh:mm:ss	Depth to Groundwater (m BGL)	Reading Depth (mBGL)	Differential Pressure (Pa)	FlowRate (l/hr)	CH4 (% vol)	CH4 (% LEL)	O2 (% vol)	CO2 (% vol)	CO (ppm)	H2S (ppm)	Nitrogen (%vol)	Remarks
									Detection Limits								
WS202		1011		4.50		dry	0.00	0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS202		1011		4.50		dry	0.00	0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS202		1011		4.50		dry	0.00	0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS202		1011		4.50		dry	0.00	0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS202		1011		4.50		dry	0.00	0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS203		1011		4.50		dry	0.00	0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS203		1011		4.50		dry	0.00	0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS203		1011		4.50		dry	0.00	0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS203		1011		4.50		dry	0.00	0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		
WS203		1011		4.50		dry	0.00	0.0	0.00	0.0	0.0	20.1	0.0	0.0	0.0		

Environmental Services Group Limited **Gas Monitoring Record**

Project No	G0028-10	Project	Isles Quarry Ground Investigation	Sheet No
Date	25/05/2010	State of Ground	Dry	B3/5
		Wind	Light	
Operator	MR	Wind Direction		
		Cloud Cover	Slight	
Equipment Used	Gas meter, dipmeter	Precipitation	None	

Borehole ID	Inst ID	Barometric Pressure (mbars)	Air temp (^{o}C)	Depth of Installation (m BGL)	Time of Reading hh:mm:ss	Depth to Groundwater (m BGL)	Reading Depth (mBGL)	Differential Pressure (Pa)	FlowRate (l/hr)	CH4 (% vol)	CH4 (% LEL)	O2 (% vol)	CO2 (% vol)	CO (ppm)	H2S (ppm)	Nitrogen (%vol)	Remarks
								Detection Limits									
BH1		1011		10.00		9.61		0.0	0.00	0.1	1.6	15.0	1.0	0.0	1.4		
BH1		1011		10.00		9.61		0.0	0.00	0.1	2.6	13.8	2.0	0.0	1.4		
BH1		1011		10.00		9.61		0.0	0.00	0.1	3.2	13.6	2.8	0.0	1.4		
BH1		1011		10.00		9.61		0.0	0.00	0.1	4.6	11.3	2.9	0.0	1.4		
BH1		1011		10.00		9.61		0.0	0.00	0.1	4.9	10.6	3.2	0.0	1.4		
BH2		1011		12.00		8.80		0.0	0.00	0.0	0.0	12.2	4.0	0.0	0.0		
BH2		1011		12.00		8.80		0.0	0.00	0.0	0.0	10.7	4.0	0.0	0.0		
BH2		1011		12.00		8.80		0.0	0.00	0.0	0.0	10.9	3.8	0.0	0.0		
BH2		1011		12.00		8.80		0.0	0.00	0.0	0.0	11.0	3.8	0.0	0.0		
BH2		1011		12.00		8.80		0.0	0.00	0.0	0.0	11.0	3.9	0.0	0.0		
BH4		1011		15.00		dry		0.0	0.00	0.0	0.0	15.8	2.4	0.0	0.0		
BH4		1011		15.00		dry		0.0	0.00	0.0	0.0	14.4	3.2	0.0	0.0		
BH4		1011		15.00		dry		0.0	0.00	0.0	0.0	15.2	2.1	0.0	0.0		
BH4		1011		15.00		dry		0.0	0.00	0.0	0.0	16.0	1.2	0.0	0.0		
BH4		1011		15.00		dry		0.0	0.00	0.0	0.0	16.6	0.8	0.0	0.0		

ESG Environmental Scientifics Group

Soil Mechanics

ENCLOSURE C

IN SITU TESTING

Plate Load Bearing Tests TP401 to TP403

Plate Bearing Test Results

Soil Mechanics

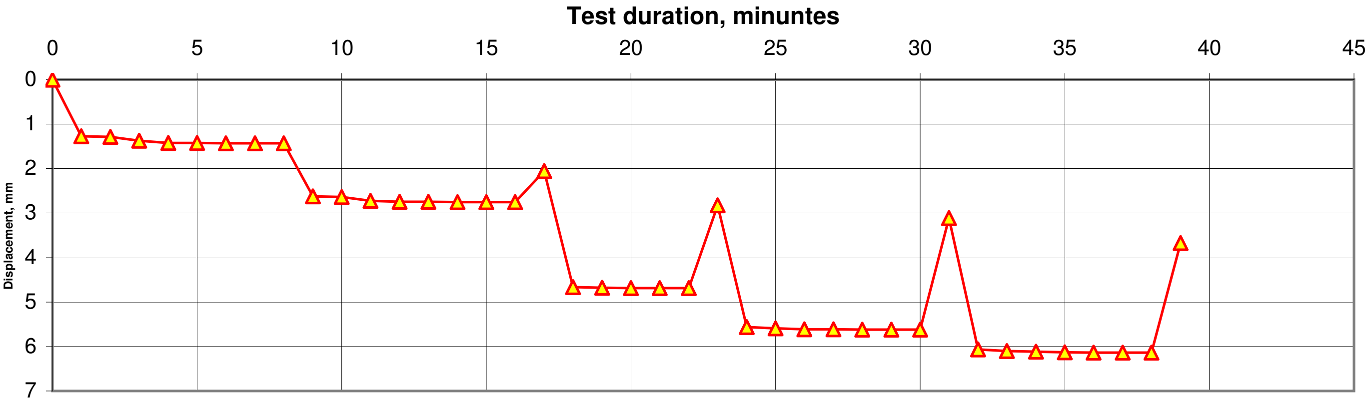
Weather	Sunny, Dry		Test reference	**F421537 - Test 1**
Plate size	762	mm		
Reaction	Tracked Excavator		Client Ref	**TP401 @ 1.5m**
Soil description	Mottled Green/Grey Sandy Clayey Gravel		Test date	**20-Apr-10**
Density		Mg/m^3	Specification:	**BS1377 : 1990**
Moisture content		%		

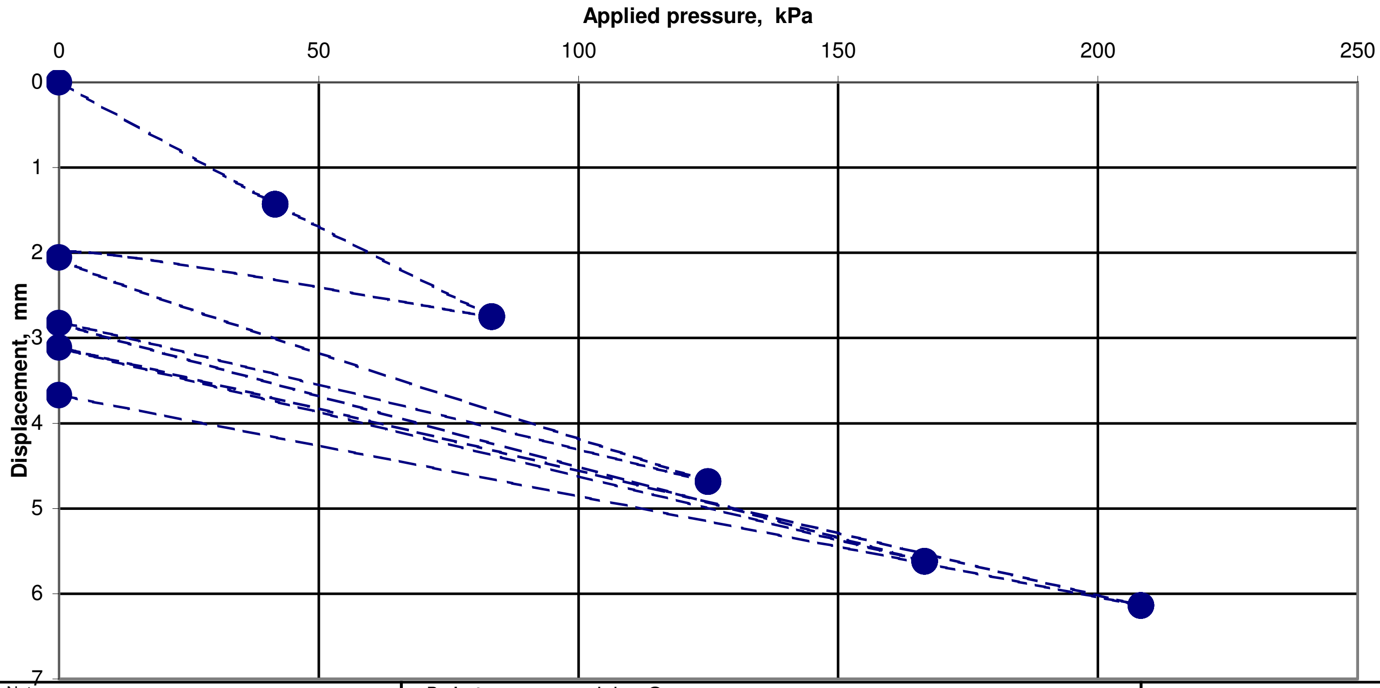
Test stage	Applied pressure kPa	Displacement mm
0	0	0.00
1	42	1.43
2	83	2.75
3	0	2.75
4	125	4.69
5	0	4.69

Test stage	Applied pressure kPa	Displacement mm
6	167	5.62
7	0	5.62
8	208	6.14
9	0	3.67

Maximum applied pressure, kPa 208

Maximum displacement, mm 6.14





Notes:

Project	Isles Quarry		**Table**
Project No.	G0028-10		
Carried out for	Crest Nicholson	**L McLundie**	Sheet 1 of 1

Plate Bearing Test Results

Soil Mechanics

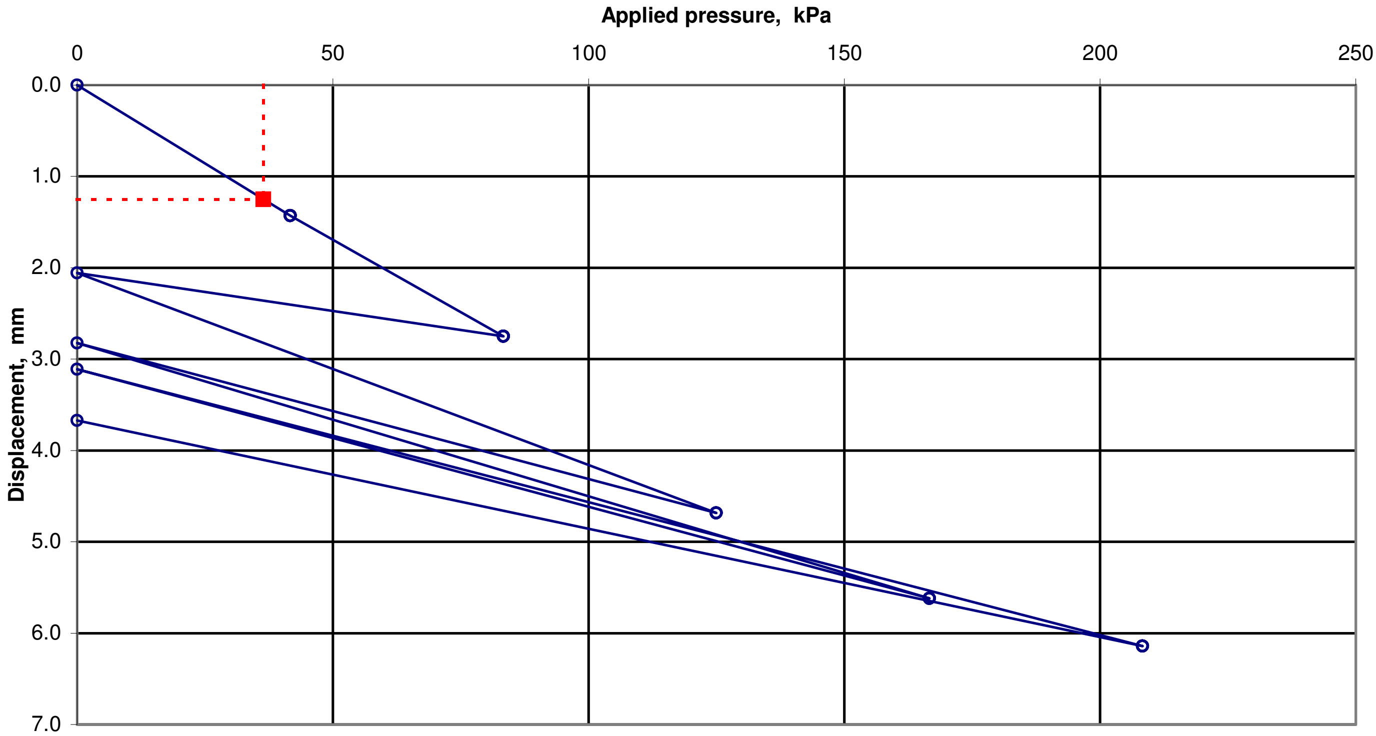
Weather	Sunny, Dry	Test reference	**F421537 - Test 1**
Plate size	762 mm		
Reaction	Tracked Excavator	Client Ref	**TP401 @ 1.5m**
Soil description	Mottled Green/Grey Sandy Clayey Gravel	Test date	**20-Apr-10**
Density	Mg/m^3	Specification:	**BS1377 : 1990**
Moisture content	%		

Test stage	Applied pressure kPa	Displacement mm
0	0	0.00
1	42	1.43
2	83	2.75
3	0	2.75
4	125	4.69
5	0	4.69
6	167	5.62

Test stage	Applied pressure kPa	Displacement mm
7	0	5.62
8	208	6.14
9	0	3.67

Maximum applied pressure, kPa 208

Maximum displacement, mm 6.14



Modulus of subgrade reaction, k = p / y

Applied pressure, p =	36	kPa
Corresponding displacement, y =	1.25	mm
Modulus of subgrade reaction, k =	29135	kN/m2/m

CBR value

Equivalent k for 762 mm diameter plate, k_{762} =	30000	kN/m2/m
CBR =	3.5	%

Notes:	**Project** Isles Quarry		**Table**
	Project No. G0028-10		
	Carried out for Crest Nicholson	L McLundie	Sheet 1 of 1

Plate Bearing Test Results

Soil Mechanics

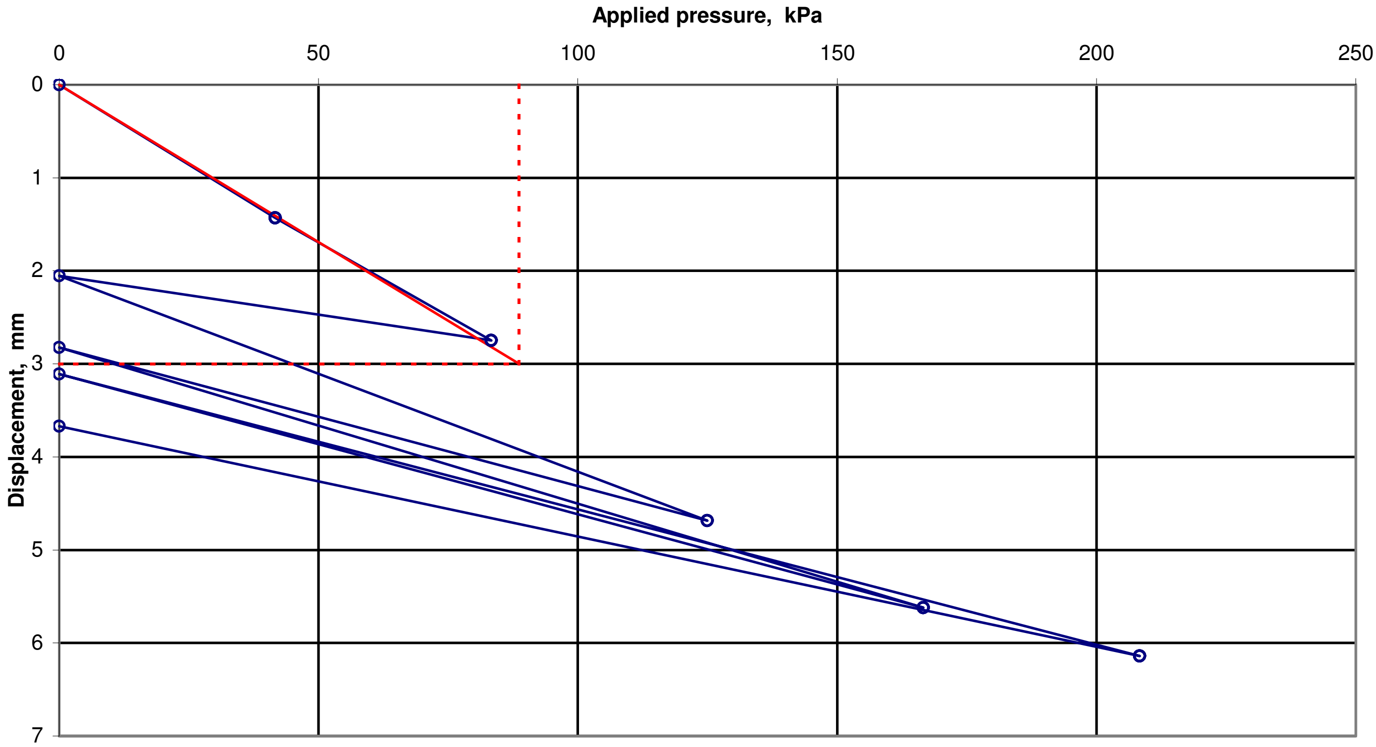
Weather	Sunny, Dry		Test reference	**F421537 - Test 1**
Plate size	762	mm		
Reaction	Tracked Excavator		Client Ref	**TP401 @ 1.5m**
Soil description	Mottled Green/Grey Sandy Clayey Gravel		Test date	**20-Apr-10**
Density		Mg/m^3	Specification:	**BS1377 : 1990**
Moisture content		%		

Test stage	Applied pressure kPa	Displacement mm
0	0	0.00
1	42	1.43
2	83	2.75
3	0	2.75
4	125	4.69
5	0	4.69
6	167	5.62

Test stage	Applied pressure kPa	Displacement mm
7	0	5.62
8	208	6.14
9	0	3.67

Maximum applied pressure, kPa 208

Maximum displacement, mm 6.14



Elastic modulus

$E = \pi\, p\, r\,(1 - \nu^2) / 2\,y$

where:

p = applied pressure
r = plate radius
ν = Poisson's ratio, assumed as 0.5
y = displacement

Elastic modulus, E = 13.3 MPa

Notes:	**Project**	Isles Quarry		**Table**
	Project No.	G0028-10		
	Carried out for	Crest Nicholson	L McLundie	Sheet 1 of 1

Plate Bearing Test Results

Soil Mechanics

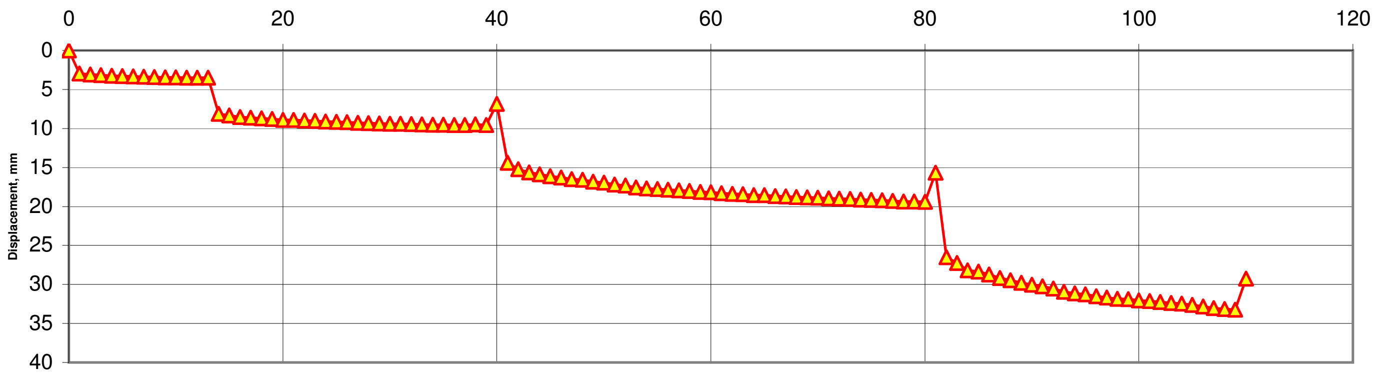
Weather	Sunny, Dry	Test reference	F421552- Test 3
Plate size	762 mm		
Reaction	Tracked Excavator	Client Ref	TP402 @ 1.5m
Soil description	Brown silty sand (very moist)	Test date	21-Apr-10
Density	Mg/m^3	Specification:	BS1377 : 1990
Moisture content	%		

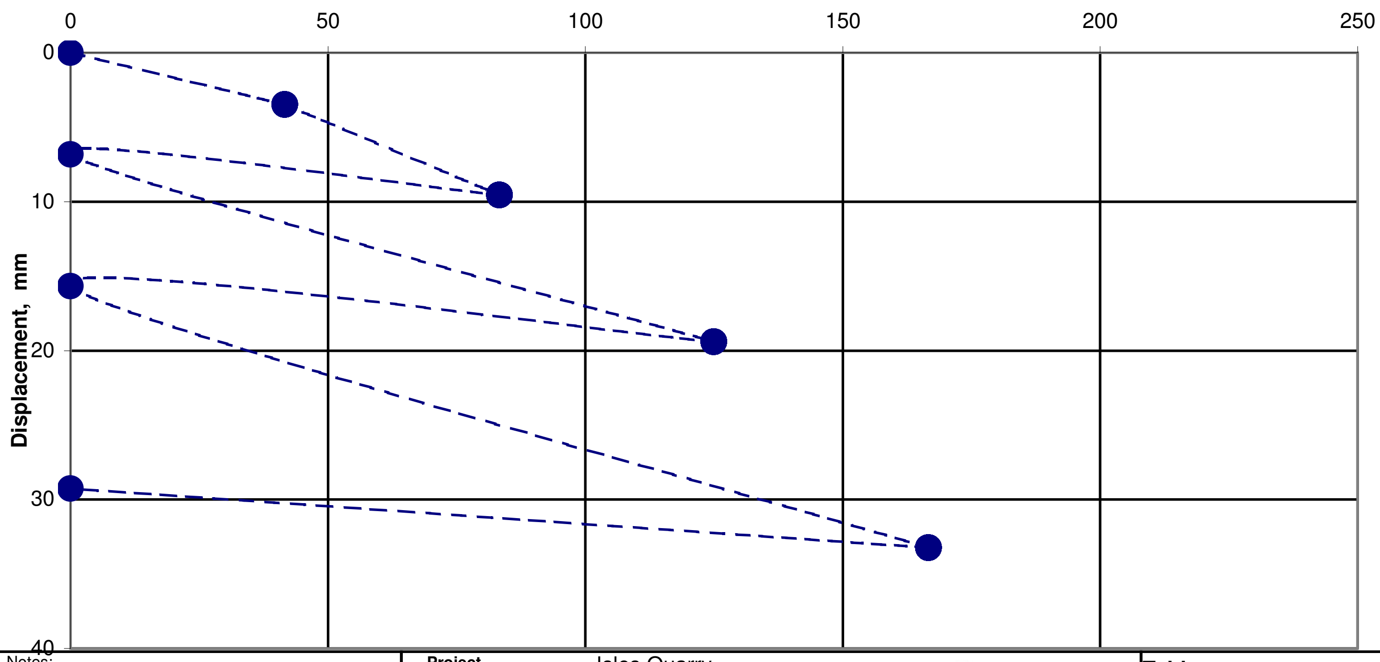
Test stage	Applied pressure kPa	Displacement mm
0	0	0.00
1	42	3.47
2	83	9.46
3	0	9.56
4	125	19.37
5	0	19.41

Test stage	Applied pressure kPa	Displacement mm
6	167	33.17
7	0	29.26

Maximum applied pressure, kPa 167

Maximum displacement, mm 33.17





Notes:	Project	Isles Quarry	Table
	Project No.	G0028-10	
	Carried out for	Crest Nicholson	L McLundie
			Sheet 1 of 1

Plate Bearing Test Results

Soil Mechanics

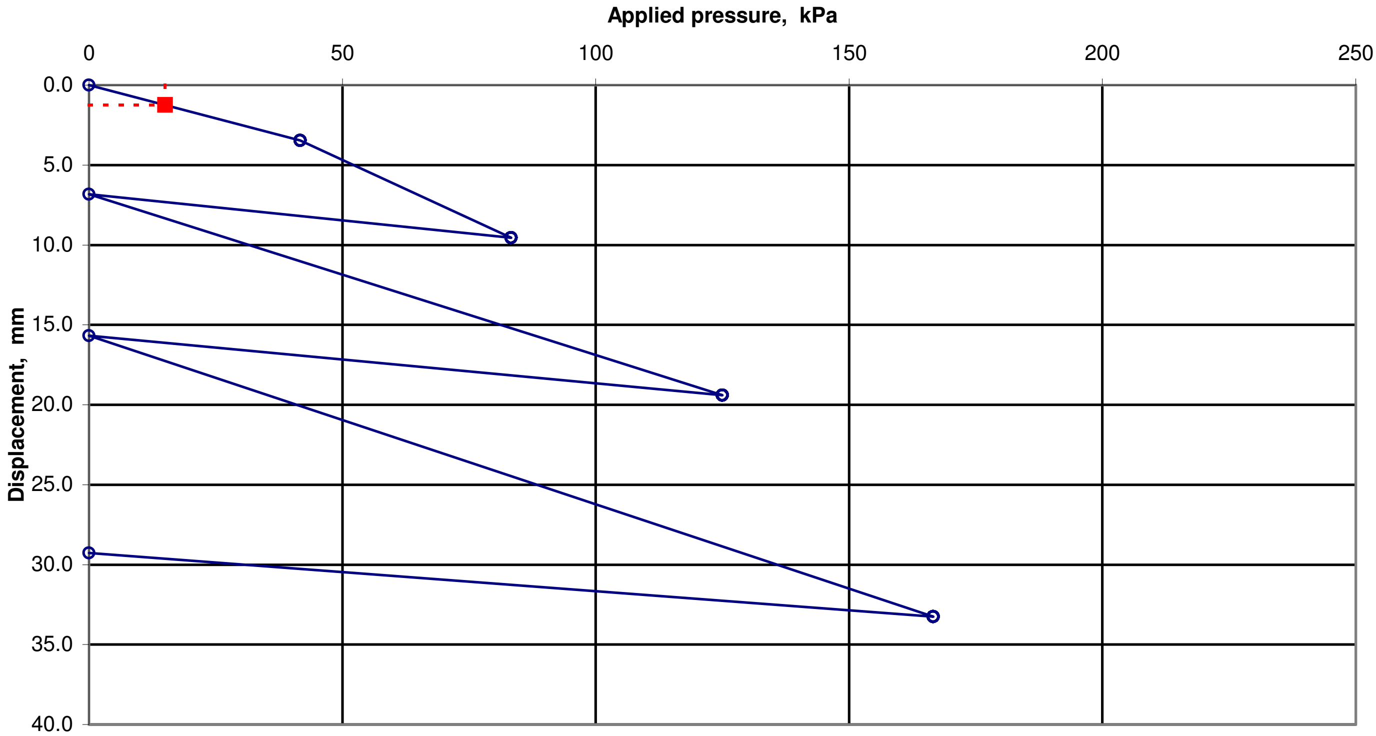
Weather	Sunny, Dry	Test reference	**F421552- Test 3**
Plate size	762 mm		
Reaction	Tracked Excavator	Client Ref	**TP402 @ 1.5m**
Soil description	Brown silty sand (very moist)	Test date	**21-Apr-10**
Density	Mg/m^3	Specification:	**BS1377 : 1990**
Moisture content	%		

Test stage	Applied pressure kPa	Displacement mm
0	0	0.00
1	42	3.47
2	83	9.46
3	0	9.56
4	125	19.37
5	0	19.41
6	167	33.17

Test stage	Applied pressure kPa	Displacement mm
7	0	29.26

Maximum applied pressure, kPa 167

Maximum displacement, mm 33.17



Modulus of subgrade reaction, k = p / y

Applied pressure, p =	15	kPa
Corresponding displacement, y =	1.25	mm
Modulus of subgrade reaction, k =	12007	kN/m2/m

CBR value

Equivalent k for 762 mm diameter plate, k_{762} =	12363	kN/m2/m
CBR =	0.8	%

Notes:

Project Isles Quarry
Project No. G0028-10
Carried out for Crest Nicholson

L McLundie

Table

Sheet 1 of 1

Plate Bearing Test Results

Soil Mechanics

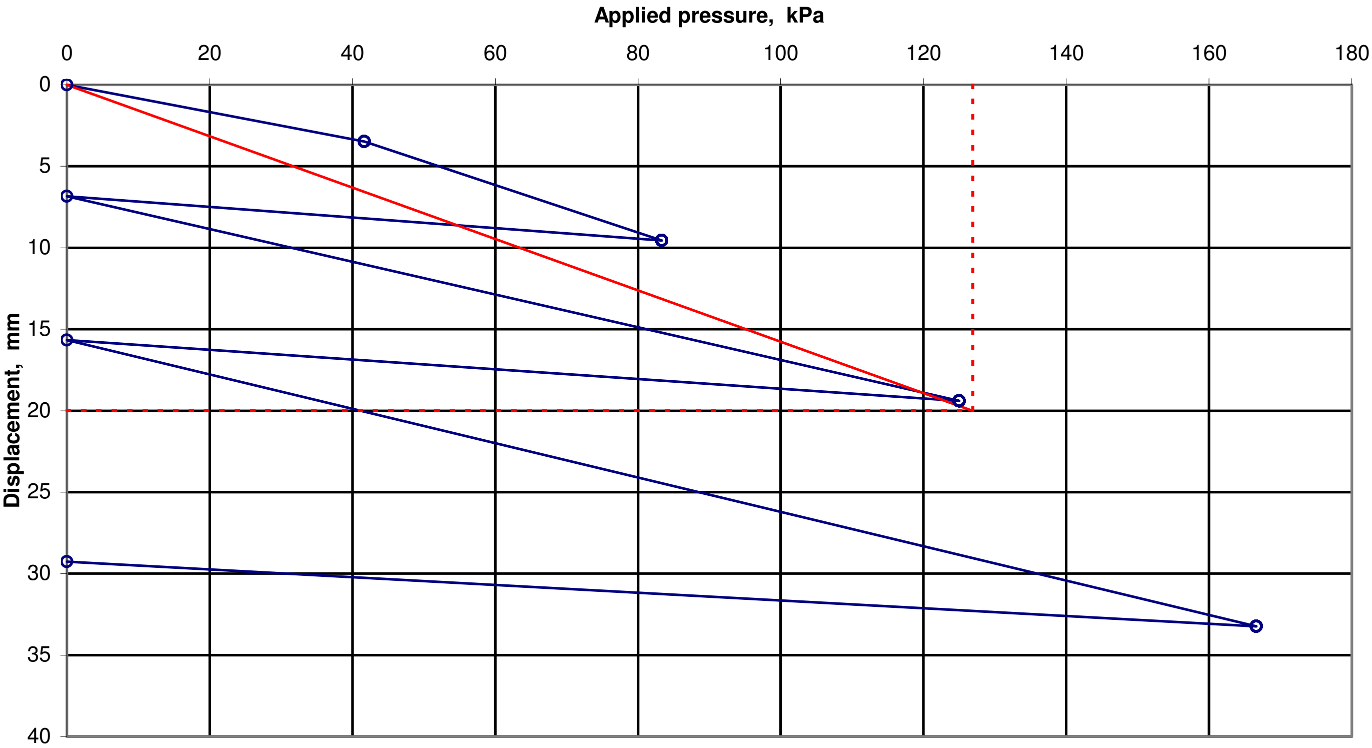
Weather	Sunny, Dry		Test reference	**F421552- Test 3**
Plate size	762	mm	Client Ref	**TP402 @ 1.5m**
Reaction	Tracked Excavator			
Soil description	Brown silty sand (very moist)		Test date	**21-Apr-10**
Density		Mg/m^3	Specification:	**BS1377 : 1990**
Moisture content		%		

Test stage	Applied pressure kPa	Displacement mm
0	0	0.00
1	42	3.47
2	83	9.46
3	0	9.56
4	125	19.37
5	0	19.41
6	167	33.17

Test stage	Applied pressure kPa	Displacement mm
7	0	29.26

Maximum applied pressure, kPa 167

Maximum displacement, mm 33.17



Elastic modulus

$E = \pi \, p \, r \, (1 - \nu^2) / 2 \, y$

where:

p = applied pressure
r = plate radius
ν = Poisson's ratio, assumed as 0.5
y = displacement

Elastic modulus, E = 2.8 MPa

Notes:	Project	Isles Quarry		Table
	Project No.	G0028-10		
	Carried out for	Crest Nicholson	L McLundie	Sheet 1 of 1

Plate Bearing Test Results

Soil Mechanics

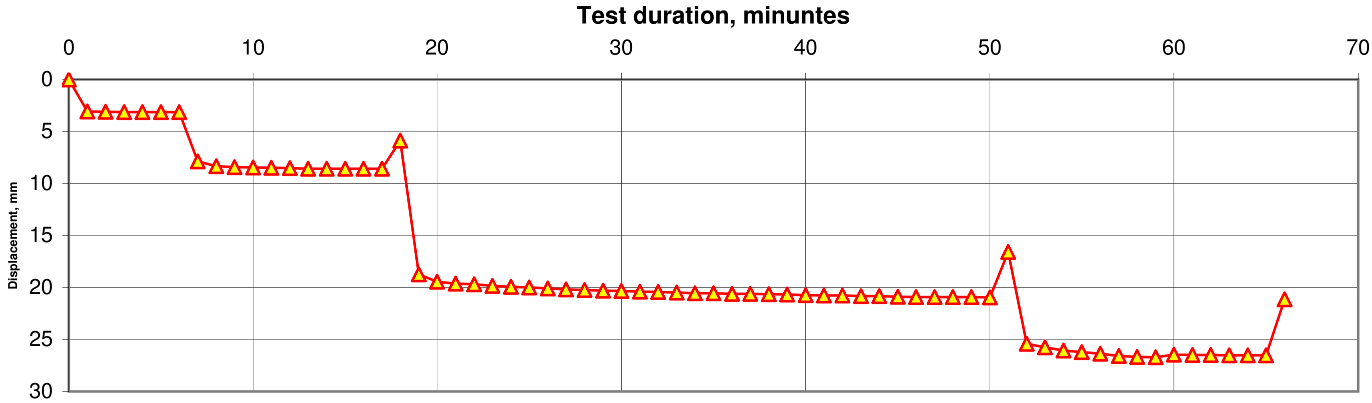
Weather	Sunny, Dry	Test reference	**F421551 - Test 2**
Plate size	762 mm	Client Ref	**TP403 @ 1.5m**
Reaction	Tracked Excavator		
Soil description	Brown sandy gravel	Test date	**21-Apr-10**
Density	Mg/m^3	Specification:	**BS1377 : 1990**
Moisture content	%		

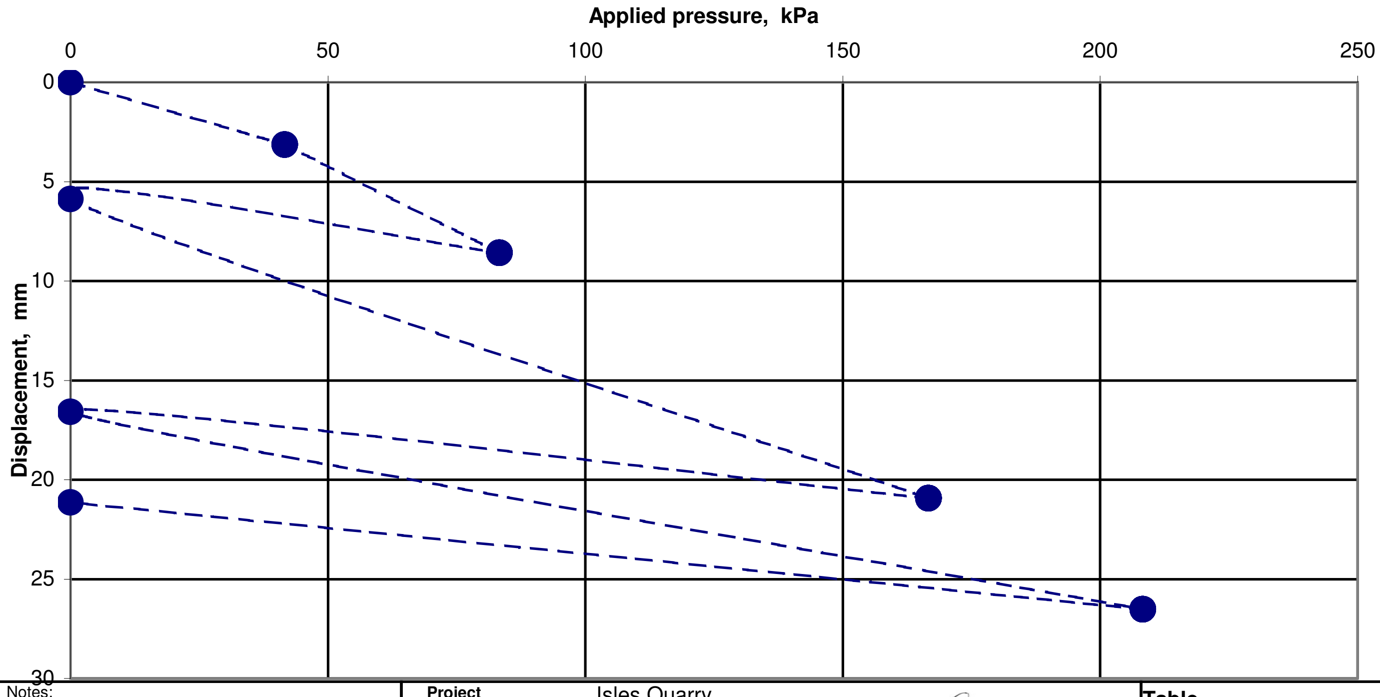
Test stage	Applied pressure kPa	Displacement mm
0	0	0.00
1	42	3.14
2	83	8.58
3	0	8.58
4	167	20.94
5	0	20.94

Test stage	Applied pressure kPa	Displacement mm
6	208	26.52
7	0	21.14

Maximum applied pressure, kPa 208

Maximum displacement, mm 26.52





Notes:

Project	Isles Quarry		**Table**
Project No.	G0028-10		
Carried out for	Crest Nicholson	**L McLundie**	Sheet 1 of 1

Plate Bearing Test Results

Soil Mechanics

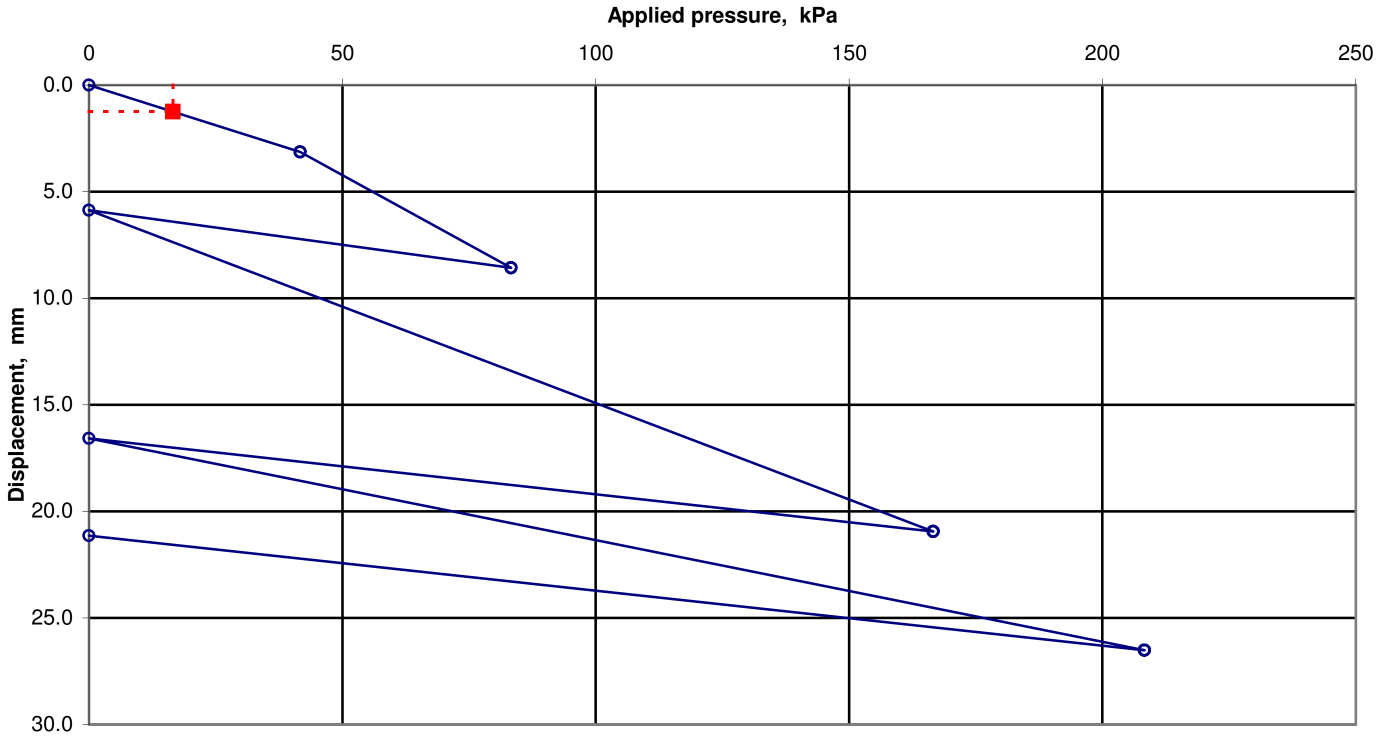
Weather	Sunny, Dry		Test reference	**F421551 - Test 2**
Plate size	762	mm		
Reaction	Tracked Excavator		Client Ref	**TP403 @ 1.5m**
Soil description	Brown sandy gravel		Test date	**21-Apr-10**
Density		Mg/m^3	Specification:	**BS1377 : 1990**
Moisture content		%		

Test stage	Applied pressure kPa	Displacement mm
0	0	0.00
1	42	3.14
2	83	8.58
3	0	8.58
4	167	20.94
5	0	20.94
6	208	26.52

Test stage	Applied pressure kPa	Displacement mm
7	0	21.14

Maximum applied pressure, kPa 208

Maximum displacement, mm 26.52



Modulus of subgrade reaction, k = p / y

Applied pressure, p =	17	kPa
Corresponding displacement, y =	1.25	mm
Modulus of subgrade reaction, k =	13254	kN/m2/m

CBR value

Equivalent k for 762 mm diameter plate, k_{762} =	13648	kN/m2/m
CBR =	0.9	%

Notes:	**Project**	Isles Quarry		**Table**
	Project No.	G0028-10		
	Carried out for	Crest Nicholson	L McLundie	Sheet 1 of 1

Plate Bearing Test Results

Soil Mechanics

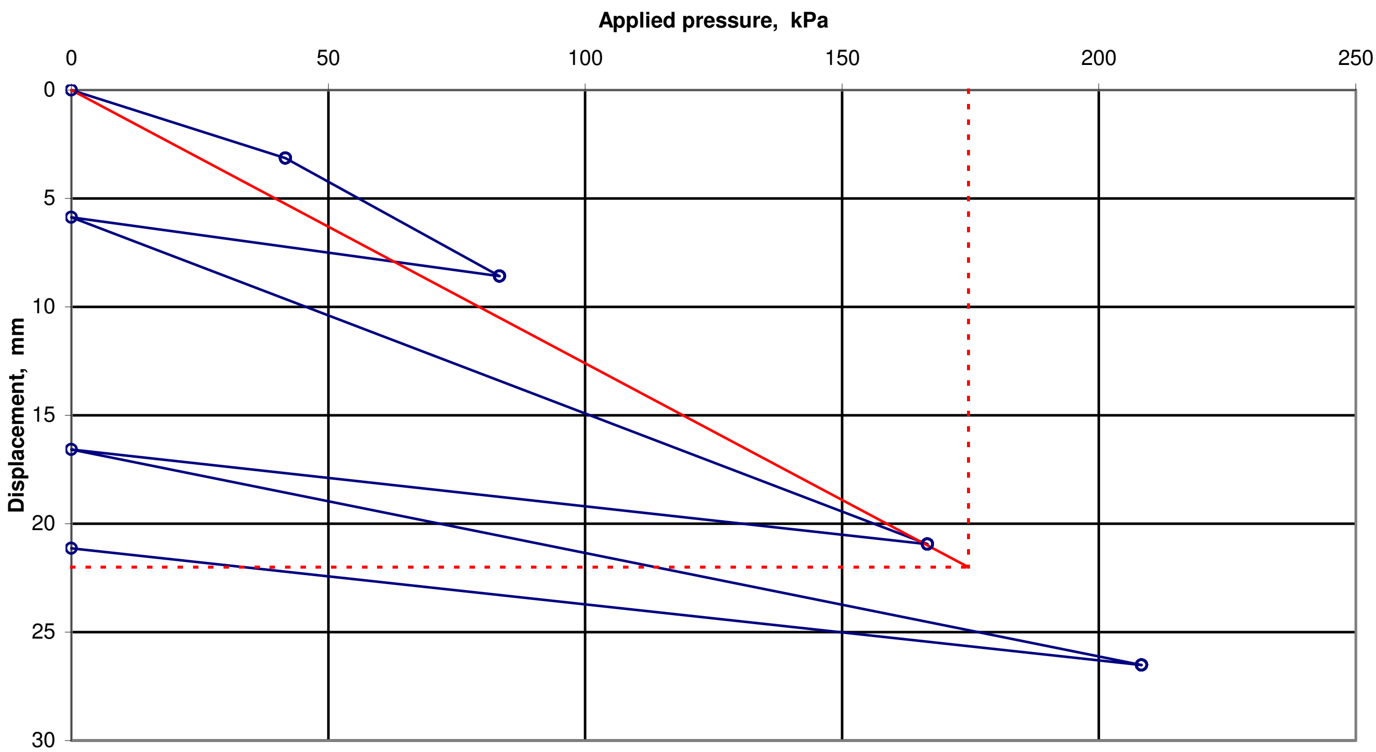
Weather	Sunny, Dry		Test reference	**F421551 - Test 2**
Plate size	762	mm		
Reaction	Tracked Excavator		Client Ref	**TP403 @ 1.5m**
Soil description	Brown sandy gravel		Test date	**21-Apr-10**
Density		Mg/m^3	Specification:	**BS1377 : 1990**
Moisture content		%		

Test stage	Applied pressure kPa	Displacement mm
0	0	0.00
1	42	3.14
2	83	8.58
3	0	8.58
4	167	20.94
5	0	20.94
6	208	26.52

Test stage	Applied pressure kPa	Displacement mm
7	0	21.14

Maximum applied pressure, kPa 208

Maximum displacement, mm 26.52



Elastic modulus

$$E = \pi \, p \, r \, (1 - \nu^2) / 2 \, y$$

where:

p = applied pressure
r = plate radius
ν = Poisson's ratio, assumed as 0.5
y = displacement

Elastic modulus, E = 3.6 MPa

Notes:	**Project**	Isles Quarry	**Table**
	Project No.	G0028-10	
	Carried out for	Crest Nicholson	L McLundie	Sheet 1 of 1

ENCLOSURE D

GEOTECHNICAL LABORATORY TEST RESULTS

INDEX PROPERTIES - SUMMARY OF RESULTS

Project No	Project Name
G0028-10	Isles Quarry Ground Investigation

Hole No.	Sample No.	Depth (m) from	Depth (m) to	type	Soil Description	p (Mg/m³)	p_d (Mg/m³)	w (%)	< 425 µm sieve (%)	W_L (%)	W_P (%)	I_P	p_s (Mg/m³)	Remarks
BH101	4	1.50	1.95	D	Firm greyish brown slightly sandy gravelly CLAY with occasional roots and rootlets			18	70 s	48 a	20	28		
BH101	6	2.50	2.95	D	Very soft greenish grey slightly sandy slightly gravelly CLAY			19	62 s	42 a	20	22		
BH101	9	3.50	3.95	D	Very soft greenish grey sandy slightly gravelly CLAY			24	65 s	44 a	21	23		
BH101	19	8.50	8.95	U	Firm light brown sandy gravelly CLAY			20	62 s	35 a	18	17		
BH101	22	10.00	10.45	D	Soft light brown slightly sandy slightly gravelly CLAY			19	69 s	44 a	22	22		
BH101	25	11.50	11.95	U	Firm dark brown sandy gravelly CLAY			18	64 s	38 a	17	21		
BH103	6	2.50	2.95	D	Brownish grey and light greenish grey very clayey very gravelly SAND			18	53 s	53 b	23	30		
BH103	9	3.50	3.95	U	Firm to stiff light brown sandy gravelly CLAY			18	78 s	35 a	17	18		
BH103	11	4.50	4.95	D	Stiff light greenish grey and light brownish grey sandy slightly gravelly CLAY			17	76 s	40 a	20	20		
BH103	14	5.50	5.95	U	Very stiff light brown sandy gravelly CLAY			16	67 s	37 a	19	18		
BH103	17	7.00	7.45	D	Stiff light greenish grey and light brownish grey sandy slightly gravelly CLAY			16	74 s	39 a	18	21		
BH103	19	8.50	8.95	U	Very stiff light brown sandy gravelly CLAY			20	73 s	37 a	18	19		
BH104	14	4.20	4.65	D	Light brown very clayey gravelly SAND			17						
BH104	26	8.00	8.45	D	Light brown very clayey gravelly SAND			18						
BH104	39	12.50	12.95	D	Light brown very clayey gravelly SAND			17	61 s	30 a	17	13		
BH104	46	15.50	15.95	U	Firm light brown clayey gravelly SAND			28	44 s	35 a	19	16		
BH106	7	2.50	2.95	D	Very soft greenish grey and orangish brown sandy slightly gravelly CLAY			29	88 s	57 a	23	34		
BH106	10	3.50	3.95	U	Stiff grey CLAY			22	93 n	76 a	31	45		

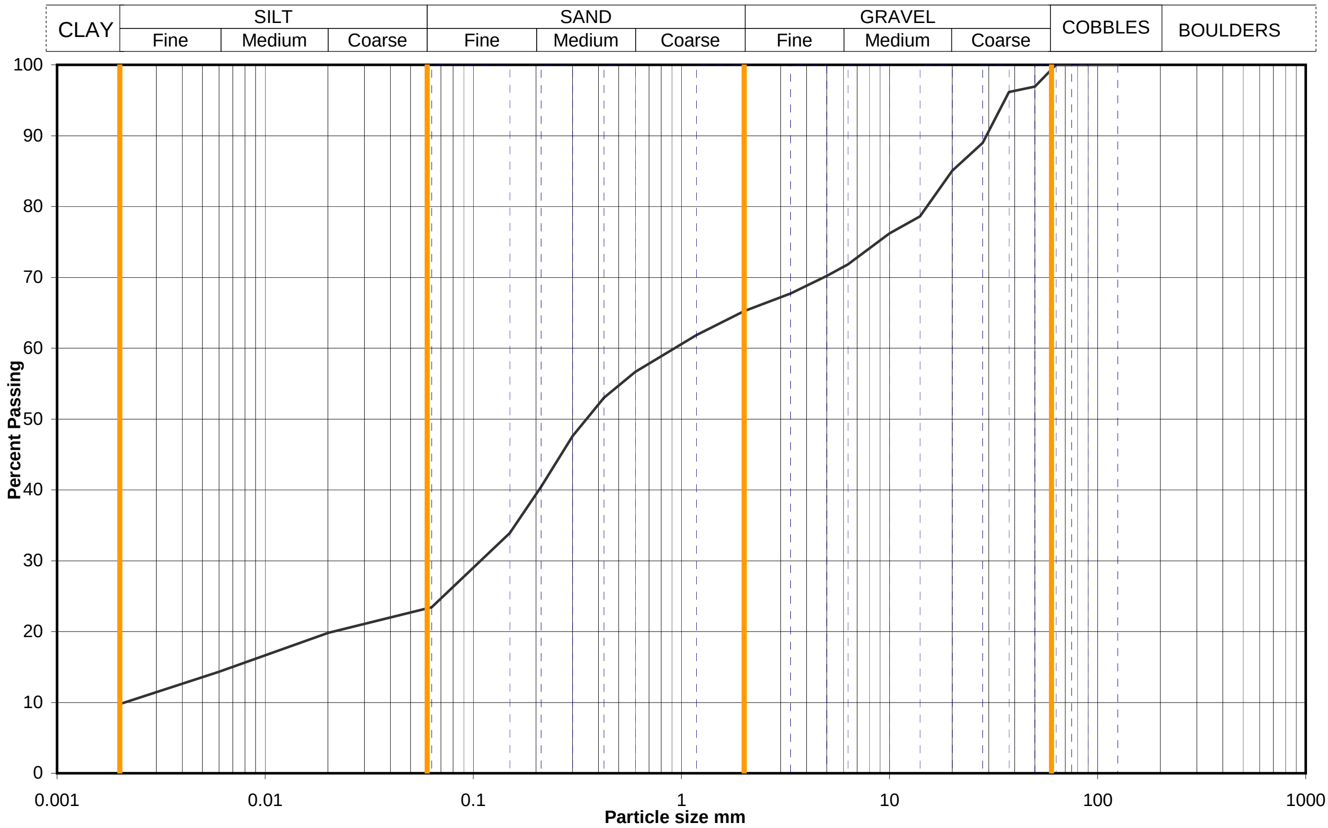
General notes: All above tests carried out to BS1377 : 1990 definitive method in all cases unless annotated otherwise. See individual test reports for further details.

Key :

p bulk density, linear	W_L Liquid limit	W_P Plastic limit	<425um preparation	p_s particle density
p_d dry density	a 4 point cone test	NP non - plastic	n from natural soil	-g = gas jar
w moisture content	b 1 point cone test	I_P Plasticity Index	s sieved specimen	-p = small pyknometer

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH101		
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	1.50		
			Samp No	5	Type	B
			ID	ESGG0028-10201004210000000154		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	20
90	100	0.0060	14
75	100	0.0020	10
63	100		
50	97		
37.5	96		
28	89		
20	85		
14	79		
10	76		
6.3	72		
5.0	70		
3.35	68		
2.00	65		
1.18	62	Particle density, Mg/m3	
0.600	57		
0.425	53	2.65	assumed
0.300	48	Dry mass of sample, kg	
0.212	40		
0.150	34	5.1	
0.063	23		

Soil description	Greyish brown very clayey very gravelly SAND with some roots and rootlets		
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377		
Remarks			
Sample Proportions *<60mm values to aid description only		Whole	*<60mm
	Cobbles / boulders	1	0
	Gravel	34	34
	Sand	42	42
	Silt	13	13
	Clay	10	10

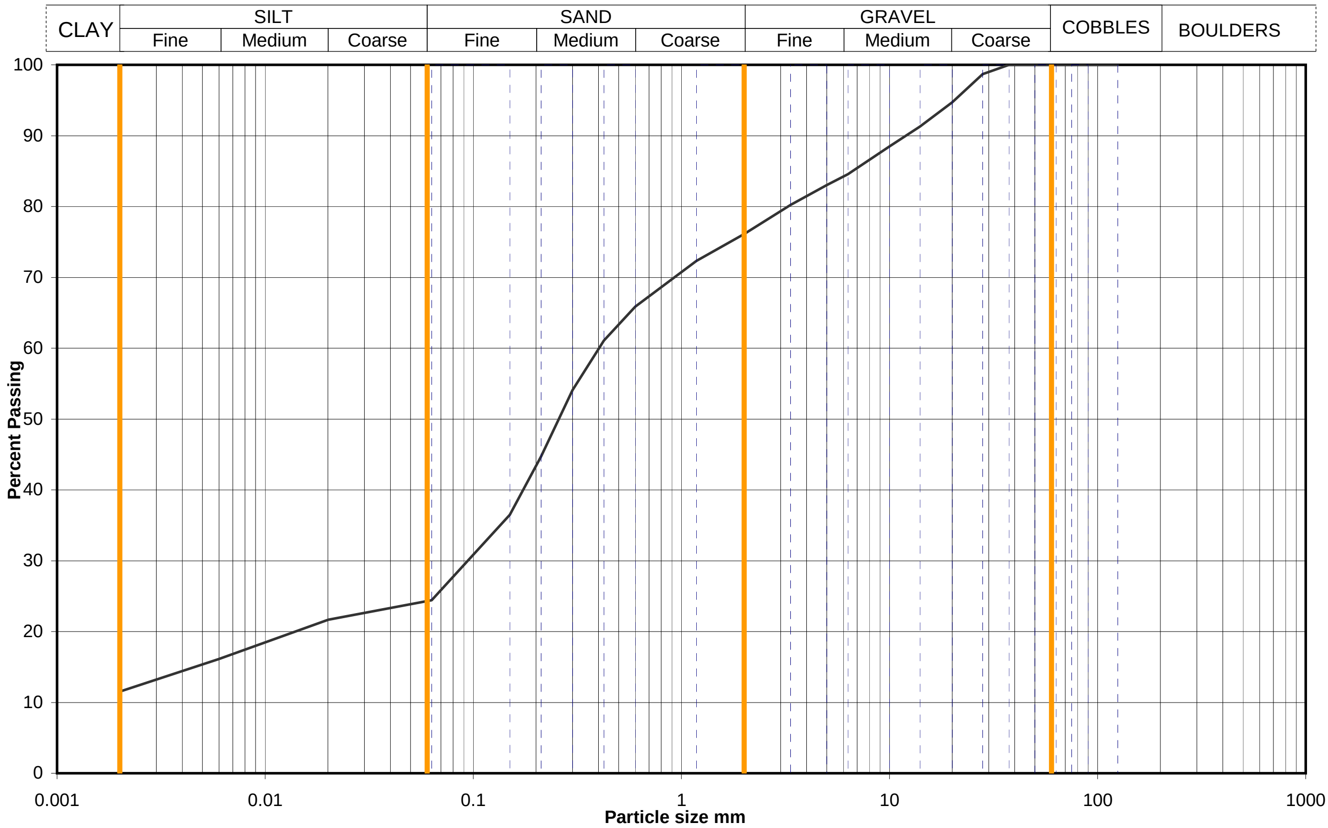
Uniformity Coefficient	D_{60} / D_{10}	438

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

QA Ref SLR 2,9 Rev 84 Sept 08	Soil Mechanics	Printed:26/05/2010 12:55	**Figure** **PSD 1**

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH101		
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	2.50		
			Samp No	7	Type	B
			ID	ESGG0028-10201004210000000156		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	22
90	100	0.0060	16
75	100	0.0020	11
63	100		
50	100		
37.5	100		
28	99		
20	95		
14	91		
10	88		
6.3	85		
5.0	83		
3.35	80		
2.00	76		
1.18	72	Particle density, Mg/m3	
0.600	66		
0.425	61	2.65	assumed
0.300	54	Dry mass of sample, kg	
0.212	45		
0.150	36	5.4	
0.063	24		

Soil description	Greenish grey and light brownish grey very clayey very gravelly SAND		
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377		
Remarks			
Sample Proportions *<60mm values to aid description only		Whole	*<60mm
	Cobbles / boulders	0	0
	Gravel	24	24
	Sand	52	52
	Silt	13	13
	Clay	11	11

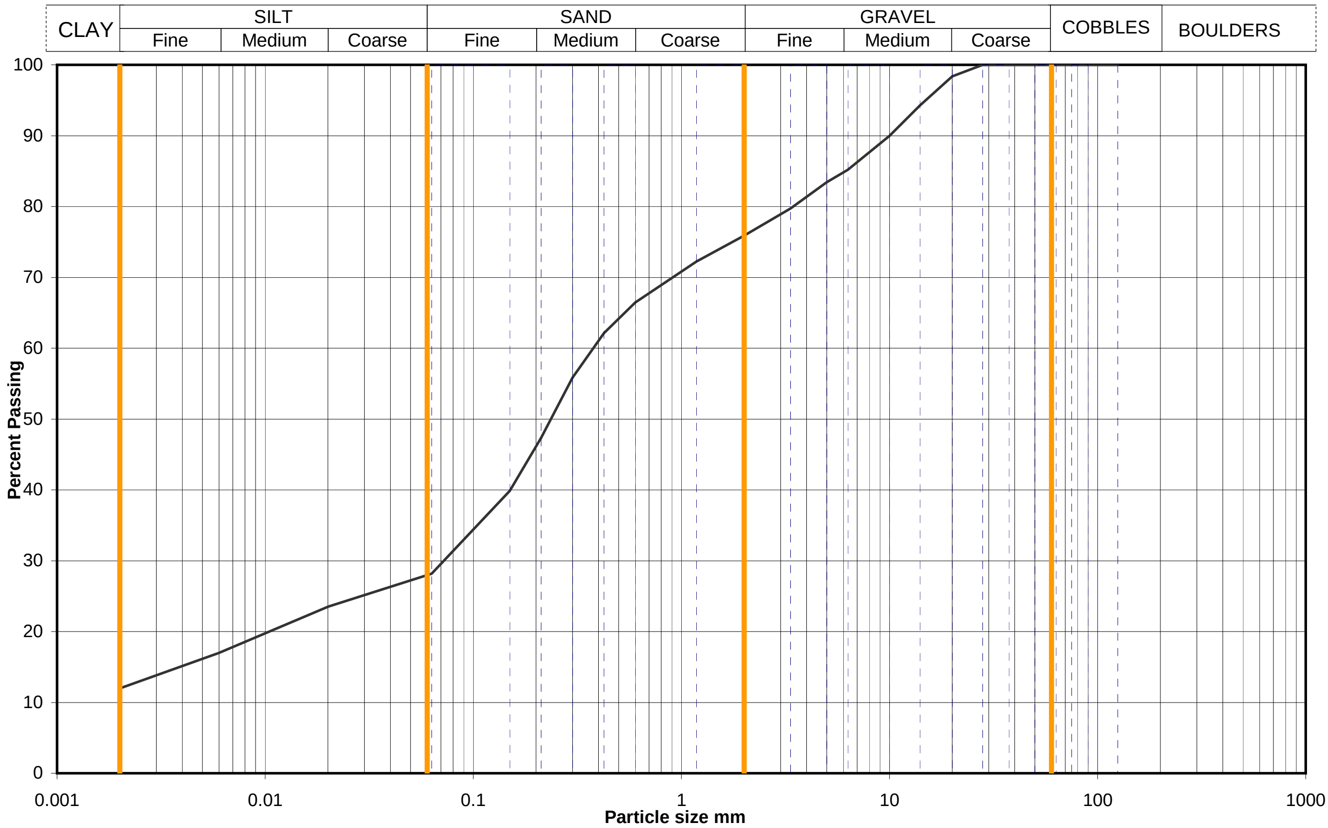
Uniformity Coefficient	D_{60} / D_{10}	Not applicable

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

QA Ref SLR 2,9 Rev 84 Sept 08	Soil Mechanics	Printed:26/05/2010 12:55	**Figure** **PSD 2**

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH101		
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	3.50		
			Samp No	10	Type	B
			ID	ESGG0028-10201004210000000158		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	24
90	100	0.0060	17
75	100	0.0020	12
63	100		
50	100		
37.5	100		
28	100		
20	98		
14	94		
10	90		
6.3	85		
5.0	83		
3.35	80		
2.00	76		
1.18	72	Particle density, Mg/m3	
0.600	66		
0.425	62	2.65	assumed
0.300	56	Dry mass of sample, kg	
0.212	47		
0.150	40	4.6	
0.063	28		

Soil description	Greenish grey and light brownish grey very clayey very gravelly SAND		
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377		
Remarks			
Sample Proportions *<60mm values to aid description only		Whole	*<60mm
	Cobbles / boulders	0	0
	Gravel	24	24
	Sand	48	48
	Silt	16	16
	Clay	12	12

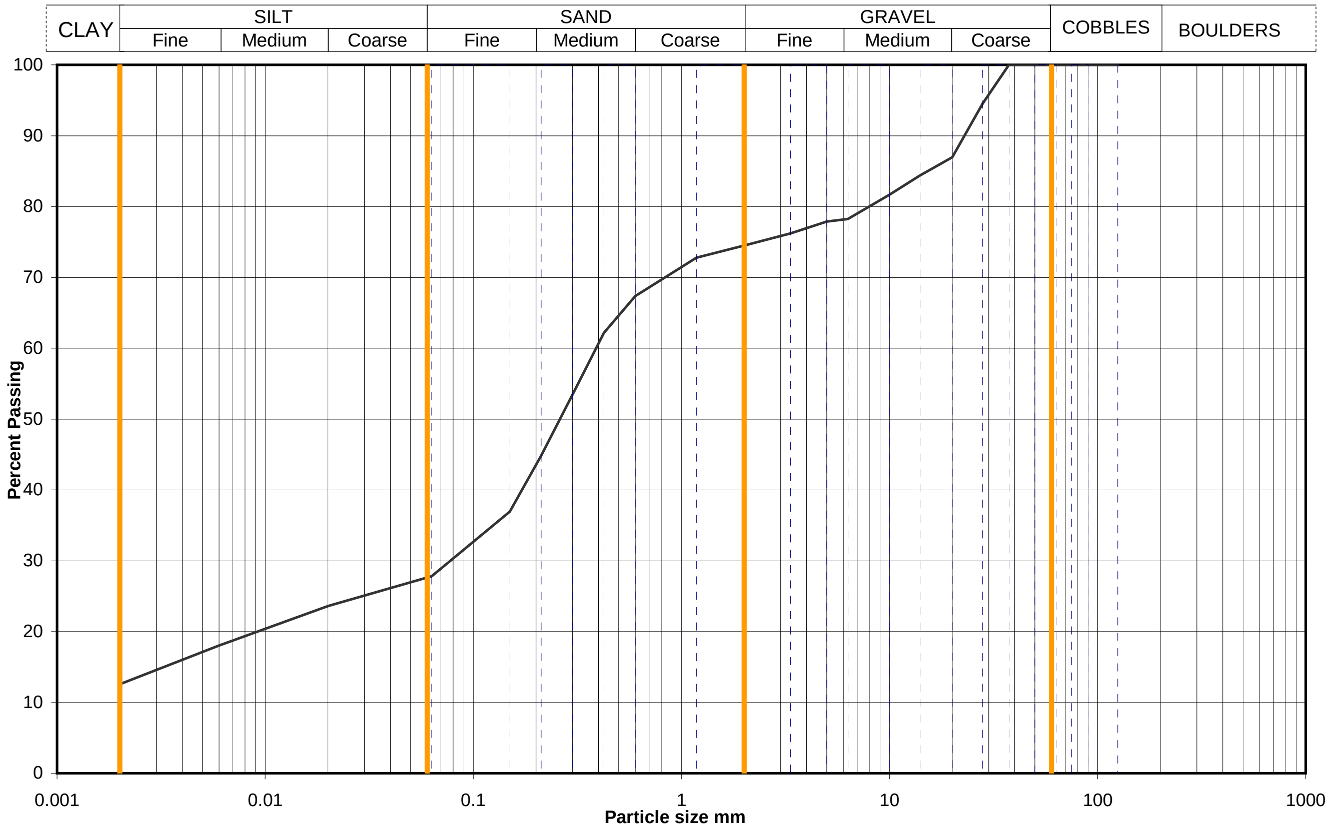
Uniformity Coefficient	D_{60} / D_{10}	Not applicable

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

QA Ref SLR 2,9 Rev 84 Sept 08	Soil Mechanics	Printed:26/05/2010 12:55	**Figure** **PSD 3**

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH101			
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	8.50			
			Samp No	19	Type	U	
			ID	ESGG0028-10201004210000000168			
			Spec Ref				



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	24
90	100	0.0060	18
75	100	0.0020	13
63	100		
50	100		
37.5	100		
28	95		
20	87		
14	84		
10	82		
6.3	78		
5.0	78		
3.35	76		
2.00	75		
1.18	73	Particle density, Mg/m3	
0.600	67		
0.425	62	2.65	assumed
0.300	53	Dry mass of sample, kg	
0.212	45		
0.150	37	3.5	
0.063	28		

Soil description	Firm light brown sandy gravelly CLAY		
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377		
Remarks			
Sample Proportions *<60mm values to aid description only		Whole	*<60mm
	Cobbles / boulders	0	0
	Gravel	25	25
	Sand	47	47
	Silt	15	15
	Clay	13	13

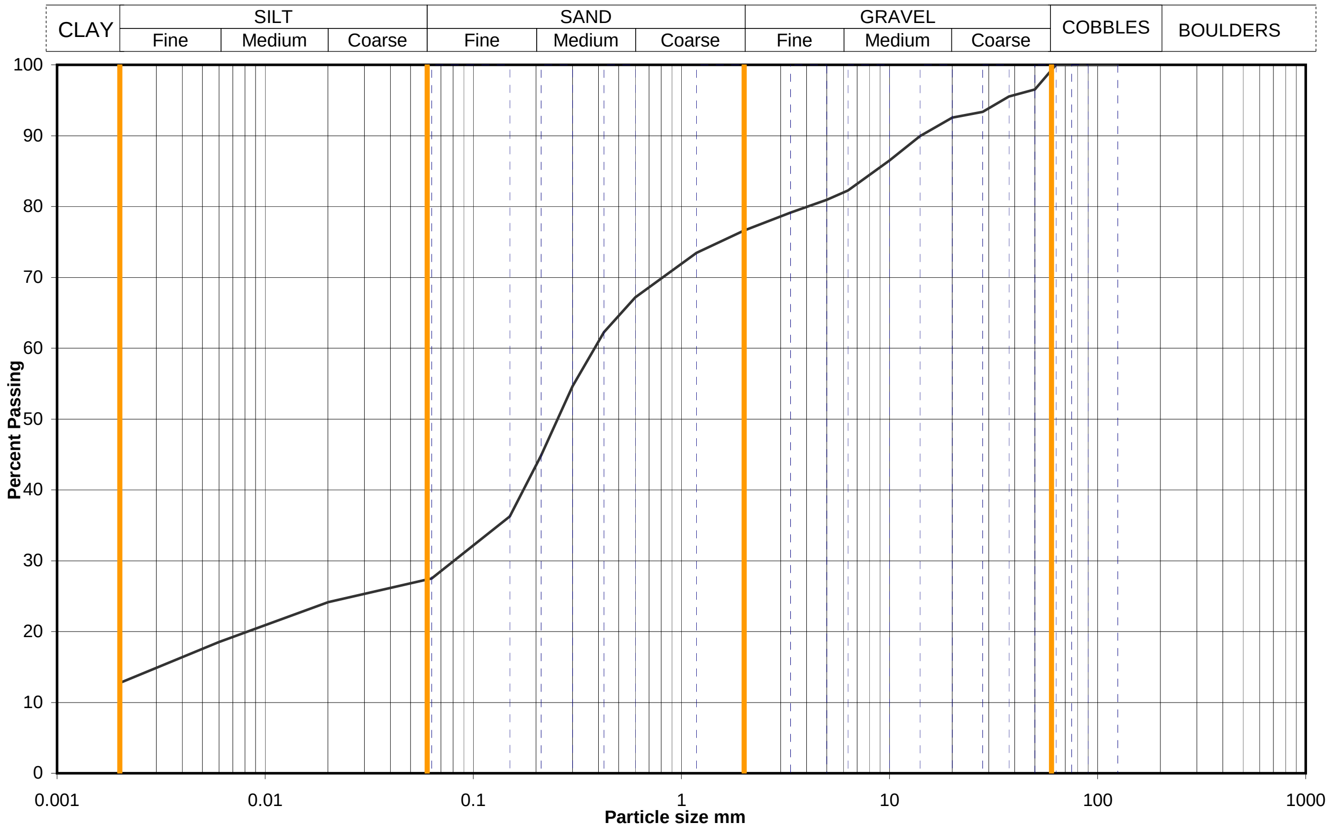
Uniformity Coefficient	D_{60} / D_{10}	Not applicable

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

QA Ref SLR 2,9 Rev 84 Sept 08	Soil Mechanics	Printed:26/05/2010 12:55	**Figure** **PSD 4**

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH101		
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	10.00		
			Samp No	23	Type	B
			ID	ESGG0028-10201004210000000172		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	24
90	100	0.0060	19
75	100	0.0020	13
63	100		
50	97		
37.5	96		
28	93		
20	93		
14	90		
10	87		
6.3	82		
5.0	81		
3.35	79		
2.00	77		
1.18	73	Particle density, Mg/m3	
0.600	67		
0.425	62	2.65	assumed
0.300	55	Dry mass of sample, kg	
0.212	45		
0.150	36	6.8	
0.063	27		

Soil description	Light brown very clayey very gravelly SAND		
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377		
Remarks			
Sample Proportions *<60mm values to aid description only		Whole	*<60mm
	Cobbles / boulders	1	0
	Gravel	22	22
	Sand	49	49
	Silt	15	15
	Clay	13	13

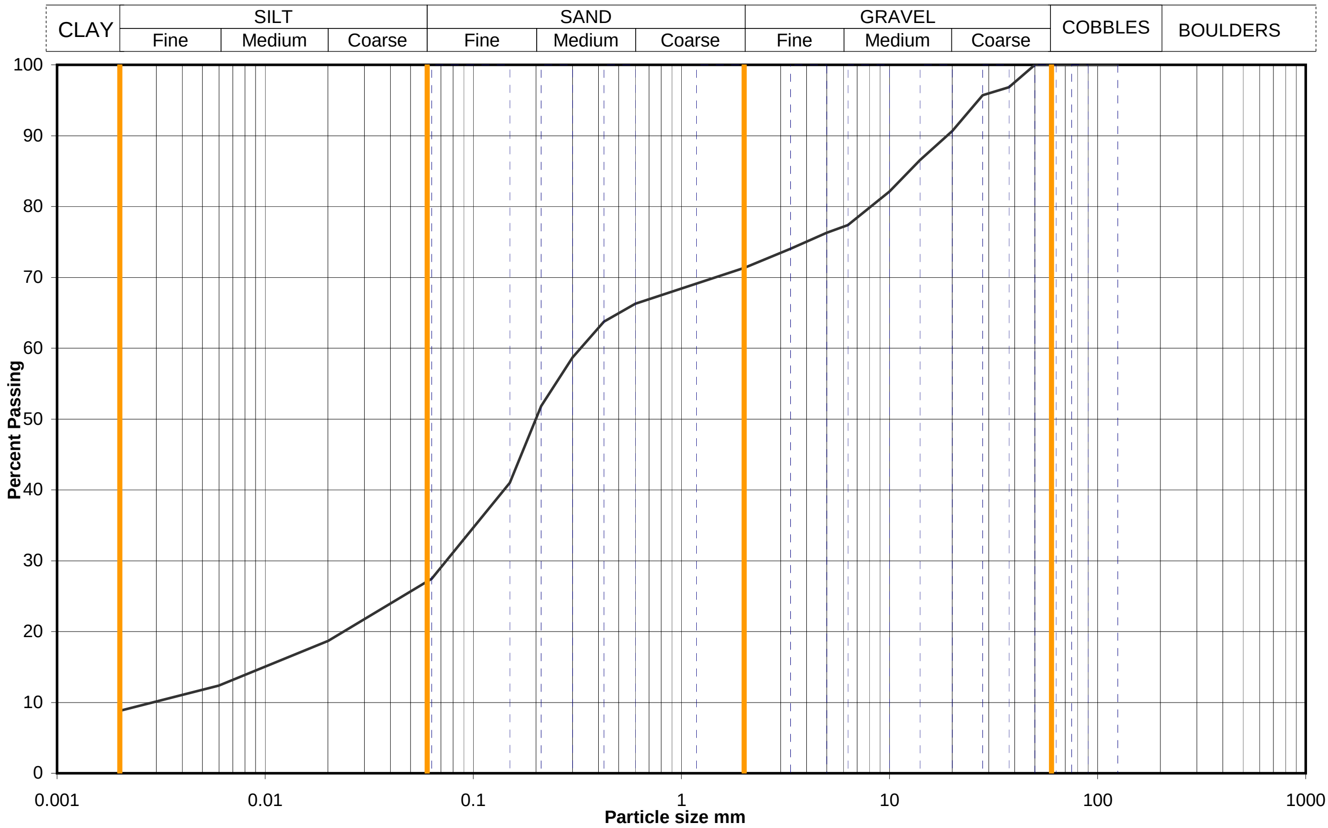
Uniformity Coefficient	D_{60} / D_{10}	Not applicable

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

QA Ref SLR 2,9 Rev 84 Sept 08	Soil Mechanics	Printed:26/05/2010 12:56	**Figure** **PSD 5**

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH101		
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	11.50		
			Samp No	25	Type	U
			ID	ESGG0028-10201004210000000174		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	19
90	100	0.0060	12
75	100	0.0020	9
63	100		
50	100		
37.5	97		
28	96		
20	91		
14	87		
10	82		
6.3	77		
5.0	76		
3.35	74		
2.00	71		
1.18	69	Particle density, Mg/m3	
0.600	66		
0.425	64	2.65	assumed
0.300	59	Dry mass of sample, kg	
0.212	52		
0.150	41	3.6	
0.063	27		

Soil description	Firm dark brown sandy gravelly CLAY
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377
Remarks	

Sample Proportions		Whole	*<60mm
	Cobbles / boulders	0	0
	Gravel	29	29
	Sand	44	44
*<60mm values to aid description only	Silt	18	18
	Clay	9	9

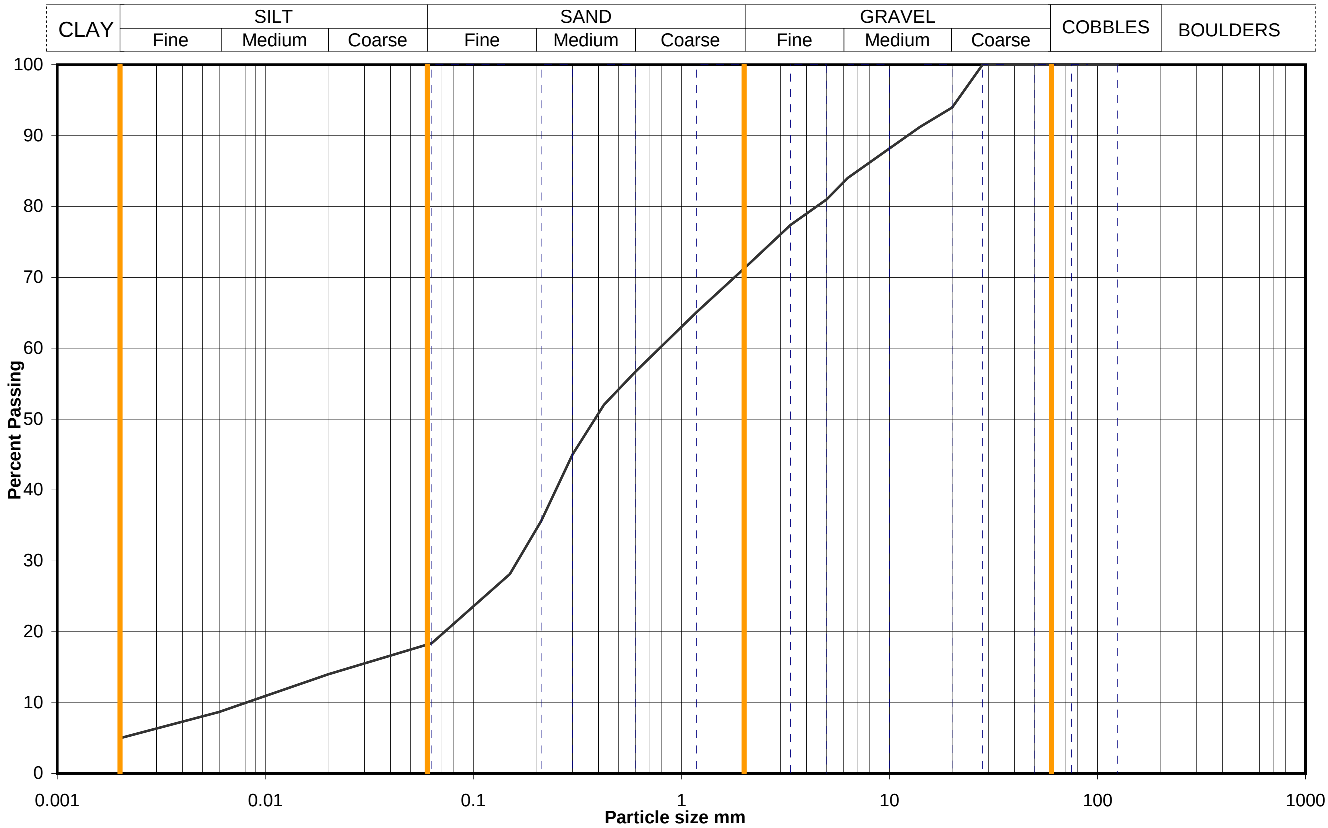
Uniformity Coefficient	D_{60} / D_{10}	113

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

QA Ref SLR 2,9 Rev 84 Sept 08	Soil Mechanics	Printed:26/05/2010 12:56	**Figure** **PSD 6**

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH103
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	2.50
			Samp No	7
			Type	B
			ID	ESGG0028-10201004160000000007
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	14
90	100	0.0060	9
75	100	0.0020	5
63	100		
50	100		
37.5	100		
28	100		
20	94		
14	91		
10	88		
6.3	84		
5.0	81		
3.35	77		
2.00	71		
1.18	65	Particle density, Mg/m3	
0.600	57		
0.425	52	2.65	assumed
0.300	45	Dry mass of sample, kg	
0.212	36		
0.150	28	5.3	
0.063	18		

Soil description	Brownish grey and light greenish grey clayey very gravelly SAND		
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377		
Remarks			
Sample Proportions *<60mm values to aid description only		Whole	*<60mm
	Cobbles / boulders	0	0
	Gravel	29	29
	Sand	53	53
	Silt	13	13
	Clay	5	5

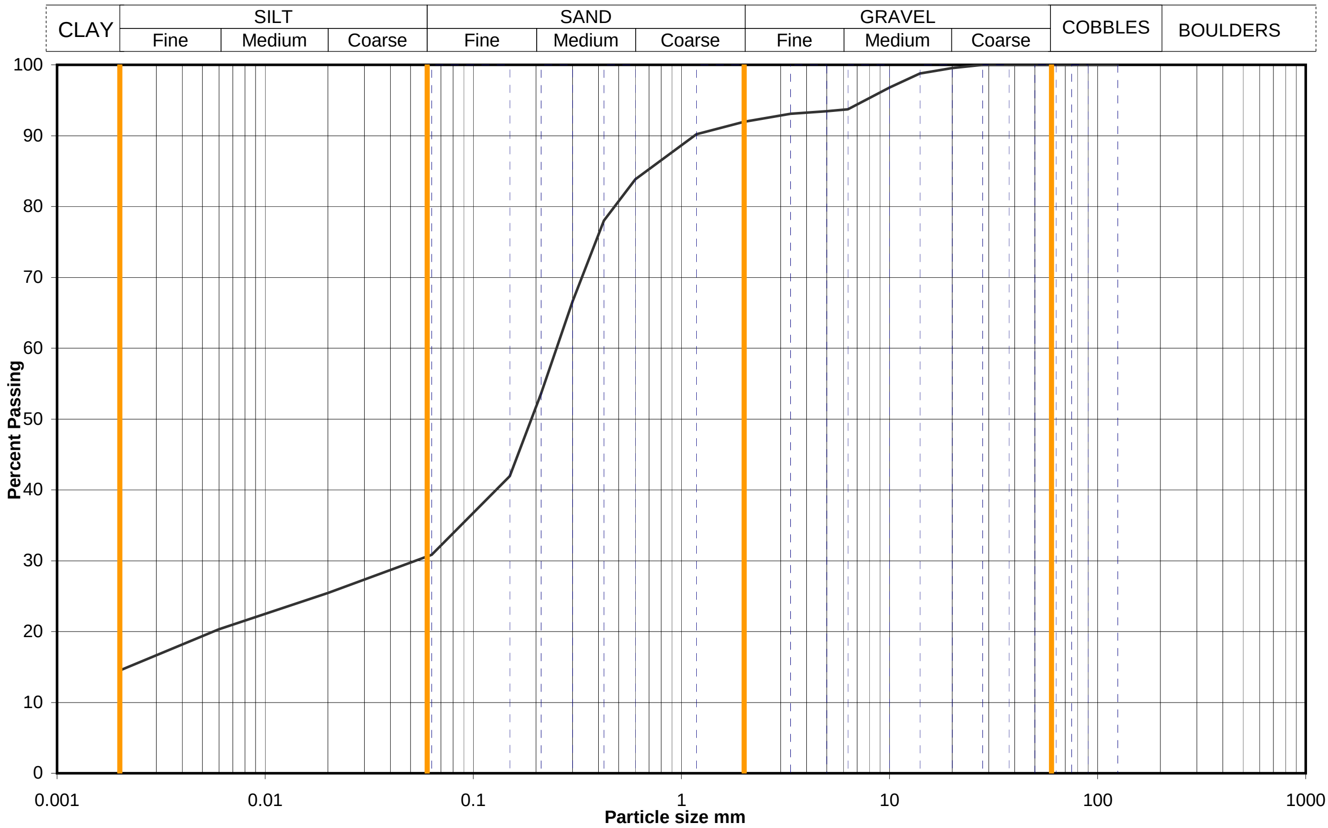
Uniformity Coefficient	D_{60} / D_{10}	97

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

QA Ref SLR 2,9 Rev 84 Sept 08	Soil Mechanics	Printed:26/05/2010 12:56	**Figure** **PSD 7**

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH103		
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	3.50		
			Samp No	9	Type	U
			ID	ESGG0028-10201004160000000009		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	25
90	100	0.0060	20
75	100	0.0020	15
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	97		
6.3	94		
5.0	93		
3.35	93		
2.00	92		
1.18	90	Particle density, Mg/m3	
0.600	84		
0.425	78	2.65	assumed
0.300	67	Dry mass of sample, kg	
0.212	54		
0.150	42	3.3	
0.063	31		

Soil description	Firm to stiff light brown sandy gravelly CLAY
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377
Remarks	

Sample Proportions *<60mm values to aid description only		Whole	*<60mm
	Cobbles / boulders	0	0
	Gravel	8	8
	Sand	61	61
	Silt	16	16
	Clay	15	15

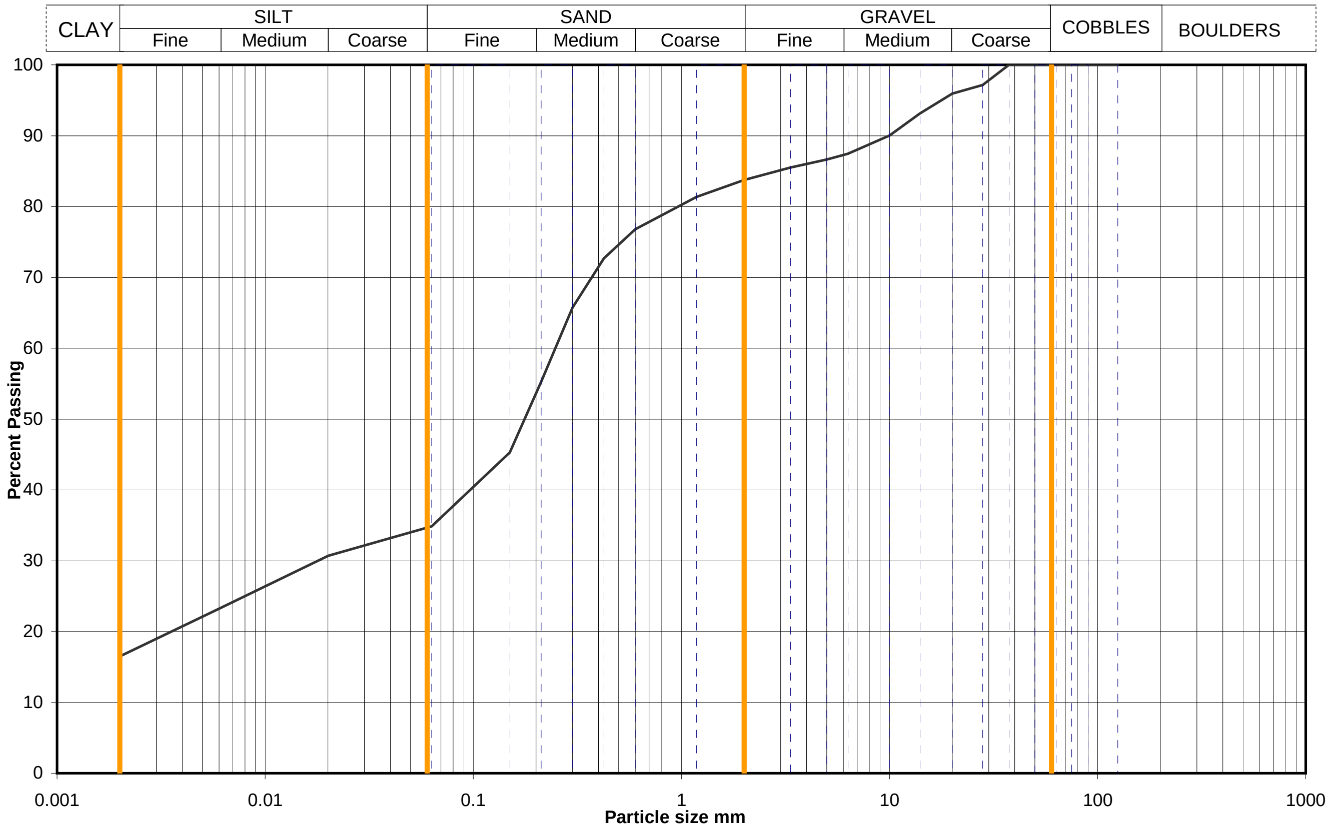
Uniformity Coefficient	D_{60} / D_{10}	Not applicable

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

QA Ref SLR 2,9 Rev 84 Sept 08	Soil Mechanics	Printed:26/05/2010 12:56	**Figure** **PSD 8**

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH103			
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	4.50			
			Samp No	12	Type	B	
			ID	ESGG0028-10201004160000000012			
			Spec Ref				



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	31
90	100	0.0060	23
75	100	0.0020	16
63	100		
50	100		
37.5	100		
28	97		
20	96		
14	93		
10	90		
6.3	87		
5.0	87		
3.35	86		
2.00	84		
1.18	81	Particle density, Mg/m3	
0.600	77		
0.425	73	2.65 assumed	
0.300	66	Dry mass of sample, kg	
0.212	55		
0.150	45	3.5	
0.063	35		

Soil description	Firm light greenish grey sandy slightly gravelly CLAY		
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377		
Remarks			
Sample Proportions *<60mm values to aid description only		Whole	*<60mm
	Cobbles / boulders	0	0
	Gravel	16	16
	Sand	49	49
	Silt	18	18
	Clay	17	17

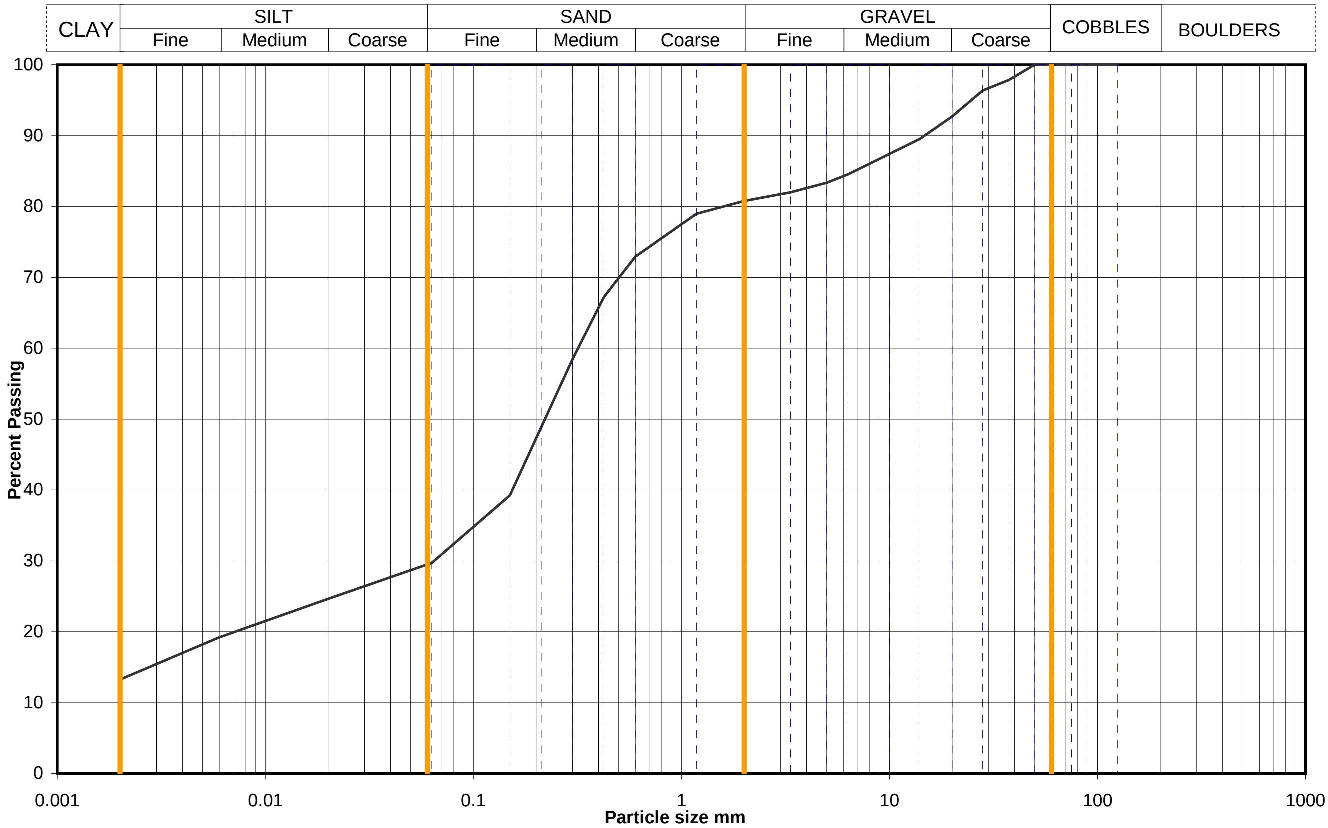
Uniformity Coefficient D_{60} / D_{10}	Not applicable

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

QA Ref SLR 2,9 Rev 84 Sept 08	Soil Mechanics	Printed:26/05/2010 12:56	**Figure** **PSD 9**

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH103		
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	5.50		
			Samp No	14	Type	U
			ID	ESGG0028-10201004160000000014		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	25
90	100	0.0060	19
75	100	0.0020	13
63	100		
50	100		
37.5	98		
28	96		
20	93		
14	90		
10	87		
6.3	85		
5.0	83		
3.35	82		
2.00	81		
1.18	79	Particle density, Mg/m3	
0.600	73		
0.425	67	2.65	assumed
0.300	58	Dry mass of sample, kg	
0.212	49		
0.150	39	3.8	
0.063	30		

Soil description	Very stiff light brown sandy gravelly CLAY		
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377		
Remarks			
Sample Proportions *<60mm values to aid description only		Whole	*<60mm
	Cobbles / boulders	0	0
	Gravel	19	19
	Sand	51	51
	Silt	17	17
	Clay	13	13

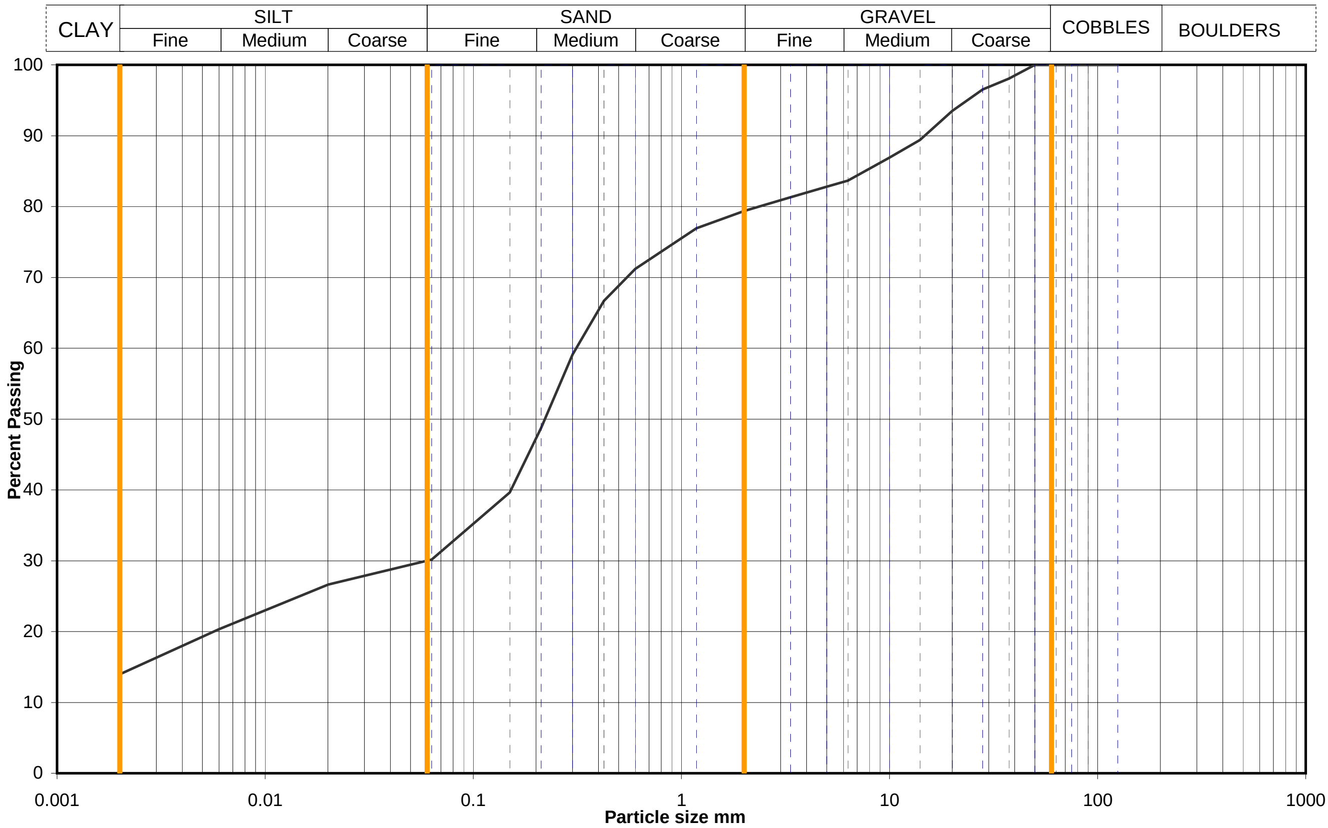
Uniformity Coefficient	D_{60} / D_{10}	Not applicable

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

QA Ref SLR 2,9 Rev 84 Sept 08	Soil Mechanics	Printed:26/05/2010 12:56	**Figure** **PSD 10**

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH103
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	7.00
			Samp No	18
			Type	B
			ID	ESGG0028-10201004160000000018
			Spec Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	27
90	100	0.0060	20
75	100	0.0020	14
63	100		
50	100		
37.5	98		
28	97		
20	93		
14	89		
10	87		
6.3	84		
5.0	83		
3.35	81		
2.00	79		
1.18	77	Particle density, Mg/m3	
0.600	71		
0.425	67	2.65 assumed	
0.300	59	Dry mass of sample, kg	
0.212	49		
0.150	40	5.1	
0.063	30		

Soil description	Light greenish grey very clayey very gravelly SAND
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377
Remarks	

Sample Proportions *<60mm values to aid description only		Whole	*<60mm
	Cobbles / boulders	0	0
	Gravel	21	21
	Sand	49	49
	Silt	16	16
	Clay	14	14

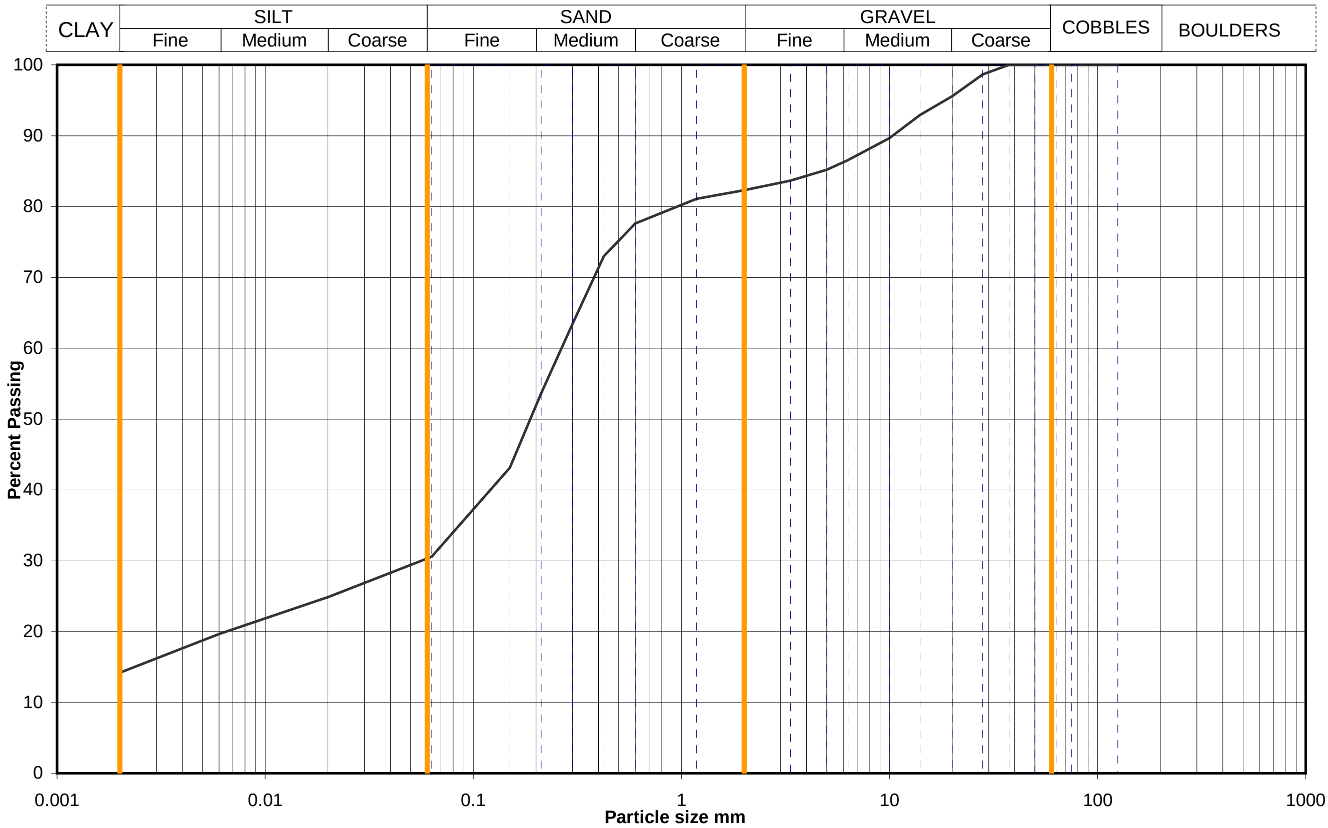
Uniformity Coefficient	**D_{60} / D_{10}**	Not applicable

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

QA Ref SLR 2,9 Rev 84 Sept 08	Soil Mechanics	Printed:26/05/2010 12:56	**Figure** **PSD 11**

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH103		
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	8.50		
			Samp No	19	Type	U
			ID	ESGG0028-10201004160000000019		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	25
90	100	0.0060	20
75	100	0.0020	14
63	100		
50	100		
37.5	100		
28	99		
20	96		
14	93		
10	90		
6.3	87		
5.0	85		
3.35	84		
2.00	82		
1.18	81	Particle density, Mg/m3	
0.600	78		
0.425	73	2.65 assumed	
0.300	63	Dry mass of sample, kg	
0.212	54		
0.150	43	4.1	
0.063	31		

Soil description	Very stiff light brown sandy gravelly CLAY		
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377		
Remarks			
Sample Proportions *<60mm values to aid description only		Whole	*<60mm
	Cobbles / boulders	0	0
	Gravel	18	18
	Sand	52	52
	Silt	16	16
	Clay	14	14

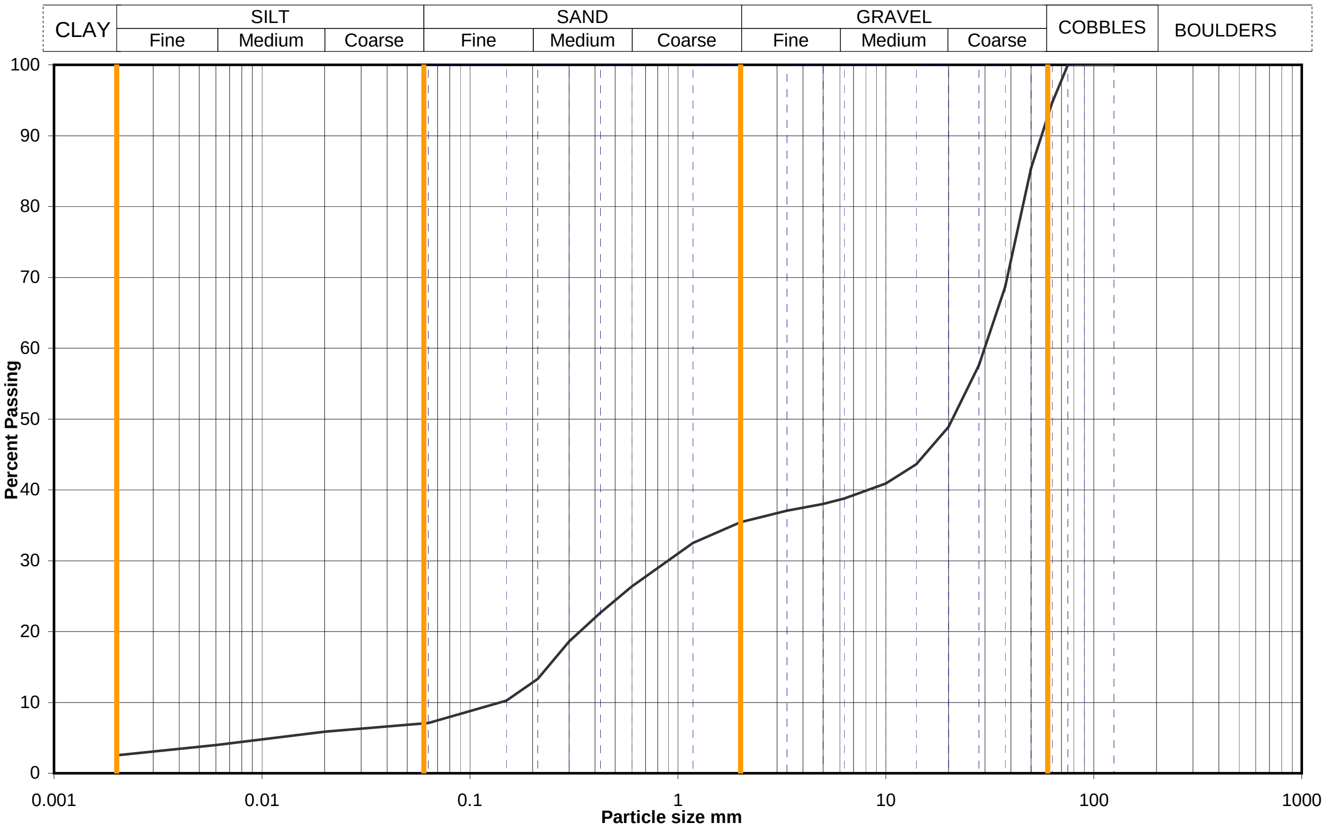
Uniformity Coefficient D_{60} / D_{10}	Not applicable

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

QA Ref SLR 2,9 Rev 84 Sept 08	Soil Mechanics	Printed:26/05/2010 12:56	**Figure** **PSD 12**

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH104		
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	4.20		
			Samp No	15	Type	B
			ID	ESGG0028-10201004190000000080		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	6
90	100	0.0060	4
75	100	0.0020	3
63	95		
50	85		
37.5	69		
28	58		
20	49		
14	44		
10	41		
6.3	39		
5.0	38		
3.35	37		
2.00	35		
1.18	33	Particle density, Mg/m3	
0.600	26		
0.425	23	2.65 assumed	
0.300	19	Dry mass of sample, kg	
0.212	13		
0.150	10	13.8	
0.063	7		

Soil description	Light brown clayey very sandy GRAVEL with some cobbles		
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377		
Remarks			
Sample Proportions *<60mm values to aid description only		Whole	*<60mm
	Cobbles / boulders	7	0
	Gravel	58	62
	Sand	28	30
	Silt	4	4
	Clay	3	3

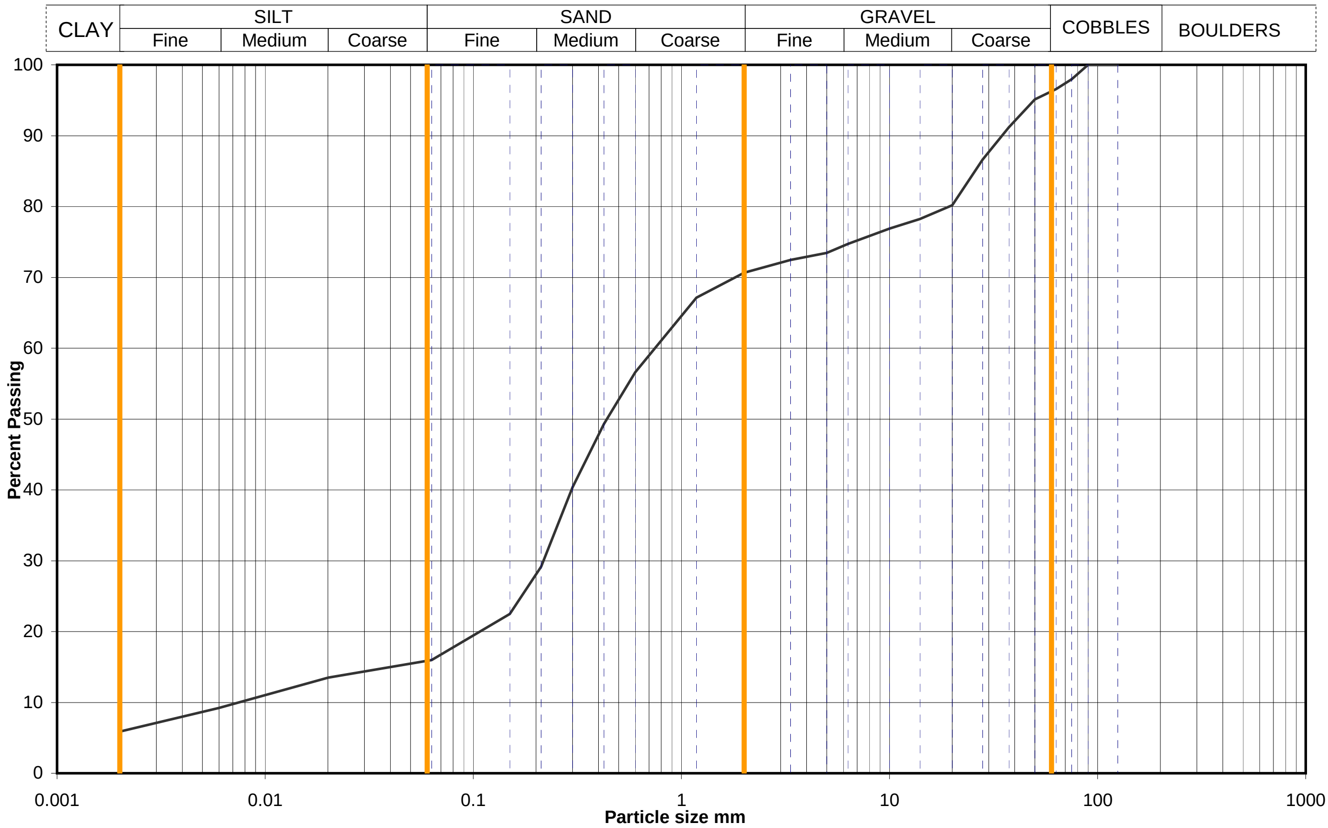
Uniformity Coefficient	D_{60} / D_{10}	213

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

QA Ref SLR 2,9 Rev 84 Sept 08	Soil Mechanics	Printed:26/05/2010 12:57	**Figure** **PSD 13**

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH104			
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	8.00			
			Samp No	27	Type	B	
			ID	ESGG0028-10201004190000000092			
			Spec Ref				



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	14
90	100	0.0060	9
75	98	0.0020	6
63	97		
50	95		
37.5	91		
28	87		
20	80		
14	78		
10	77		
6.3	75		
5.0	73		
3.35	72		
2.00	71		
1.18	67	Particle density, Mg/m3	
0.600	57		
0.425	49	2.65 assumed	
0.300	40	Dry mass of sample, kg	
0.212	29		
0.150	22	21.1	
0.063	16		

Soil description	Light greenish grey clayey very gravelly SAND with some cobbles
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377
Remarks	

Sample Proportions		Whole	*<60mm
	Cobbles / boulders	4	0
	Gravel	25	26
	Sand	55	57
*<60mm values to aid description only	Silt	10	10
	Clay	6	6

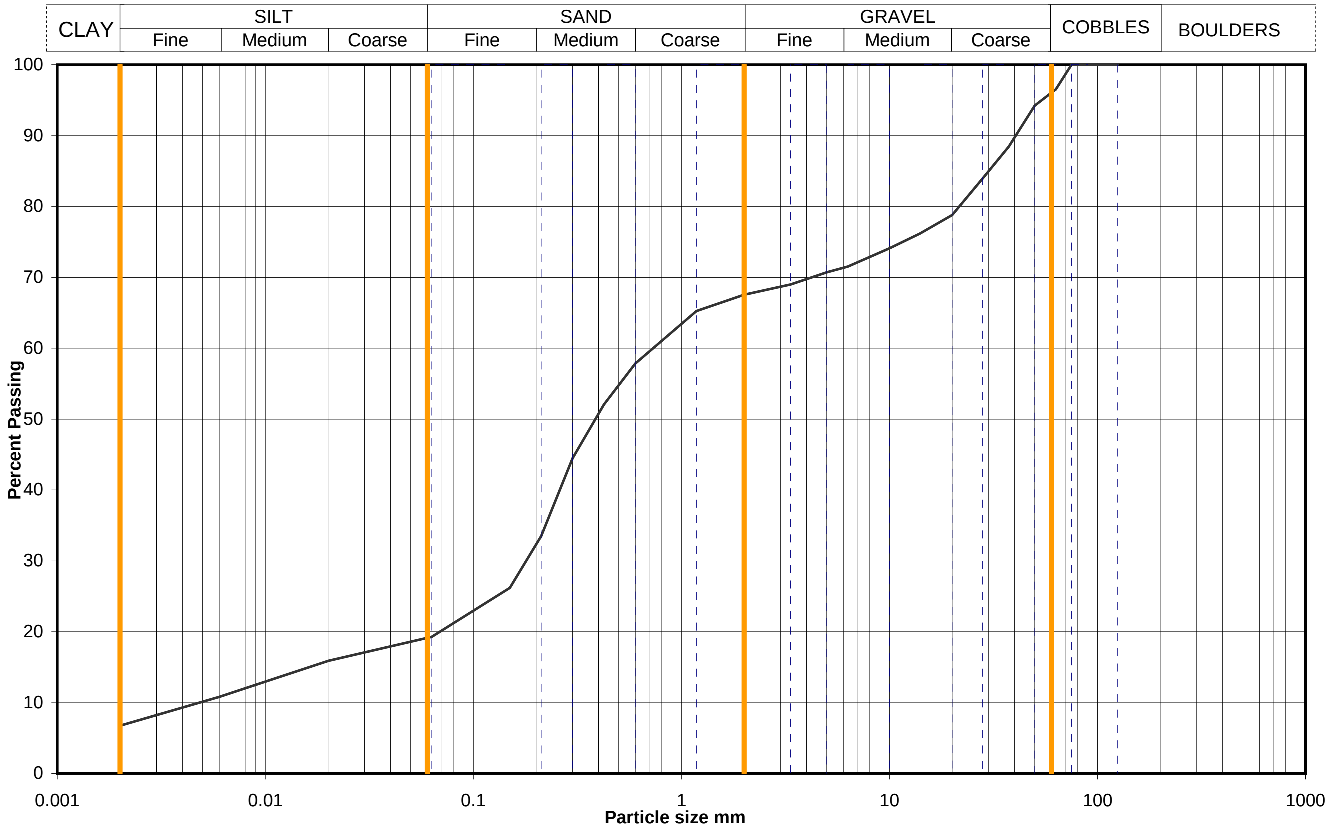
Uniformity Coefficient	D_{60} / D_{10}	100

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

QA Ref SLR 2,9 Rev 84 Sept 08	Soil Mechanics	Printed:26/05/2010 12:57	**Figure** **PSD 14**

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH104		
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	12.50		
			Samp No	40	Type	B
			ID	ESGG0028-10201004190000000106		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	16
90	100	0.0060	11
75	100	0.0020	7
63	97		
50	94		
37.5	88		
28	84		
20	79		
14	76		
10	74		
6.3	72		
5.0	71		
3.35	69		
2.00	68		
1.18	65	Particle density, Mg/m3	
0.600	58		
0.425	52	2.65	assumed
0.300	44	Dry mass of sample, kg	
0.212	33		
0.150	26	9.7	
0.063	19		

Soil description	Light brown very clayey very gravelly SAND with some cobbles		
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377		
Remarks			
Sample Proportions *<60mm values to aid description only		Whole	*<60mm
	Cobbles / boulders	4	0
	Gravel	28	29
	Sand	48	50
	Silt	13	14
	Clay	7	7

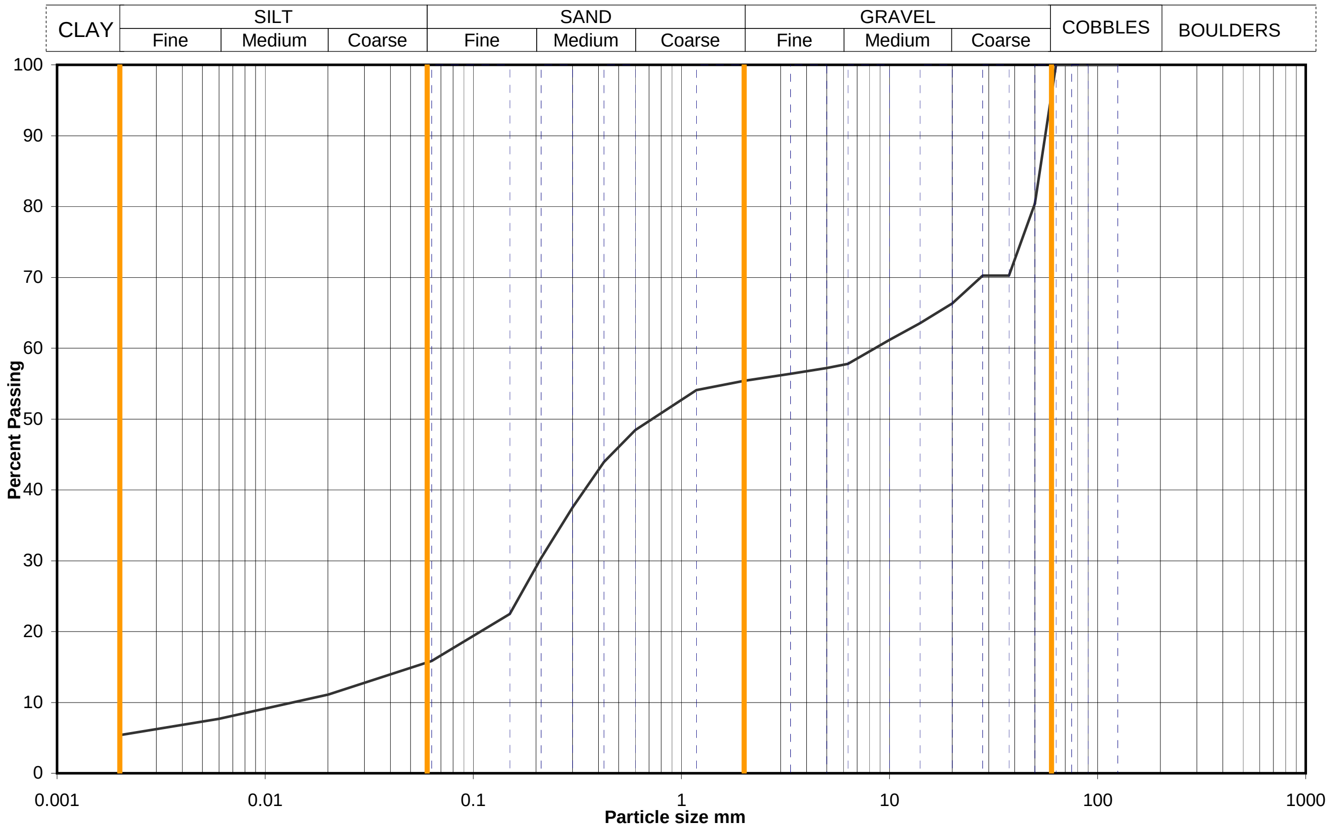
Uniformity Coefficient	D_{60} / D_{10}	150

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

QA Ref SLR 2,9 Rev 84 Sept 08	Soil Mechanics	Printed:26/05/2010 12:57	**Figure** **PSD 15**

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH104			
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	15.50			
			Samp No	46	Type	U	
			ID	ESGG0028-10201004190000000111			
			Spec Ref				



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	11
90	100	0.0060	8
75	100	0.0020	5
63	100		
50	80		
37.5	70		
28	70		
20	66		
14	64		
10	61		
6.3	58		
5.0	57		
3.35	56		
2.00	55		
1.18	54	Particle density, Mg/m3	
0.600	48		
0.425	44	2.65	assumed
0.300	38	Dry mass of sample, kg	
0.212	30		
0.150	23	3.0	
0.063	16		

Soil description	Firm light brown clayey gravelly SAND		
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377		
Remarks	Sieve: Insufficient material to conform to BS 1377		
Sample Proportions *<60mm values to aid description only		Whole	*<60mm
	Cobbles / boulders	4	0
	Gravel	41	43
	Sand	40	42
	Silt	10	10
	Clay	5	5

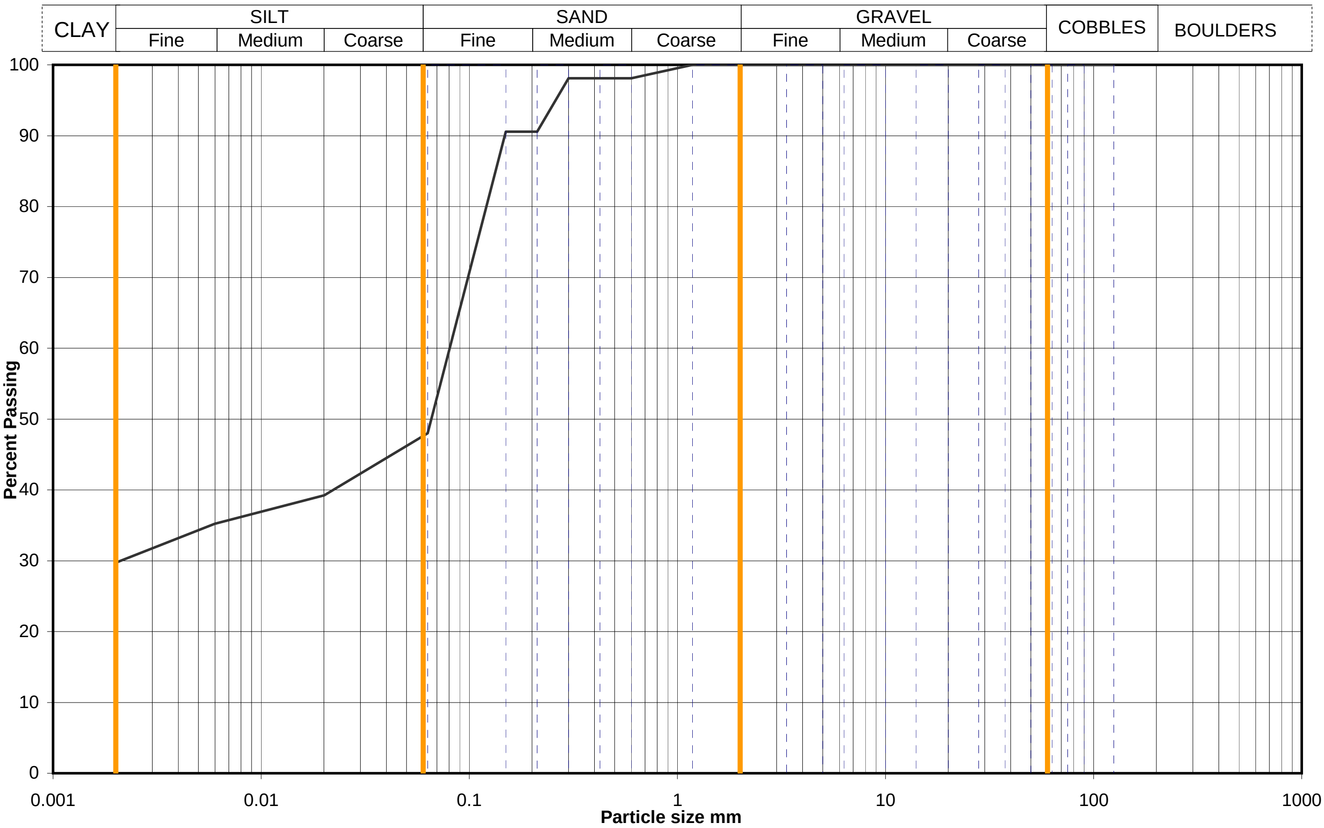
Uniformity Coefficient	D_{60} / D_{10}	628

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

QA Ref SLR 2,9 Rev 84 Sept 08	Soil Mechanics	Printed:26/05/2010 12:57	**Figure** **PSD 16**

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH106		
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	2.50		
			Samp No	8	Type	B
			ID	ESGG0028-10201004220000000285		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	39
90	100	0.0060	35
75	100	0.0020	30
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5.0	100		
3.35	100		
2.00	100		
1.18	100	Particle density, Mg/m3	
0.600	98		
0.425	98	2.65	assumed
0.300	98	Dry mass of sample, kg	
0.212	91		
0.150	91	0.0	
0.063	48		

Soil description	Very soft greenish grey and orangish brown sandy CLAY		
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377		
Remarks			
Sample Proportions		Whole	*<60mm
	Cobbles / boulders	0	0
	Gravel	0	0
	Sand	52	52
*<60mm values to aid description only	Silt	18	18
	Clay	30	30

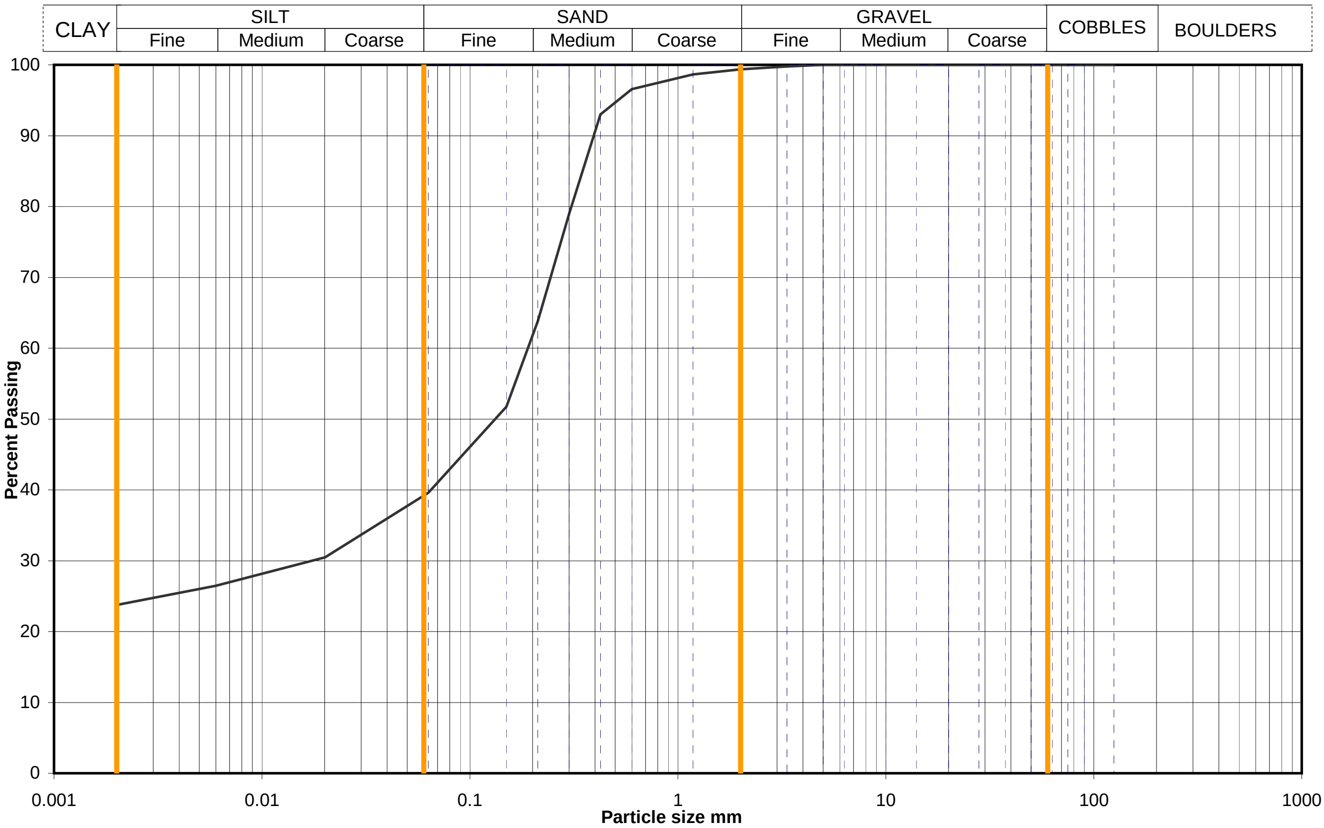
Uniformity Coefficient	D_{60} / D_{10}	Not applicable

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

QA Ref SLR 2,9 Rev 84 Sept 08	Soil Mechanics	Printed:26/05/2010 12:57	**Figure** **PSD 17**

Particle Size Distribution Analysis

Project No	G0028-10	Sample Details:	Hole No	BH106			
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	3.50			
			Samp No	10	Type	U	
			ID	ESGG0028-10201004220000000287			
			Spec Ref				



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	30
90	100	0.0060	26
75	100	0.0020	24
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5.0	100		
3.35	100		
2.00	99		
1.18	99	Particle density, Mg/m3	
0.600	97		
0.425	93	2.65	assumed
0.300	79	Dry mass of sample, kg	
0.212	64		
0.150	52	0.8	
0.063	40		

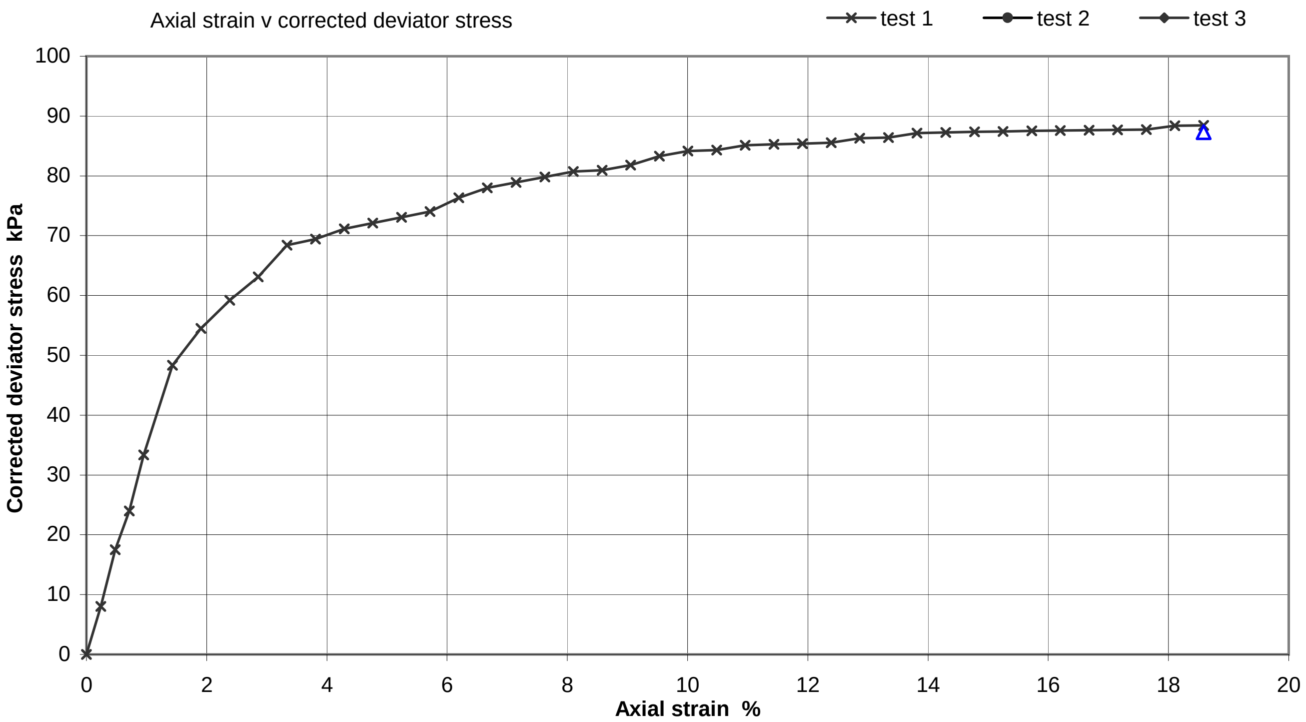
Soil description	Stiff grey CLAY		
Preparation / Pretreatment	Sieve: pre dried, Pipette: as BS1377		
Remarks			
Sample Proportions *<60mm values to aid description only		Whole	*<60mm
	Cobbles / boulders	0	0
	Gravel	1	1
	Sand	60	60
	Silt	15	15
	Clay	24	24

Uniformity Coefficient	D_{60} / D_{10}	Not applicable

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.4 pipette

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST
without measurement of pore pressure - BS 1377: Part 7 : 1990

Project No	G0028-10	Sample Details:	Hole No	BH101
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	8.50 - 8.95
			Samp No	19
			Type	U
			ID	ESGG0028-



Type of test	BS 1377: Part 7 : 1990, clause 8, single stage
Soil description	Firm light brown sandy gravelly CLAY
Initial Condition	UNDISTURBED
Preparation	As BS 1377 Part 1

Test No.		1			
Initial Dimensions	Length	209.9			mm
	Diameter	101.9			mm
Bulk density		1.93			Mg/m3
Dry density		1.60			Mg/m3
Moisture Content		20			%
Rate of strain		1.90			% / minute
Membrane thickness		0.54			mm (latex rubber)

At failure (Δ)

Cell pressure		200			kPa
Axial strain		18.6			%
Deviator stress	($\acute{o}_1 - \acute{o}_3$)	88			kPa corrected
c_u	½($\acute{o}_1 - \acute{o}_3$)	44			kPa
Mode of failure		Plastic			

Deviator stress corrected for area change and membrane, as BS 1377

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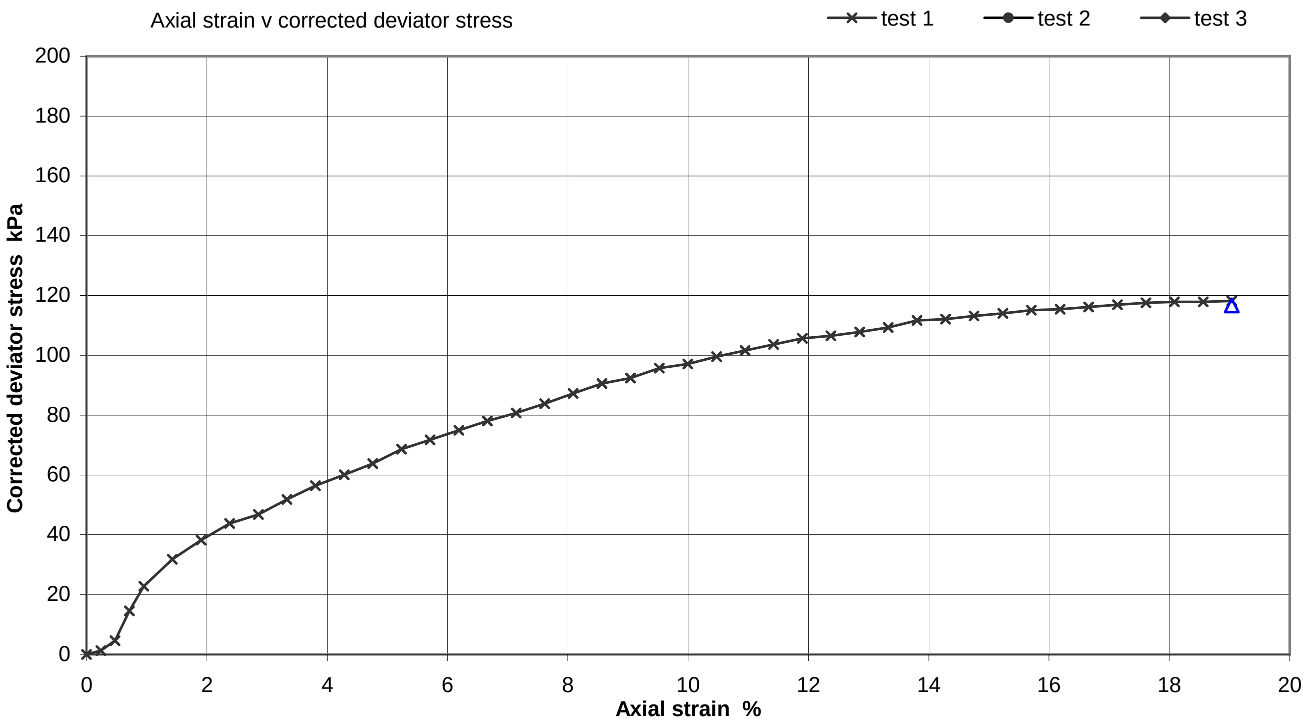
QA Ref SLD 7, 8 Rev 69 Jan 09	Soil Mechanics UKAS TESTING 1348	Printed:26/05/2010 12:59	**Figure** **UTXL 1**

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST
without measurement of pore pressure - BS 1377: Part 7 : 1990

Project No	G0028-10	Sample Details:	Hole No	BH101
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	11.50 - 11.95
			Samp No	25
			Type	U
			ID	ESGG0028-



Type of test	BS 1377: Part 7 : 1990, clause 8, single stage
Soil description	Firm dark brown sandy gravelly CLAY
Initial Condition	UNDISTURBED
Preparation	As BS 1377 Part 1

Test No.		1			
Initial Dimensions	Length	210.1			mm
	Diameter	101.7			mm
Bulk density		2.03			Mg/m3
Dry density		1.72			Mg/m3
Moisture Content		18			%
Rate of strain		1.90			% / minute
Membrane thickness		0.31			mm (latex rubber)

At failure (Δ)

Cell pressure		200			kPa
Axial strain		19.0			%
Deviator stress	($ó_1$ - $ó_3$)	118			kPa corrected
c_u	½($ó_1$ - $ó_3$)	59			kPa
Mode of failure		Plastic			

Deviator stress corrected for area change and membrane, as BS 1377

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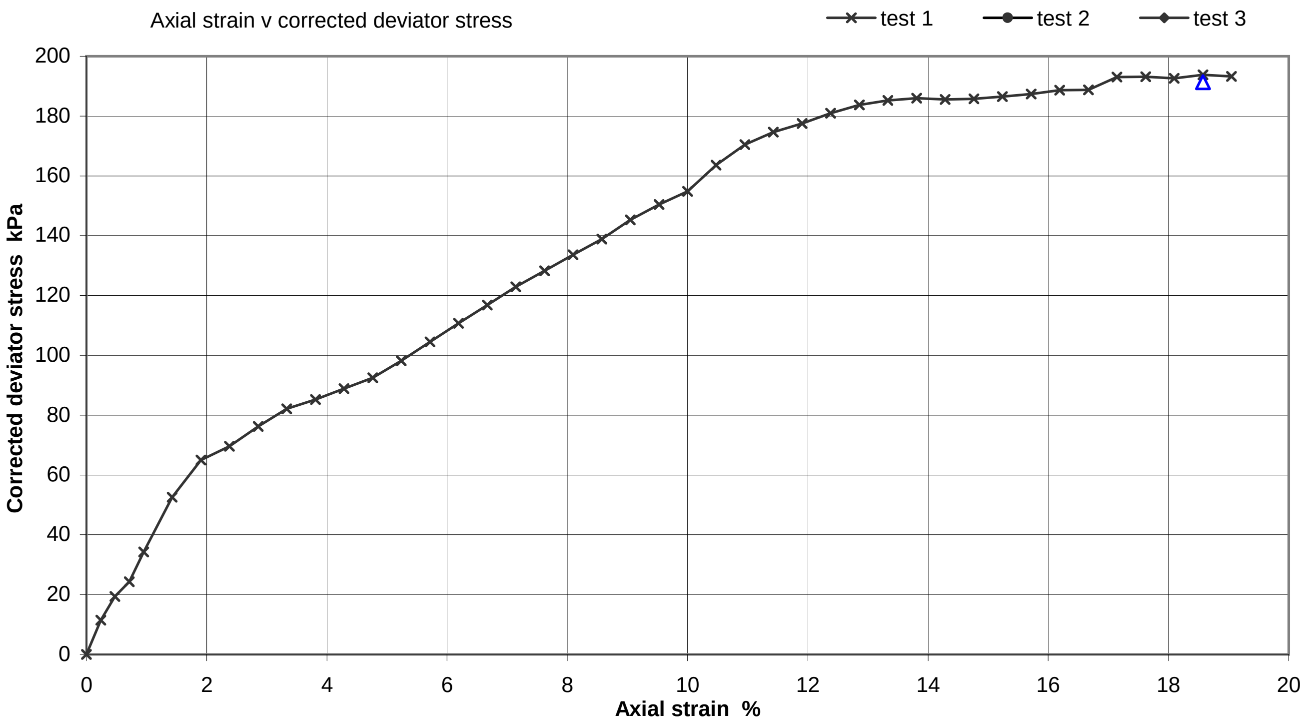
QA Ref SLD 7, 8 Rev 69 Jan 09	Soil Mechanics	Printed:26/05/2010 13:00	**Figure** **UTXL 3**

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST
without measurement of pore pressure - BS 1377: Part 7 : 1990

Project No	G0028-10	Sample Details:	Hole No	BH103
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	3.50 - 3.95
			Samp No	9
			Type	U
			ID	ESGG0028-



Type of test	BS 1377: Part 7 : 1990, clause 8, single stage
Soil description	Firm to stiff light brown sandy gravelly CLAY
Initial Condition	UNDISTURBED
Preparation	As BS 1377 Part 1

Test No.		1			
Initial Dimensions	Length	210.0			mm
	Diameter	102.8			mm
Bulk density		2.02			Mg/m3
Dry density		1.71			Mg/m3
Moisture Content		18			%
Rate of strain		1.90			% / minute
Membrane thickness		0.21			mm (latex rubber)

At failure (Δ)

Cell pressure		100			kPa
Axial strain		18.6			%
Deviator stress	($\acute{o}_1$ - $\acute{o}_3$)	194			kPa corrected
c_u	½($\acute{o}_1$ - $\acute{o}_3$)	97			kPa
Mode of failure		Plastic			

Deviator stress corrected for area change and membrane, as BS 1377

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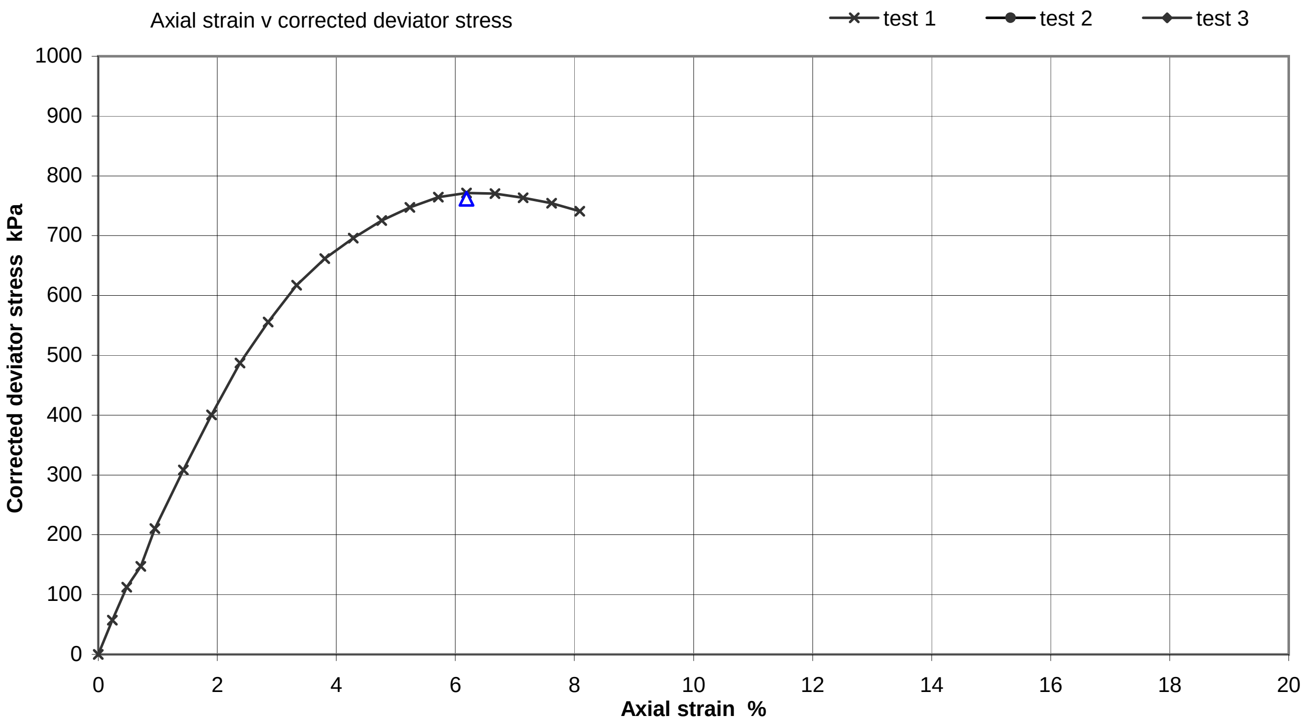
QA Ref SLD 7, 8 Rev 69 Jan 09	Soil Mechanics	Printed:26/05/2010 13:00	**Figure** **UTXL 5**

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST
without measurement of pore pressure - BS 1377: Part 7 : 1990

Project No	G0028-10	Sample Details:	Hole No	BH103
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	5.50 - 5.95
			Samp No	14
			Type	U
			ID	ESGG0028-



Type of test	BS 1377: Part 7 : 1990, clause 8, single stage
Soil description	Very stiff light brown sandy gravelly CLAY
Initial Condition	UNDISTURBED
Preparation	As BS 1377 Part 1

Test No.		1			
Initial Dimensions	Length	210.1			mm
	Diameter	102.6			mm
Bulk density		2.12			Mg/m3
Dry density		1.83			Mg/m3
Moisture Content		16			%
Rate of strain		1.90			% / minute
Membrane thickness		0.38			mm (latex rubber)

At failure (Δ)

Cell pressure		150			kPa
Axial strain		6.2			%
Deviator stress	($ó_1$ - $ó_3$)	772			kPa corrected
c_u	½($ó_1$ - $ó_3$)	386			kPa
Mode of failure		Plastic			

Deviator stress corrected for area change and membrane, as BS 1377

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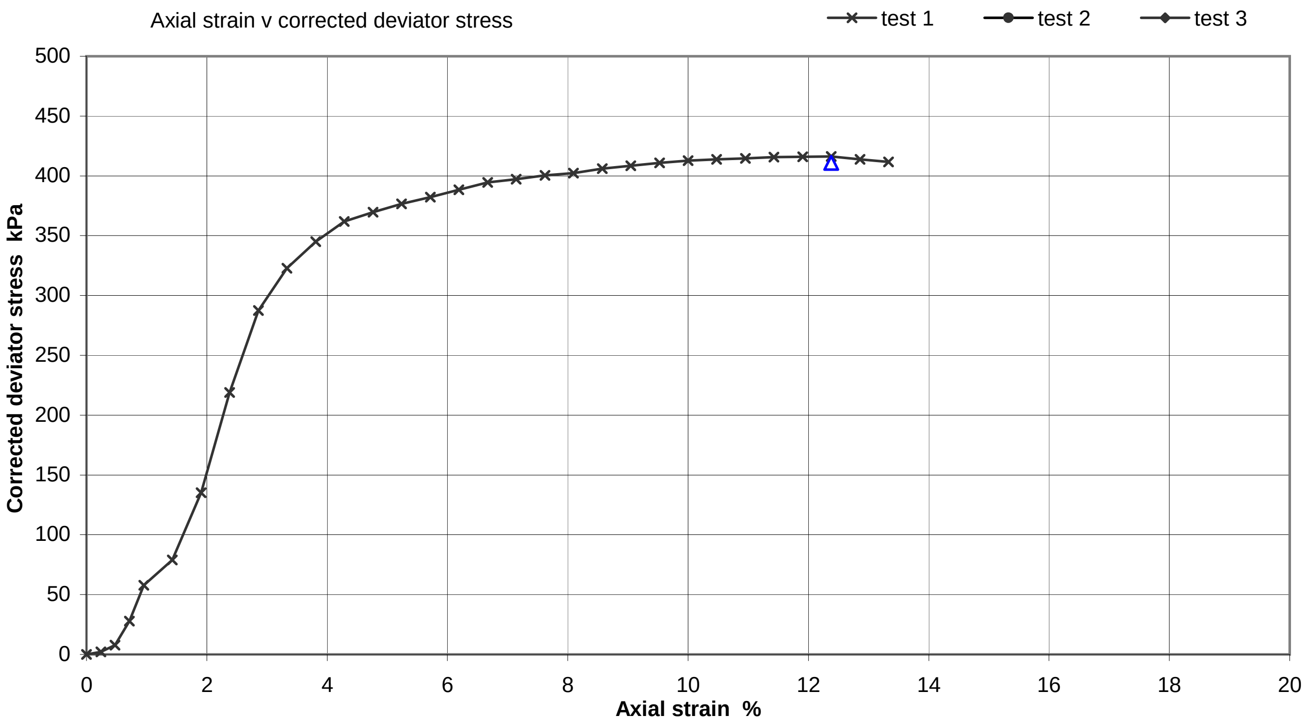
QA Ref SLD 7, 8 Rev 69 Jan 09	Soil Mechanics	Printed:26/05/2010 13:00	**Figure** **UTXL 7**

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST
without measurement of pore pressure - BS 1377: Part 7 : 1990

Project No	G0028-10	Sample Details:	Hole No	BH103
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	8.50 - 8.95
			Samp No	19
			Type	U
			ID	ESGG0028-



Type of test	BS 1377: Part 7 : 1990, clause 8, single stage
Soil description	Very stiff light brown sandy gravelly CLAY
Initial Condition	UNDISTURBED
Preparation	As BS 1377 Part 1

Test No.		1			
Initial Dimensions	Length	210.0			mm
	Diameter	102.8			mm
Bulk density		2.05			Mg/m3
Dry density		1.71			Mg/m3
Moisture Content		20			%
Rate of strain		1.90			% / minute
Membrane thickness		0.31			mm (latex rubber)

At failure (Δ)

Cell pressure		200			kPa
Axial strain		12.4			%
Deviator stress	$(\sigma_1 - \sigma_3)$	416			kPa corrected
c_u	$½(\sigma_1 - \sigma_3)$	208			kPa
Mode of failure		Compound			

Deviator stress corrected for area change and membrane, as BS 1377

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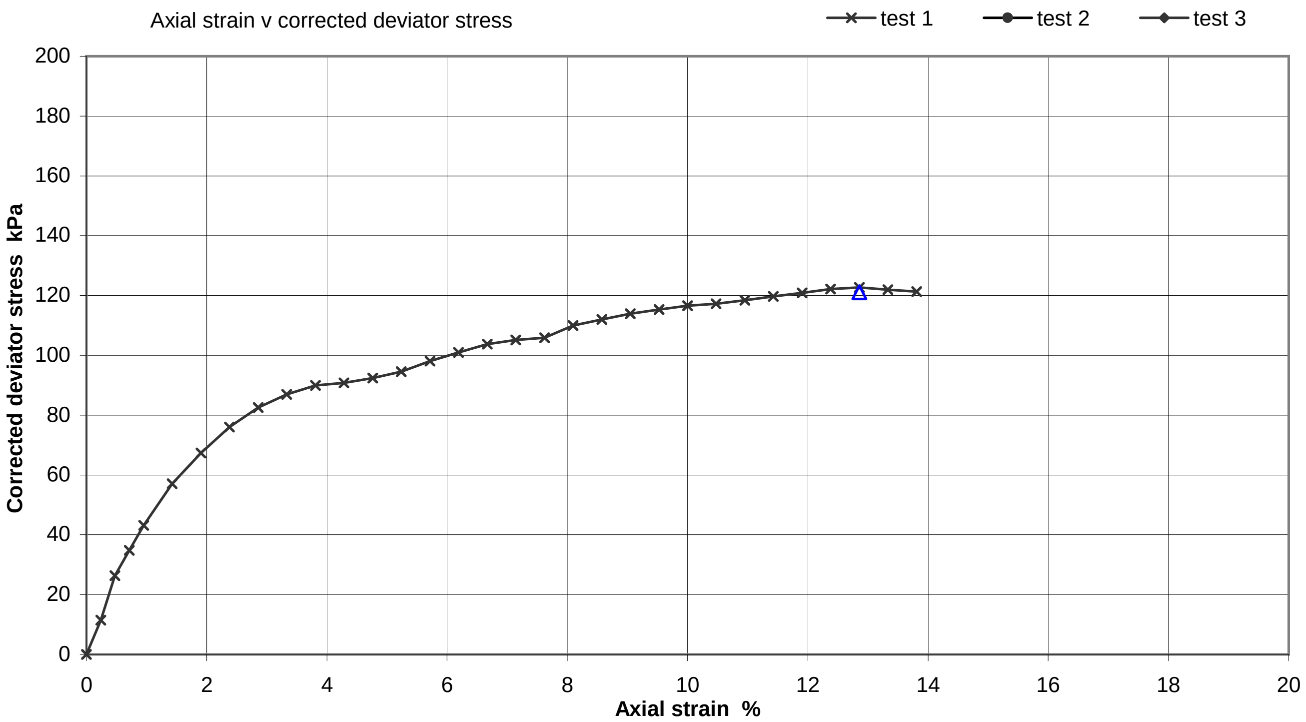
QA Ref SLD 7, 8 Rev 69 Jan 09	Soil Mechanics UKAS TESTING 1348	Printed:26/05/2010 13:00	**Figure** **UTXL 9**

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST
without measurement of pore pressure - BS 1377: Part 7 : 1990

Project No	G0028-10	Sample Details:	Hole No	BH104
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	15.50 - 15.95
			Samp No	46
			Type	U
			ID	ESGG0028-



Type of test	BS 1377: Part 7 : 1990, clause 8, single stage
Soil description	Firm light brown clayey gravelly SAND
Initial Condition	UNDISTURBED
Preparation	As BS 1377 Part 1

Test No.		1			
Initial Dimensions	Length	210.0			mm
	Diameter	103.2			mm
Bulk density		1.96			Mg/m3
Dry density		1.54			Mg/m3
Moisture Content		28			%
Rate of strain		1.90			% / minute
Membrane thickness		0.37			mm (latex rubber)

At failure (Δ)

Cell pressure		200			kPa
Axial strain		12.9			%
Deviator stress	($σ_1$ - $σ_3$)	123			kPa corrected
c_u	½($σ_1$ - $σ_3$)	61			kPa
Mode of failure		Plastic			

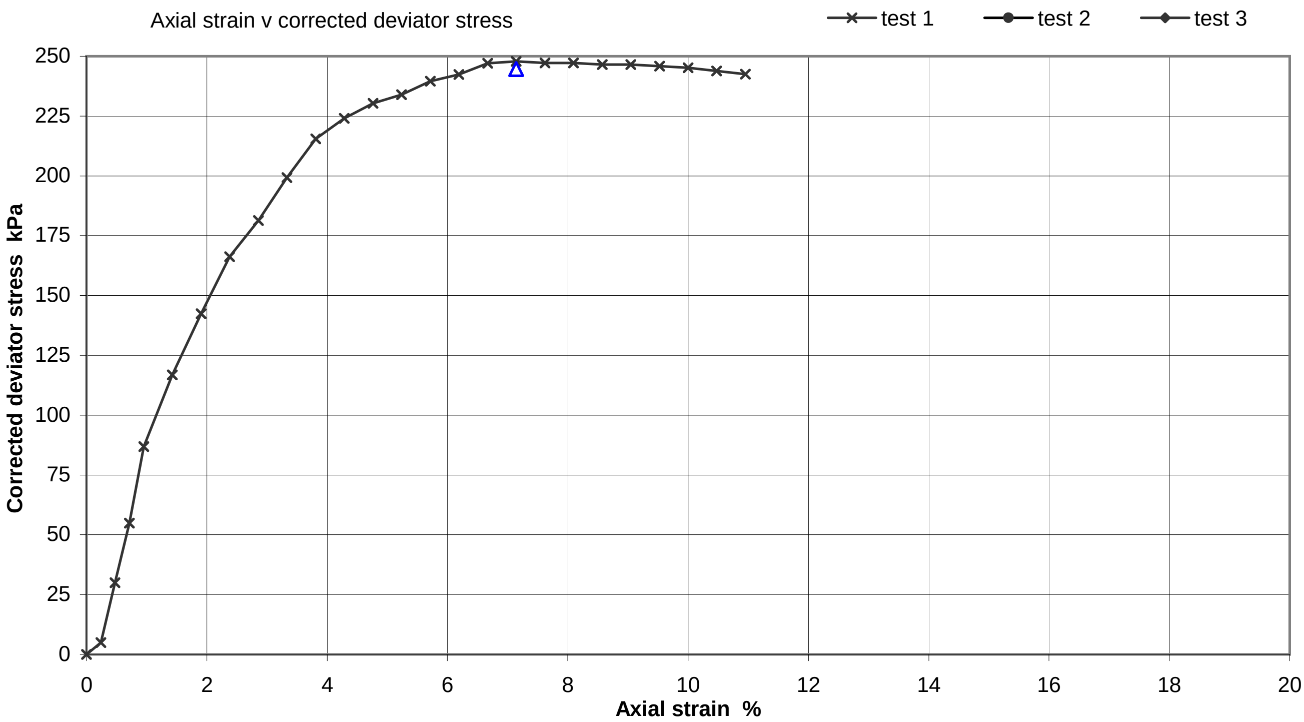
Deviator stress corrected for area change and membrane, as BS 1377

Report page 1 of 1

QA Ref SLD 7, 8 Rev 69 Jan 09	Soil Mechanics	UKAS TESTING 1348	Printed:26/05/2010 13:00	**Figure** **UTXL 11**

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST
without measurement of pore pressure - BS 1377: Part 7 : 1990

Project No	G0028-10	Sample Details:	Hole No	BH106
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	3.50 - 3.95
			Samp No	10
			Type	U
			ID	ESGG0028-



Type of test	BS 1377: Part 7 : 1990, clause 8, single stage
Soil description	Stiff grey CLAY
Initial Condition	UNDISTURBED
Preparation	As BS 1377 Part 1

Test No.		1			
Initial Dimensions	Length	210.0			mm
	Diameter	103.0			mm
Bulk density		2.03			Mg/m3
Dry density		1.67			Mg/m3
Moisture Content		22			%
Rate of strain		1.90			% / minute
Membrane thickness		0.40			mm (latex rubber)

At failure (Δ)

Cell pressure		100			kPa
Axial strain		7.1			%
Deviator stress	(ó$_1$ - ó$_3$)	248			kPa corrected
c_u	½(ó$_1$ - ó$_3$)	124			kPa
Mode of failure		Plastic			

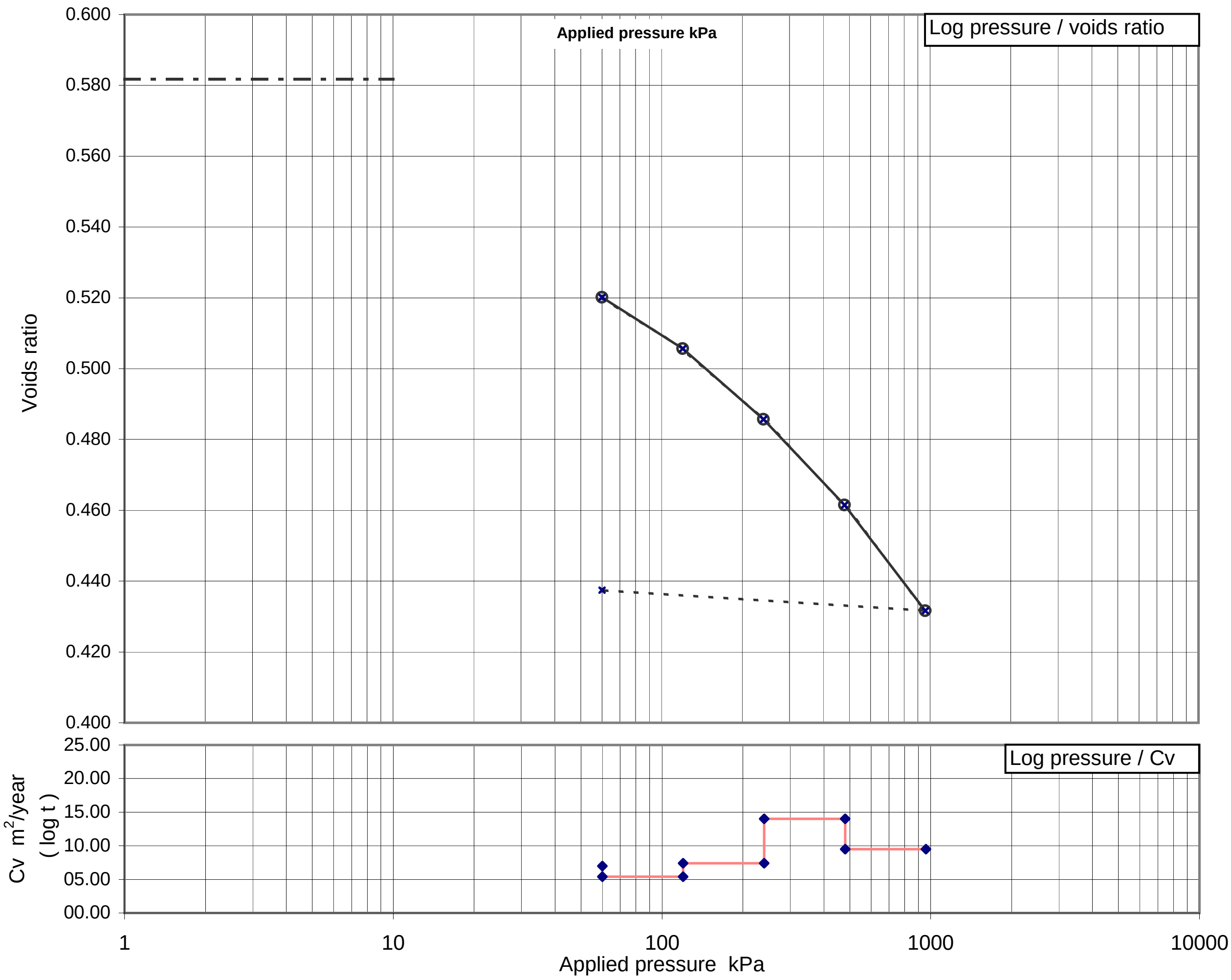
Deviator stress corrected for area change and membrane, as BS 1377

Report page 1 of 1

QA Ref SLD 7, 8 Rev 69 Jan 09	Soil Mechanics	UKAS TESTING 1348	Printed:26/05/2010 13:01	Figure **UTXL 13**

ONE DIMENSIONAL CONSOLIDATION TEST
BS 1377 : Part 5 : 1990 : clause 3

Project No	G0028-10	Sample Details:	Hole No	BH101			
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	8.50			
			Samp No	19	Type	U	
			ID	ESGG0028-10201004210000000168			
			Spec Ref				



Soil description	Firm light brown sandy gravelly CLAY				
Preparation	Undisturbed				
Index properties (if available)	Liquid limit %	35	Plastic limit %	18	

Specimen details	Initial	Final	
Particle density	2.65	assumed	Mg/m^3
Diameter	74.57		mm
Height	18.73	17.02	mm
Voids ratio	0.582	0.437	
Moisture content	22	17	%
Bulk density	2.04	2.16	Mg/m^3
Dry density	1.68	1.84	Mg/m^3
Saturation	98	105	%
Average temperature for test	21		^oC

Swelling pressure: not measured kPa

Notes :

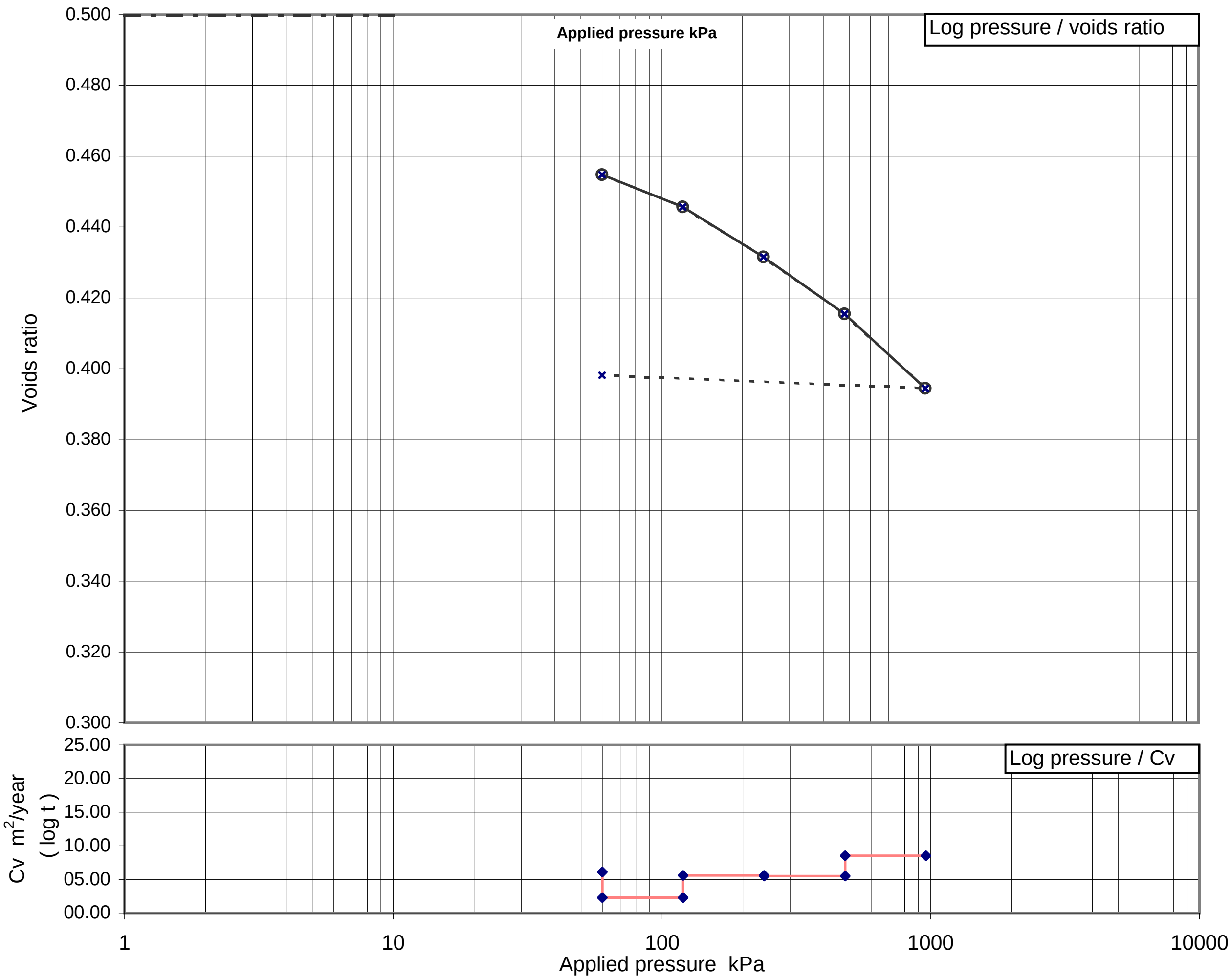
Specimen taken 0 mm from base of sample

Applied Pressure kPa	Voids ratio	M_v m^2/MN	C_v ($t_{50, log}$) $m^2/year$	C_v ($t_{90, root}$) $m^2/year$	
0	0.5818				
60	0.5202	0.650	7	11	
120	0.5056	0.159	5.4	11	
240	0.4857	0.110	7.4	15	
480	0.4615	0.068	14	25	
960	0.4317	0.042	9.5	29	
60	0.4375	0.005	12	43	

QA Ref				Figure
SLR 5.3 Rev 118 June 09	Soil Mechanics	UKAS TESTING 1348	Printed:27/05/2010 12:23	OED 1

ONE DIMENSIONAL CONSOLIDATION TEST
BS 1377 : Part 5 : 1990 : clause 3

Project No	G0028-10	Sample Details:	Hole No	BH101		
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	11.50		
			Samp No	25	Type	U
			ID	ESGG0028-10201004210000000174		
			Spec Ref			



Soil description	Firm dark brown sandy gravelly CLAY
Preparation	Undisturbed
Index properties (if available)	Liquid limit % 38 / Plastic limit % 17

Specimen details	Initial	Final	
Particle density	2.65	assumed	Mg/m^3
Diameter	74.61		mm
Height	18.78	17.51	mm
Voids ratio	0.500	0.398	
Moisture content	18	15	%
Bulk density	2.08	2.17	Mg/m^3
Dry density	1.77	1.90	Mg/m^3
Saturation	95	97	%
Average temperature for test	21		°C

Swelling pressure: not measured kPa

Notes :

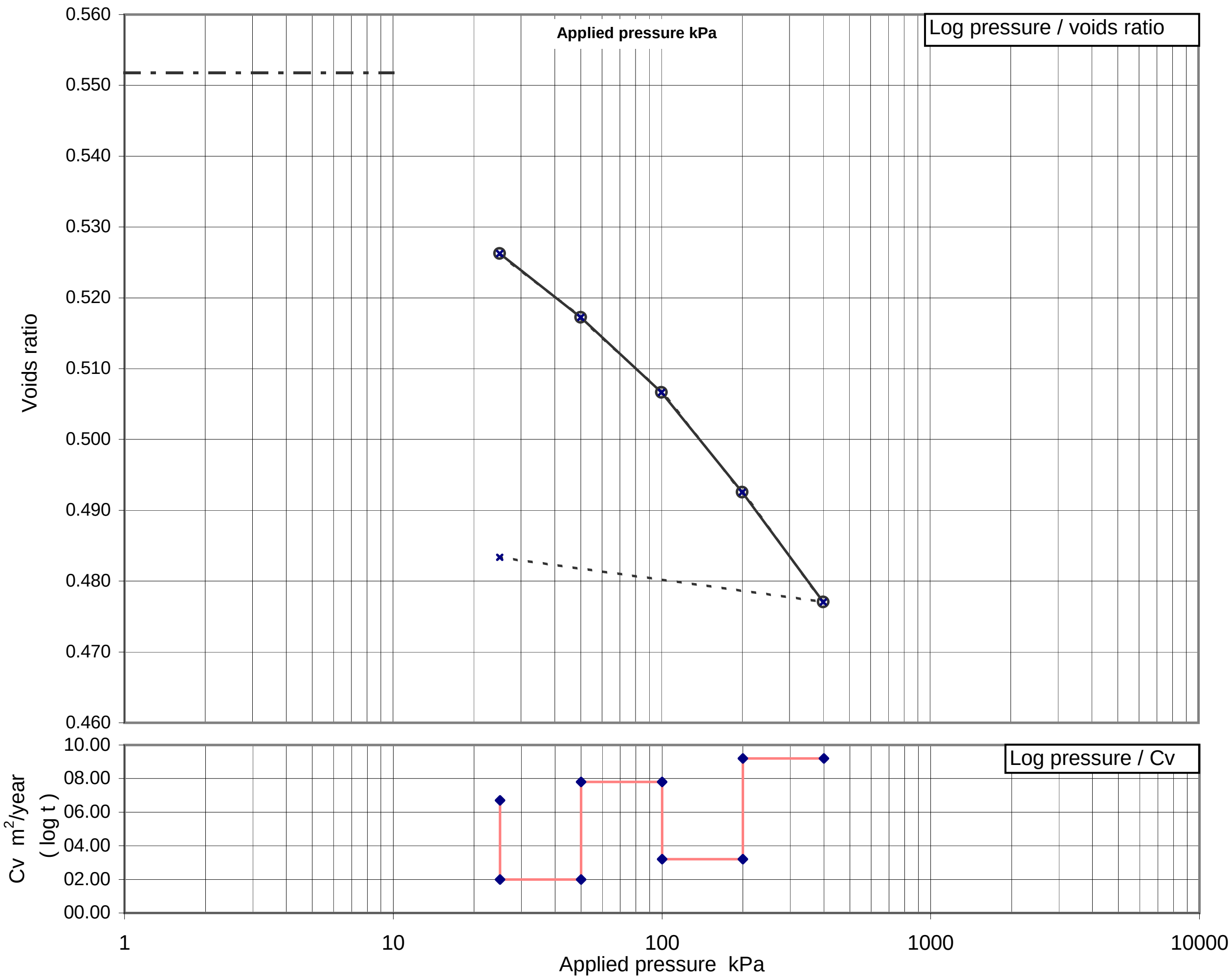
Specimen taken 0 mm from base of sample

Applied Pressure kPa	Voids ratio	M_v m^2/MN	C_v ($t_{50, \log}$) $m^2/year$	C_v ($t_{90, root}$) $m^2/year$	
0	0.4998				
60	0.4547	0.501	6.1	9.6	
120	0.4457	0.103	2.3	8.3	
240	0.4316	0.081	5.6	15	
480	0.4154	0.047	5.5	18	
960	0.3944	0.031	8.5	23	
60	0.3981	0.003	15	59	

QA Ref		Printed	Figure
SLR 5.3 Rev 118 June 09	Soil Mechanics	Printed:27/05/2010 12:23	OED 2

ONE DIMENSIONAL CONSOLIDATION TEST
BS 1377 : Part 5 : 1990 : clause 3

Project No	G0028-10	Sample Details:	Hole No	BH103
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	3.50
			Samp No	9 Type: U
			ID	ESGG0028-10201004160000000009
			Spec Ref	



Soil description	Firm to stiff light brown sandy gravelly CLAY
Preparation	Undisturbed
Index properties (if available)	Liquid limit % 35 Plastic limit % 17

Specimen details	Initial	Final	
Particle density	2.65	assumed	Mg/m^3
Diameter	74.96		mm
Height	18.83	18.00	mm
Voids ratio	0.552	0.483	
Moisture content	19	18	%
Bulk density	2.03	2.11	Mg/m^3
Dry density	1.71	1.79	Mg/m^3
Saturation	90	100	%
Average temperature for test	21		°C

Swelling pressure: not measured kPa

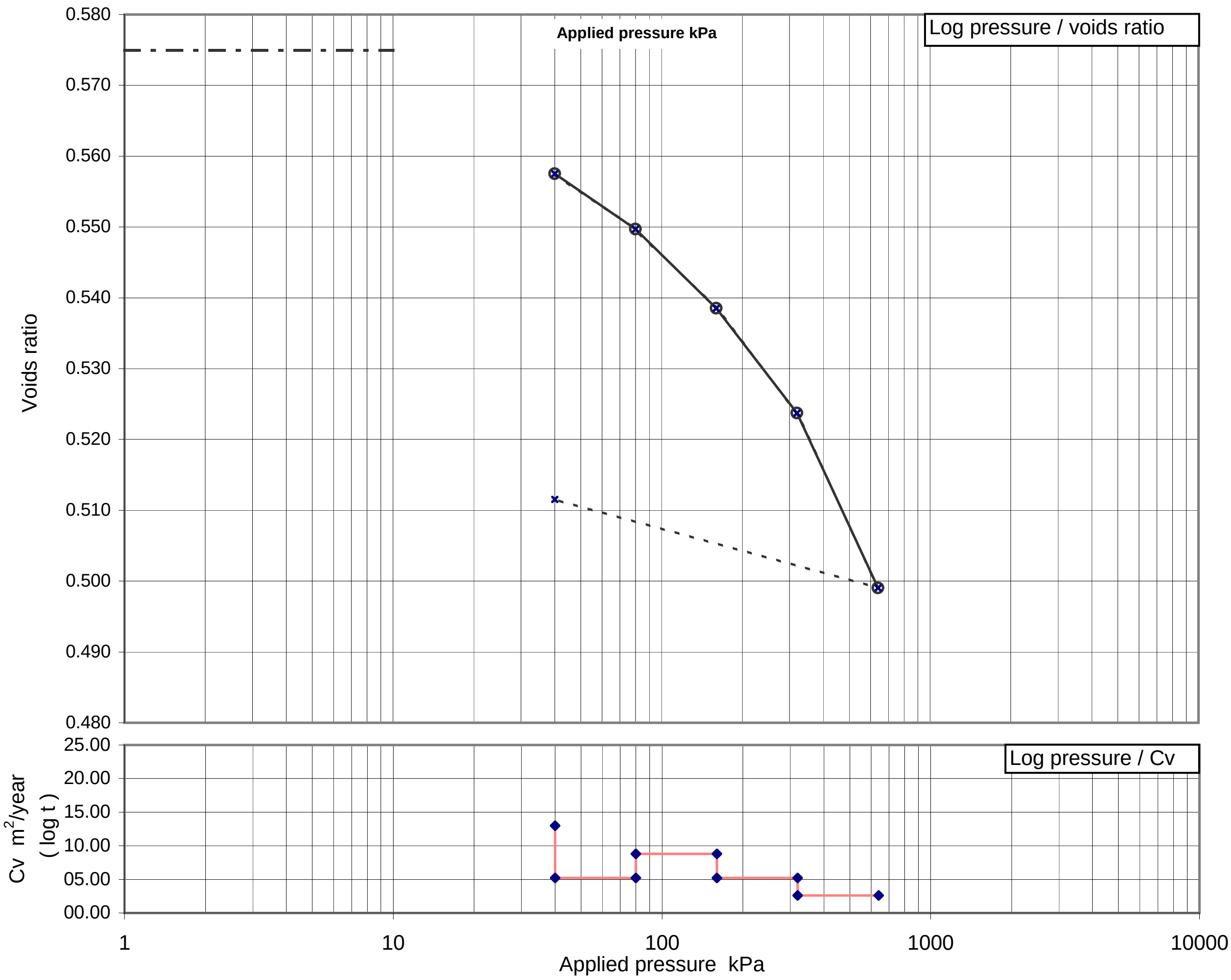
Notes :

Specimen taken 0 mm from base of sample

Applied Pressure kPa	Voids ratio	M_v m^2/MN	C_v ($t_{50, log}$) $m^2/year$	C_v ($t_{90, root}$) $m^2/year$	
0	0.5518				
25	0.5262	0.659	6.7	22	
50	0.5173	0.235	2	6.9	
100	0.5066	0.140	7.8	26	
200	0.4925	0.094	3.2	13	
400	0.4770	0.052	9.2	24	
25	0.4834	0.011	6.3	22	

ONE DIMENSIONAL CONSOLIDATION TEST
BS 1377 : Part 5 : 1990 : clause 3

Project No	G0028-10	Sample Details:	Hole No	BH103
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	5.50
			Samp No	14 — Type: U
			ID	ESGG0028-10201004160000000014
			Spec Ref	



Soil description	Very stiff light brown sandy gravelly CLAY			
Preparation	Undisturbed			
Index properties (if available)	Liquid limit %	37	Plastic limit %	19

Specimen details	Initial	Final	
Particle density	2.65	assumed	Mg/m^3
Diameter	74.99		mm
Height	18.98	18.22	mm
Voids ratio	0.575	0.512	
Moisture content	16	19	%
Bulk density	1.95	2.08	Mg/m^3
Dry density	1.68	1.75	Mg/m^3
Saturation	74	97	%
Average temperature for test	21		^{o}C

Swelling pressure: not measured kPa

Notes :

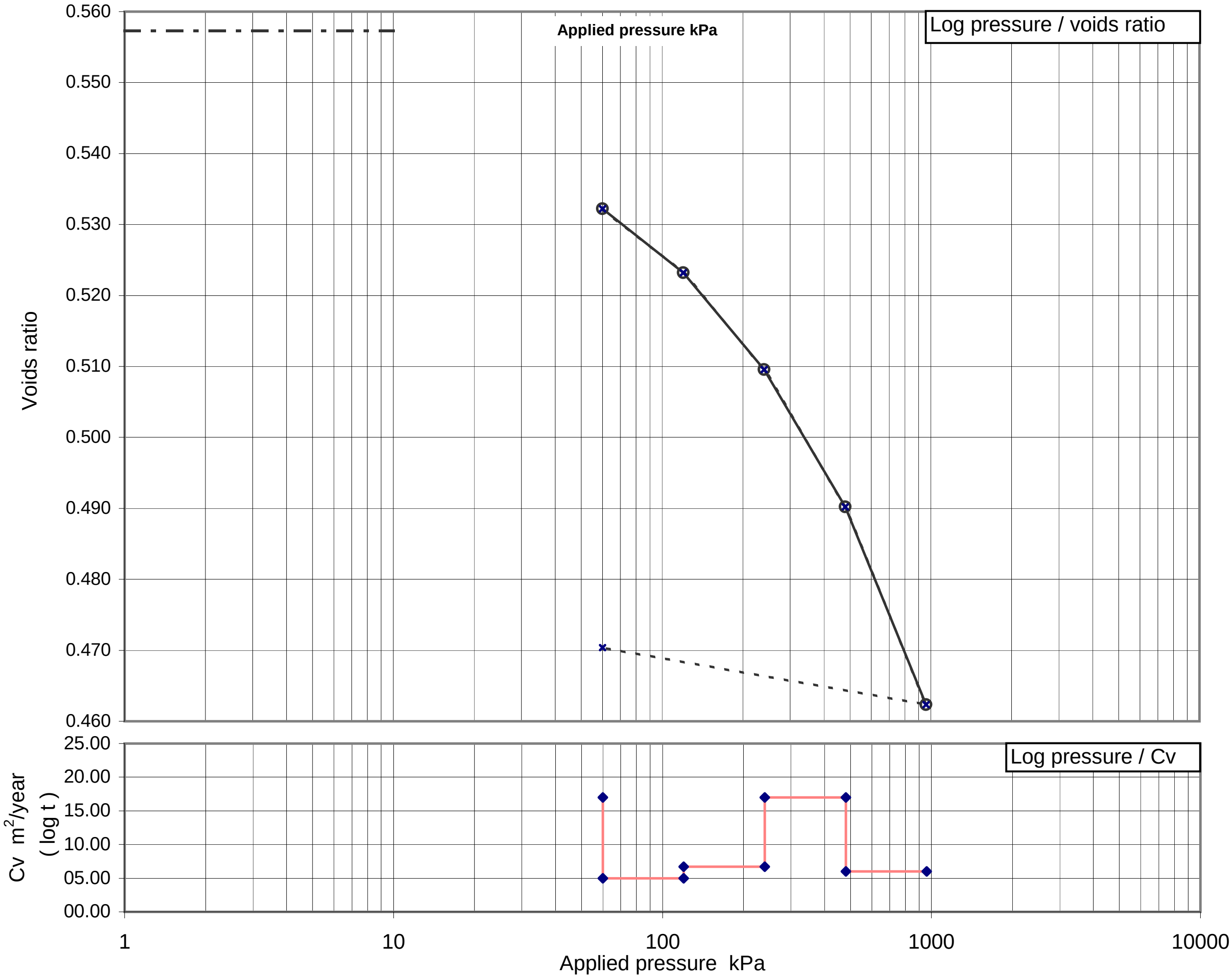
Specimen taken 0 mm from base of sample

Applied Pressure kPa	Voids ratio	M_v m^2/MN	C_v ($t_{50, log}$) m^2/year	C_v ($t_{90, root}$) m^2/year	
0	0.5749				
40	0.5575	0.277	13	47	
80	0.5497	0.125	5.2	18	
160	0.5385	0.090	8.8	33	
320	0.5237	0.060	5.2	22	
640	0.4990	0.051	2.6	10	
40	0.5115	0.014	-	-	

QA Ref SLR 5.3 Rev 118 June 09	Soil Mechanics	Printed:27/05/2010 12:24	Figure **OED 4**

ONE DIMENSIONAL CONSOLIDATION TEST
BS 1377 : Part 5 : 1990 : clause 3

Project No	G0028-10	Sample Details:	Hole No	BH103
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	8.50
			Samp No	19 / Type: U
			ID	ESGG0028-10201004160000000019
			Spec Ref	



Soil description	Very stiff light brown sandy gravelly CLAY				
Preparation	Undisturbed				
Index properties (if available)	Liquid limit %	37	Plastic limit %	18	

Specimen details	Initial	Final	
Particle density	2.65	assumed	Mg/m^3
Diameter	74.62		mm
Height	18.68	17.64	mm
Voids ratio	0.557	0.470	
Moisture content	19	18	%
Bulk density	2.02	2.13	Mg/m^3
Dry density	1.70	1.80	Mg/m^3
Saturation	88	102	%
Average temperature for test	21		°C

Swelling pressure: not measured kPa

Notes :

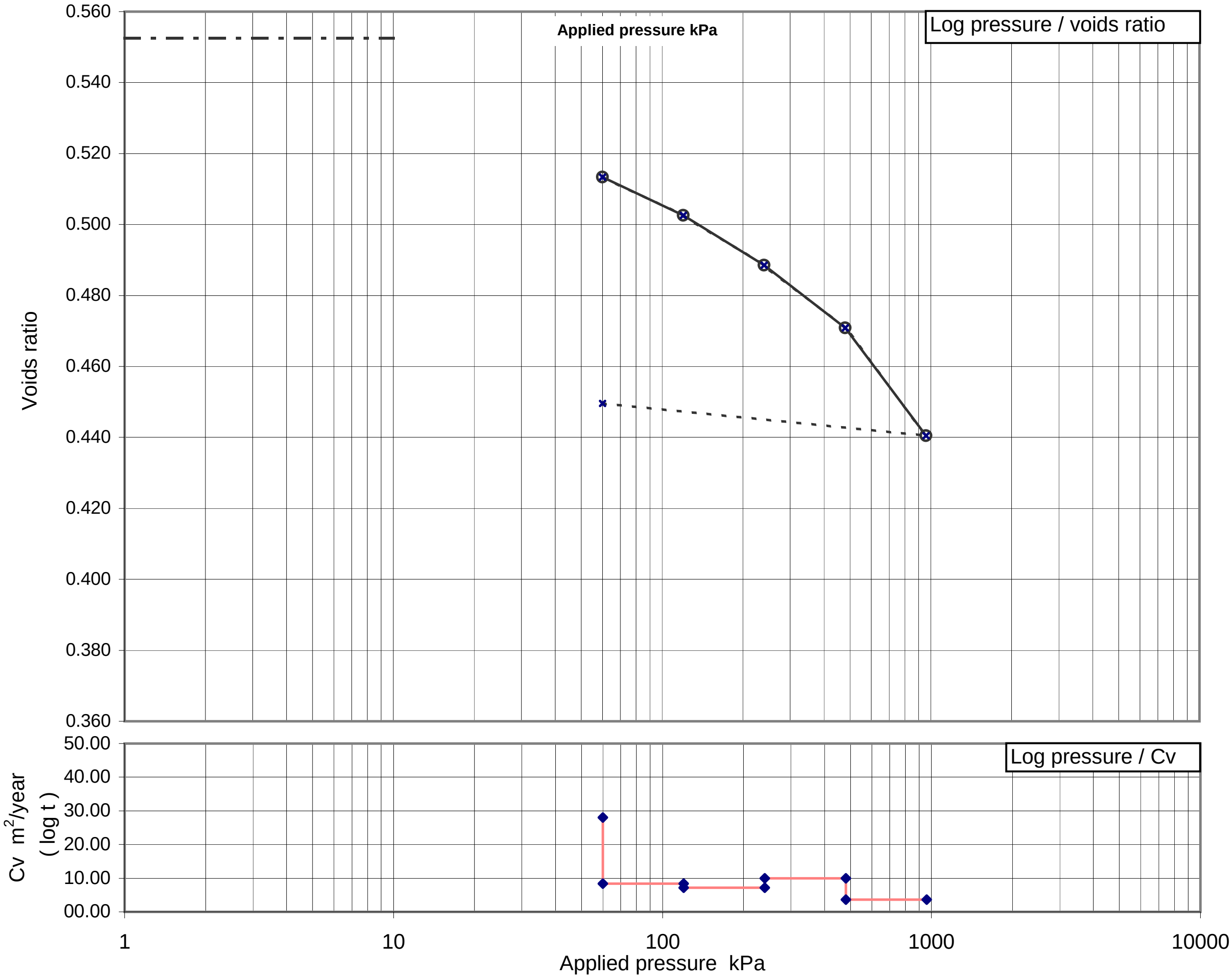
Specimen taken 0 mm from base of sample

Applied Pressure kPa	Voids ratio	M_v m^2/MN	C_v ($t_{50, log}$) $m^2/year$	C_v ($t_{90, root}$) $m^2/year$	
0	0.5573				
60	0.5322	0.269	17	41	
120	0.5232	0.098	5	19	
240	0.5095	0.075	6.7	22	
480	0.4902	0.053	17	51	
960	0.4624	0.039	6	19	
60	0.4704	0.006	8	22	

QA Ref				Figure
SLR 5.3 Rev 118 June 09	Soil Mechanics	UKAS TESTING 1348	Printed:27/05/2010 12:24	OED 5

ONE DIMENSIONAL CONSOLIDATION TEST
BS 1377 : Part 5 : 1990 : clause 3

Project No	G0028-10	Sample Details:	Hole No	BH104		
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	15.50		
			Samp No	46	Type	U
			ID	ESGG0028-10201004190000000111		
			Spec Ref			



Soil description	Firm light brown clayey gravelly SAND
Preparation	Undisturbed
Index properties (if available)	Liquid limit % 35 Plastic limit % 19

Specimen details	Initial	Final	
Particle density	2.65	assumed	Mg/m^3
Diameter	74.60		mm
Height	18.73	17.49	mm
Voids ratio	0.553	0.450	
Moisture content	21	18	%
Bulk density	2.06	2.15	Mg/m^3
Dry density	1.71	1.83	Mg/m^3
Saturation	99	104	%
Average temperature for test	21		°C

Swelling pressure: not measured kPa

Notes :

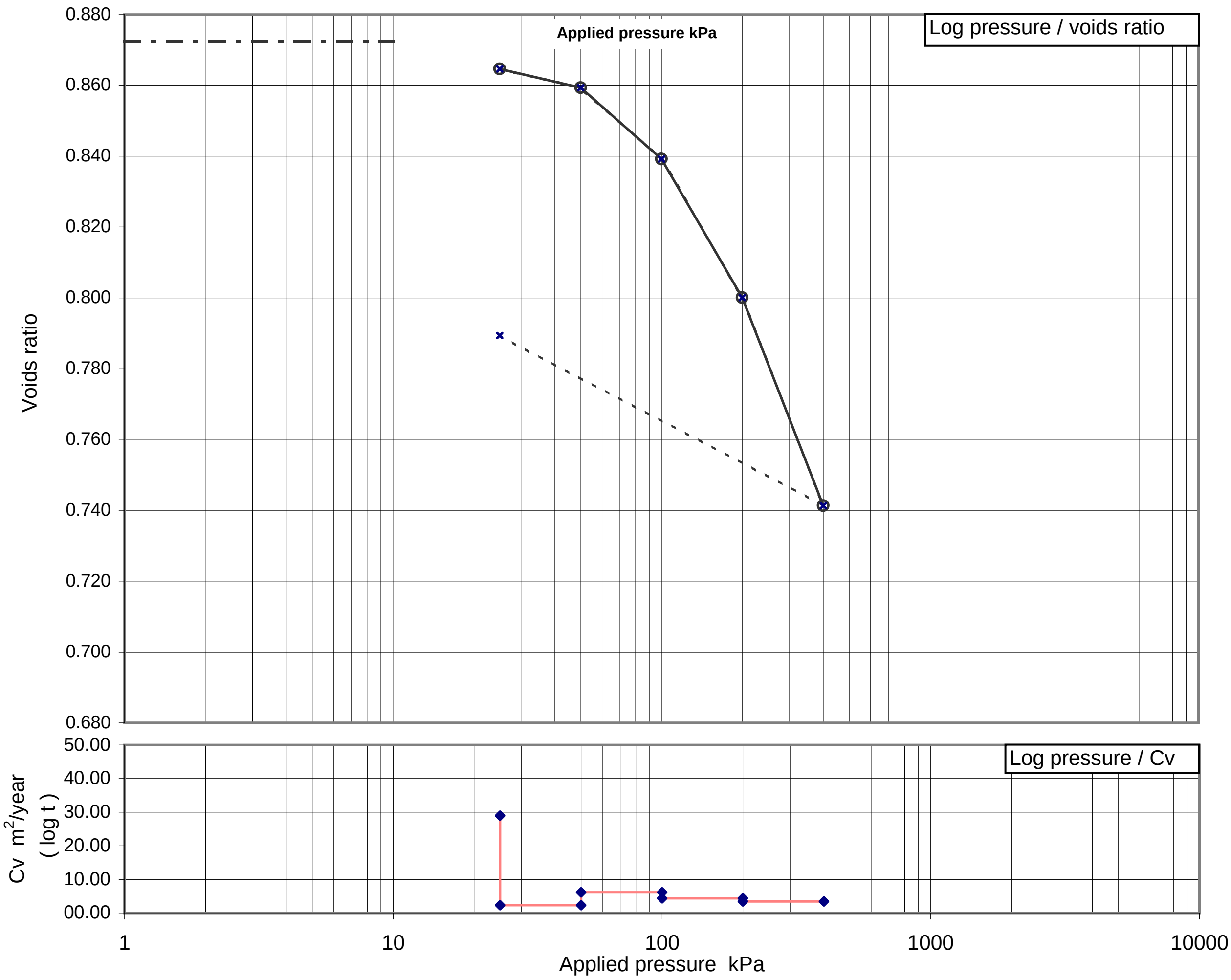
Specimen taken 0 mm from base of sample

Applied Pressure kPa	Voids ratio	M_v m^2/MN	C_v ($t_{50, log}$) $m^2/year$	C_v ($t_{90, root}$) $m^2/year$	
0	0.5526				
60	0.5133	0.422	28	45	
120	0.5026	0.118	8.4	22	
240	0.4885	0.078	7.2	29	
480	0.4709	0.049	10	41	
960	0.4405	0.043	3.6	15	
60	0.4496	0.007	25	84	

QA Ref SLR 5.3 Rev 118 June 09	Soil Mechanics	UKAS TESTING 1348	Printed:27/05/2010 12:24	Figure OED 6

ONE DIMENSIONAL CONSOLIDATION TEST
BS 1377 : Part 5 : 1990 : clause 3

Project No	G0028-10	Sample Details:	Hole No	BH106			
Project Name	Isles Quarry Ground Investigation		Depth (m BGL)	3.50			
			Samp No	10	Type	U	
			ID	ESGG0028-10201004220000000287			
			Spec Ref				



Soil description	Stiff grey CLAY			
Preparation	Undisturbed			
Index properties (if available)	Liquid limit %	76	Plastic limit %	31

Specimen details	Initial	Final	
Particle density	2.65	assumed	Mg/m^3
Diameter	74.68		mm
Height	18.74	17.91	mm
Voids ratio	0.872	0.789	
Moisture content	30	31	%
Bulk density	1.85	1.94	Mg/m^3
Dry density	1.42	1.48	Mg/m^3
Saturation	93	103	%
Average temperature for test	21		°C

Swelling pressure: not measured kPa

Notes :

Specimen taken 0 mm from base of sample

Applied Pressure kPa	Voids ratio	M_v m^2/MN	C_v ($t_{50, log}$) $m^2/year$	C_v ($t_{90, root}$) $m^2/year$	
0	0.8725				
25	0.8646	0.169	29	93	
50	0.8593	0.114	2.3	8.8	
100	0.8392	0.216	6.1	15	
200	0.8001	0.213	4.4	18	
400	0.7413	0.163	3.4	9.4	
25	0.7894	0.074	1.3	5.2	

QA Ref SLR 5.3 Rev 118 June 09	Soil Mechanics UKAS TESTING 1348	Printed:27/05/2010 12:24	Figure **OED 7**

ESG Environmental Scientifics Group

Soil Mechanics

ENCLOSURE E

GEOENVIRONMENTAL LABORATORY TEST RESULTS

Scientifics Soils Reports	S102528, S102535, S102548
Scientifics Water Report	W105961
Scientifics Leachate Reports	W106153, W106156, W106172

TEST REPORT
SOIL SAMPLE ANALYSIS

1252

Report No. EFS/102528M (Ver. 1)

Soil Mechanics
Fox Pitt
Shinglebarn Lane
West Farleigh
Maidstone Kent
ME15 0PN

Site: Isles Quarry

The 20 samples described in this report were logged for analysis by Scientifics on 04-May-2010.
The analysis was completed by: 17-May-2010

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS or MCERTS accredited
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

On behalf of
Scientifics :
Lisa Thompson Project Co-ordinator

Date of Issue: 17-May-2010

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)
Tests marked '^' have been subcontracted to another laboratory.
(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.
All results are reported on a dry weight basis at 105^{o}C unless otherwise stated. (except QC samples)
Scientifics accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Laboratory ID Number CL/	Client Sample Description	SO4-- (acid sol)	Boron (H20 Soluble)	Arsenic (MS)	Cadmium (MS)	Chromium (MS)	Copper (MS)	Lead (MS)	Mercury (MS)	Nickel (MS)	Selenium (MS)	Zinc (MS)	SO4-- (H2O sol) mg/l	PAH by MS.16(0.08)	PAH by MS.17(0.08)	pH units (AR)	Cyanide(Total) (AR)
	Units :	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pH Units	mg/kg
	Method Codes :	ICPACIDS	ICPBOR	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPWSS	PAHMSUS	PAHMSUS	PHSOIL	SFAPI
	Method Reporting Limits :	20	0.5	0.5	0.2	1.2	1.6	0.7	0.5	2	0.5	16	10	0.08	0.08		0.5
	Accreditation Code:	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM			UM	UM
1011289	WS201 ES 3 1.50	562	1	20.4	0.59	32	6.3	9.9	<0.5	88.7	<0.5	56.2	32	Req		8.7	
1011290	WS201 ES 4 2.50		0.7	10.4	0.26	17	4.3	5.2	<0.5	49.4	<0.5	29.2				9.2	<0.6
1011291	WS202 ES 4 2.50	1560	0.9	7.4	0.28	15	3.8	4.8	<0.5	45	<0.5	28.8	75	Req		8.8	
1011292	WS203 ES 1 0.50		0.7	6.4	0.29	24.4	6	14.6	<0.5	30.4	<0.5	27.6		Req		9.1	
1011293	WS203 ES 3 1.50	1530	1.1	3.2	0.21	8.8	3.3	3.3	<0.5	23.6	<0.5	16.6	103			9.9	<0.5
1011294	WS204 ES 1 0.50	1560	0.6	6.8	0.27	18.3	5	5.6	<0.5	39.7	<0.5	24.8	146	Req		10.0	
1011295	WS204 ES 3 1.30		0.7	11.1	0.26	11.7	12.6	25.7	<0.5	22.3	<0.5	36.8				9.2	<0.6
1011296	WS205 ES 1 0.40														Req	9.4	
1011297	WS205A ES 1 1.50	1560	0.9	23.9	0.3	13	26.9	14.9	<0.5	33.2	<0.5	44.3	151	Req		9.0	
1011298	WS206 ES 1 0.30		<0.5	5.7	0.37	13.1	18.3	33.8	<0.5	20.4	<0.5	71.3				8.9	
1011299	WS206 ES 2 1.20		<0.5	9.8	<0.20	23.2	8.9	9.2	<0.5	18	<0.5	32		Req		8.7	
1011300	WS207 ES 1 0.75	287	<0.5	63	0.21	26.5	7.7	9.9	<0.5	23.2	<0.5	34.4	95			8.5	<0.6
1011301	WS207 ES 5 2.70		<0.5	25	<0.20	24.3	7.7	11.5	<0.5	26	<0.5	71.8		Req		7.0	
1011302	WS208 ES 1 0.30		0.7	15.8	0.31	22.9	24.4	44	<0.5	19.1	<0.5	113.2		Req		8.5	
1011303	WS208 ES 8 3.00	1660	<0.5	31.6	0.2	62.4	6.3	36.1	<0.5	41	<0.5	62.3	50	Req		8.4	
1011304	WS209 ES 1 0.40		<0.5	8.2	0.38	15.5	15.6	163.6	<0.5	21.4	<0.5	144.9		Req		8.5	
1011305	WS209 ES 4 2.00	222	0.5	74	<0.20	39.3	5.5	14	<0.5	20.4	<0.5	47	30	Req		8.5	
1011306	WS210 ES 1 0.40		<0.5	5.9	<0.20	7.7	71	15.5	<0.5	15.1	<0.5	31				8.5	<0.5
1011307	WS210A ES 3 1.40	283	<0.5	13	<0.21	23.1	5.6	7.5	<0.5	24.9	<0.5	29	23	Req		8.5	<0.6
1011308	WS211 ES 1 0.30	735	<0.5	7.5	0.22	12.8	12	31.8	<0.5	19.4	<0.5	51.3	38	Req		8.7	<0.6

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Client Name **Soil Mechanics**

Contact Mr M Ratcliffe

Isles Quarry

Soils Sample Analysis

Date Printed	17-May-10
Report Number	**EFS/102528M**
Table Number	**1**

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appr opriate, in accordance with the MCERTS standard.

Laboratory ID Number CL/	Client Sample Description	Phenol Index.(AR)	Tot.Moisture @ 105C	TPH by GCFID (AR)	TPH by GCFID (AR/Si)	VOC by GCMS (8100)	Acid Neut. Capacity	GRO (AA-2012)	L.O.I. % @ 450C	PCB (7 Congeners)	Organic Matter %	SVOC + TICs (AR)	Total Organic Carbon
	Units :	mg/kg	%	mg/kg	mg/kg	ug/kg	Mol/kg	mg/kg	%	ug/kg	%	mg/kg	% M/M
	Method Codes :	SFAPI	TMSS	TPHFIDUS	TPHUSSI	VOCSW810(	ANC	GROHSA	LOI(%MM)	PCBUSECD	SSL	SVOCMSUS	WSLM59
	Method Reporting Limits :	0.5	0.2	10.0	10.0	5	0.04	0.1	0.2	5	0.1	0.2-10.0	0.01
	Accreditation Code:	U	U	UM			N		N		N		N
1011289	WS201 ES 3 1.50		19.2		Req			Req			0.18		
1011290	WS201 ES 4 2.50		16.3		Req			Req			0.16	Req	
1011291	WS202 ES 4 2.50	<0.6	13.2		Req			Req			0.16		
1011292	WS203 ES 1 0.50	<0.6	10.4		Req	Req		Req			1.56		
1011293	WS203 ES 3 1.50		8.5		Req	Req		Req			0.16	Req	
1011294	WS204 ES 1 0.50	<0.6	13.5		Req			Req			0.16		
1011295	WS204 ES 3 1.30		9.3		Req	Req		Req			4.27	Req	
1011296	WS205 ES 1 0.40		10.1	1270			4.34		2.8	Req			0.91
1011297	WS205A ES 1 1.50	<0.6	11.9		Req			Req			0.61		
1011298	WS206 ES 1 0.30		15.3		Req	Req		Req			0.96	Req	
1011299	WS206 ES 2 1.20		11.7		Req			Req			0.39		
1011300	WS207 ES 1 0.75		16.7		Req	Req		Req			2.23	Req	
1011301	WS207 ES 5 2.70	<0.6	21.7		Req			Req			0.25		
1011302	WS208 ES 1 0.30	<0.6	9.2		Req			Req			2.68		
1011303	WS208 ES 8 3.00	<0.6	21.1		Req			Req			0.33		
1011304	WS209 ES 1 0.40	<0.6	9.7			Req					3.68		
1011305	WS209 ES 4 2.00	<0.6	18.6		Req			Req			0.47		
1011306	WS210 ES 1 0.40		7.5		Req			Req			4.11	Req	
1011307	WS210A ES 3 1.40		13.5		Req			Req			0.81		
1011308	WS211 ES 1 0.30	<0.6	10.7		Req			Req			3.42		

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Client Name **Soil Mechanics**

Contact Mr M Ratcliffe

Soils Sample Analysis

Isles Quarry

Date Printed	17-May-10
Report Number	**EFS/102528M**
Table Number	**1**

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105C where appr opriate, in accordance with the MCERTS standard.

Laboratory ID Number CL/	Client Sample Description	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
	Units :	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	Method Codes :	BTEXHSA	BTEXHSA	BTEXHSA	BTEXHSA	BTEXHSA
	Method Reporting Limits :	10	10	10	20	20
	Accreditation Code:	N	N	N	N	N
1011289	WS201 ES 3 1.50					
1011290	WS201 ES 4 2.50					
1011291	WS202 ES 4 2.50					
1011292	WS203 ES 1 0.50					
1011293	WS203 ES 3 1.50					
1011294	WS204 ES 1 0.50					
1011295	WS204 ES 3 1.30					
1011296	WS205 ES 1 0.40	<11	<11	<11	<22	<22

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Client Name	**Soil Mechanics**
Contact	Mr M Ratcliffe

Isles Quarry

Soils Sample Analysis

Date Printed	17-May-10
Report Number	**EFS/102528M**
Table Number	**1**

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS201 ES 3 1.50	**Job Number:**	S10_2528M
LIMS ID Number:	CL1011289	**Date Booked in:**	04-May-10
QC Batch Number:	1151	**Date Extracted:**	14-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	15-May-10
Directory:	0514PAH.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	**UM**
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.58	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	106
Acenaphthene-d10	103
Phenanthrene-d10	90
Chrysene-d12	99
Perylene-d12	99

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	89
Terphenyl-d14	104

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS202 ES 4 2.50	**Job Number:**	S10_2528M
LIMS ID Number:	CL1011291	**Date Booked in:**	04-May-10
QC Batch Number:	1151	**Date Extracted:**	14-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	15-May-10
Directory:	0514PAH.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.09	-	**UM**
Acenaphthylene	208-96-8	-	< 0.09	-	U
Acenaphthene	83-32-9	-	< 0.09	-	UM
Fluorene	86-73-7	-	< 0.09	-	UM
Phenanthrene	85-01-8	-	< 0.09	-	UM
Anthracene	120-12-7	-	< 0.09	-	U
Fluoranthene	206-44-0	-	< 0.09	-	UM
Pyrene	129-00-0	-	< 0.09	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.09	-	UM
Chrysene	218-01-9	-	< 0.09	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.09	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.09	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.09	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.09	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.09	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.09	-	UM
Total (USEPA16) PAHs	-	-	< 1.47	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	104
Acenaphthene-d10	101
Phenanthrene-d10	88
Chrysene-d12	98
Perylene-d12	98

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	89
Terphenyl-d14	107

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS203 ES 1 0.50	**Job Number:**	S10_2528M
LIMS ID Number:	CL1011292	**Date Booked in:**	04-May-10
QC Batch Number:	1151	**Date Extracted:**	14-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	15-May-10
Directory:	0514PAH.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.09	-	**UM**
Acenaphthylene	208-96-8	-	< 0.09	-	U
Acenaphthene	83-32-9	-	< 0.09	-	UM
Fluorene	86-73-7	-	< 0.09	-	UM
Phenanthrene	85-01-8	5.57	0.21	97	UM
Anthracene	120-12-7	5.62	0.13	97	U
Fluoranthene	206-44-0	6.89	1.18	98	UM
Pyrene	129-00-0	7.17	1.26	97	UM
Benzo[a]anthracene	56-55-3	8.85	0.66	87	UM
Chrysene	218-01-9	8.90	0.79	90	UM
Benzo[b]fluoranthene	205-99-2	10.38	1.70	96	UM
Benzo[k]fluoranthene	207-08-9	10.41	0.65	96	UM
Benzo[a]pyrene	50-32-8	10.81	1.22	96	UM
Indeno[1,2,3-cd]pyrene	193-39-5	12.18	1.09	89	UM
Dibenzo[a,h]anthracene	53-70-3	12.22	0.16	78	UM
Benzo[g,h,i]perylene	191-24-2	12.48	1.10	97	UM
Total (USEPA16) PAHs	-	-	< 10.50	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	100
Acenaphthene-d10	98
Phenanthrene-d10	97
Chrysene-d12	102
Perylene-d12	109

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	90
Terphenyl-d14	96

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS204 ES 1 0.50	**Job Number:**	S10_2528M
LIMS ID Number:	CL1011294	**Date Booked in:**	04-May-10
QC Batch Number:	1151	**Date Extracted:**	14-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	15-May-10
Directory:	0514PAH.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.09	-	**UM**
Acenaphthylene	208-96-8	-	< 0.09	-	U
Acenaphthene	83-32-9	-	< 0.09	-	UM
Fluorene	86-73-7	-	< 0.09	-	UM
Phenanthrene	85-01-8	-	< 0.09	-	UM
Anthracene	120-12-7	-	< 0.09	-	U
Fluoranthene	206-44-0	-	< 0.09	-	UM
Pyrene	129-00-0	-	< 0.09	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.09	-	UM
Chrysene	218-01-9	-	< 0.09	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.09	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.09	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.09	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.09	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.09	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.09	-	UM
Total (USEPA16) PAHs	-	-	< 1.48	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	103
Acenaphthene-d10	101
Phenanthrene-d10	88
Chrysene-d12	96
Perylene-d12	99

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	89
Terphenyl-d14	105

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS205 ES 1 0.40	**Job Number:**	S10_2528M
LIMS ID Number:	CL1011296	**Date Booked in:**	04-May-10
QC Batch Number:	1151	**Date Extracted:**	14-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	15-May-10
Directory:	0514PAH.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.09	-	**UM**
Acenaphthylene	208-96-8	-	< 0.09	-	U
Acenaphthene	83-32-9	-	< 0.09	-	UM
Fluorene	86-73-7	-	< 0.09	-	UM
Phenanthrene	85-01-8	-	< 0.09	-	UM
Anthracene	120-12-7	-	< 0.09	-	U
Fluoranthene	206-44-0	6.89	0.26	98	UM
Pyrene	129-00-0	7.18	0.24	95	UM
Benzo[a]anthracene	56-55-3	8.85	0.21	82	UM
Chrysene	218-01-9	8.90	0.21	85	UM
Benzo[b]fluoranthene	205-99-2	10.38	0.24	96	UM
Benzo[k]fluoranthene	207-08-9	10.41	0.13	96	UM
Benzo[a]pyrene	50-32-8	10.81	0.21	94	UM
Indeno[1,2,3-cd]pyrene	193-39-5	12.19	0.18	88	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.09	-	UM
Benzo[g,h,i]perylene	191-24-2	12.48	0.20	95	UM
Coronene	191-07-1 *	14.57	0.10	73	N
Total (USEPA16) PAHs	-	-	< 2.54	-	N

* Denotes compound is not UKAS accredited
"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	101
Acenaphthene-d10	101
Phenanthrene-d10	99
Chrysene-d12	102
Perylene-d12	111

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	91
Terphenyl-d14	97

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS205A ES 1 1.50	**Job Number:**	S10_2528M
LIMS ID Number:	CL1011297	**Date Booked in:**	04-May-10
QC Batch Number:	1151	**Date Extracted:**	14-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	15-May-10
Directory:	0514PAH.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.09	-	**UM**
Acenaphthylene	208-96-8	-	< 0.09	-	U
Acenaphthene	83-32-9	-	< 0.09	-	UM
Fluorene	86-73-7	-	< 0.09	-	UM
Phenanthrene	85-01-8	5.57	0.10	95	UM
Anthracene	120-12-7	-	< 0.09	-	U
Fluoranthene	206-44-0	6.89	0.48	98	UM
Pyrene	129-00-0	7.17	0.42	98	UM
Benzo[a]anthracene	56-55-3	8.85	0.32	89	UM
Chrysene	218-01-9	8.90	0.28	86	UM
Benzo[b]fluoranthene	205-99-2	10.39	0.43	95	UM
Benzo[k]fluoranthene	207-08-9	10.42	0.24	94	UM
Benzo[a]pyrene	50-32-8	10.81	0.39	93	UM
Indeno[1,2,3-cd]pyrene	193-39-5	12.19	0.30	94	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.09	-	UM
Benzo[g,h,i]perylene	191-24-2	12.48	0.30	96	UM
Total (USEPA16) PAHs	-	-	< 3.89	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	102
Acenaphthene-d10	102
Phenanthrene-d10	98
Chrysene-d12	102
Perylene-d12	108

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	89
Terphenyl-d14	94

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS206 ES 2 1.20	**Job Number:**	S10_2528M
LIMS ID Number:	CL1011299	**Date Booked in:**	04-May-10
QC Batch Number:	1151	**Date Extracted:**	14-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	15-May-10
Directory:	0514PAH.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.09	-	**UM**
Acenaphthylene	208-96-8	-	< 0.09	-	U
Acenaphthene	83-32-9	-	< 0.09	-	UM
Fluorene	86-73-7	-	< 0.09	-	UM
Phenanthrene	85-01-8	-	< 0.09	-	UM
Anthracene	120-12-7	-	< 0.09	-	U
Fluoranthene	206-44-0	-	< 0.09	-	UM
Pyrene	129-00-0	-	< 0.09	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.09	-	UM
Chrysene	218-01-9	-	< 0.09	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.09	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.09	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.09	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.09	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.09	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.09	-	UM
Total (USEPA16) PAHs	-	-	< 1.45	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	106
Acenaphthene-d10	104
Phenanthrene-d10	91
Chrysene-d12	103
Perylene-d12	109

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	89
Terphenyl-d14	106

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS207 ES 5 2.70	**Job Number:**	S10_2528M
LIMS ID Number:	CL1011301	**Date Booked in:**	04-May-10
QC Batch Number:	1151	**Date Extracted:**	14-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	15-May-10
Directory:	0514PAH.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	**UM**
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.63	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	104
Acenaphthene-d10	103
Phenanthrene-d10	98
Chrysene-d12	101
Perylene-d12	104

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	91
Terphenyl-d14	100

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS208 ES 1 0.30	**Job Number:**	S10_2528M
LIMS ID Number:	CL1011302	**Date Booked in:**	04-May-10
QC Batch Number:	1151	**Date Extracted:**	14-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	15-May-10
Directory:	0514PAH.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.09	-	**UM**
Acenaphthylene	208-96-8	-	< 0.09	-	U
Acenaphthene	83-32-9	-	< 0.09	-	UM
Fluorene	86-73-7	-	< 0.09	-	UM
Phenanthrene	85-01-8	5.57	0.80	99	UM
Anthracene	120-12-7	5.62	0.30	86	U
Fluoranthene	206-44-0	6.89	1.83	98	UM
Pyrene	129-00-0	7.17	1.59	95	UM
Benzo[a]anthracene	56-55-3	8.85	0.84	98	UM
Chrysene	218-01-9	8.90	0.69	98	UM
Benzo[b]fluoranthene	205-99-2	10.38	1.15	97	UM
Benzo[k]fluoranthene	207-08-9	10.41	0.52	98	UM
Benzo[a]pyrene	50-32-8	10.81	0.97	96	UM
Indeno[1,2,3-cd]pyrene	193-39-5	12.19	0.80	92	UM
Dibenzo[a,h]anthracene	53-70-3	12.22	0.10	82	UM
Benzo[g,h,i]perylene	191-24-2	12.48	0.80	97	UM
Total (USEPA16) PAHs	-	-	< 10.74	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	103
Acenaphthene-d10	102
Phenanthrene-d10	92
Chrysene-d12	101
Perylene-d12	107

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	88
Terphenyl-d14	100

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS208 ES 8 3.00	**Job Number:**	S10_2528M
LIMS ID Number:	CL1011303	**Date Booked in:**	04-May-10
QC Batch Number:	1151	**Date Extracted:**	14-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	15-May-10
Directory:	0514PAH.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	**UM**
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.62	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	105
Acenaphthene-d10	102
Phenanthrene-d10	99
Chrysene-d12	98
Perylene-d12	101

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	90
Terphenyl-d14	96

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS209 ES 1 0.40	**Job Number:**	S10_2528M
LIMS ID Number:	CL1011304	**Date Booked in:**	04-May-10
QC Batch Number:	1151	**Date Extracted:**	14-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	15-May-10
Directory:	0514PAH.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.09	-	**UM**
Acenaphthylene	208-96-8	-	< 0.09	-	U
Acenaphthene	83-32-9	-	< 0.09	-	UM
Fluorene	86-73-7	-	< 0.09	-	UM
Phenanthrene	85-01-8	5.57	0.27	96	UM
Anthracene	120-12-7	5.62	0.12	96	U
Fluoranthene	206-44-0	6.89	0.87	98	UM
Pyrene	129-00-0	7.17	0.90	95	UM
Benzo[a]anthracene	56-55-3	8.85	0.40	91	UM
Chrysene	218-01-9	8.90	0.40	95	UM
Benzo[b]fluoranthene	205-99-2	10.38	0.84	98	UM
Benzo[k]fluoranthene	207-08-9	10.42	0.30	97	UM
Benzo[a]pyrene	50-32-8	10.81	0.68	93	UM
Indeno[1,2,3-cd]pyrene	193-39-5	12.19	0.70	91	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.09	-	UM
Benzo[g,h,i]perylene	191-24-2	12.48	0.76	95	UM
Total (USEPA16) PAHs	-	-	< 6.80	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	107
Acenaphthene-d10	105
Phenanthrene-d10	104
Chrysene-d12	108
Perylene-d12	117

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	88
Terphenyl-d14	94

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS209 ES 4 2.00	**Job Number:**	S10_2528M
LIMS ID Number:	CL1011305	**Date Booked in:**	04-May-10
QC Batch Number:	1151	**Date Extracted:**	14-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	15-May-10
Directory:	0514PAH.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	**UM**
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.57	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	107
Acenaphthene-d10	106
Phenanthrene-d10	104
Chrysene-d12	103
Perylene-d12	108

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	90
Terphenyl-d14	95

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS210A ES 3 1.40	**Job Number:**	S10_2528M
LIMS ID Number:	CL1011307	**Date Booked in:**	04-May-10
QC Batch Number:	1151	**Date Extracted:**	14-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	15-May-10
Directory:	0514PAH.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.09	-	**UM**
Acenaphthylene	208-96-8	-	< 0.09	-	U
Acenaphthene	83-32-9	-	< 0.09	-	UM
Fluorene	86-73-7	-	< 0.09	-	UM
Phenanthrene	85-01-8	-	< 0.09	-	UM
Anthracene	120-12-7	-	< 0.09	-	U
Fluoranthene	206-44-0	-	< 0.09	-	UM
Pyrene	129-00-0	-	< 0.09	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.09	-	UM
Chrysene	218-01-9	-	< 0.09	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.09	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.09	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.09	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.09	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.09	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.09	-	UM
Total (USEPA16) PAHs	-	-	< 1.48	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	105
Acenaphthene-d10	103
Phenanthrene-d10	88
Chrysene-d12	97
Perylene-d12	100

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	90
Terphenyl-d14	106

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS211 ES 1 0.30	**Job Number:**	S10_2528M
LIMS ID Number:	CL1011308	**Date Booked in:**	04-May-10
QC Batch Number:	1151	**Date Extracted:**	14-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	15-May-10
Directory:	0514PAH.MS5\	**Matrix:**	Soil
Dilution:	10.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	3.20	6.09	100	**UM**
Acenaphthylene	208-96-8	4.25	2.86	87	U
Acenaphthene	83-32-9	4.36	25.40	99	UM
Fluorene	86-73-7	4.74	32.30	96	UM
Phenanthrene	85-01-8	5.57	211.00	100	UM
Anthracene	120-12-7	5.62	82.30	97	U
Fluoranthene	206-44-0	6.89	280.00	96	UM
Pyrene	129-00-0	7.18	227.00	94	UM
Benzo[a]anthracene	56-55-3	8.86	118.00	97	UM
Chrysene	218-01-9	8.91	94.00	94	UM
Benzo[b]fluoranthene	205-99-2	10.39	116.00	97	UM
Benzo[k]fluoranthene	207-08-9	10.42	44.90	96	UM
Benzo[a]pyrene	50-32-8	10.81	101.30	97	UM
Indeno[1,2,3-cd]pyrene	193-39-5	12.19	62.60	88	UM
Dibenzo[a,h]anthracene	53-70-3	12.22	11.90	92	UM
Benzo[g,h,i]perylene	191-24-2	12.49	56.10	96	UM
Total (USEPA16) PAHs	-	-	1471.66	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	109
Acenaphthene-d10	107
Phenanthrene-d10	106
Chrysene-d12	113
Perylene-d12	118

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	81
Terphenyl-d14	90

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polychlorinated Biphenyls (congeners)

Customer and Site Details: Soil Mechanics: Isles Quarry
Job Number: S10_2528M
QC Batch Number: 101136
Directory: 0512PCB.GC8
Method: Ultrasonic
Accreditation code: N

Matrix: SOIL
Date Booked in: 04-May-10
Date Extracted: 12-May-10
Date Analysed: 13-May-10

		Concentration, (µg/kg)						
Sample ID	**Customer ID**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB153**	**PCB138**	**PCB180**
* CL1011296	WS205 ES 1 0.40	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where approp riate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Soil	**QC Batch Number:**	1120
Sample Details:	WS201 ES 4 2.50	**Date Booked in:**	04-May-10	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL1011290	**Date Extracted:**	11-May-10	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S10_2528M	**Date Analysed:**	11-May-10	**Directory/Quant File:**	11SVOC.GC11\ 0511_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	N
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	N
2-Chlorophenol	95-57-8	-	< 2.0	-	N
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	N
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	N
Benzyl alcohol	100-51-6	-	< 0.6	-	N
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	N
2-Methylphenol	95-48-7	-	< 0.6	-	N
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	N
Hexachloroethane	67-72-1	-	< 0.6	-	N
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	N
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	N
Nitrobenzene	98-95-3	-	< 0.6	-	N
Isophorone	78-59-1	-	< 0.6	-	N
2-Nitrophenol	88-75-5	-	< 2.0	-	N
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	N
Benzoic Acid	65-85-0 *	-	< 12.0	-	N
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	N
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	N
Naphthalene	91-20-3	-	< 0.2	-	N
4-Chlorophenol	106-48-9	-	< 2.0	-	N
4-Chloroaniline	106-47-8 *	-	< 0.6	-	N
Hexachlorobutadiene	87-68-3	-	< 0.6	-	N
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	N
2-Methylnaphthalene	91-57-6	-	< 0.2	-	N
1-Methylnaphthalene	90-12-0	-	< 0.2	-	N
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	N
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	N
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	N
2-Chloronaphthalene	91-58-7	-	< 0.2	-	N
Biphenyl	92-52-4	-	< 0.2	-	N
Diphenyl ether	101-84-8	-	< 0.2	-	N
2-Nitroaniline	88-74-4	-	< 0.6	-	N
Acenaphthylene	208-96-8	-	< 0.2	-	N
Dimethylphthalate	131-11-3	-	< 0.6	-	N
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	N
Acenaphthene	83-32-9	-	< 0.2	-	N
3-Nitroaniline	99-09-2	-	< 0.6	-	N

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	N
Dibenzofuran	132-64-9	-	< 0.6	-	N
4-Nitrophenol	100-02-7	-	< 6.0	-	N
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	N
Fluorene	86-73-7	-	< 0.2	-	N
Diethylphthalate	84-66-2	-	< 0.6	-	N
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	N
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	N
4-Nitroaniline	100-01-6	-	< 0.6	-	N
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	N
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	N
Hexachlorobenzene	118-74-1	-	< 0.6	-	N
Pentachlorophenol	87-86-5	-	< 6.0	-	N
Phenanthrene	85-01-8	-	< 0.2	-	N
Anthracene	120-12-7	-	< 0.2	-	N
Di-n-butylphthalate	84-74-2	-	< 0.6	-	N
Fluoranthene	206-44-0	-	< 0.2	-	N
Pyrene	129-00-0	-	< 0.2	-	N
Butylbenzylphthalate	85-68-7	-	< 0.6	-	N
Benzo[a]anthracene	56-55-3	-	< 0.2	-	N
Chrysene	218-01-9	-	< 0.2	-	N
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	N
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	N
Di-n-octylphthalate	117-84-0	-	< 0.2	-	N
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	N
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	N
Benzo[a]pyrene	50-32-8	-	< 0.2	-	N
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	N
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	N
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	94
Naphthalene-d8	96
Acenaphthene-d10	95
Phenanthrene-d10	99
Chrysene-d12	94
Perylene-d12	88

Surrogates	% Rec
2-Fluorophenol	97
Phenol-d5	98
Nitrobenzene-d5	90
2-Fluorobiphenyl	98
2,4,6-Tribromophenol	89
Terphenyl-d14	105

This analysis was conducted on an 'As Recieved' basis.

Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Soil	**QC Batch Number:**	1120
Sample Details:	WS203 ES 3 1.50	**Date Booked in:**	04-May-10	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL1011293	**Date Extracted:**	11-May-10	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S10_2528M	**Date Analysed:**	11-May-10	**Directory/Quant File:**	11SVOC.GC11\ 0511_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	N
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-	N
2-Chlorophenol	95-57-8	-	< 2.0	-	N
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-	N
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-	N
Benzyl alcohol	100-51-6	-	< 0.5	-	N
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-	N
2-Methylphenol	95-48-7	-	< 0.5	-	N
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-	N
Hexachloroethane	67-72-1	-	< 0.5	-	N
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-	N
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	N
Nitrobenzene	98-95-3	-	< 0.5	-	N
Isophorone	78-59-1	-	< 0.5	-	N
2-Nitrophenol	88-75-5	-	< 2.0	-	N
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	N
Benzoic Acid	65-85-0 *	-	< 11.0	-	N
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-	N
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-	N
Naphthalene	91-20-3	-	< 0.2	-	N
4-Chlorophenol	106-48-9	-	< 2.0	-	N
4-Chloroaniline	106-47-8 *	-	< 0.5	-	N
Hexachlorobutadiene	87-68-3	-	< 0.5	-	N
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-	N
2-Methylnaphthalene	91-57-6	-	< 0.2	-	N
1-Methylnaphthalene	90-12-0	-	< 0.2	-	N
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-	N
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	N
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	N
2-Chloronaphthalene	91-58-7	-	< 0.2	-	N
Biphenyl	92-52-4	-	< 0.2	-	N
Diphenyl ether	101-84-8	-	< 0.2	-	N
2-Nitroaniline	88-74-4	-	< 0.5	-	N
Acenaphthylene	208-96-8	-	< 0.2	-	N
Dimethylphthalate	131-11-3	-	< 0.5	-	N
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-	N
Acenaphthene	83-32-9	-	< 0.2	-	N
3-Nitroaniline	99-09-2	-	< 0.5	-	N

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	N
Dibenzofuran	132-64-9	-	< 0.5	-	N
4-Nitrophenol	100-02-7	-	< 5.0	-	N
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-	N
Fluorene	86-73-7	-	< 0.2	-	N
Diethylphthalate	84-66-2	-	< 0.5	-	N
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-	N
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-	N
4-Nitroaniline	100-01-6	-	< 0.5	-	N
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-	N
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-	N
Hexachlorobenzene	118-74-1	-	< 0.5	-	N
Pentachlorophenol	87-86-5	-	< 5.0	-	N
Phenanthrene	85-01-8	-	< 0.2	-	N
Anthracene	120-12-7	-	< 0.2	-	N
Di-n-butylphthalate	84-74-2	-	< 0.5	-	N
Fluoranthene	206-44-0	-	< 0.2	-	N
Pyrene	129-00-0	-	< 0.2	-	N
Butylbenzylphthalate	85-68-7	-	< 0.5	-	N
Benzo[a]anthracene	56-55-3	-	< 0.2	-	N
Chrysene	218-01-9	-	< 0.2	-	N
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	N
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-	N
Di-n-octylphthalate	117-84-0	-	< 0.2	-	N
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	N
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	N
Benzo[a]pyrene	50-32-8	-	< 0.2	-	N
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	N
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	N
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	103
Naphthalene-d8	106
Acenaphthene-d10	103
Phenanthrene-d10	109
Chrysene-d12	114
Perylene-d12	119

Surrogates	% Rec
2-Fluorophenol	96
Phenol-d5	96
Nitrobenzene-d5	91
2-Fluorobiphenyl	96
2,4,6-Tribromophenol	85
Terphenyl-d14	97

This analysis was conducted on an 'As Recieved' basis.

Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Soil	**QC Batch Number:**	1120
Sample Details:	WS204 ES 3 1.30	**Date Booked in:**	04-May-10	**Ext Method:**	Ultrasonic	**Multiplier:**	20
LIMS ID Number:	CL1011295	**Date Extracted:**	11-May-10	**Operator:**	AB	**Dilution Factor:**	100
Job Number:	S10_2528M	**Date Analysed:**	12-May-10	**Directory/Quant File:**	11SVOC.GC11\ 0511_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 221.0	-	N
bis(2-Chloroethyl)ether	111-44-4	-	< 55.0	-	N
2-Chlorophenol	95-57-8	-	< 221.0	-	N
1,3-Dichlorobenzene	541-73-1	-	< 55.0	-	N
1,4-Dichlorobenzene	106-46-7	-	< 55.0	-	N
Benzyl alcohol	100-51-6	-	< 55.0	-	N
1,2-Dichlorobenzene	95-50-1	-	< 55.0	-	N
2-Methylphenol	95-48-7	-	< 55.0	-	N
bis(2-Chloroisopropyl)ether	108-60-1	-	< 55.0	-	N
Hexachloroethane	67-72-1	-	< 55.0	-	N
N-Nitroso-di-n-propylamine	621-64-7	-	< 55.0	-	N
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 221.0	-	N
Nitrobenzene	98-95-3	-	< 55.0	-	N
Isophorone	78-59-1	-	< 55.0	-	N
2-Nitrophenol	88-75-5	-	< 221.0	-	N
2,4-Dimethylphenol	105-67-9	-	< 221.0	-	N
Benzoic Acid	65-85-0 *	-	< 1100.0	-	N
bis(2-Chloroethoxy)methane	111-91-1	-	< 55.0	-	N
2,4-Dichlorophenol	120-83-2	-	< 221.0	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 55.0	-	N
Naphthalene	91-20-3	-	< 22.0	-	N
4-Chlorophenol	106-48-9	-	< 221.0	-	N
4-Chloroaniline	106-47-8 *	-	< 55.0	-	N
Hexachlorobutadiene	87-68-3	-	< 55.0	-	N
4-Chloro-3-methylphenol	59-50-7	-	< 55.0	-	N
2-Methylnaphthalene	91-57-6	-	< 22.0	-	N
1-Methylnaphthalene	90-12-0	-	< 22.0	-	N
Hexachlorocyclopentadiene	77-47-4 *	-	< 55.0	-	N
2,4,6-Trichlorophenol	88-06-2	-	< 221.0	-	N
2,4,5-Trichlorophenol	95-95-4	-	< 221.0	-	N
2-Chloronaphthalene	91-58-7	-	< 22.0	-	N
Biphenyl	92-52-4	-	< 22.0	-	N
Diphenyl ether	101-84-8	-	< 22.0	-	N
2-Nitroaniline	88-74-4	-	< 55.0	-	N
Acenaphthylene	208-96-8	-	< 22.0	-	N
Dimethylphthalate	131-11-3	-	< 55.0	-	N
2,6-Dinitrotoluene	606-20-2	-	< 55.0	-	N
Acenaphthene	83-32-9	-	< 22.0	-	N
3-Nitroaniline	99-09-2	-	< 55.0	-	N

Concentrations are reported on a dry weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 110.0	-	N
Dibenzofuran	132-64-9	-	< 55.0	-	N
4-Nitrophenol	100-02-7	-	< 551.0	-	N
2,4-Dinitrotoluene	121-14-2	-	< 55.0	-	N
Fluorene	86-73-7	-	< 22.0	-	N
Diethylphthalate	84-66-2	-	< 55.0	-	N
4-Chlorophenyl-phenylether	7005-72-3	-	< 55.0	-	N
4,6-Dinitro-2-methylphenol	534-52-1	-	< 551.0	-	N
4-Nitroaniline	100-01-6	-	< 55.0	-	N
N-Nitrosodiphenylamine	86-30-6 *	-	< 55.0	-	N
4-Bromophenyl-phenylether	101-55-3	-	< 55.0	-	N
Hexachlorobenzene	118-74-1	-	< 55.0	-	N
Pentachlorophenol	87-86-5	-	< 551.0	-	N
Phenanthrene	85-01-8	10.85	77.0	99	N
Anthracene	120-12-7	10.93	24.4	97	N
Di-n-butylphthalate	84-74-2	-	< 55.0	-	N
Fluoranthene	206-44-0	12.67	143.0	100	N
Pyrene	129-00-0	13.01	117.0	88	N
Butylbenzylphthalate	85-68-7	-	< 55.0	-	N
Benzo[a]anthracene	56-55-3	14.92	59.2	100	N
Chrysene	218-01-9	14.97	52.1	100	N
3,3'-Dichlorobenzidine	91-94-1	-	< 221.0	-	N
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 55.0	-	N
Di-n-octylphthalate	117-84-0	-	< 22.0	-	N
Benzo[b]fluoranthene	205-99-2	16.52	76.7	100	N
Benzo[k]fluoranthene	207-08-9	16.56	26.0	100	N
Benzo[a]pyrene	50-32-8	16.96	60.5	100	N
Indeno[1,2,3-cd]pyrene	193-39-5	18.37	42.9	100	N
Dibenzo[a,h]anthracene	53-70-3	-	< 22.0	-	N
Benzo[g,h,i]perylene	191-24-2	18.69	41.8	97	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	71
Naphthalene-d8	75
Acenaphthene-d10	74
Phenanthrene-d10	78
Chrysene-d12	81
Perylene-d12	80

Surrogates	% Rec
2-Fluorophenol	60
Phenol-d5	81
Nitrobenzene-d5	82
2-Fluorobiphenyl	D
2,4,6-Tribromophenol	60
Terphenyl-d14	D

This analysis was conducted on an 'As Recieved' basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Soil	**QC Batch Number:**	1120
Sample Details:	WS206 ES 1 0.30	**Date Booked in:**	04-May-10	**Ext Method:**	Ultrasonic	**Multiplier:**	2
LIMS ID Number:	CL1011298	**Date Extracted:**	11-May-10	**Operator:**	AB	**Dilution Factor:**	10
Job Number:	S10_2528M	**Date Analysed:**	11-May-10	**Directory/Quant File:**	11SVOC.GC11\ 0511_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 24.0	-	N
bis(2-Chloroethyl)ether	111-44-4	-	< 6.0	-	N
2-Chlorophenol	95-57-8	-	< 24.0	-	N
1,3-Dichlorobenzene	541-73-1	-	< 6.0	-	N
1,4-Dichlorobenzene	106-46-7	-	< 6.0	-	N
Benzyl alcohol	100-51-6	-	< 6.0	-	N
1,2-Dichlorobenzene	95-50-1	-	< 6.0	-	N
2-Methylphenol	95-48-7	-	< 6.0	-	N
bis(2-Chloroisopropyl)ether	108-60-1	-	< 6.0	-	N
Hexachloroethane	67-72-1	-	< 6.0	-	N
N-Nitroso-di-n-propylamine	621-64-7	-	< 6.0	-	N
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 24.0	-	N
Nitrobenzene	98-95-3	-	< 6.0	-	N
Isophorone	78-59-1	-	< 6.0	-	N
2-Nitrophenol	88-75-5	-	< 24.0	-	N
2,4-Dimethylphenol	105-67-9	-	< 24.0	-	N
Benzoic Acid	65-85-0 *	-	< 118.0	-	N
bis(2-Chloroethoxy)methane	111-91-1	-	< 6.0	-	N
2,4-Dichlorophenol	120-83-2	-	< 24.0	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 6.0	-	N
Naphthalene	91-20-3	-	< 2.0	-	N
4-Chlorophenol	106-48-9	-	< 24.0	-	N
4-Chloroaniline	106-47-8 *	-	< 6.0	-	N
Hexachlorobutadiene	87-68-3	-	< 6.0	-	N
4-Chloro-3-methylphenol	59-50-7	-	< 6.0	-	N
2-Methylnaphthalene	91-57-6	-	< 2.0	-	N
1-Methylnaphthalene	90-12-0	-	< 2.0	-	N
Hexachlorocyclopentadiene	77-47-4 *	-	< 6.0	-	N
2,4,6-Trichlorophenol	88-06-2	-	< 24.0	-	N
2,4,5-Trichlorophenol	95-95-4	-	< 24.0	-	N
2-Chloronaphthalene	91-58-7	-	< 2.0	-	N
Biphenyl	92-52-4	-	< 2.0	-	N
Diphenyl ether	101-84-8	-	< 2.0	-	N
2-Nitroaniline	88-74-4	-	< 6.0	-	N
Acenaphthylene	208-96-8	-	< 2.0	-	N
Dimethylphthalate	131-11-3	-	< 6.0	-	N
2,6-Dinitrotoluene	606-20-2	-	< 6.0	-	N
Acenaphthene	83-32-9	-	< 2.0	-	N
3-Nitroaniline	99-09-2	-	< 6.0	-	N

Concentrations are reported on a dry weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 12.0	-	N
Dibenzofuran	132-64-9	-	< 6.0	-	N
4-Nitrophenol	100-02-7	-	< 59.0	-	N
2,4-Dinitrotoluene	121-14-2	-	< 6.0	-	N
Fluorene	86-73-7	-	< 2.0	-	N
Diethylphthalate	84-66-2	-	< 6.0	-	N
4-Chlorophenyl-phenylether	7005-72-3	-	< 6.0	-	N
4,6-Dinitro-2-methylphenol	534-52-1	-	< 59.0	-	N
4-Nitroaniline	100-01-6	-	< 6.0	-	N
N-Nitrosodiphenylamine	86-30-6 *	-	< 6.0	-	N
4-Bromophenyl-phenylether	101-55-3	-	< 6.0	-	N
Hexachlorobenzene	118-74-1	-	< 6.0	-	N
Pentachlorophenol	87-86-5	-	< 59.0	-	N
Phenanthrene	85-01-8	-	< 2.0	-	N
Anthracene	120-12-7	-	< 2.0	-	N
Di-n-butylphthalate	84-74-2	-	< 6.0	-	N
Fluoranthene	206-44-0	12.66	2.8	100	N
Pyrene	129-00-0	13.01	2.7	86	N
Butylbenzylphthalate	85-68-7	-	< 6.0	-	N
Benzo[a]anthracene	56-55-3	-	< 2.0	-	N
Chrysene	218-01-9	-	< 2.0	-	N
3,3'-Dichlorobenzidine	91-94-1	-	< 24.0	-	N
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 6.0	-	N
Di-n-octylphthalate	117-84-0	-	< 2.0	-	N
Benzo[b]fluoranthene	205-99-2	16.53	3.4	100	N
Benzo[k]fluoranthene	207-08-9	-	< 2.0	-	N
Benzo[a]pyrene	50-32-8	16.97	3.0	100	N
Indeno[1,2,3-cd]pyrene	193-39-5	18.37	2.7	100	N
Dibenzo[a,h]anthracene	53-70-3	-	< 2.0	-	N
Benzo[g,h,i]perylene	191-24-2	18.69	2.8	96	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	87
Naphthalene-d8	90
Acenaphthene-d10	89
Phenanthrene-d10	94
Chrysene-d12	96
Perylene-d12	100

Surrogates	% Rec
2-Fluorophenol	102
Phenol-d5	106
Nitrobenzene-d5	85
2-Fluorobiphenyl	102
2,4,6-Tribromophenol	80
Terphenyl-d14	106

This analysis was conducted on an 'As Recieved' basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Soil	**QC Batch Number:**	1120
Sample Details:	WS207 ES 1 0.75	**Date Booked in:**	04-May-10	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL1011300	**Date Extracted:**	11-May-10	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S10_2528M	**Date Analysed:**	11-May-10	**Directory/Quant File:**	11SVOC.GC11\ 0511_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	N
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	N
2-Chlorophenol	95-57-8	-	< 2.0	-	N
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	N
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	N
Benzyl alcohol	100-51-6	-	< 0.6	-	N
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	N
2-Methylphenol	95-48-7	-	< 0.6	-	N
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	N
Hexachloroethane	67-72-1	-	< 0.6	-	N
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	N
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	N
Nitrobenzene	98-95-3	-	< 0.6	-	N
Isophorone	78-59-1	-	< 0.6	-	N
2-Nitrophenol	88-75-5	-	< 2.0	-	N
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	N
Benzoic Acid	65-85-0 *	-	< 12.0	-	N
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	N
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	N
Naphthalene	91-20-3	-	< 0.2	-	N
4-Chlorophenol	106-48-9	-	< 2.0	-	N
4-Chloroaniline	106-47-8 *	-	< 0.6	-	N
Hexachlorobutadiene	87-68-3	-	< 0.6	-	N
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	N
2-Methylnaphthalene	91-57-6	7.59	24.0	95	N
1-Methylnaphthalene	90-12-0	7.70	41.0	96	N
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	N
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	N
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	N
2-Chloronaphthalene	91-58-7	-	< 0.2	-	N
Biphenyl	92-52-4	-	< 0.2	-	N
Diphenyl ether	101-84-8	-	< 0.2	-	N
2-Nitroaniline	88-74-4	-	< 0.6	-	N
Acenaphthylene	208-96-8	-	< 0.2	-	N
Dimethylphthalate	131-11-3	-	< 0.6	-	N
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	N
Acenaphthene	83-32-9	-	< 0.2	-	N
3-Nitroaniline	99-09-2	-	< 0.6	-	N

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	N
Dibenzofuran	132-64-9	-	< 0.6	-	N
4-Nitrophenol	100-02-7	-	< 6.0	-	N
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	N
Fluorene	86-73-7	-	< 0.2	-	N
Diethylphthalate	84-66-2	-	< 0.6	-	N
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	N
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	N
4-Nitroaniline	100-01-6	-	< 0.6	-	N
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	N
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	N
Hexachlorobenzene	118-74-1	-	< 0.6	-	N
Pentachlorophenol	87-86-5	-	< 6.0	-	N
Phenanthrene	85-01-8	-	< 0.2	-	N
Anthracene	120-12-7	-	< 0.2	-	N
Di-n-butylphthalate	84-74-2	-	< 0.6	-	N
Fluoranthene	206-44-0	-	< 0.2	-	N
Pyrene	129-00-0	-	< 0.2	-	N
Butylbenzylphthalate	85-68-7	-	< 0.6	-	N
Benzo[a]anthracene	56-55-3	-	< 0.2	-	N
Chrysene	218-01-9	-	< 0.2	-	N
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	N
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	N
Di-n-octylphthalate	117-84-0	-	< 0.2	-	N
Benzo[b]fluoranthene	205-99-2	16.55	0.4	100	N
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	N
Benzo[a]pyrene	50-32-8	16.98	0.2	100	N
Indeno[1,2,3-cd]pyrene	193-39-5	18.38	0.2	100	N
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	N
Benzo[g,h,i]perylene	191-24-2	18.71	0.2	96	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	80
Naphthalene-d8	71
Acenaphthene-d10	70
Phenanthrene-d10	49
Chrysene-d12	80
Perylene-d12	86

Surrogates	% Rec
2-Fluorophenol	98
Phenol-d5	90
Nitrobenzene-d5	198
2-Fluorobiphenyl	110
2,4,6-Tribromophenol	131
Terphenyl-d14	88

This analysis was conducted on an 'As Recieved' basis.

Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Soil	**QC Batch Number:**	1120
Sample Details:	WS210 ES 1 0.40	**Date Booked in:**	04-May-10	**Ext Method:**	Ultrasonic	**Multiplier:**	20
LIMS ID Number:	CL1011306	**Date Extracted:**	11-May-10	**Operator:**	AB	**Dilution Factor:**	100
Job Number:	S10_2528M	**Date Analysed:**	11-May-10	**Directory/Quant File:**	11SVOC.GC11\ 0511_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 216.0	-	N
bis(2-Chloroethyl)ether	111-44-4	-	< 54.0	-	N
2-Chlorophenol	95-57-8	-	< 216.0	-	N
1,3-Dichlorobenzene	541-73-1	-	< 54.0	-	N
1,4-Dichlorobenzene	106-46-7	-	< 54.0	-	N
Benzyl alcohol	100-51-6	-	< 54.0	-	N
1,2-Dichlorobenzene	95-50-1	-	< 54.0	-	N
2-Methylphenol	95-48-7	-	< 54.0	-	N
bis(2-Chloroisopropyl)ether	108-60-1	-	< 54.0	-	N
Hexachloroethane	67-72-1	-	< 54.0	-	N
N-Nitroso-di-n-propylamine	621-64-7	-	< 54.0	-	N
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 216.0	-	N
Nitrobenzene	98-95-3	-	< 54.0	-	N
Isophorone	78-59-1	-	< 54.0	-	N
2-Nitrophenol	88-75-5	-	< 216.0	-	N
2,4-Dimethylphenol	105-67-9	-	< 216.0	-	N
Benzoic Acid	65-85-0 *	-	< 1080.0	-	N
bis(2-Chloroethoxy)methane	111-91-1	-	< 54.0	-	N
2,4-Dichlorophenol	120-83-2	-	< 216.0	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 54.0	-	N
Naphthalene	91-20-3	-	< 22.0	-	N
4-Chlorophenol	106-48-9	-	< 216.0	-	N
4-Chloroaniline	106-47-8 *	-	< 54.0	-	N
Hexachlorobutadiene	87-68-3	-	< 54.0	-	N
4-Chloro-3-methylphenol	59-50-7	-	< 54.0	-	N
2-Methylnaphthalene	91-57-6	-	< 22.0	-	N
1-Methylnaphthalene	90-12-0	-	< 22.0	-	N
Hexachlorocyclopentadiene	77-47-4 *	-	< 54.0	-	N
2,4,6-Trichlorophenol	88-06-2	-	< 216.0	-	N
2,4,5-Trichlorophenol	95-95-4	-	< 216.0	-	N
2-Chloronaphthalene	91-58-7	-	< 22.0	-	N
Biphenyl	92-52-4	-	< 22.0	-	N
Diphenyl ether	101-84-8	-	< 22.0	-	N
2-Nitroaniline	88-74-4	-	< 54.0	-	N
Acenaphthylene	208-96-8	-	< 22.0	-	N
Dimethylphthalate	131-11-3	-	< 54.0	-	N
2,6-Dinitrotoluene	606-20-2	-	< 54.0	-	N
Acenaphthene	83-32-9	8.80	28.3	96	N
3-Nitroaniline	99-09-2	-	< 54.0	-	N

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 108.0	-	N
Dibenzofuran	132-64-9	-	< 54.0	-	N
4-Nitrophenol	100-02-7	-	< 541.0	-	N
2,4-Dinitrotoluene	121-14-2	-	< 54.0	-	N
Fluorene	86-73-7	-	< 22.0	-	N
Diethylphthalate	84-66-2	-	< 54.0	-	N
4-Chlorophenyl-phenylether	7005-72-3	-	< 54.0	-	N
4,6-Dinitro-2-methylphenol	534-52-1	-	< 541.0	-	N
4-Nitroaniline	100-01-6	-	< 54.0	-	N
N-Nitrosodiphenylamine	86-30-6 *	-	< 54.0	-	N
4-Bromophenyl-phenylether	101-55-3	-	< 54.0	-	N
Hexachlorobenzene	118-74-1	-	< 54.0	-	N
Pentachlorophenol	87-86-5	-	< 541.0	-	N
Phenanthrene	85-01-8	10.85	45.0	99	N
Anthracene	120-12-7	10.93	25.4	94	N
Di-n-butylphthalate	84-74-2	-	< 54.0	-	N
Fluoranthene	206-44-0	12.66	108.0	100	N
Pyrene	129-00-0	13.01	92.1	87	N
Butylbenzylphthalate	85-68-7	-	< 54.0	-	N
Benzo[a]anthracene	56-55-3	14.92	43.9	100	N
Chrysene	218-01-9	14.97	41.0	100	N
3,3'-Dichlorobenzidine	91-94-1	-	< 216.0	-	N
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 54.0	-	N
Di-n-octylphthalate	117-84-0	-	< 22.0	-	N
Benzo[b]fluoranthene	205-99-2	16.52	57.7	100	N
Benzo[k]fluoranthene	207-08-9	-	< 22.0	-	N
Benzo[a]pyrene	50-32-8	16.97	52.8	100	N
Indeno[1,2,3-cd]pyrene	193-39-5	18.37	40.0	100	N
Dibenzo[a,h]anthracene	53-70-3	-	< 22.0	-	N
Benzo[g,h,i]perylene	191-24-2	18.69	40.2	98	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	70
Naphthalene-d8	75
Acenaphthene-d10	77
Phenanthrene-d10	81
Chrysene-d12	86
Perylene-d12	93

Surrogates	% Rec
2-Fluorophenol	71
Phenol-d5	99
Nitrobenzene-d5	133
2-Fluorobiphenyl	103
2,4,6-Tribromophenol	58
Terphenyl-d14	147

This analysis was conducted on an 'As Recieved' basis.

Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

SVOC (TICs)

Accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS201 ES 4 2.50	**Job Number:**	S10_2528
LIMS ID Number:	CL1011290		
		Multiplier:	0.2
Date Booked in:	04-May-10	**Dilution Factor:**	1
Date Extracted:	11-May-10	**GPC (Y/N):**	N
Date Analysed:	11-May-10	**Matrix:**	Soil
QC Batch Number:	1120	**Method:**	Ultrasonic
Directory/Quant File:	11SVOC.GC11\ 0511_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit	Accr. code
Unidentified peak	-	18.28	0.409	-	N
Azobenzene	103-33-3	-	<0.2	-	N
Carbazole	86-74-8	-	<0.2	-	N
Anthraquinone	84-65-1	-	<0.2	-	N

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

SVOC (TICs)

Accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS203 ES 3 1.50	**Job Number:**	S10_2528
LIMS ID Number:	CL1011293		
		Multiplier:	0.2
Date Booked in:	04-May-10	**Dilution Factor:**	1
Date Extracted:	11-May-10	**GPC (Y/N):**	N
Date Analysed:	11-May-10	**Matrix:**	Soil
QC Batch Number:	1120	**Method:**	Ultrasonic
Directory/Quant File:	11SVOC.GC11\ 0511_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit	Accr. code
Unidentified peak	-	19.19	0.491	-	N
1-Nonadecene	018435-45-5	19.12	0.480	89	N
Azobenzene	103-33-3	-	<0.2	-	N
Carbazole	86-74-8	-	<0.2	-	N
Anthraquinone	84-65-1	-	<0.2	-	N

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

SVOC (TICs)

Accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS204 ES 3 1.30	**Job Number:**	S10_2528
LIMS ID Number:	CL1011295		
		Multiplier:	20
Date Booked in:	04-May-10	**Dilution Factor:**	100
Date Extracted:	11-May-10	**GPC (Y/N):**	N
Date Analysed:	12-May-10	**Matrix:**	Soil
QC Batch Number:	1120	**Method:**	Ultrasonic
Directory/Quant File:	11SVOC.GC11\ 0511_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit	Accr. code
Benzo[a]naphthacene	000226-88-0	18.51	35.329	95	N
Benzo[e]pyrene	000192-97-2	16.89	33.924	98	N
4H-Cyclopenta[def]phenanthrene	000203-64-5	11.74	23.481	95	N
Azobenzene	103-33-3	-	<22	-	N
Carbazole	86-74-8	-	<22	-	N
Anthraquinone	84-65-1	-	<22	-	N
Cyclodecacyclododecene, 1,2,3,4,5,6,7,8,9,10,11,12,13,14,1	014113-80-5	18.25	21.197	83	N
Unidentified peak	-	3.56	19.764	-	N
Unidentified peak	-	18.14	19.512	-	N
Dibenzo[def,mno]chrysene	000191-26-4	18.86	16.450	93	N
Anthracene, 2-methyl-	000613-12-7	11.63	15.558	94	N
4'-Bromo-flavone	020525-20-6	21.02	14.638	53	N
Fluoranthene, 2-methyl-	033543-31-6	13.72	13.836	96	N
11H-Benzo[b]fluorene	000243-17-4	13.56	11.053	93	N
Benzo[ghi]fluoranthene	000203-12-3	14.59	10.680	68	N
1,2:4,5-Dibenzopyrene	000192-65-4	20.25	10.677	93	N
Dinaphtho[1,2-b:1',2'-d]furan	000207-93-2	16.81	10.480	93	N
Benz[j]aceanthrylene, 3-methyl-	003343-10-0	17.26	9.791	86	N
Cyclopenta(cd)pyrene, 3,4-dihydro-	025732-74-5	15.09	9.017	95	N
Benz[a]anthracene, 8-methyl-	002381-31-9	15.57	8.870	93	N

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

SVOC (TICs)

Accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS206 ES 1 0.30	**Job Number:**	S10_2528
LIMS ID Number:	CL1011298		
		Multiplier:	2
Date Booked in:	04-May-10	**Dilution Factor:**	10
Date Extracted:	11-May-10	**GPC (Y/N):**	N
Date Analysed:	11-May-10	**Matrix:**	Soil
QC Batch Number:	1120	**Method:**	Ultrasonic
Directory/Quant File:	11SVOC.GC11\ 0511_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit	Accr. code
Unidentified peak	-	18.14	7.209	-	N
Unidentified peak	-	19.46	5.891	-	N
Unidentified peak	-	19.52	4.510	-	N
Unidentified peak	-	18.57	4.431	-	N
Azobenzene	103-33-3	-	<2	-	N
Carbazole	86-74-8	-	<2	-	N
Anthraquinone	84-65-1	-	<2	-	N

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

SVOC (TICs)

Accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS207 ES 1 0.75	**Job Number:**	S10_2528
LIMS ID Number:	CL1011300		
		Multiplier:	0.2
Date Booked in:	04-May-10	**Dilution Factor:**	1
Date Extracted:	11-May-10	**GPC (Y/N):**	N
Date Analysed:	11-May-10	**Matrix:**	Soil
QC Batch Number:	1120	**Method:**	Ultrasonic
Directory/Quant File:	11SVOC.GC11\ 0511_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit	Accr. code
Nonane, 2-methyl-	000871-83-0	5.35	11.057	80	N
Benzene, 1-ethyl-2-methyl-	000611-14-3	4.97	6.628	94	N
Benzene, (1-methylpropyl)-	000135-98-8	5.94	6.023	87	N
Benzene, 1-methyl-3-propyl-	001074-43-7	5.82	5.691	94	N
Unidentified peak	-	5.69	5.018	-	N
Benzene, 1-methyl-2-(1-methylethyl)-	000527-84-4	6.05	3.900	97	N
Cyclopentane, 1-ethyl-3-methyl-, cis-	002613-66-3	4.63	3.331	50	N
Benzene, 1-methyl-4-(1-methylethyl)-	000099-87-6	5.87	2.794	91	N
Hexane, 2,4-dimethyl-	000589-43-5	4.21	2.622	64	N
Hexacosane	000630-01-3	16.42	2.414	95	N
Tridecane, 6-propyl-	055045-10-8	14.45	2.135	91	N
Pentadecane, 8-heptyl-	071005-15-7	13.92	2.097	90	N
Heptacosane	000593-49-7	16.10	1.924	95	N
Heptane, 3-ethyl-2-methyl-	014676-29-0	4.71	1.903	72	N
Tridecane, 6-methyl-	013287-21-3	8.17	1.878	87	N
Benzene, 1,2,3-trimethyl-	000526-73-8	5.06	1.839	78	N
Cyclohexane, 1,4-dimethyl-, cis-	000624-29-3	5.21	1.772	80	N
Naphthalene, 1,4-dimethyl-	000571-58-4	8.43	1.768	96	N
Unidentified peak	-	12.58	1.752	-	N
Naphthalene, 2,3-dimethyl-	000581-40-8	8.54	1.715	70	N
Azobenzene	103-33-3	-	<0.2	-	N
Carbazole	86-74-8	-	<0.2	-	N
Anthraquinone	84-65-1	-	<0.2	-	N

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

SVOC (TICs)

Accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS210 ES 1 0.40	**Job Number:**	S10_2528
LIMS ID Number:	CL1011306		
		Multiplier:	20
Date Booked in:	04-May-10	**Dilution Factor:**	100
Date Extracted:	11-May-10	**GPC (Y/N):**	N
Date Analysed:	11-May-10	**Matrix:**	Soil
QC Batch Number:	1120	**Method:**	Ultrasonic
Directory/Quant File:	11SVOC.GC11\ 0511_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit	Accr. code
Unidentified peak	-	18.14	39.320	-	N
Azobenzene	103-33-3	-	<22	-	N
Carbazole	86-74-8	-	<22	-	N
Anthraquinone	84-65-1	-	<22	-	N

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

Gasoline Range Organics
(BTEX and Aromatic/Aliphatic Carbon Ranges)

Customer and Site Details:	Soil Mechanics : Isles Quarry	**Matrix:**	Soil
Job Number:	S10_2528	**Date Booked in:**	04-May-10
Directory:	D:\TES\DATA\Y2010\0511HSA_GC12\051110 2010-05-11 08-16-10\040F4101.D	**Date extracted:**	11-May-10
Method:	HEADSPACE GCFID	**Date Analysed:**	11-May-10, 20:55:41
Accreditation Code:	N	**Units:**	mg/kg

			Aromatics		Aliphatics		GRO	
	Sample ID	**Client ID**	**C5 - C7**	**>C7 - C8**	**C5 - C6**	**>C6 - C8**	**C8-C10**	**C5 - C10**
*	CL1011289	WS201 ES 3 1.50	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2
*	CL1011290	WS201 ES 4 2.50	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2
*	CL1011291	WS202 ES 4 2.50	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2
*	CL1011292	WS203 ES 1 0.50	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2
*	CL1011293	WS203 ES 3 1.50	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2
*	CL1011294	WS204 ES 1 0.50	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2
*	CL1011295	WS204 ES 3 1.30	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2
*	CL1011297	WS205A ES 1 1.50	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2
*	CL1011298	WS206 ES 1 0.30	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2
*	CL1011299	WS206 ES 2 1.20	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2
*	CL1011300	WS207 ES 1 0.75	<0.01	<0.01	<0.2	0.27	8.62	8.90
*	CL1011301	WS207 ES 5 2.70	<0.01	<0.01	<0.3	<0.3	0.48	0.57
*	CL1011302	WS208 ES 1 0.30	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2
*	CL1011303	WS208 ES 8 3.00	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3
*	CL1011305	WS209 ES 4 2.00	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2
*	CL1011306	WS210 ES 1 0.40	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2
*	CL1011307	WS210A ES 3 1.40	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2
*	CL1011308	WS211 ES 1 0.30	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

ALIPHATIC / AROMATIC FRACTION BY GC/FID

Customer and Site Details: Soil Mechanics : Isles Quarry
Job Number: S10_2528
QC Batch Number: 101151
Directory: D:\TES\DATA\Y2010\0514TPH_GC3\075B3101.D
Method: Ultra Sonic

Separation: Silica gel
Eluents: Hexane, DCM

Matrix: Soil
Date Booked in 04-May-10
Date Extracted 14-May-10
Date Analysed: 14-May-10

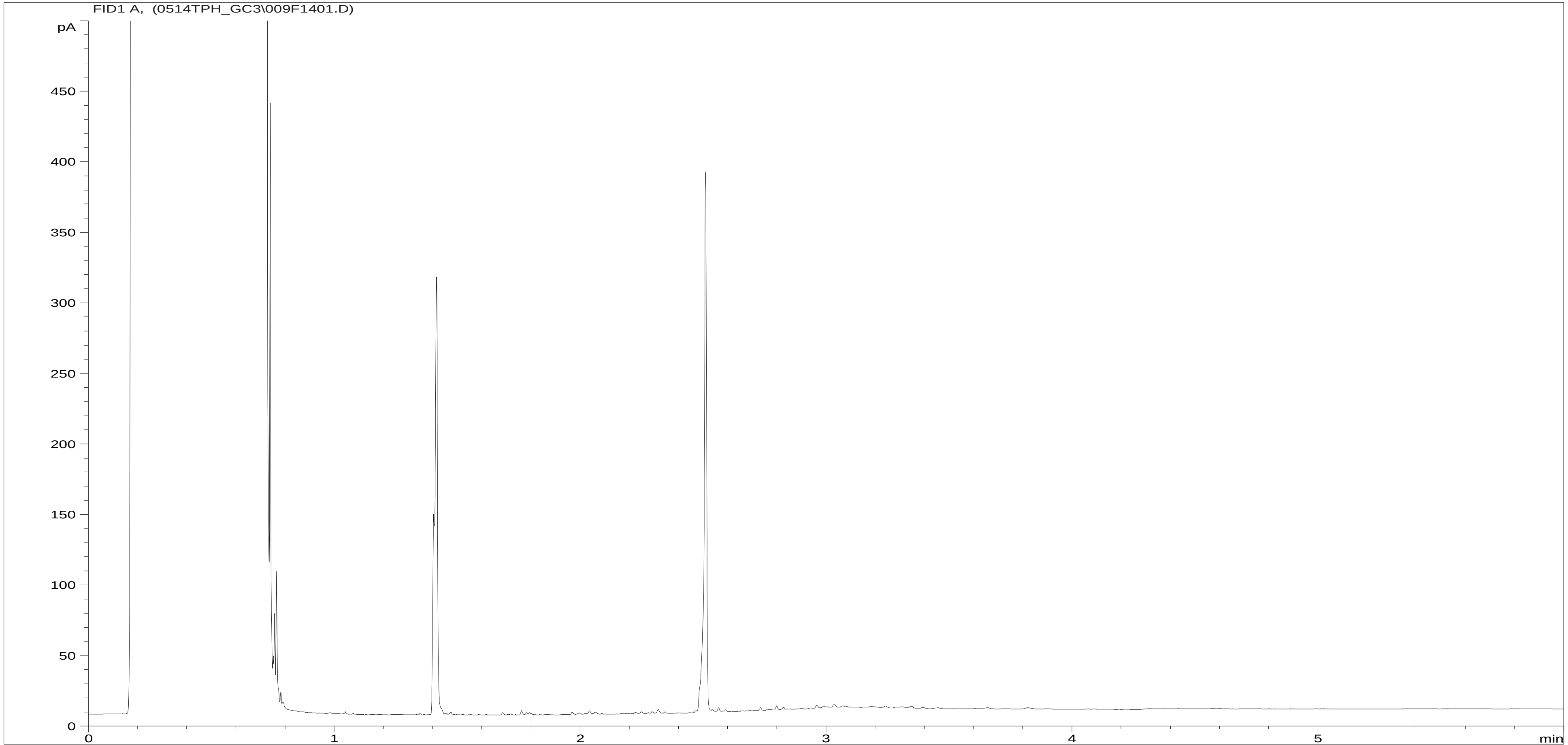
This sample data is not accredited.

Concentration, (mg/kg) - as dry weight.

Sample ID	Client ID	>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35		>C8 - C40	
		Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics
CL1011289	WS201 ES 3 1.50	<5	<5	<5	<5	<5	<5	<5	<5	13.7	<10.84	<25	<25
CL1011290	WS201 ES 4 2.50	<5	<5	<5	<5	<5	<5	<5	<5	<10.47	<10.47	<24	<24
CL1011291	WS202 ES 4 2.50	<5	<5	<5	<5	<5	<5	<5	<5	<10.09	<10.09	<23	<23
CL1011292	WS203 ES 1 0.50	<4	<4	<4	<4	13.2	<4	18.9	19.6	150	169	203	288
CL1011293	WS203 ES 3 1.50	<4	<4	<4	<4	<4	<4	<4	<4	<9.57	<9.57	<22	<22
CL1011294	WS204 ES 1 0.50	<5	<5	<5	<5	<5	<5	<5	<5	<10.13	<10.13	<23	<23
CL1011295	WS204 ES 3 1.30	<4	<4	<4	9.11	49.5	265	98	1740	273	4290	493	6970
CL1011297	WS205A ES 1 1.50	<5	<5	<5	<5	<5	<5	<5	<5	19.5	25.1	23.7	37.1
CL1011298	WS206 ES 1 0.30	<5	<5	<5	<5	18.8	<5	91	32.5	262	240	412	339
CL1011299	WS206 ES 2 1.20	<5	<5	<5	<5	<5	<5	<5	<5	<9.92	<9.92	<23	<23
CL1011300	WS207 ES 1 0.75	182	45.4	547	252	3040	1640	4560	2320	1940	1110	10300	5400
CL1011301	WS207 ES 5 2.70	<5	<5	<5	<5	<5	<5	<5	<5	<11.19	15.6	<26	<26
CL1011302	WS208 ES 1 0.30	<4	<4	<4	<4	<4	<4	5.43	9.81	44	71.3	61	106.5
CL1011303	WS208 ES 8 3.00	<5	<5	<5	<5	<5	<5	<5	<5	<11.10	<11.10	<25	<25
CL1011305	WS209 ES 4 2.00	<5	<5	<5	<5	<5	<5	<5	<5	<10.76	<10.76	<25	<25
CL1011306	WS210 ES 1 0.40	<4	<4	13.7	<4	93.8	78.8	64	384	519	1970	737	2900
CL1011307	WS210A ES 3 1.40	<5	<5	<5	<5	<5	<5	<5	<5	<10.13	<10.13	<23	<23
CL1011308	WS211 ES 1 0.30	<4	<4	<4	9.54	32	269	35.5	1390	109	3330	194	5390

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

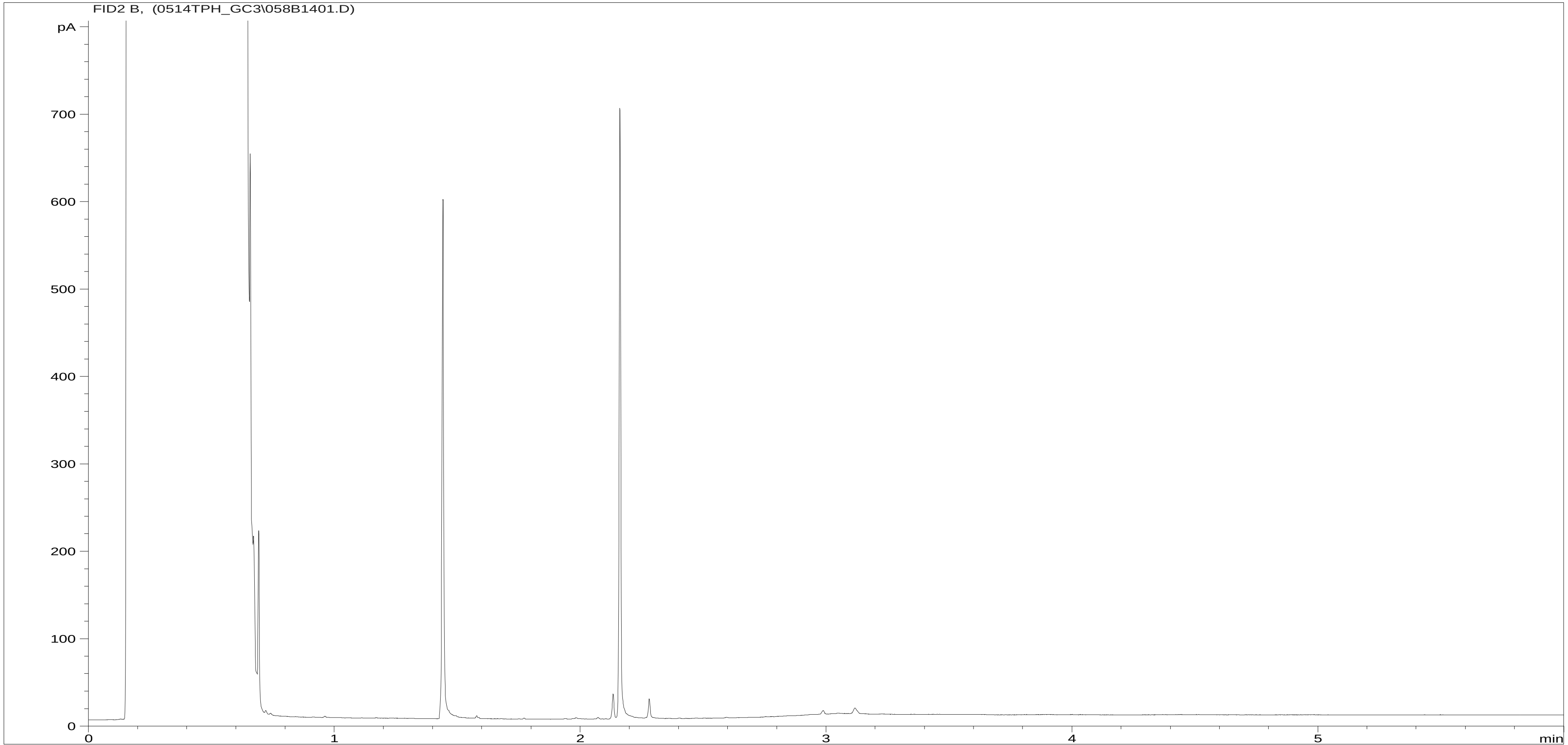
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011289ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS201 ES 3 1.50
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\009F1401.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

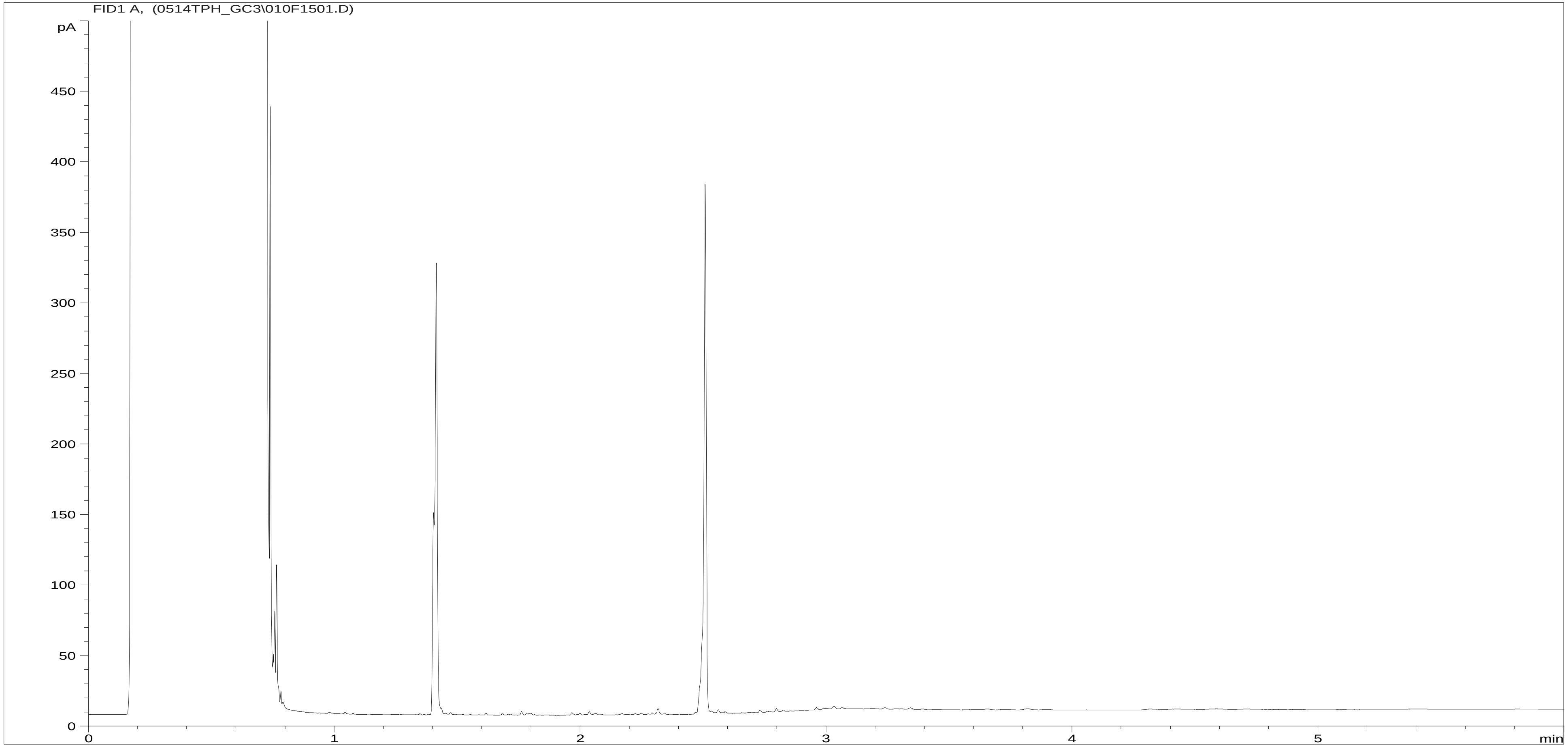
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011289ARO	**Job Number:**	S10_2528M
Multiplier:	11.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS201 ES 3 1.50
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\058B1401.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

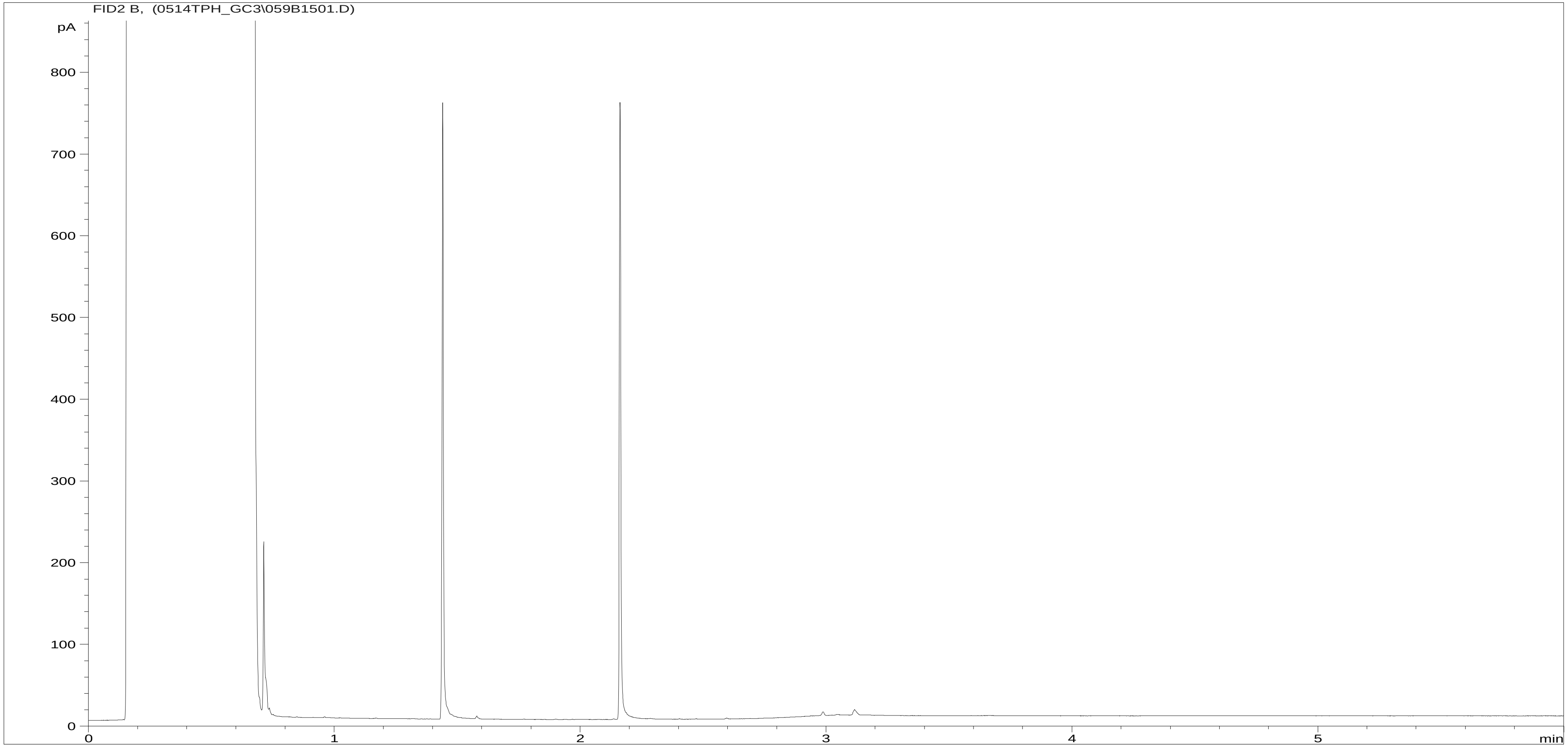
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011290ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS201 ES 4 2.50
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\010F1501.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

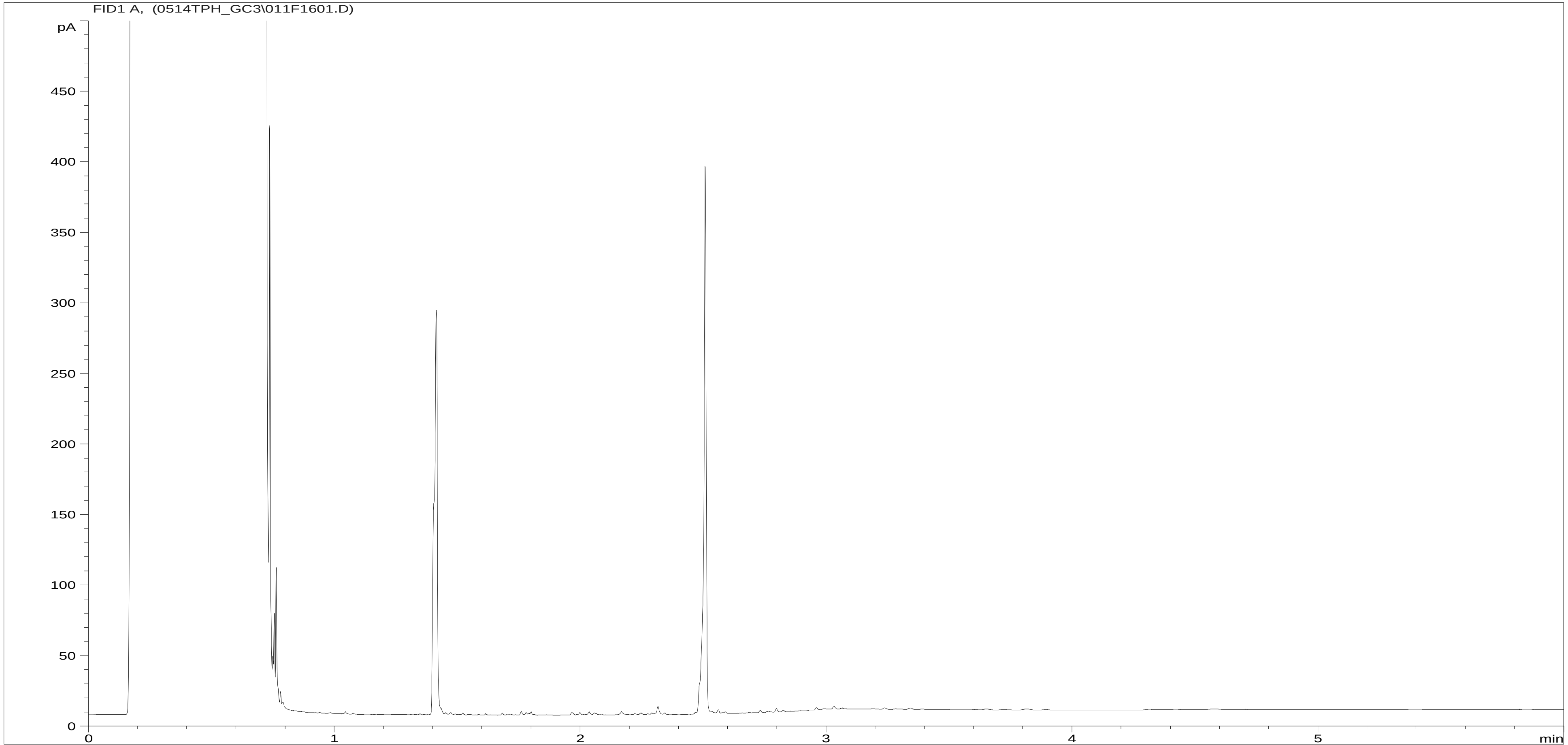
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011290ARO	**Job Number:**	S10_2528M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS201 ES 4 2.50
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\059B1501.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

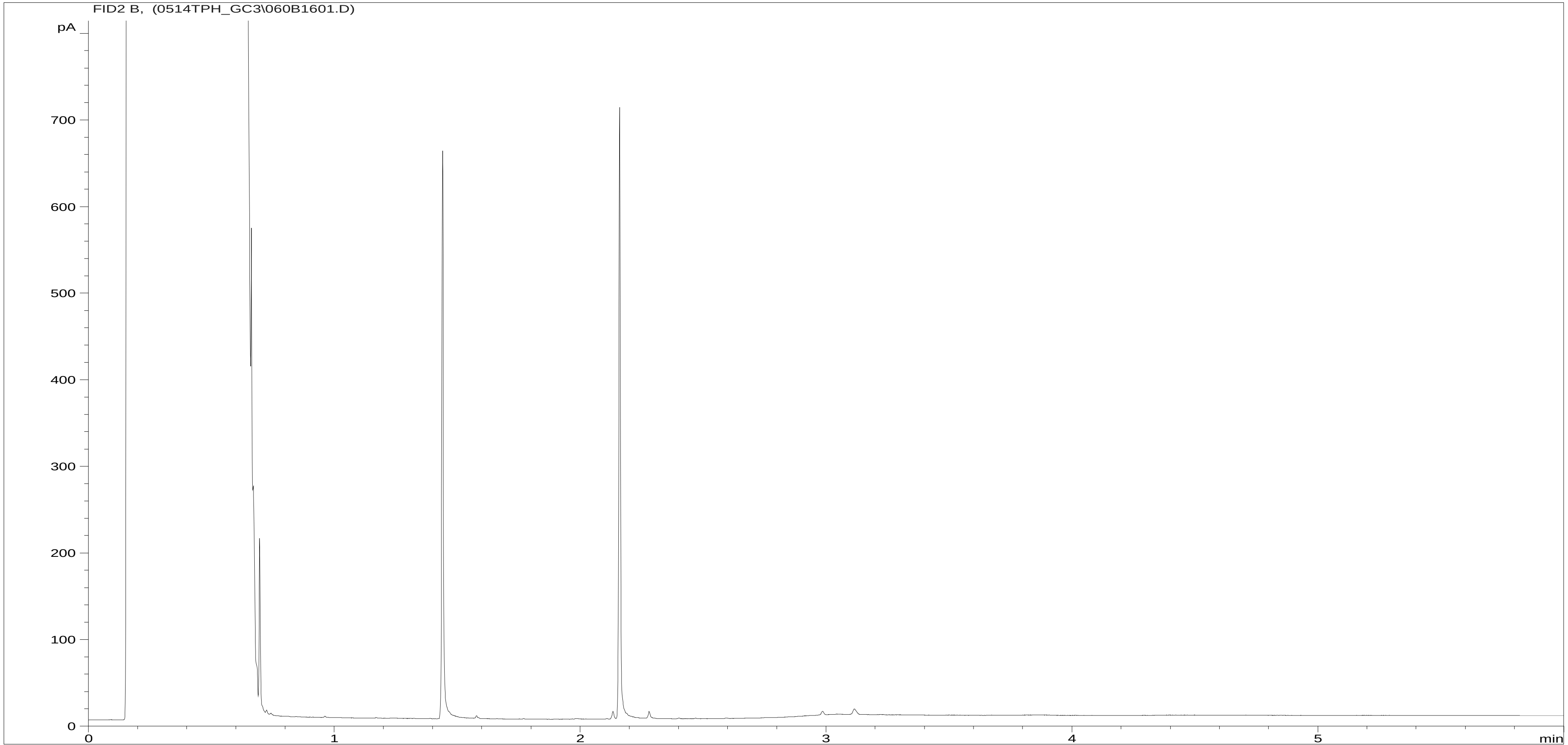
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011291ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS202 ES 4 2.50
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\011F1601.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

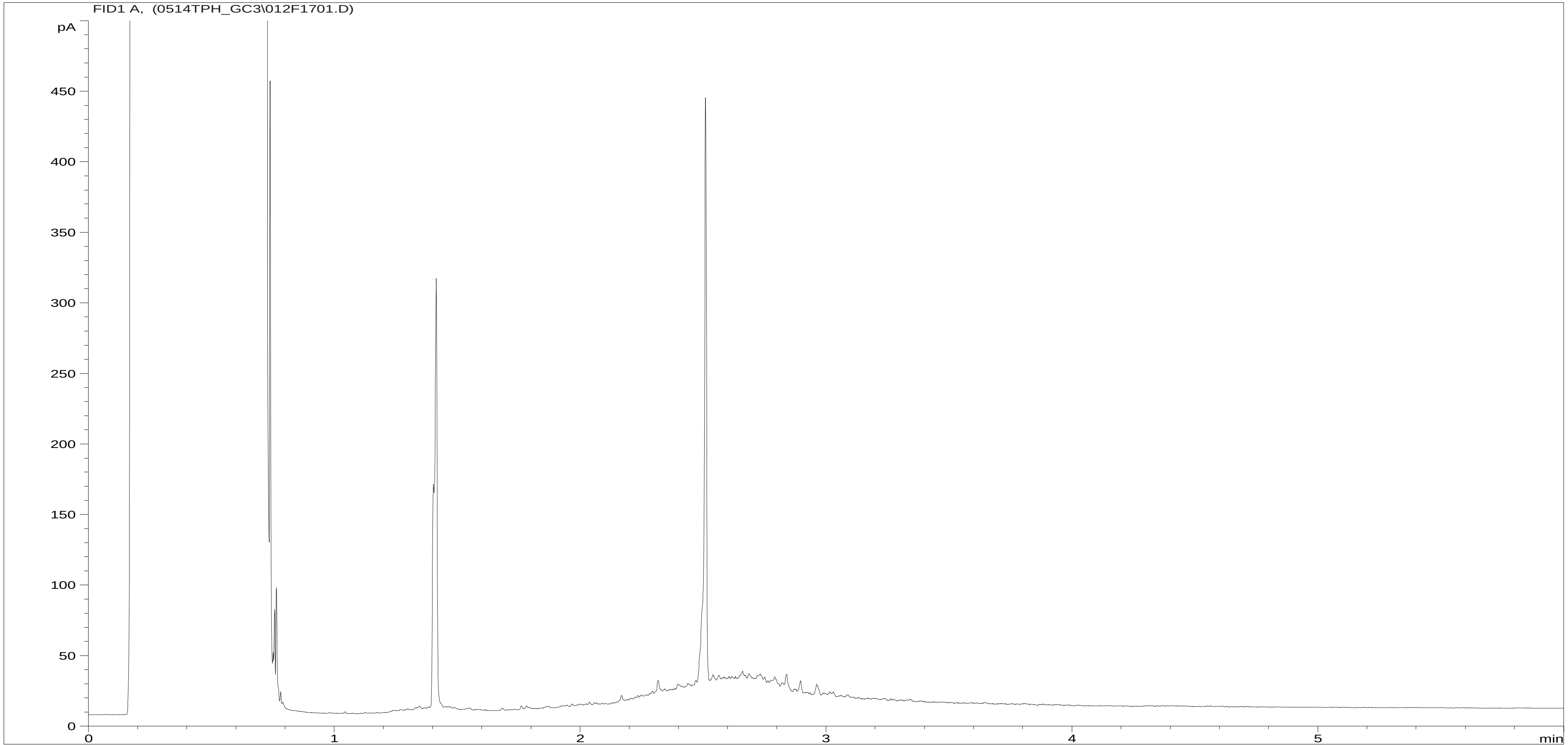
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011291ARO	**Job Number:**	S10_2528M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS202 ES 4 2.50
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\060B1601.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

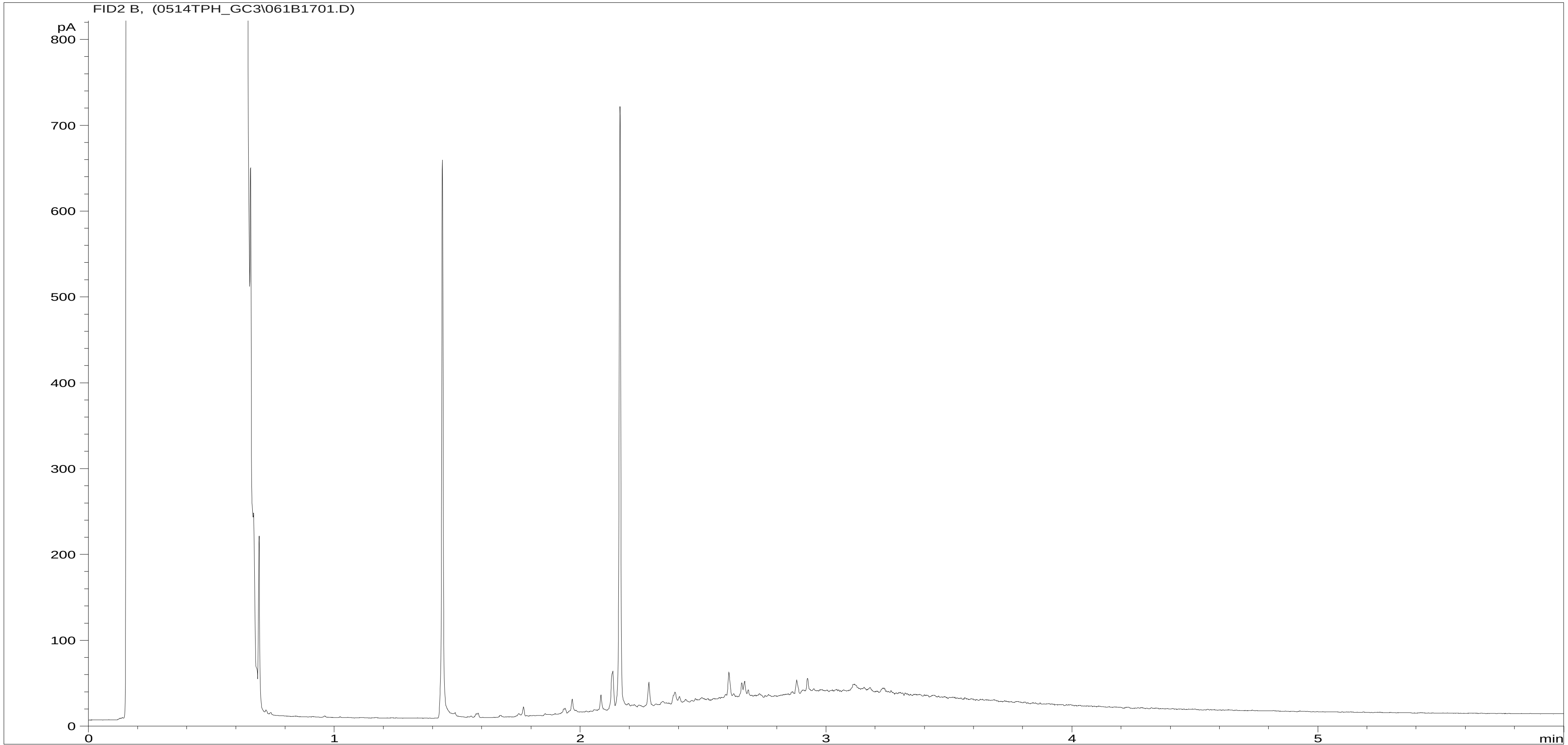
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011292ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS203 ES 1 0.50
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\012F1701.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

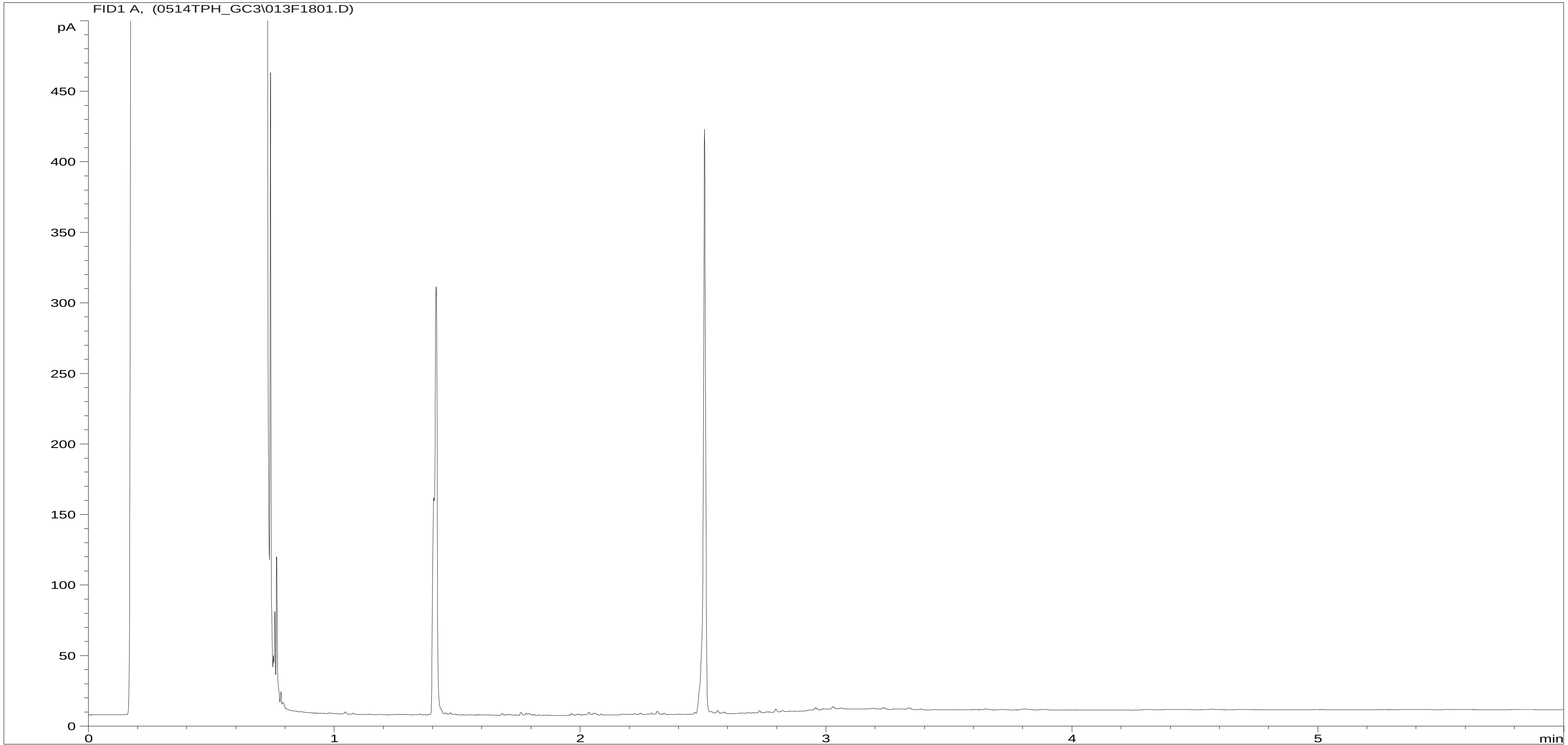
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011292ARO	**Job Number:**	S10_2528M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS203 ES 1 0.50
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\061B1701.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

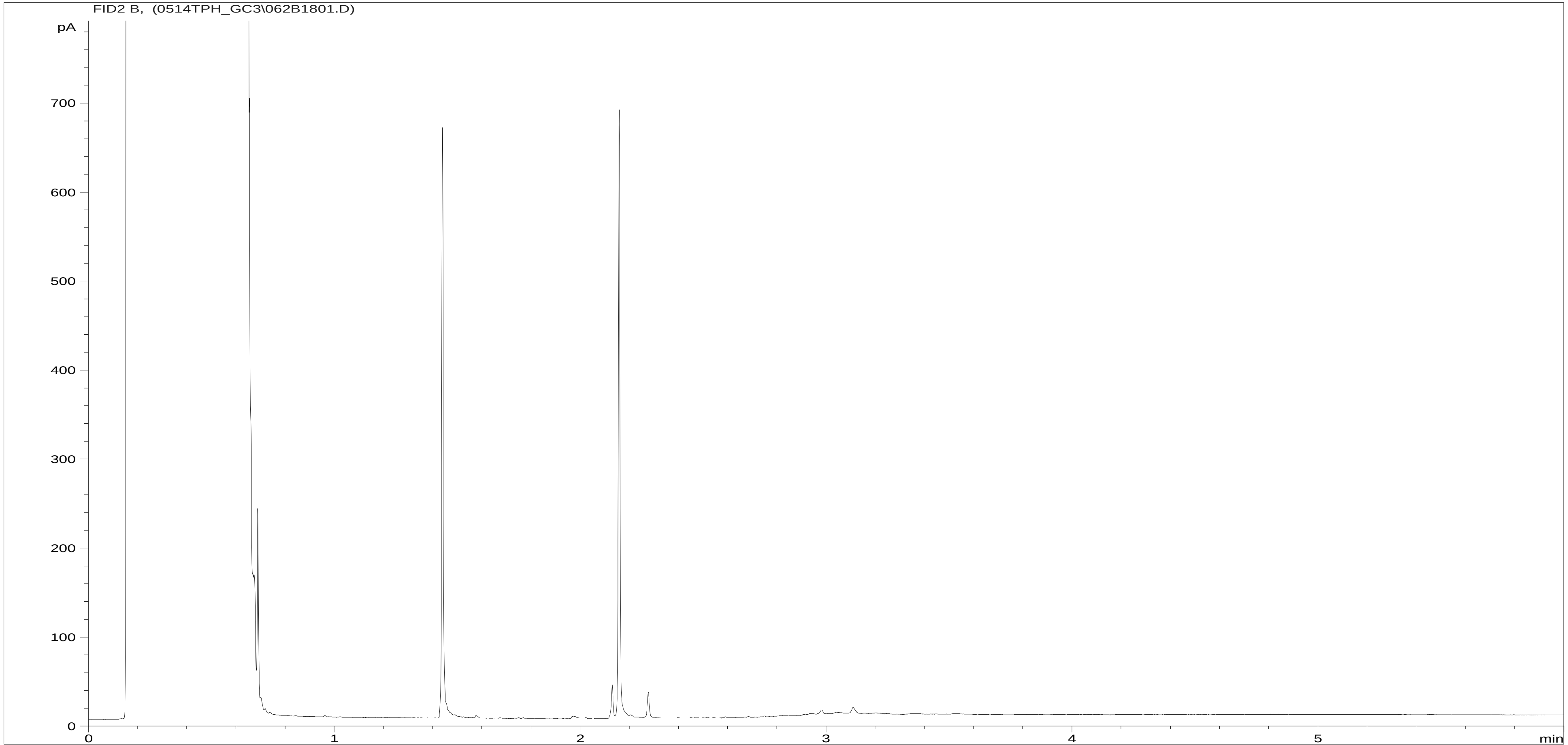
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011293ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS203 ES 3 1.50
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\013F1801.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

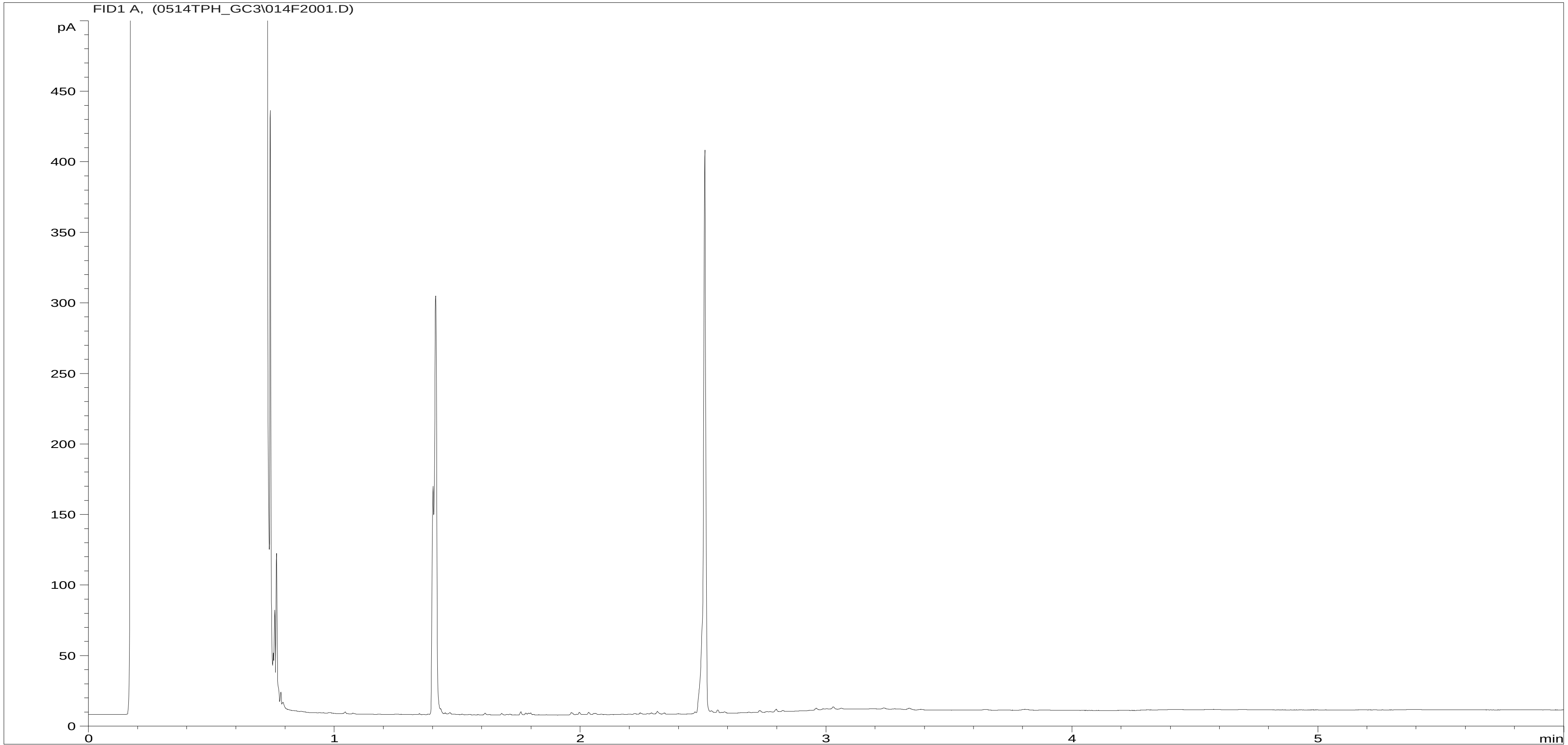
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011293ARO	**Job Number:**	S10_2528M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS203 ES 3 1.50
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\062B1801.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

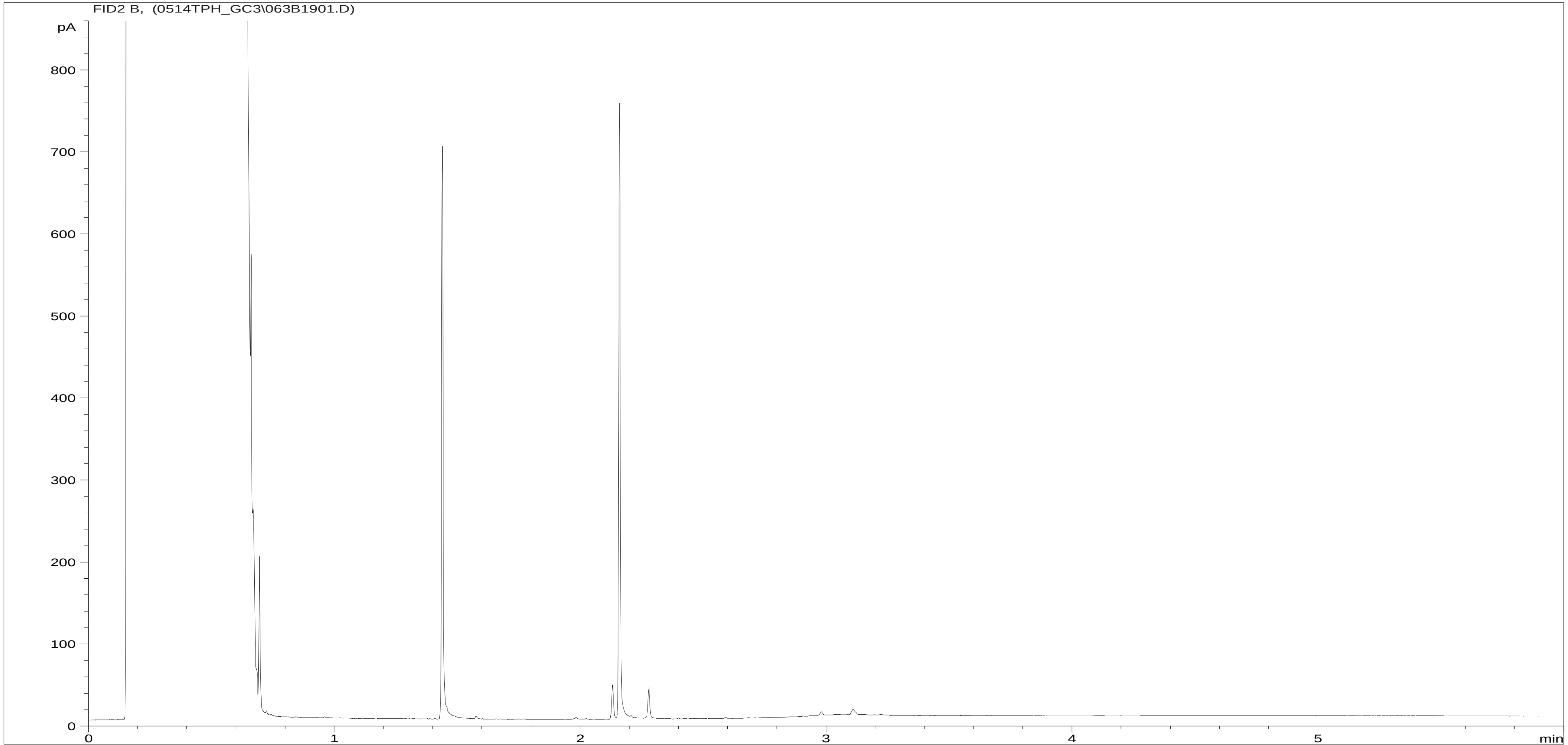
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011294ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS204 ES 1 0.50
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\014F2001.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

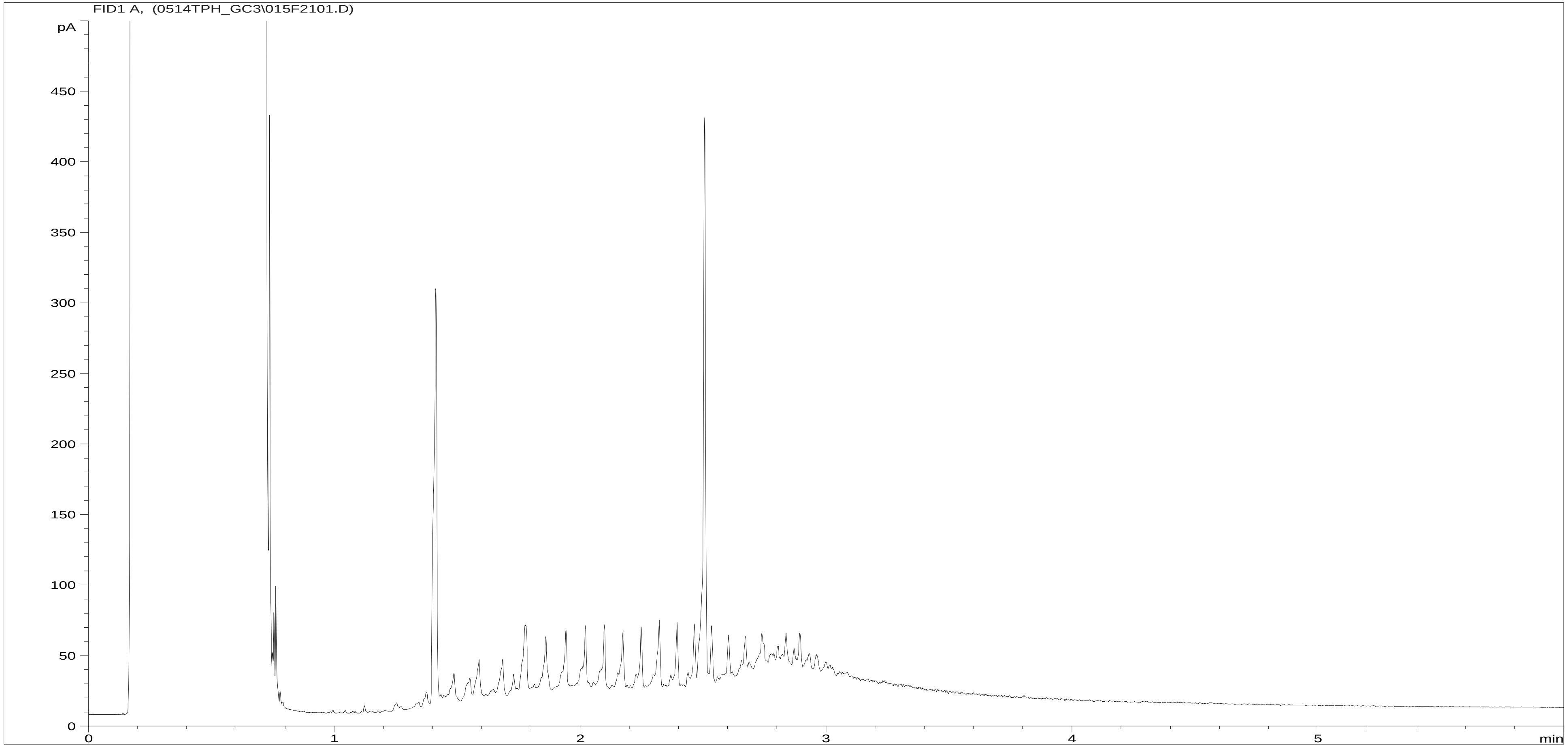
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011294ARO	**Job Number:**	S10_2528M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS204 ES 1 0.50
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\063B1901.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

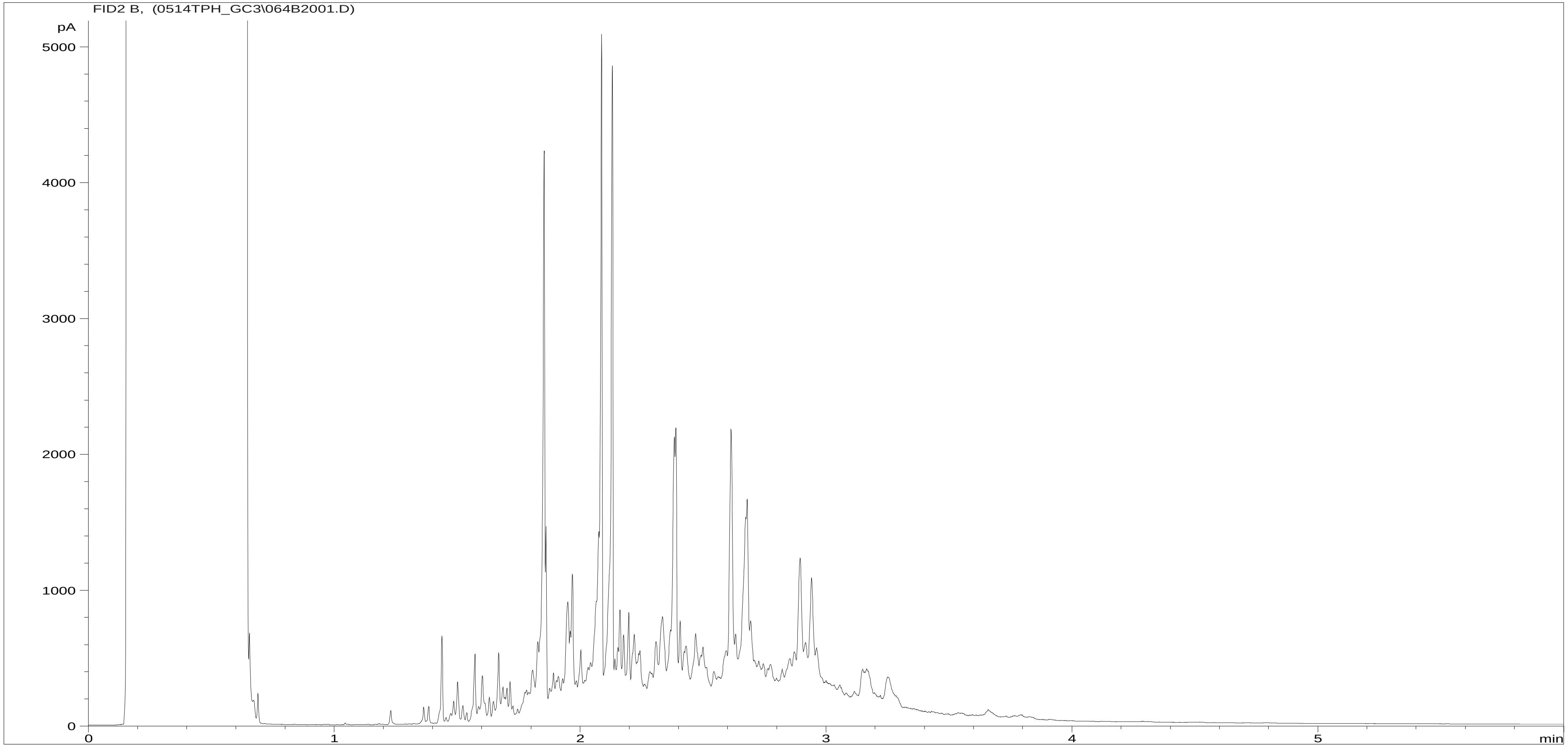
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011295ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS204 ES 3 1.30
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\015F2101.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

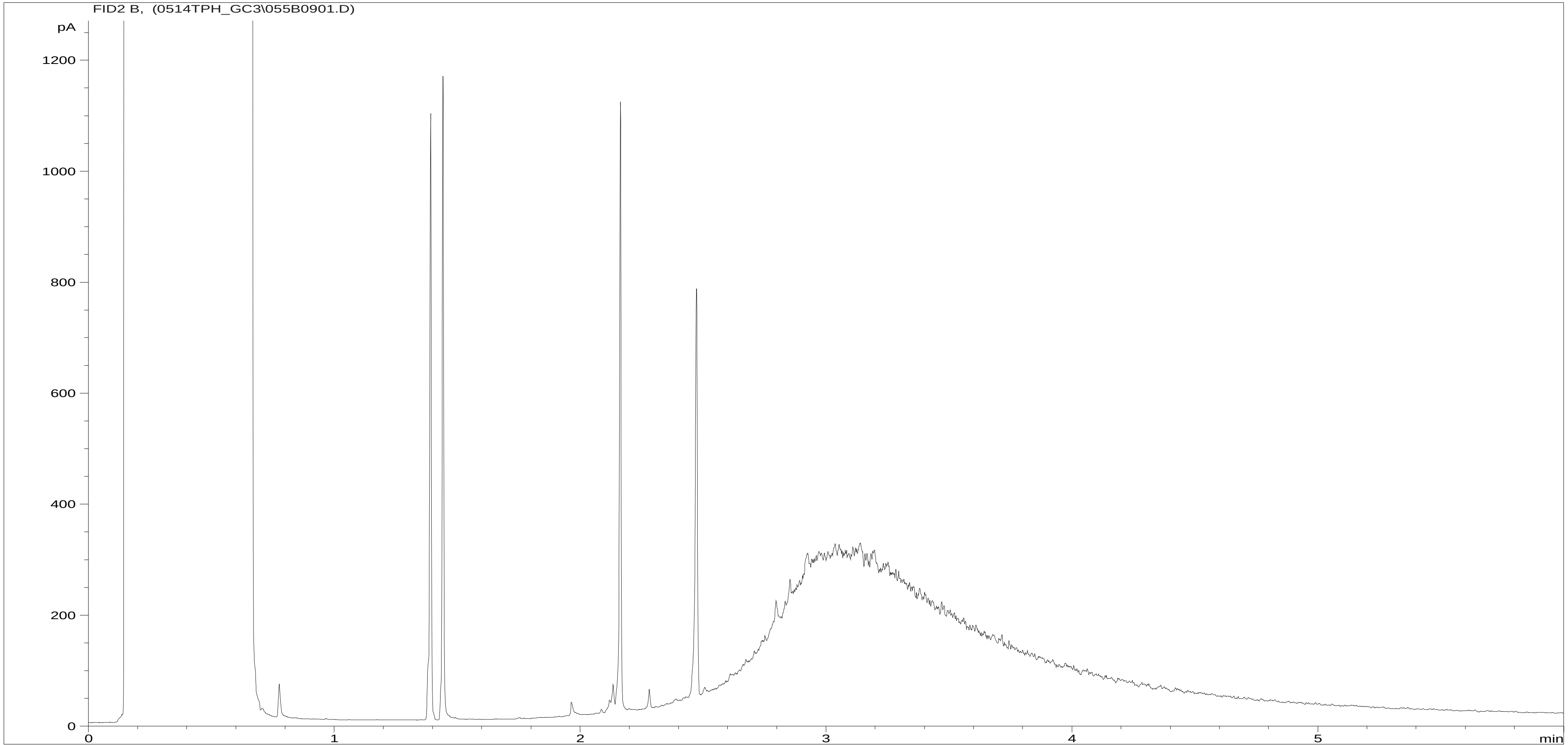
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011295ARO	**Job Number:**	S10_2528M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS204 ES 3 1.30
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\064B2001.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

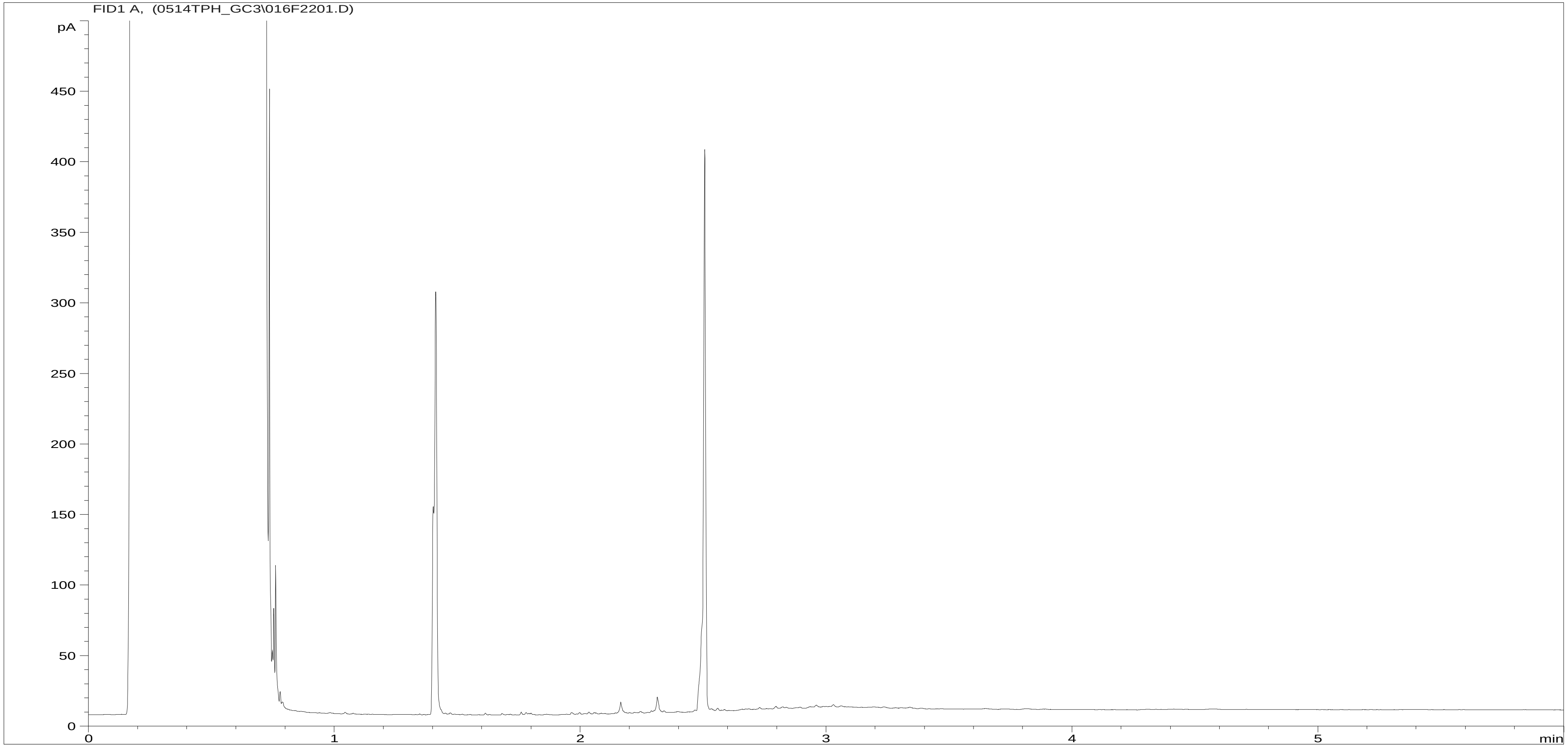
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL1011296	**Job Number:**	S10_2528M
Multiplier:	8	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS205 ES 1 0.40
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\055B0901.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

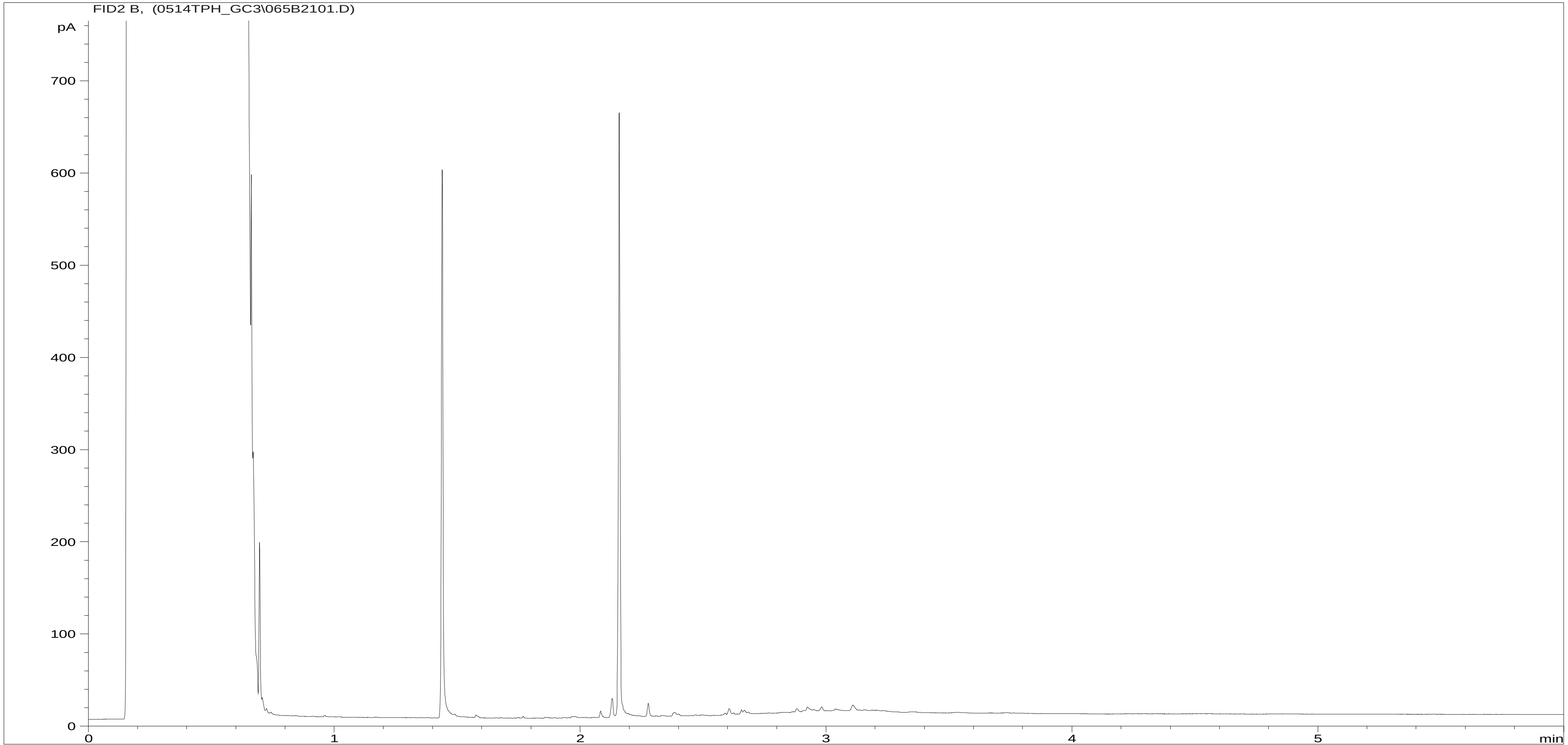
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011297ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS205A ES 1 1.50
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\016F2201.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

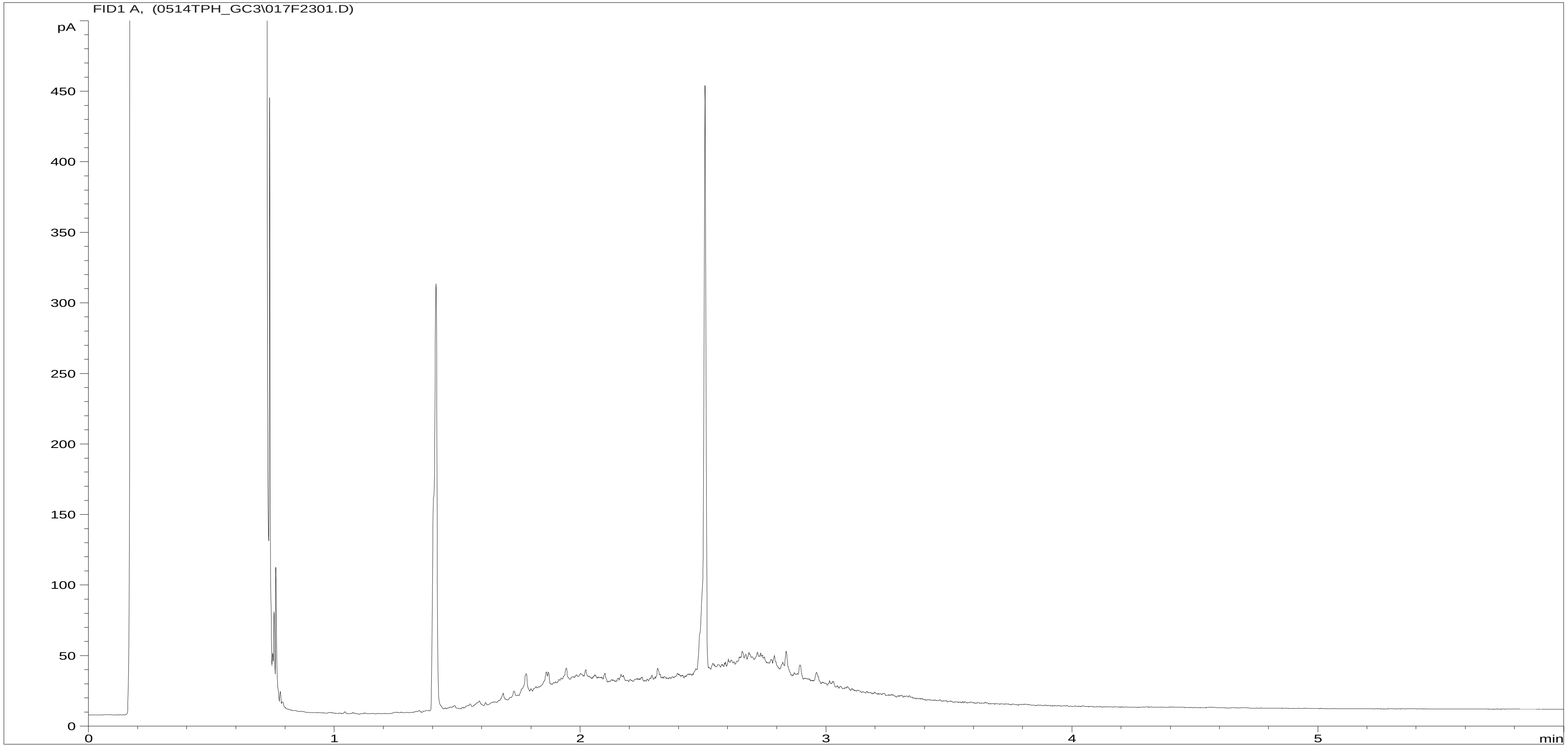
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011297ARO	**Job Number:**	S10_2528M
Multiplier:	11.78	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS205A ES 1 1.50
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\065B2101.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

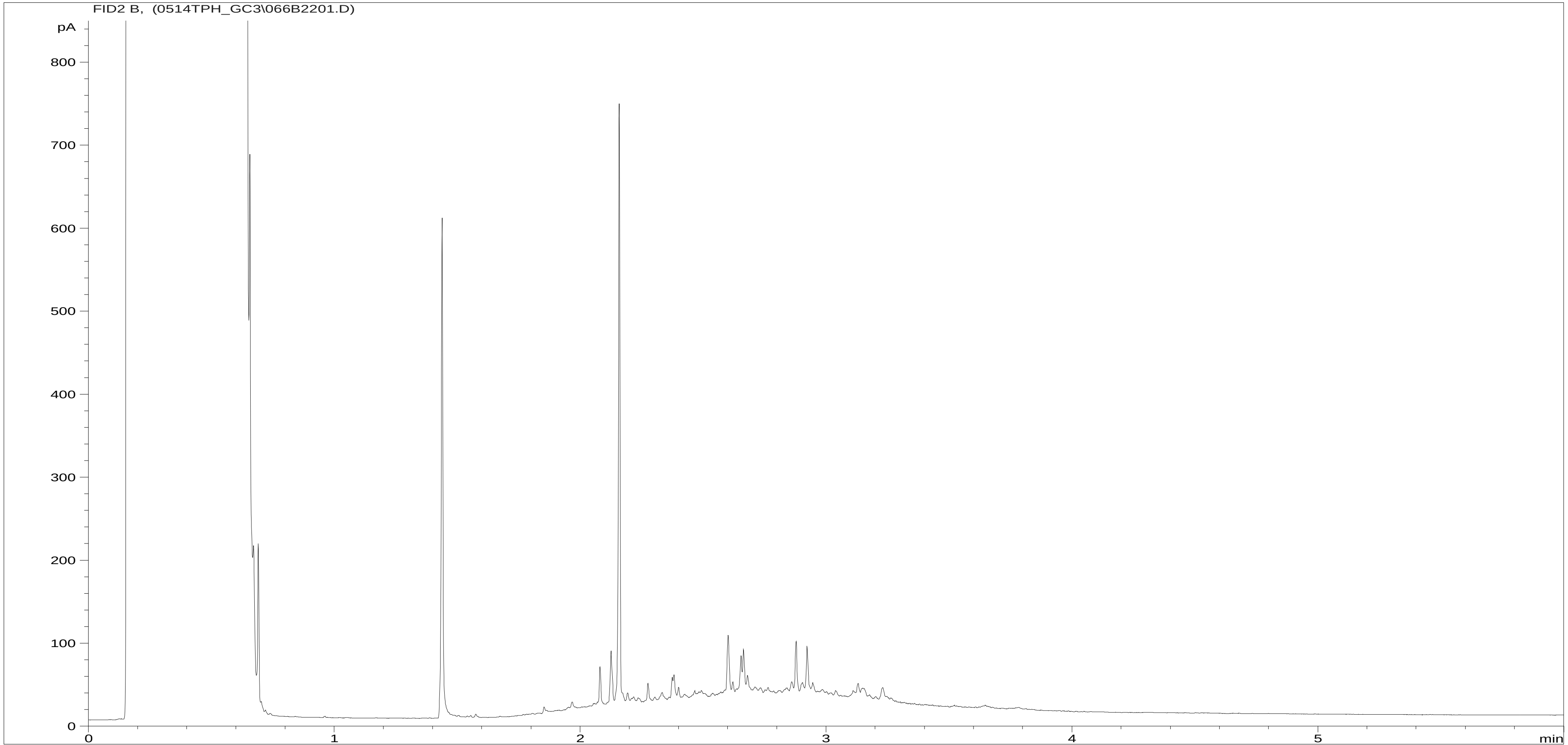
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011298ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS206 ES 1 0.30
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\017F2301.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

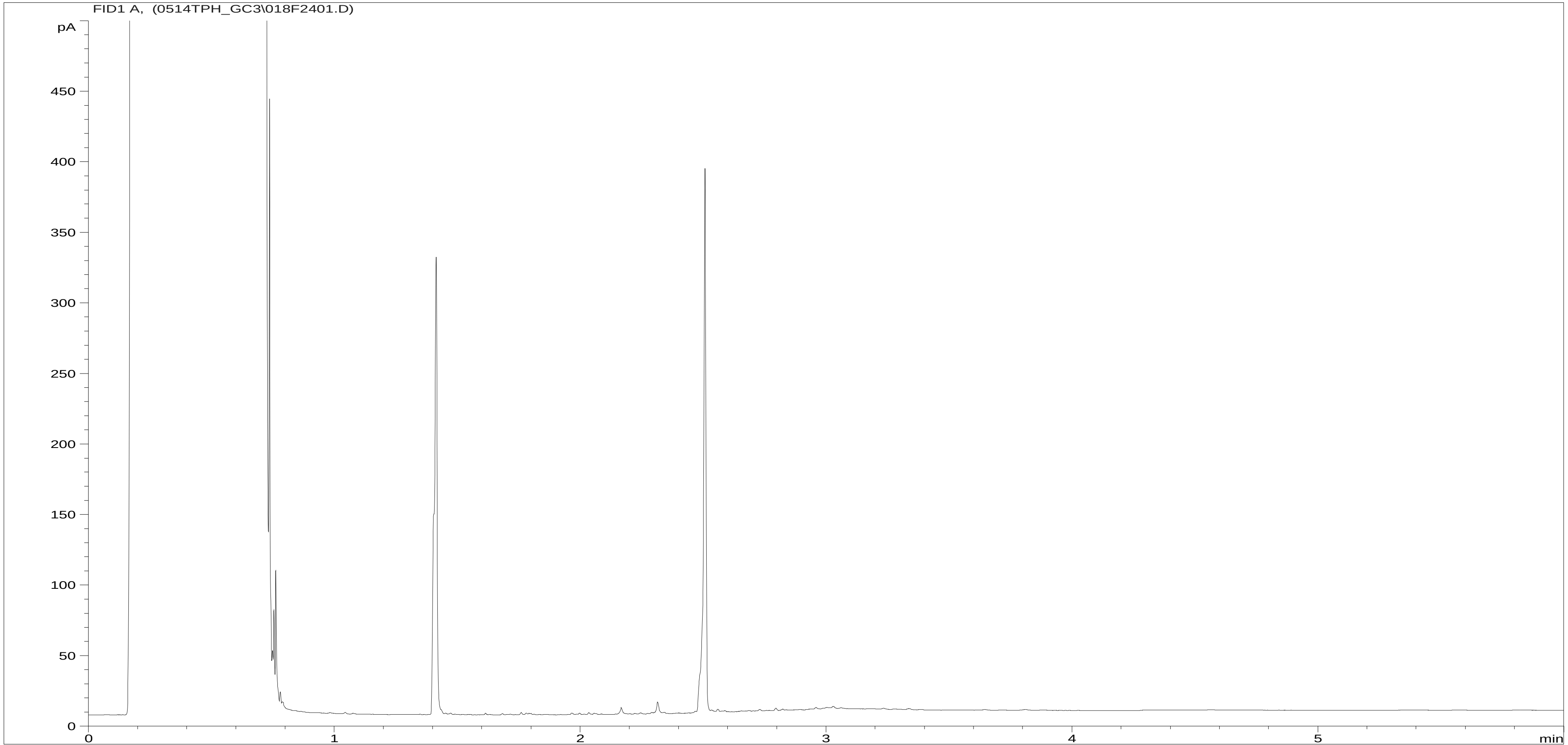
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011298ARO	**Job Number:**	S10_2528M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS206 ES 1 0.30
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\066B2201.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

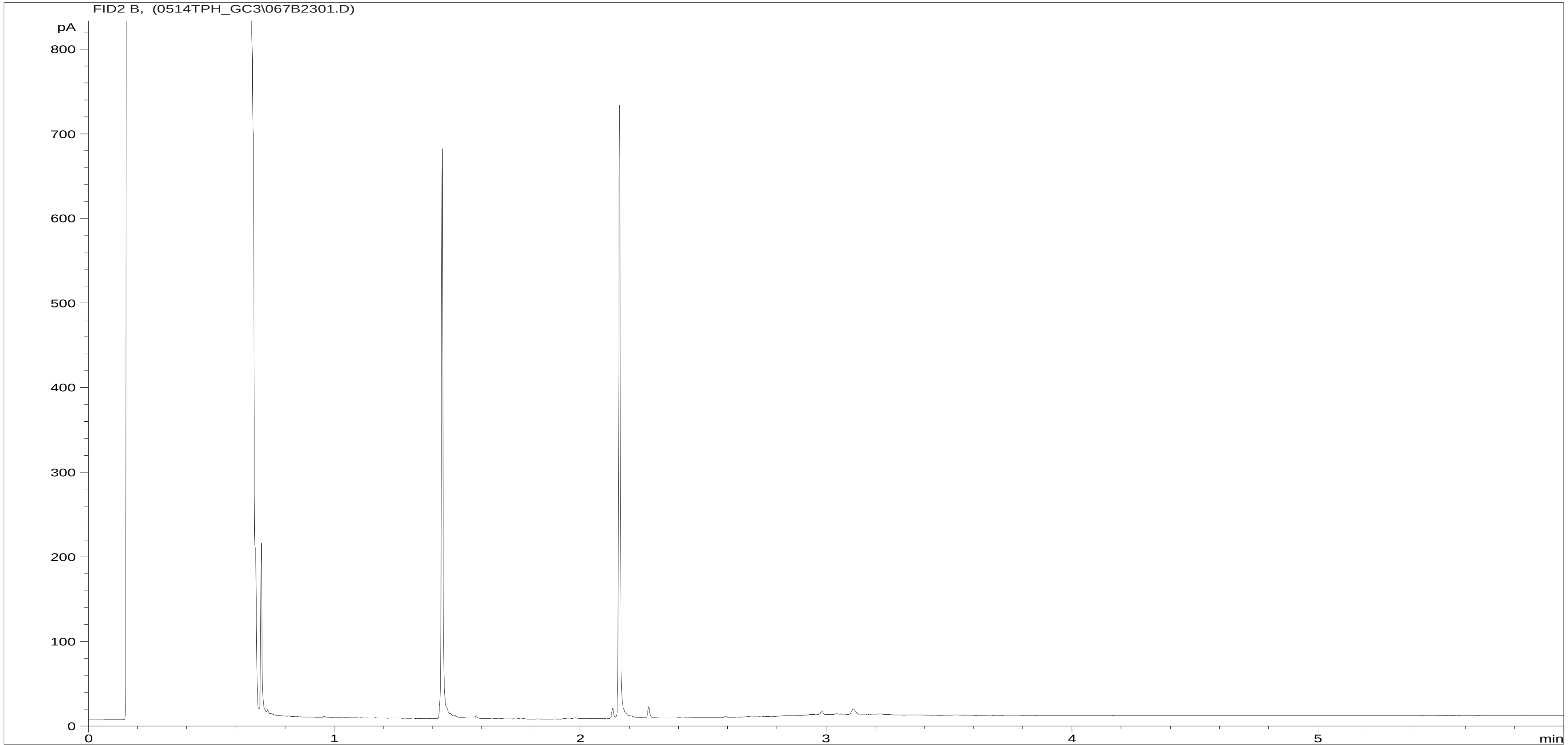
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011299ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS206 ES 2 1.20
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\018F2401.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

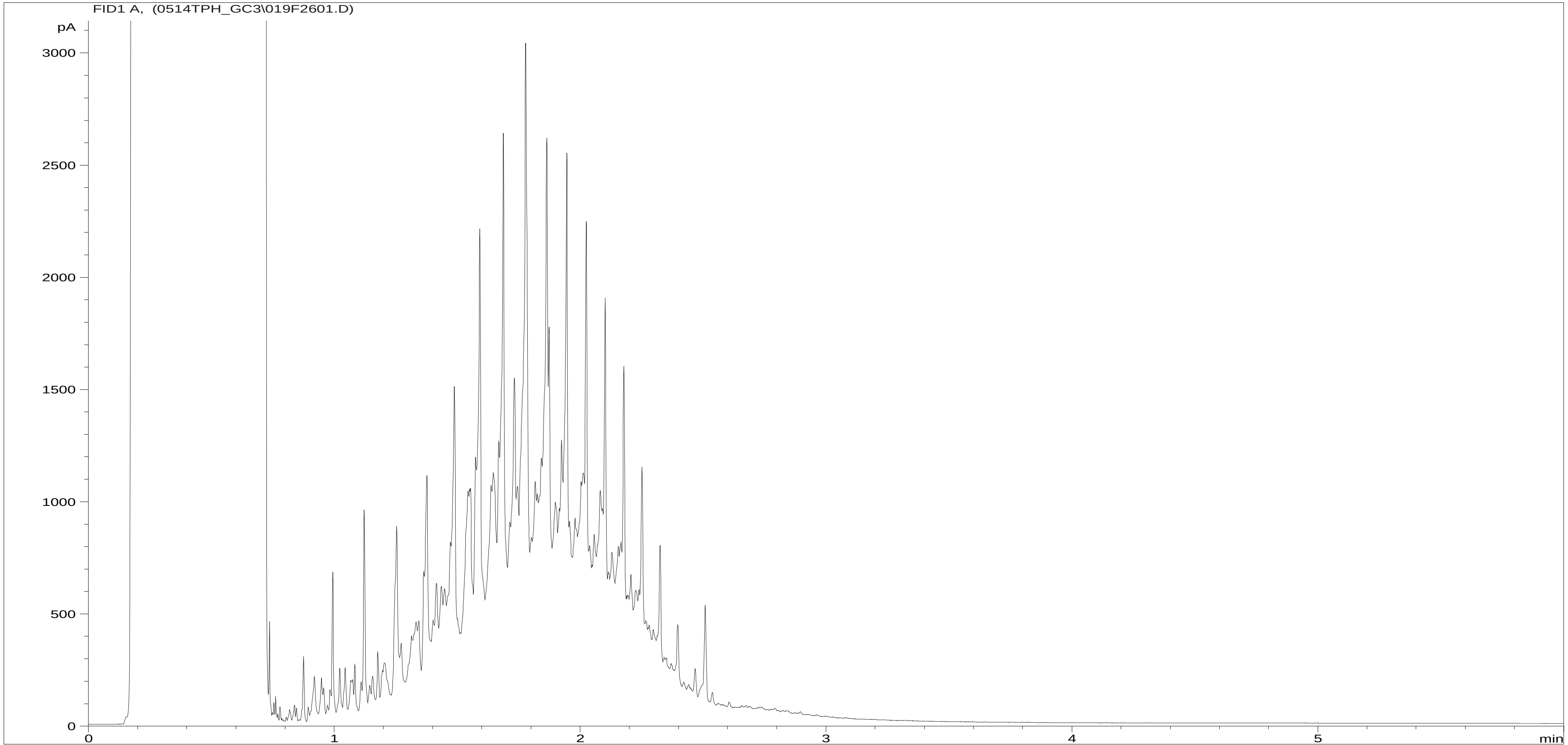
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011299ARO	**Job Number:**	S10_2528M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS206 ES 2 1.20
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\067B2301.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

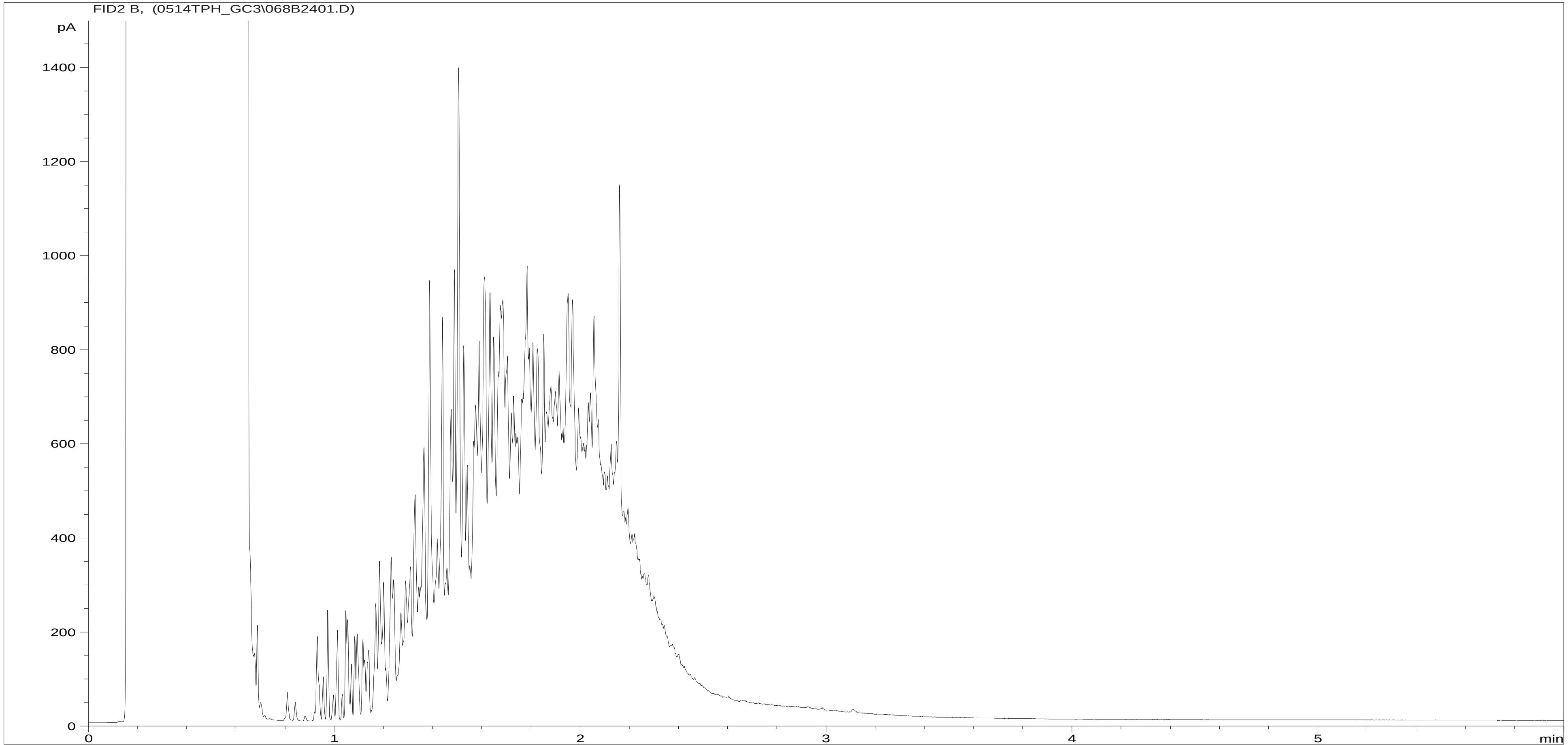
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011300ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS207 ES 1 0.75
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\019F2601.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

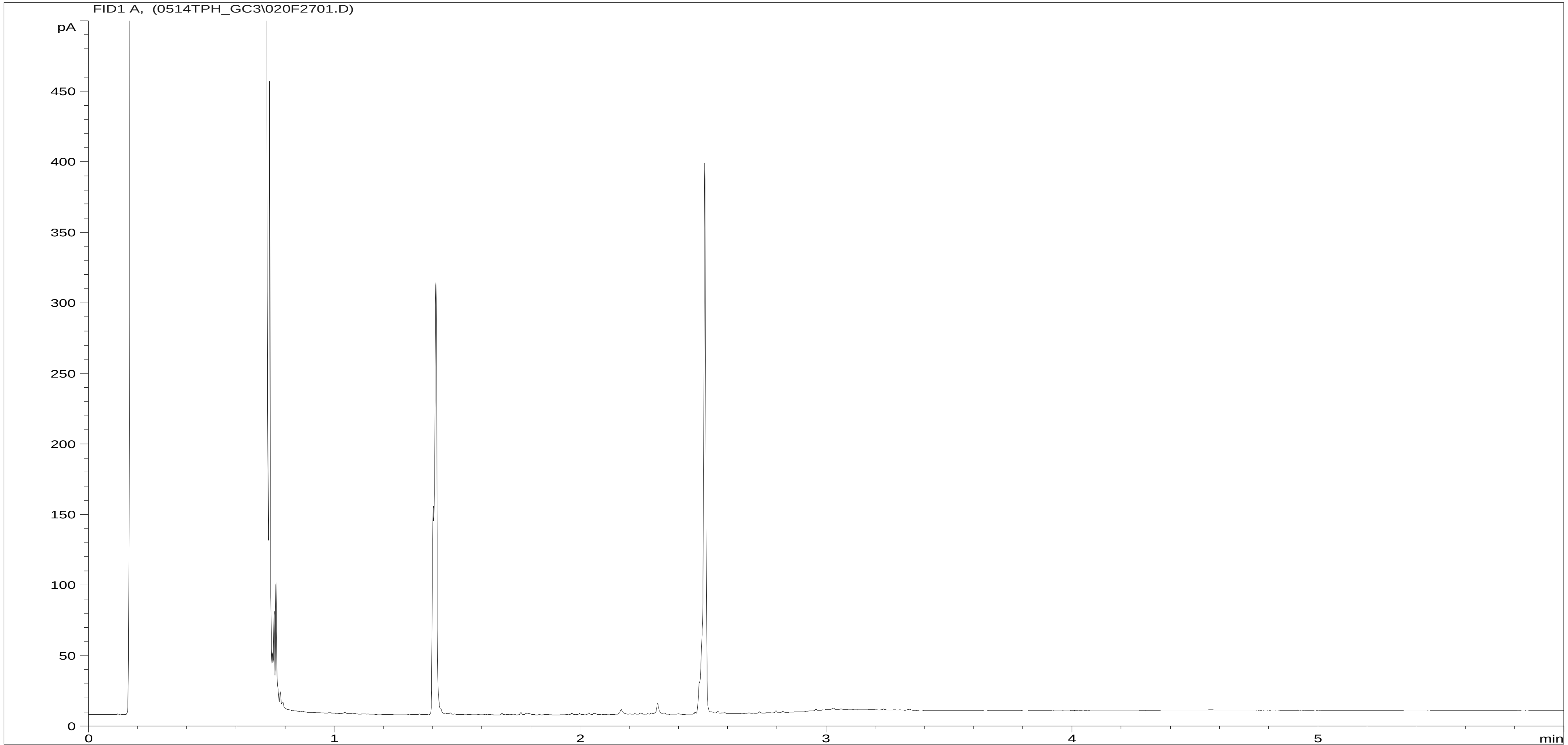
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011300ARO	**Job Number:**	S10_2528M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS207 ES 1 0.75
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\068B2401.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

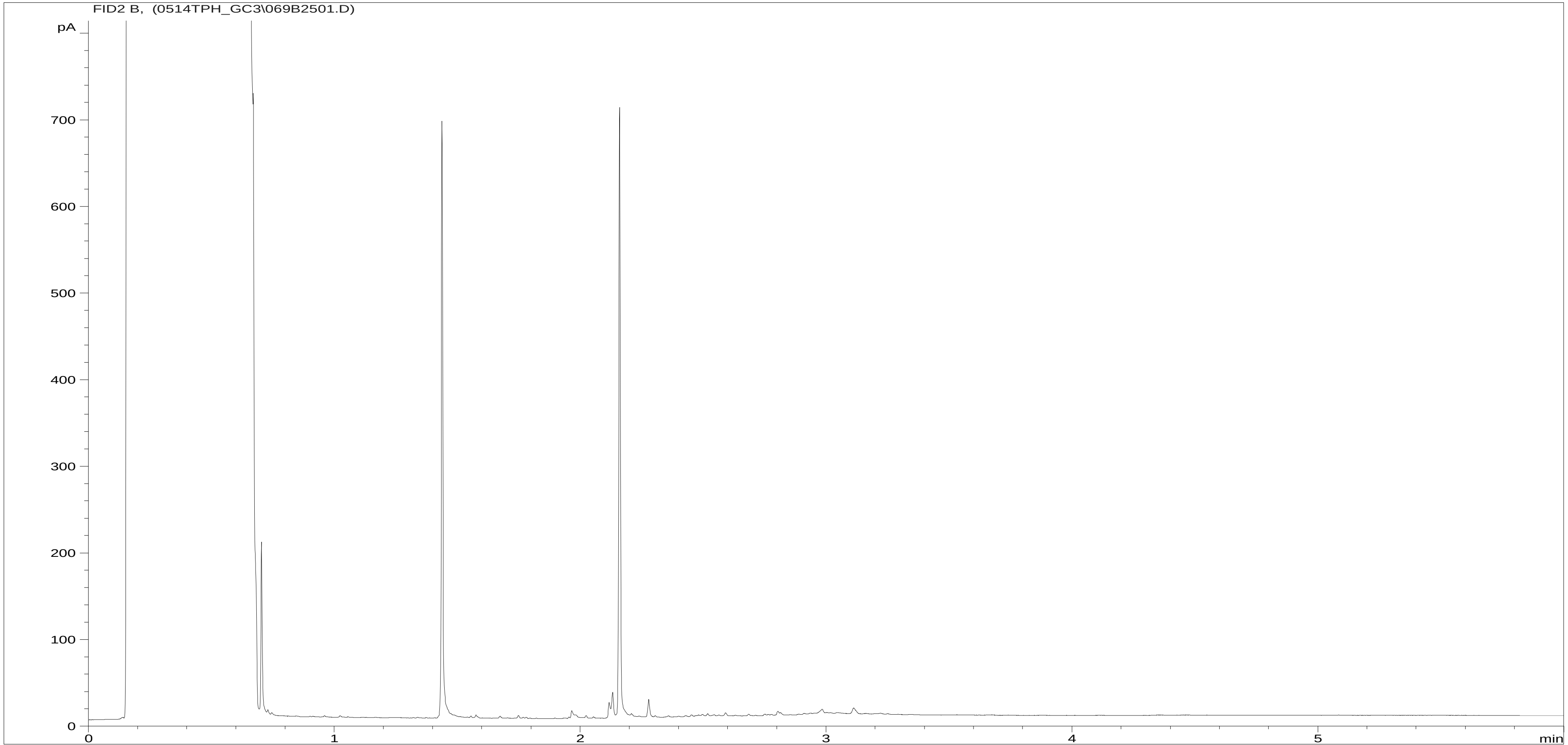
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011301ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS207 ES 5 2.70
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\020F2701.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

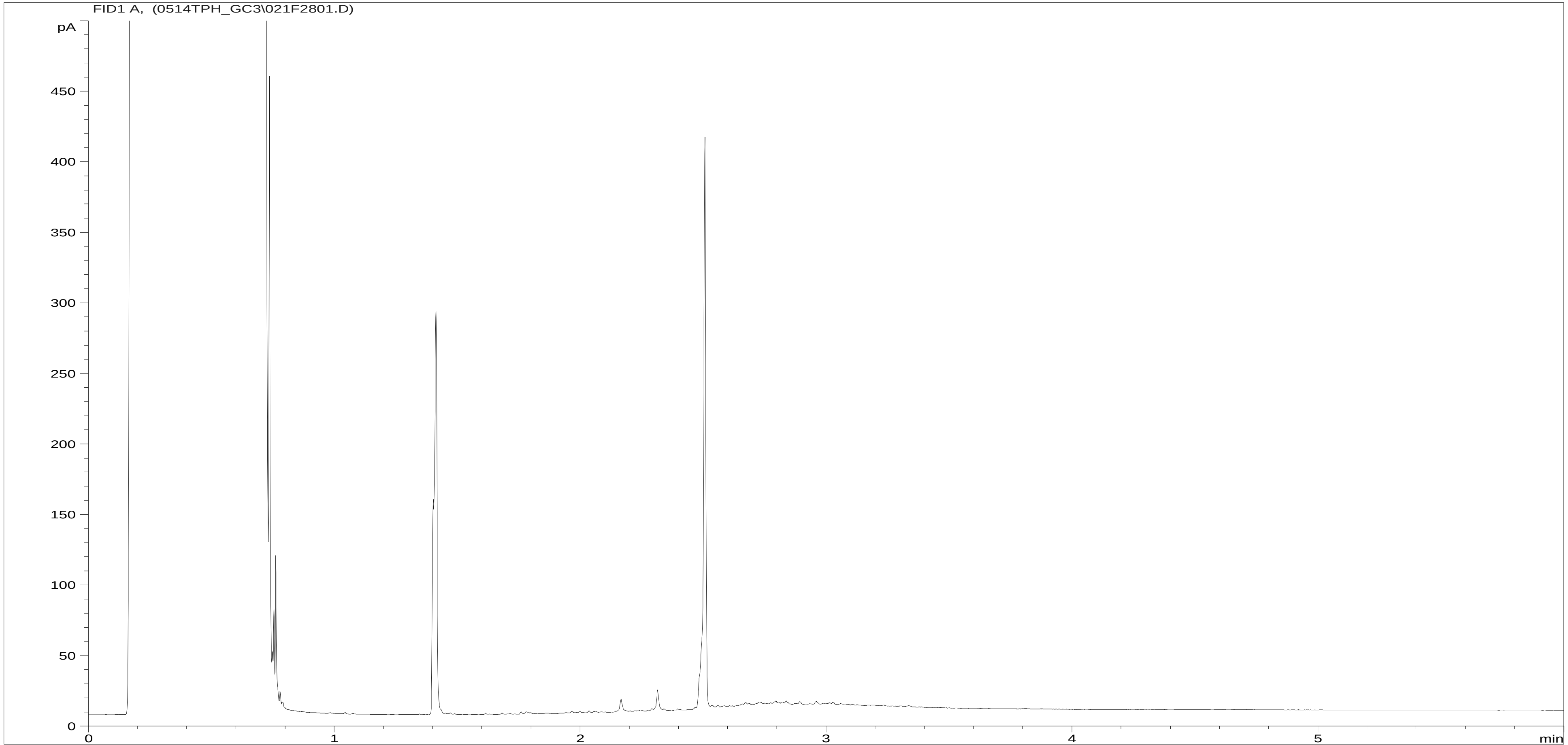
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011301ARO	**Job Number:**	S10_2528M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS207 ES 5 2.70
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\069B2501.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

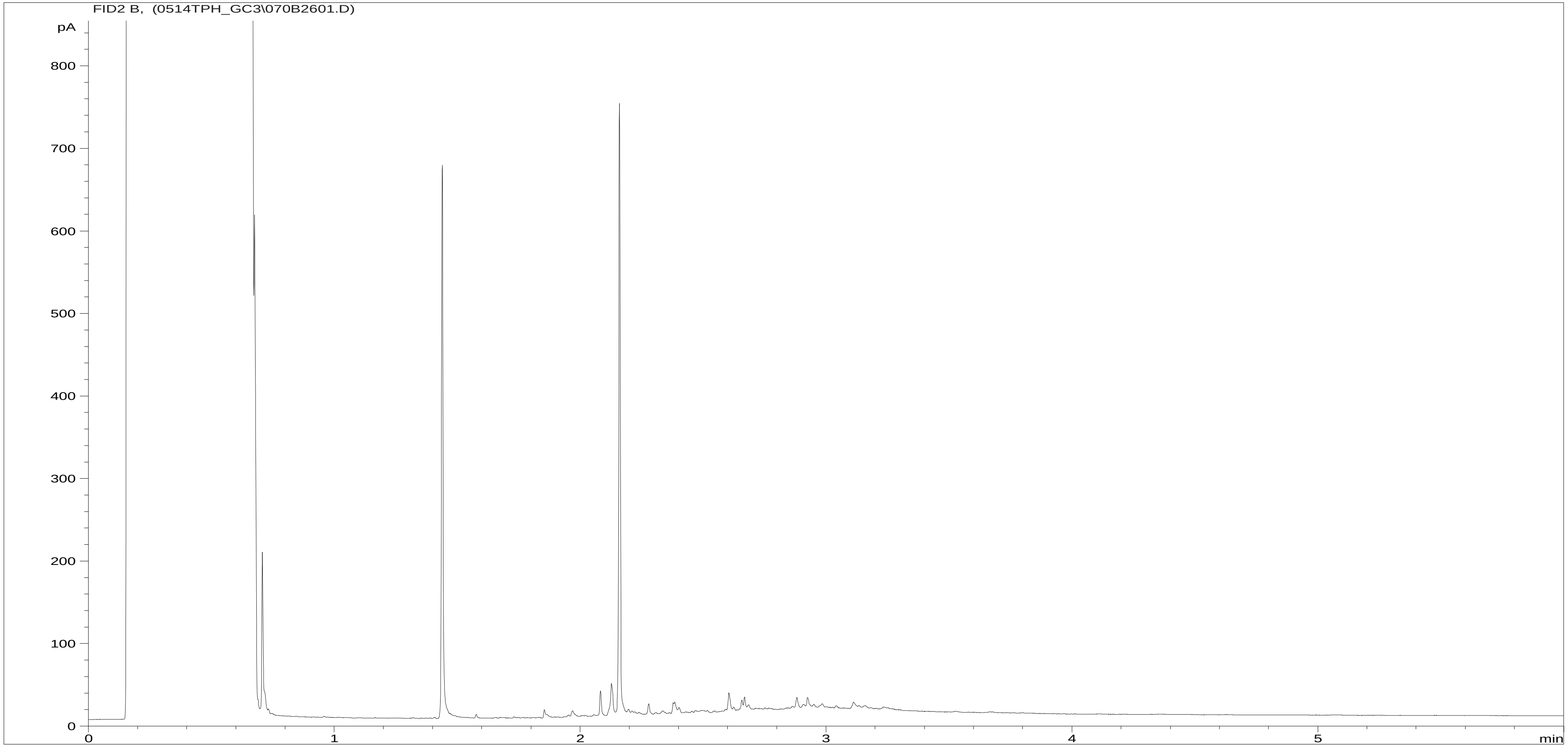
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011302ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS208 ES 1 0.30
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\021F2801.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

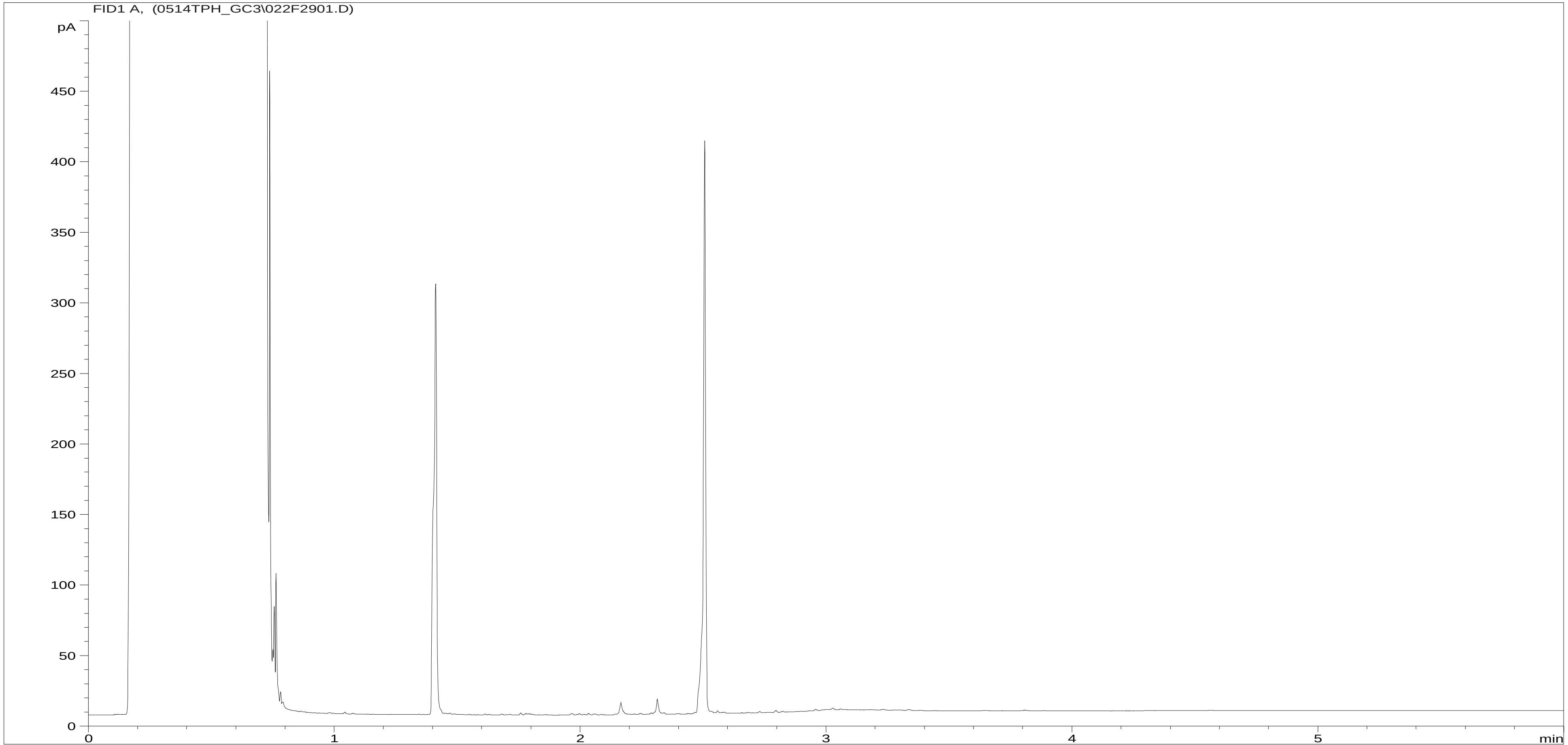
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011302ARO	**Job Number:**	S10_2528M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS208 ES 1 0.30
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\070B2601.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

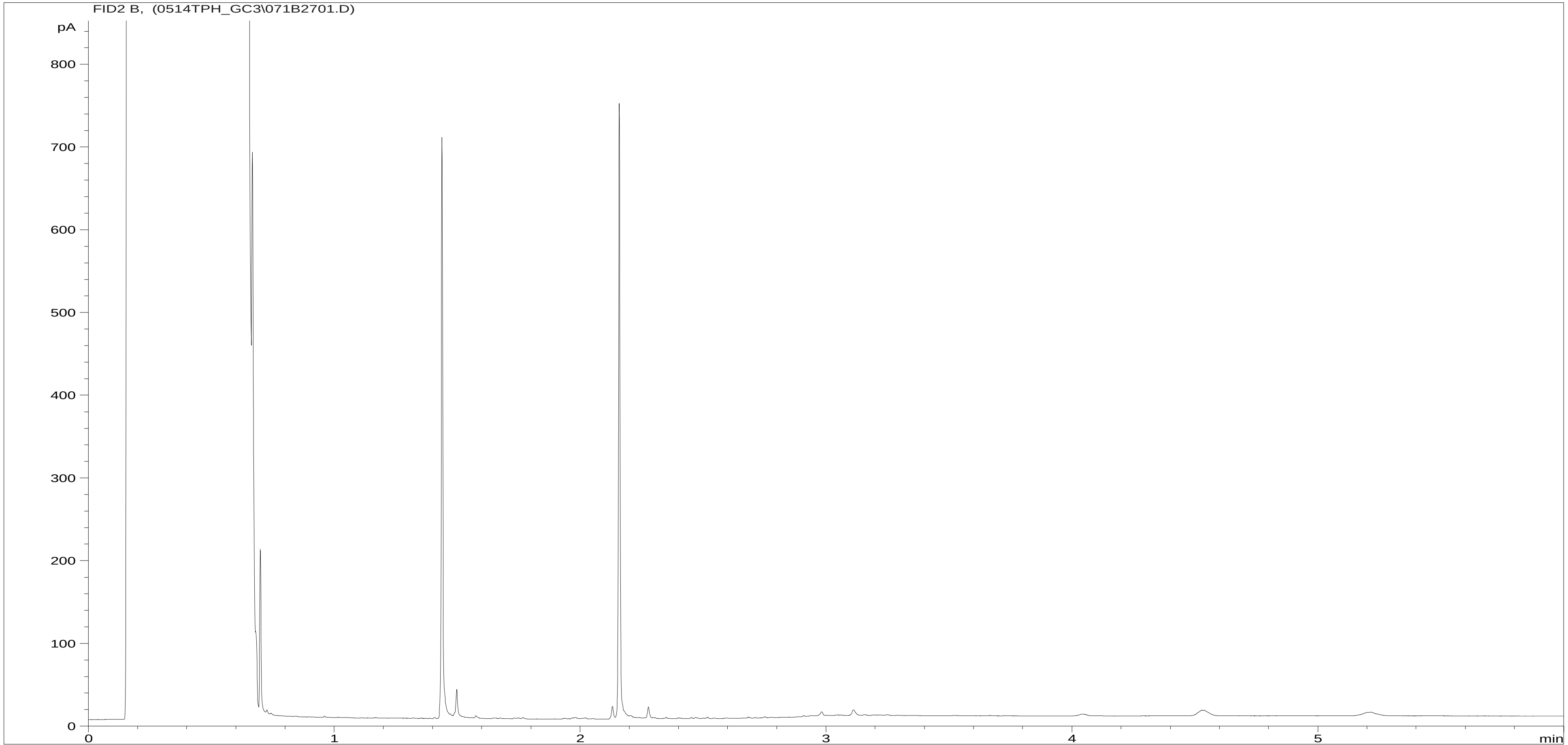
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011303ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS208 ES 8 3.00
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\022F2901.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

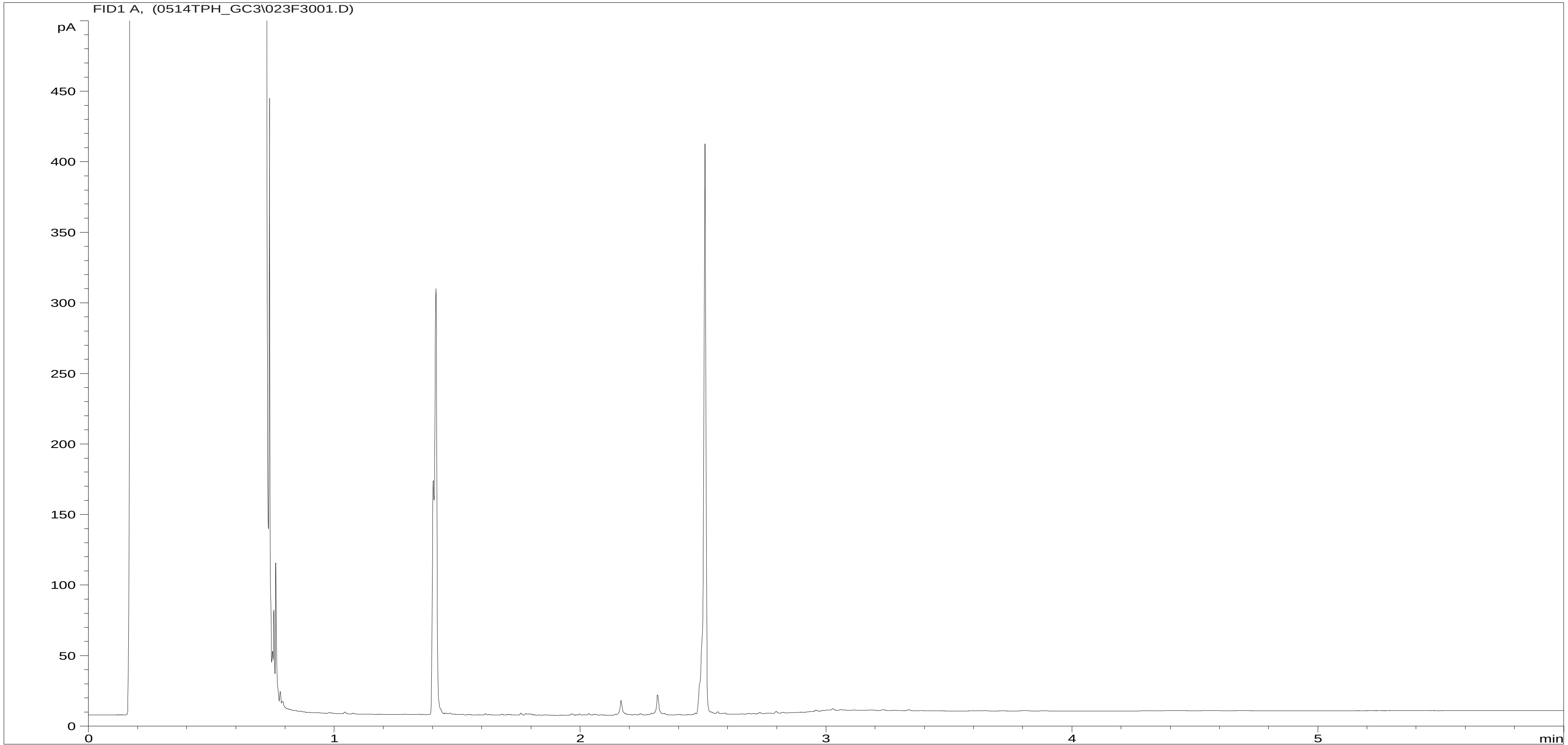
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011303ARO	**Job Number:**	S10_2528M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS208 ES 8 3.00
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\071B2701.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

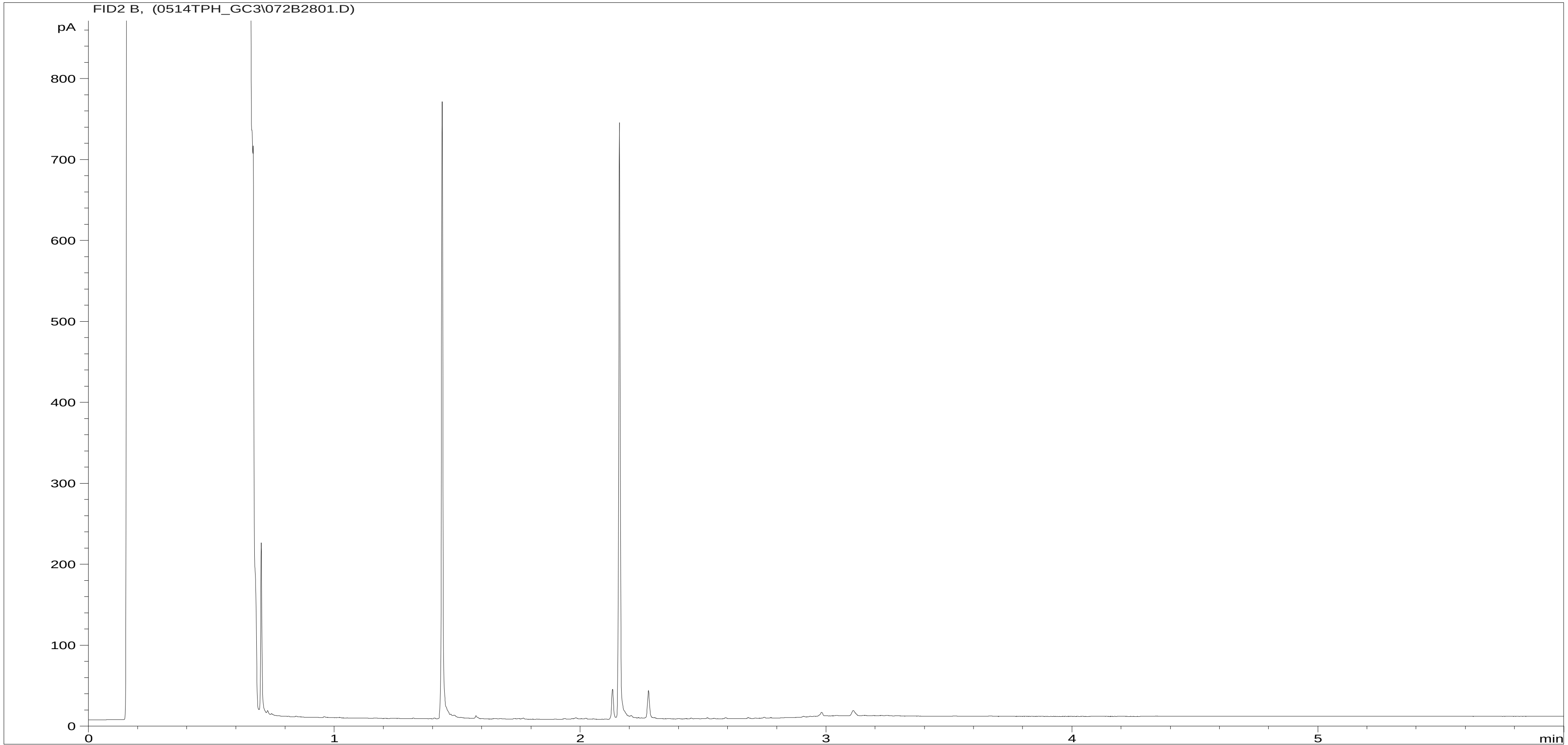
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011305ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS209 ES 4 2.00
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\023F3001.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

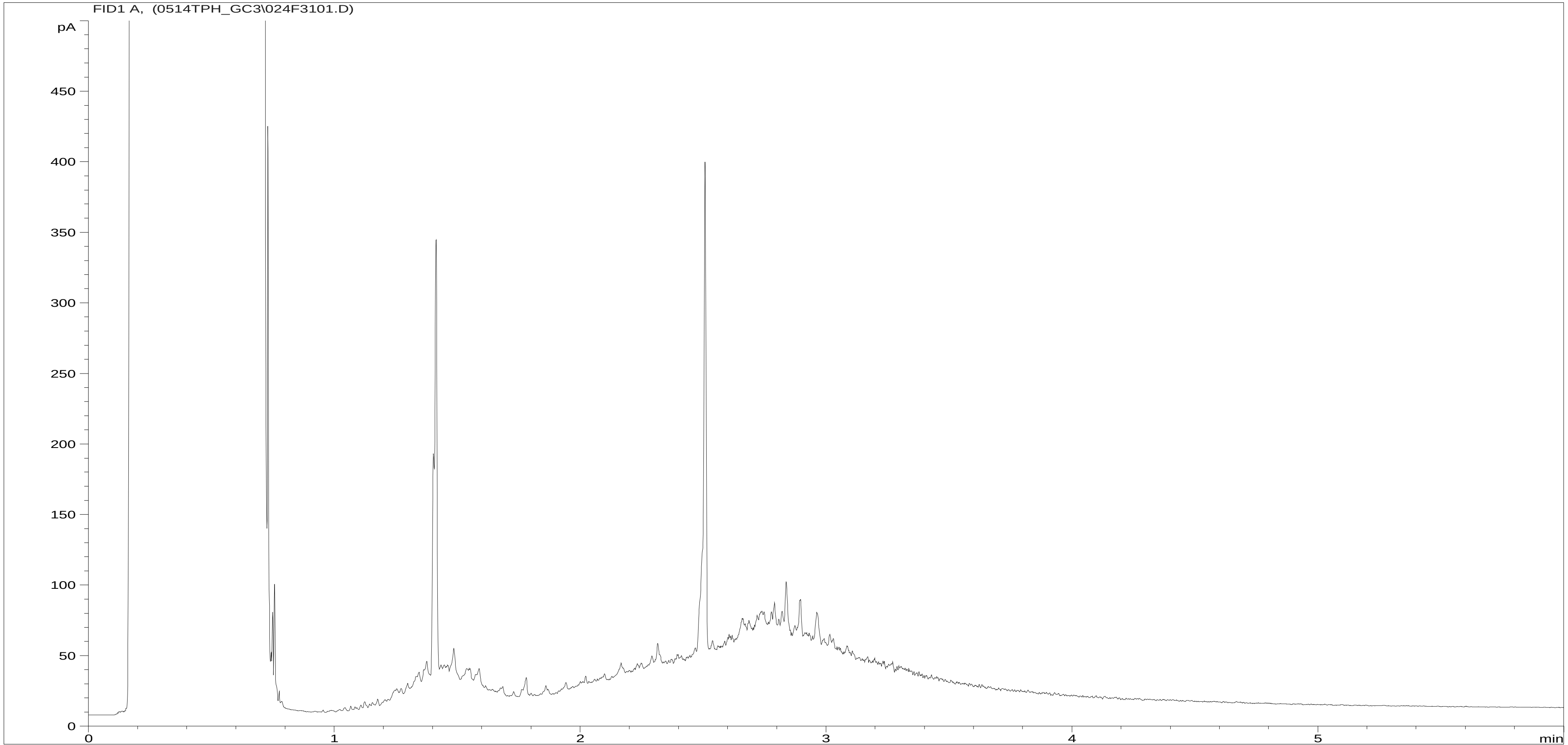
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011305ARO	**Job Number:**	S10_2528M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS209 ES 4 2.00
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\072B2801.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

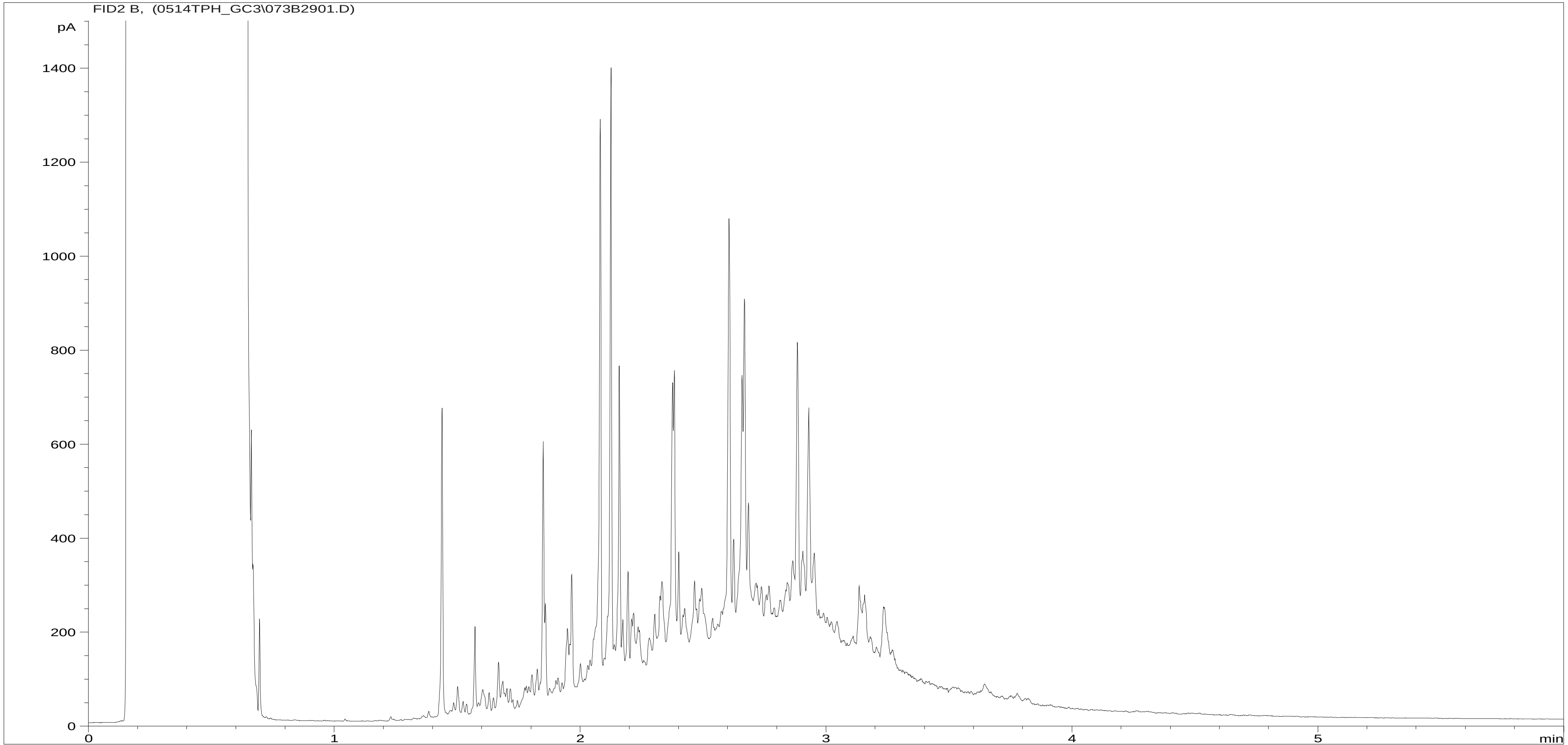
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011306ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS210 ES 1 0.40
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\024F3101.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

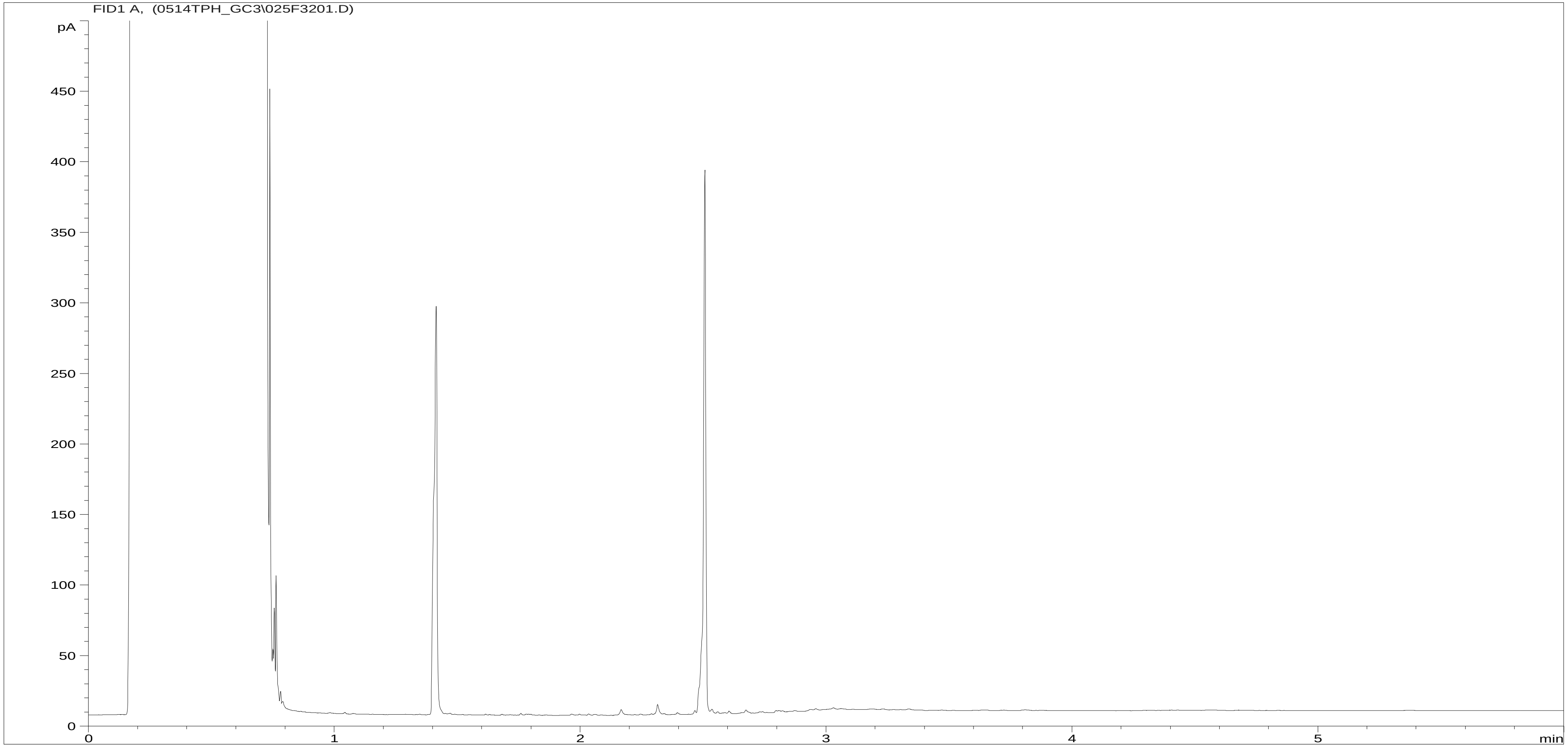
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011306ARO	**Job Number:**	S10_2528M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS210 ES 1 0.40
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\073B2901.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

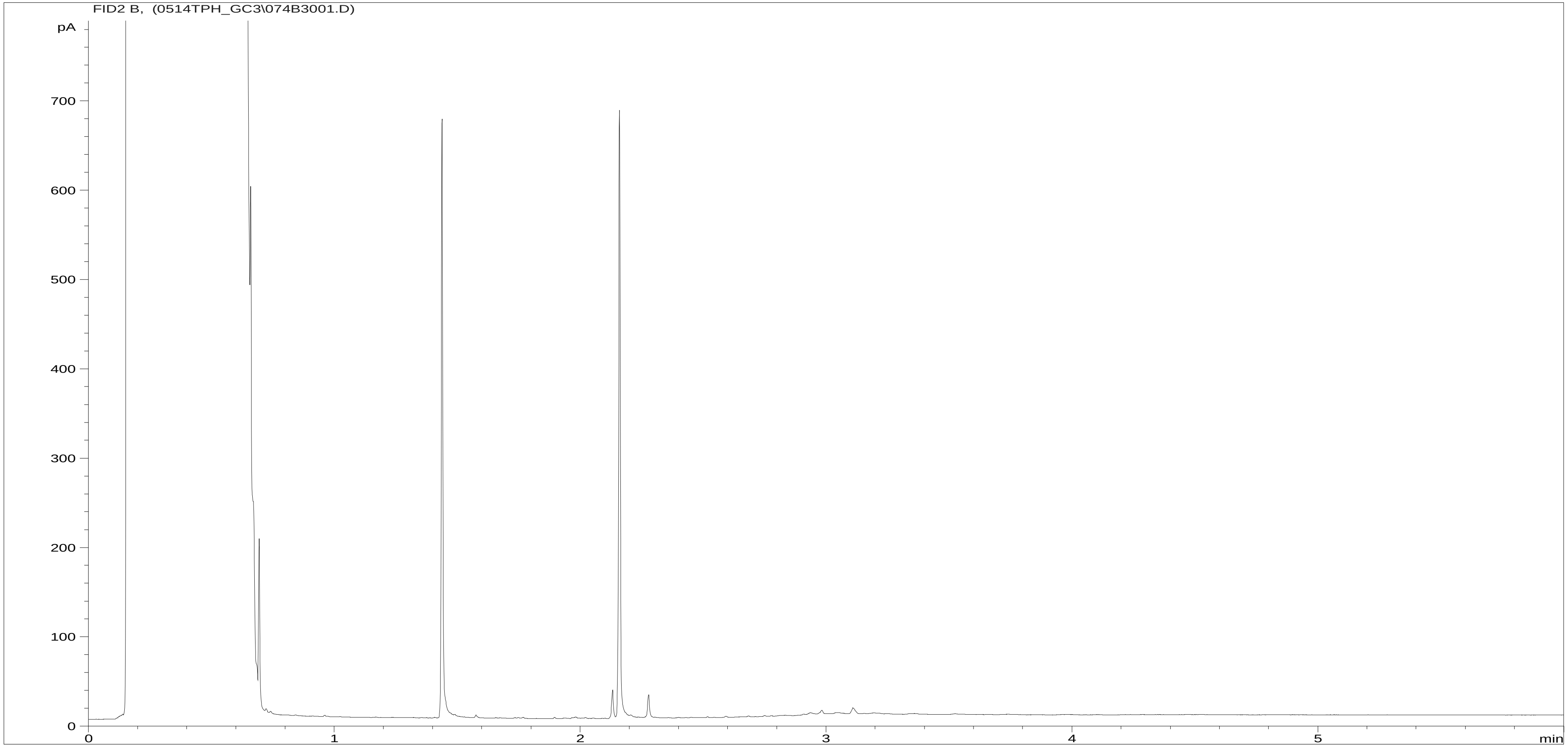
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011307ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS210A ES 3 1.40
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\025F3201.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

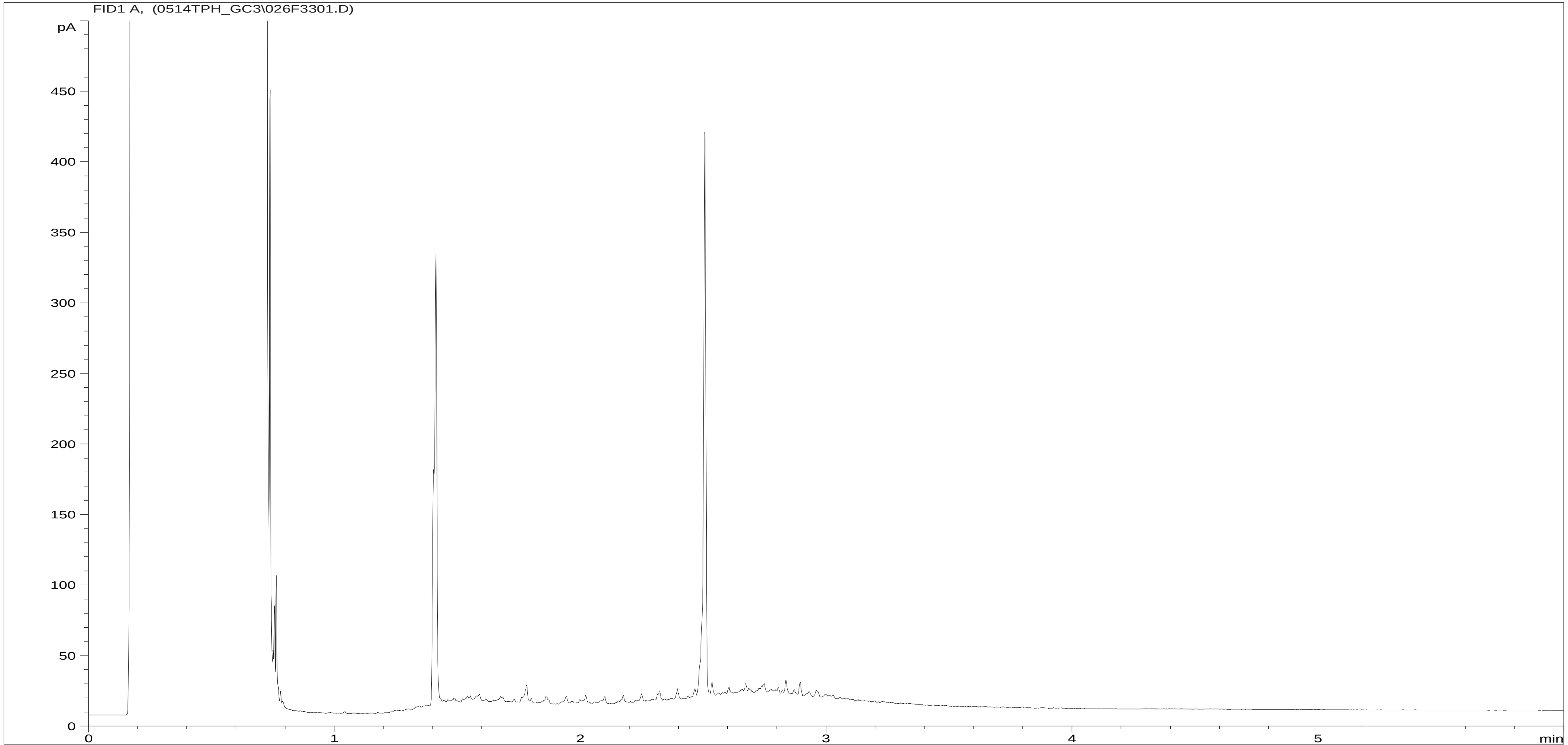
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011307ARO	**Job Number:**	S10_2528M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS210A ES 3 1.40
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\074B3001.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

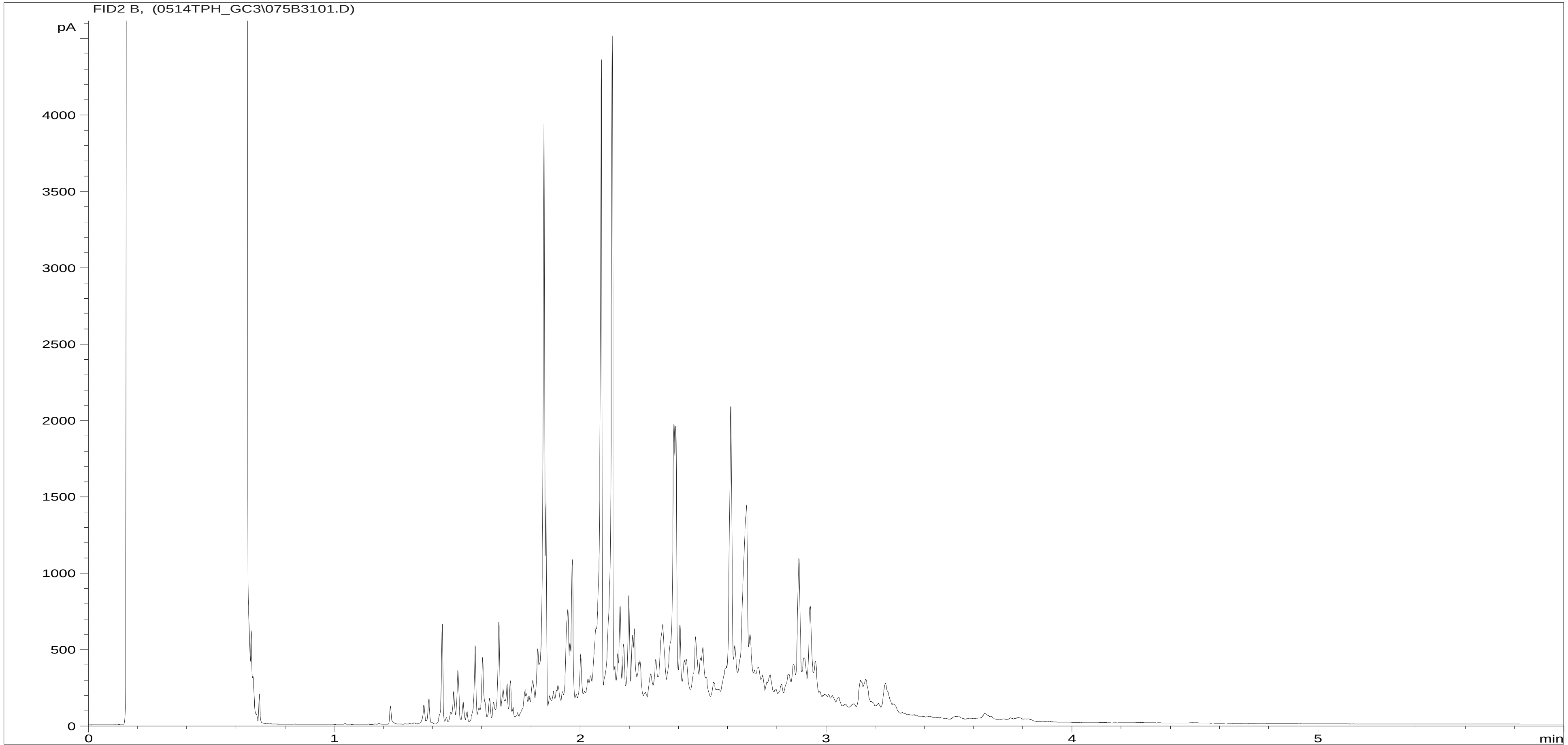
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011308ALI	**Job Number:**	S10_2528M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS211 ES 1 0.30
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\026F3301.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011308ARO	**Job Number:**	S10_2528M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS211 ES 1 0.30
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\075B3101.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

		Accredited?:	**Yes**		
Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	0512VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS203 ES 1 0.50	**Date Booked in:**	04-May-10	**Method:**	Purge & trap
LIMS ID Number:	CL1011292	**Date Analysed:**	14-May-10	**Multiplier:**	5
Job Number:	S10_2528M	**Operator:**	AB	**Position:**	50

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	UM
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 *	-	< 6	-	N
Bromomethane	74-83-9 *	-	< 28	-	N
Chloroethane	75-00-3	-	< 28	-	UM
Trichlorofluoromethane	75-69-4	-	< 6	-	UM
1,1-Dichloroethene	75-35-4	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	U
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 *	-	< 6	-	N
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6 *	-	< 6	-	N
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 28	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	UM
Dibromochloromethane	124-48-1	-	< 6	-	UM
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	UM
iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	U
Bromobenzene	108-86-1	-	< 6	-	UM
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	U
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	UM
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	UM
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 28	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 28	-	U
Hexachlorobutadiene	87-68-3 *	-	< 28	-	N
Naphthalene	91-20-3 *	-	< 28	-	N
1,2,3-Trichlorobenzene	87-61-6	-	< 28	-	UM

Concentrations are reported on a dry weight basis

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.23	91	Dibromofluoromethane	101
1,4-Difluorobenzene	2.53	87	Toluene-d8	65
Chlorobenzene-d5	3.57	56	Bromofluorobenzene	119
1,4-Dichlorobenzene-d4	4.33	55		

This analysis was conducted on an 'As Recieved' basis.

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

	Accredited?:	**Yes**					
Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	0512VOC.MS3\	Initial Calibration	**Matrix:**	Soil	
Sample Details:	WS203 ES 3 1.50	**Date Booked in:**	04-May-10		**Method:**	Purge & trap	
LIMS ID Number:	CL1011293	**Date Analysed:**	14-May-10		**Multiplier:**	5	
Job Number:	S10_2528M	**Operator:**	AB		**Position:**	51	

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 5	-	UM
Chloromethane	74-87-3	-	< 5	-	UM
Vinyl Chloride	75-01-4 *	-	< 5	-	N
Bromomethane	74-83-9 *	-	< 27	-	N
Chloroethane	75-00-3	-	< 27	-	UM
Trichlorofluoromethane	75-69-4	-	< 5	-	UM
1,1-Dichloroethene	75-35-4	-	< 5	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 5	-	U
1,1-Dichloroethane	75-34-3	-	< 5	-	UM
2,2-Dichloropropane	594-20-7	-	< 5	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 5	-	UM
Bromochloromethane	74-97-5	-	< 5	-	UM
Chloroform	67-66-3	-	< 5	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 5	-	UM
Carbon Tetrachloride	56-23-5	-	< 5	-	UM
1,1-Dichloropropene	563-58-6	-	< 5	-	UM
Benzene	71-43-2	-	< 5	-	UM
1,2-Dichloroethane	107-06-2	-	< 5	-	UM
Trichloroethene	79-01-6	-	< 5	-	UM
1,2-Dichloropropane	78-87-5	-	< 5	-	UM
Dibromomethane	74-95-3	-	< 5	-	UM
Bromodichloromethane	75-27-4	-	< 5	-	UM
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-	N
Toluene	108-88-3	-	< 5	-	UM
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-	N
1,1,2-Trichloroethane	79-00-5	-	< 5	-	UM
Tetrachloroethene	127-18-4	-	< 27	-	UM
1,3-Dichloropropane	142-28-9	-	< 5	-	UM
Dibromochloromethane	124-48-1	-	< 5	-	UM
1,2-Dibromoethane	106-93-4	-	< 5	-	U
Chlorobenzene	108-90-7	-	< 5	-	UM
Ethylbenzene	100-41-4	-	< 5	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 5	-	UM
o-Xylene	95-47-6	-	< 5	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 5	-	UM
Bromoform	75-25-2	-	< 5	-	UM
iso-Propylbenzene	98-82-8	-	< 5	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-	U
Propylbenzene	103-65-1	-	< 5	-	U
Bromobenzene	108-86-1	-	< 5	-	UM
1,2,3-Trichloropropane	96-18-4	-	< 5	-	U
2-Chlorotoluene	95-49-8	-	< 5	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-	UM
4-Chlorotoluene	106-43-4	-	< 5	-	UM
tert-Butylbenzene	98-06-6	-	< 5	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-	UM
sec-Butylbenzene	135-98-8	-	< 5	-	UM
p-Isopropyltoluene	99-87-6	-	< 5	-	U
1,3-Dichlorobenzene	541-73-1	-	< 5	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 5	-	UM
n-Butylbenzene	104-51-8	-	< 5	-	U
1,2-Dichlorobenzene	95-50-1	-	< 5	-	UM
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 27	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 27	-	U
Hexachlorobutadiene	87-68-3 *	-	< 27	-	N
Naphthalene	91-20-3 *	-	< 27	-	N
1,2,3-Trichlorobenzene	87-61-6	-	< 27	-	UM

Concentrations are reported on a dry weight basis

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.23	98	Dibromofluoromethane	99
1,4-Difluorobenzene	2.53	98	Toluene-d8	93
Chlorobenzene-d5	3.57	93	Bromofluorobenzene	93
1,4-Dichlorobenzene-d4	4.33	84		

This analysis was conducted on an 'As Recieved' basis.

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

		Accredited?:	**Yes**		
Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	0512VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS204 ES 3 1.30	**Date Booked in:**	04-May-10	**Method:**	Purge & trap
LIMS ID Number:	CL1011295	**Date Analysed:**	14-May-10	**Multiplier:**	5
Job Number:	S10_2528M	**Operator:**	AB	**Position:**	52

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	UM
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 *	-	< 6	-	N
Bromomethane	74-83-9 *	-	< 28	-	N
Chloroethane	75-00-3	-	< 28	-	UM
Trichlorofluoromethane	75-69-4	-	< 6	-	UM
1,1-Dichloroethene	75-35-4	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	U
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 *	-	< 6	-	N
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6 *	-	< 6	-	N
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 28	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	UM
Dibromochloromethane	124-48-1	-	< 6	-	UM
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	UM
iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	U
Bromobenzene	108-86-1	-	< 6	-	UM
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	U
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	UM
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	UM
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 28	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 28	-	U
Hexachlorobutadiene	87-68-3 *	-	< 28	-	N
Naphthalene	91-20-3 *	-	< 28	-	N
1,2,3-Trichlorobenzene	87-61-6	-	< 28	-	UM

Concentrations are reported on a dry weight basis

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.23	91	Dibromofluoromethane	103
1,4-Difluorobenzene	2.53	89	Toluene-d8	78
Chlorobenzene-d5	3.57	74	Bromofluorobenzene	96
1,4-Dichlorobenzene-d4	4.33	66		

This analysis was conducted on an 'As Recieved' basis.

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

		Accredited?:	Yes			
Customer and Site Details:	Soil Mechanics: Isles Quarry		**Directory/Quant file:**	0512VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS206 ES 1 0.30		**Date Booked in:**	04-May-10	**Method:**	Purge & trap
LIMS ID Number:	CL1011298		**Date Analysed:**	14-May-10	**Multiplier:**	5
Job Number:	S10_2528M		**Operator:**	AB	**Position:**	53

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	UM
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 *	-	< 6	-	N
Bromomethane	74-83-9 *	-	< 30	-	N
Chloroethane	75-00-3	-	< 30	-	UM
Trichlorofluoromethane	75-69-4	-	< 6	-	UM
1,1-Dichloroethene	75-35-4	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	U
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 *	-	< 6	-	N
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6 *	-	< 6	-	N
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 30	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	UM
Dibromochloromethane	124-48-1	-	< 6	-	UM
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	UM
iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	U
Bromobenzene	108-86-1	-	< 6	-	UM
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	U
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	UM
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	UM
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 30	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 30	-	U
Hexachlorobutadiene	87-68-3 *	-	< 30	-	N
Naphthalene	91-20-3 *	-	< 30	-	N
1,2,3-Trichlorobenzene	87-61-6	-	< 30	-	UM

Concentrations are reported on a dry weight basis

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.23	84	Dibromofluoromethane	109
1,4-Difluorobenzene	2.53	88	Toluene-d8	60
Chlorobenzene-d5	3.57	61	Bromofluorobenzene	92
1,4-Dichlorobenzene-d4	4.33	50		

This analysis was conducted on an 'As Recieved' basis.

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

		Accredited?:	**Yes**				
Customer and Site Details:	Soil Mechanics: Isles Quarry		**Directory/Quant file:**	0512VOC.MS3\	Initial Calibration	**Matrix:**	Soil
Sample Details:	WS207 ES 1 0.75		**Date Booked in:**	04-May-10		**Method:**	Purge & trap
LIMS ID Number:	CL1011300		**Date Analysed:**	14-May-10		**Multiplier:**	5
Job Number:	S10_2528M		**Operator:**	AB		**Position:**	54

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	UM
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 *	-	< 6	-	N
Bromomethane	74-83-9 *	-	< 30	-	N
Chloroethane	75-00-3	-	< 30	-	UM
Trichlorofluoromethane	75-69-4	-	< 6	-	UM
1,1-Dichloroethene	75-35-4	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	U
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 *	-	< 6	-	N
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6 *	-	< 6	-	N
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 30	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	UM
Dibromochloromethane	124-48-1	-	< 6	-	UM
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	3.61	119	75	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	3.65	1450	94	UM
o-Xylene	95-47-6	3.78	1130	82	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	UM
iso-Propylbenzene	98-82-8	3.90	167	79	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	U
Bromobenzene	108-86-1	-	< 6	-	UM
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	4.09	803	M	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	4.21	2460	50	UM
sec-Butylbenzene	135-98-8	4.27	471	95	UM
p-Isopropyltoluene	99-87-6	4.31	235	94	U
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	UM
n-Butylbenzene	104-51-8	4.44	1880	M	U
1,2-Dichlorobenzene	95-50-1	4.55	38	M	UM
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 30	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 30	-	U
Hexachlorobutadiene	87-68-3 *	-	< 30	-	N
Naphthalene	91-20-3 *	5.07	256	93	N
1,2,3-Trichlorobenzene	87-61-6	-	< 30	-	UM

Concentrations are reported on a dry weight basis

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.23	59	Dibromofluoromethane	154
1,4-Difluorobenzene	2.53	75	Toluene-d8	74
Chlorobenzene-d5	3.57	53	Bromofluorobenzene	79
1,4-Dichlorobenzene-d4	4.33	51		

This analysis was conducted on an 'As Recieved' basis.

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

		Accredited?:	Yes				
Customer and Site Details:	Soil Mechanics: Isles Quarry		**Directory/Quant file:**	0512VOC.MS3\	Initial Calibration	**Matrix:**	Soil
Sample Details:	WS209 ES 1 0.40		**Date Booked in:**	04-May-10		**Method:**	Purge & trap
LIMS ID Number:	CL1011304		**Date Analysed:**	14-May-10		**Multiplier:**	5
Job Number:	S10_2528M		**Operator:**	AB		**Position:**	55

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	UM
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 *	-	< 6	-	N
Bromomethane	74-83-9 *	-	< 28	-	N
Chloroethane	75-00-3	-	< 28	-	UM
Trichlorofluoromethane	75-69-4	-	< 6	-	UM
1,1-Dichloroethene	75-35-4	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	U
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 *	-	< 6	-	N
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6 *	-	< 6	-	N
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 28	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	UM
Dibromochloromethane	124-48-1	-	< 6	-	UM
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	UM
iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5	-	< 6	-	U
Propylbenzene	103-65-1	-	< 6	-	U
Bromobenzene	108-86-1	-	< 6	-	UM
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	U
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	UM
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	UM
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 28	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 28	-	U
Hexachlorobutadiene	87-68-3 *	-	< 28	-	N
Naphthalene	91-20-3 *	-	< 28	-	N
1,2,3-Trichlorobenzene	87-61-6	-	< 28	-	UM

Concentrations are reported on a dry weight basis

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.23	99	Dibromofluoromethane	100
1,4-Difluorobenzene	2.53	99	Toluene-d8	84
Chlorobenzene-d5	3.57	81	Bromofluorobenzene	76
1,4-Dichlorobenzene-d4	4.33	51		

This analysis was conducted on an 'As Recieved' basis.

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

WASTE ACCEPTANCE CRITERIA TESTING
BSEN 12457/3

					Leaching Data	
Client	Soil Mechanics				Weight of sample (kg)	0.225
					Moisture content @ 105℃ (%)	10.1
Contact	Mr M Ratcliffe				Equivalent Weight based on drying at 105℃ (kg)	0.203
					Volume of water required to carry out 2:1 stage (litres)	0.383
Site	Isles Quarry				Weight of Sieved Soil to carry out 2:1 stage (kg)	0.250
Sample Description		**Report No**	**Sample No**	**Issue Date**	Weight of Deionised water to carry out 2:1 stage (kg)	0.425
WS205 ES 1 0.40		s10_2528	CL/1011296	17-May-10	Volume to undertake analysis (2:1 Stage) (litres)	0.300
					Weight of Deionised water to carry out 8:1 stage (kg)	1.515

Accreditation	Method Code	Solid Waste Analysis (Dry Basis)	Concentration in Solid (Dry Weight Basis)	Landfill Waste Acceptance Criteria Limit Values: Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
N	WSLM59	Total Organic Carbon (% M/M)	0.91	3	5	6
N	LOI450	Loss on Ignition (%)	2.8			10
U	BTEXHSA	Sum of BTEX (mg/kg)	<0.05	6		
N	PCBUSECD	Sum of 7 Congener PCB's (mg/kg)	<0.035	1		
U	TPHFIDUS	Mineral Oil (mg/kg)	1270	500		
N	PAHMSUS	PAH Sum of 17 (mg/kg)	<2.65	100		
U	PHSOIL	pH (pH units)	9.4		>6	
N	ANC	Acid Neutralisation Capacity (mol/kg) @pH 7	4.34		To be evaluated	To be evaluated

Accreditation	Method Code	Leachate Analysis	2:1 Leachate	8:1 Leachate	Calculated amount leached @ 2:1	Calculated cumulative amount leached @ 10:1	Landfill Waste Acceptance Criteria Limit Values for BSEN 12457/3 @ L/S 10 litre kg-1 mg/kg (dry weight)		
			mg/l except ºº		mg/kg (dry weight)				
U	WSLM3	pH (pH units) ºº	10.3	10.6	Calculated data not UKAS Accredited				
U	WSLM2	Conductivity (µs/cm) ºº	453	204					
N	ICPMSW	Arsenic	0.01	0.011	0.02	0.11	0.5	2	25
N	ICPWATVAR	Barium	0.4	0.27	0.8	2.9	20	100	300
N	ICPMSW	Cadmium	<0.0001	<0.0001	<0.0002	<0.001	0.04	1	5
N	ICPMSW	Chromium	0.074	0.014	0.148	0.23	0.5	10	70
N	ICPMSW	Copper	0.022	0.007	0.044	0.09	2	50	100
N	ICPMSW	Mercury	<0.0001	<0.0001	<0.0002	<0.001	0.01	0.2	2
N	ICPMSW	Molybdenum	0.017	0.002	0.034	0.04	0.5	10	30
N	ICPMSW	Nickel	0.002	<0.001	0.004	<0.01	0.4	10	40
N	ICPMSW	Lead	<0.001	0.003	<0.002	<0.03	0.5	10	50
N	ICPMSW	Antimony	0.007	0.005	0.014	0.05	0.06	0.7	5
N	ICPMSW	Selenium	0.001	<0.001	0.002	<0.01	0.1	0.5	7
N	ICPMSW	Zinc	0.009	0.005	0.018	0.06	4	50	200
N	KONENS	Chloride	23	3	46	60	800	15000	25000
N	ISEF	Fluoride	2.6	0.5	5.2	8	10	150	500
N	ICPWATVAR	Sulphate as SO4	84	28	168	363	1000	20000	50000
N	WSLM27	Total Dissolved Solids	353	159	706	1877	4000	60000	100000
N	SFAPI	Phenol Index	<0.05	<0.05	<0.1	<0.5	1		
N	WSLM13	Dissolved Organic Carbon	12	5.6	24	65	500	800	1000

Template Ver. 1

Landfill Waste Acceptance Criteria limit values correct as of 11th March 2009.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,
- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

Waters Analysis

Unless stated otherwise results are expressed as mg/l

Oil analysis specific

Unless stated otherwise,
- Results are expressed as mg/kg
- SG is expressed as g/cm^3@ 15^{o}C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile
CR Denotes Crocidolite
AM Denotes Amosite
NADIS Denotes No Asbestos Detected In Sample
NBFO Denotes No Bulk Fibres Observed

Symbol Reference

^ Sub-contracted analysis
$$ Unable to analyse due to the nature of the sample
¶ Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.
This may have resulted in deterioration of the sample(s) during transit to the laboratory.
Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling
¥ Results for guidance only due to possible interference
& Blank corrected result
I.S Insufficient sample to complete requested analysis
I.S(g) Insufficient sample to re-analyse, results for guidance only
Intf Unable to analyse due to interferences
N.D Not determined
N.Det Not detected
Req Analysis requested, see attached sheets for results
Þ Raised detection limit due to nature of the sample
***** All accreditation has been removed by the laboratory for this result
‡ MCERTS accreditation has been removed for this result

Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

END OF REPORT

Sample Descriptions

Client : Soil Mechanics

Site : Isles Quarry

Report Number : S10_2528M

Note: major constituent in upper case

Lab ID Number	Client ID	Description
CL/1011289	WS201 ES 3 1.50	Brown Gravel SILT
CL/1011290	WS201 ES 4 2.50	Brown Stone SILT
CL/1011291	WS202 ES 4 2.50	Brown Stone SILT
CL/1011292	WS203 ES 1 0.50	Brown Stone SILT
CL/1011293	WS203 ES 3 1.50	Brown Gravel SILT
CL/1011294	WS204 ES 1 0.50	Brown Stone SILT
CL/1011295	WS204 ES 3 1.30	Brown Stone SILT
CL/1011296	WS205 ES 1 0.40	Brown MADE GROUND
CL/1011297	WS205A ES 1 1.50	Brown Stone SILT
CL/1011298	WS206 ES 1 0.30	Brown Stone SILT
CL/1011299	WS206 ES 2 1.20	Brown Gravel SILT
CL/1011300	WS207 ES 1 0.75	Brown SILT
CL/1011301	WS207 ES 5 2.70	Brown Clay SILT
CL/1011302	WS208 ES 1 0.30	Brown Stone SILT
CL/1011303	WS208 ES 8 3.00	Brown Clay SILT
CL/1011304	WS209 ES 1 0.40	Brown Stone SILT
CL/1011305	WS209 ES 4 2.00	Brown Silt CLAY
CL/1011306	WS210 ES 1 0.40	Brown Stone SILT
CL/1011307	WS210A ES 3 1.40	Brown Stone SILT
CL/1011308	WS211 ES 1 0.30	Brown Stone SILT

END OF REPORT

TEST REPORT
SOIL SAMPLE ANALYSIS

1252

Report No. EFS/102535M (Ver. 1)

Soil Mechanics
Fox Pitt
Shinglebarn Lane
West Farleigh
Maidstone Kent
ME15 0PN

Site: Isles Quarry

The 8 samples described in this report were logged for analysis by Scientifics on 04-May-2010.
The analysis was completed by: 17-May-2010

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS or MCERTS accredited
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

On behalf of
Scientifics :
Lisa Thompson Project Co-ordinator

Date of Issue: 17-May-2010

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)
Tests marked '^' have been subcontracted to another laboratory.
(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.
All results are reported on a dry weight basis at 105^{o}C unless otherwise stated. (except QC samples)
Scientifics accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Laboratory ID Number CL/	Client Sample Description	SO4-- (acid sol)	Boron (H20 Soluble)	Arsenic (MS)	Cadmium (MS)	Chromium (MS)	Copper (MS)	Lead (MS)	Mercury (MS)	Nickel (MS)	Zinc (MS)	SO4-- (H2O sol) mg/l	Selenium (MS)	PAH by MS.16(0.08)	pH units (AR)	Cyanide(Total) (AR)	Phenol Index.(AR)
	Units :	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pH Units	mg/kg	mg/kg
	Method Codes :	ICPACIDS	ICPBOR	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPWSS	ICPMSS	PAHMSUS	PHSOIL	SFAPI	SFAPI
	Method Reporting Limits :	20	0.5	0.5	0.2	1.2	1.6	0.7	0.5	2	16	10	0.5	0.08		0.5	0.5
	Accreditation Code:	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM		UM	UM	U
1011340	TP301 ES 2 1.00	1180	2.4	11.9	0.34	32.7	9.1	15	<0.5	55.4	45.4	367	0.7		8.4	<0.6	
1011341	TP302 ES 2 1.00		1.8	4.1	0.33	24.7	12	23	<0.6	26.4	41		1.3		9.0	<0.7	<0.7
1011342	TP302 ES 3 3.00	1330	0.7	9.4	0.27	23.1	6.6	9.1	<0.5	51.6	33.2	123	<0.5	Req	10.4		
1011343	TP303 ES 1 1.00		0.9	6.5	0.34	60	12.6	28.7	<0.5	13.4	58.8		<0.5	Req	10.6		
1011344	TP304 ES 1 0.50		1.1	6	2	20	9.7	29	<0.5	8.8	525.3		<0.5		9.0	<0.6	
1011345	TP305 ES 2 1.00		<0.5	19.4	0.37	28.1	17	56.5	<0.5	21.6	76.6		<0.5		8.5	<0.6	<0.6
1011346	TP305 ES 3 1.30		2	11.1	1.52	40.1	64	53.8	<0.51	24.2	873.4		0.6	Req	9.6	<0.6	
1011347	TP306 ES 3 2.40		1.1	7	0.43	11.6	15.4	33.1	<0.5	20.2	122.5		<0.5		8.5	<0.6	<0.6

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Client Name **Soil Mechanics**

Contact Mr M Ratcliffe

Isles Quarry

Soils Sample Analysis

Date Printed	17-May-10
Report Number	**EFS/102535M**
Table Number	**1**

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

	Units :	%	mg/kg	ug/kg		mg/kg	ug/kg	%	mg/kg
	Method Codes :	TMSS	TPHUSSI	VOCSW8100	BESTOS_SI	GROHSA	PCBUSECD	SSL	SVOCMSUS
	Method Reporting Limits :	0.2	10.0	5		0.1	5	0.1	0.2-10.0
	Accreditation Code:	U						N	
Laboratory ID Number CL/	Client Sample Description	Tot.Moisture @ 105C	TPH by GCFID (AR/Si)	VOC by GCMS (8100)	Asbestos (screening)	GRO (AA)	PCB (7 Congeners)	Organic Matter %	SVOC + TICs (AR)
1011340	TP301 ES 2 1.00	14.6	Req	Req	NBFO	Req		0.88	Req
1011341	TP302 ES 2 1.00	27.0	Req			Req		0.98	
1011342	TP302 ES 3 3.00	16.3	Req			Req		0.27	
1011343	TP303 ES 1 1.00	9.4	Req			Req		2.5	
1011344	TP304 ES 1 0.50	9.5	Req	Req		Req	Req	5.85	Req
1011345	TP305 ES 2 1.00	18.6	Req			Req		1.22	
1011346	TP305 ES 3 1.30	14.9	Req			Req	Req	2.9	Req
1011347	TP306 ES 3 2.40	12.0	Req			Req	Req	3.12	

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Client Name	**Soil Mechanics**
Contact	Mr M Ratcliffe

Isles Quarry

Soils Sample Analysis

Date Printed	17-May-10
Report Number	**EFS/102535M**
Table Number	**1**

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105C where appr opriate, in accordance with the MCERTS standard.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	TP302 ES 3 3.00	**Job Number:**	S10_2535M
LIMS ID Number:	CL1011342	**Date Booked in:**	04-May-10
QC Batch Number:	1155	**Date Extracted:**	14-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	16-May-10
Directory:	0515PAH.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	**UM**
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.53	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	101
Acenaphthene-d10	100
Phenanthrene-d10	93
Chrysene-d12	94
Perylene-d12	92

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	89
Terphenyl-d14	97

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	TP303 ES 1 1.00	**Job Number:**	S10_2535M
LIMS ID Number:	CL1011343	**Date Booked in:**	04-May-10
QC Batch Number:	1155	**Date Extracted:**	14-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	16-May-10
Directory:	0515PAH.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.09	-	**UM**
Acenaphthylene	208-96-8	-	< 0.09	-	U
Acenaphthene	83-32-9	-	< 0.09	-	UM
Fluorene	86-73-7	-	< 0.09	-	UM
Phenanthrene	85-01-8	5.53	0.47	98	UM
Anthracene	120-12-7	5.58	0.13	97	U
Fluoranthene	206-44-0	6.85	0.98	96	UM
Pyrene	129-00-0	7.13	0.86	92	UM
Benzo[a]anthracene	56-55-3	8.80	0.40	91	UM
Chrysene	218-01-9	8.85	0.38	87	UM
Benzo[b]fluoranthene	205-99-2	10.33	0.61	97	UM
Benzo[k]fluoranthene	207-08-9	10.37	0.23	96	UM
Benzo[a]pyrene	50-32-8	10.76	0.45	99	UM
Indeno[1,2,3-cd]pyrene	193-39-5	12.13	0.39	99	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.09	-	UM
Benzo[g,h,i]perylene	191-24-2	12.42	0.41	95	UM
Total (USEPA16) PAHs	-	-	< 5.79	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	104
Acenaphthene-d10	100
Phenanthrene-d10	96
Chrysene-d12	101
Perylene-d12	99

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	87
Terphenyl-d14	93

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	TP305 ES 3 1.30	**Job Number:**	S10_2535M
LIMS ID Number:	CL1011346	**Date Booked in:**	04-May-10
QC Batch Number:	1155	**Date Extracted:**	14-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	16-May-10
Directory:	0515PAH.MS5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.09	-	**UM**
Acenaphthylene	208-96-8	4.21	0.26	86	U
Acenaphthene	83-32-9	4.33	2.10	97	UM
Fluorene	86-73-7	4.70	2.37	97	UM
Phenanthrene	85-01-8	5.53	14.60	100	UM
Anthracene	120-12-7	5.58	4.63	98	U
Fluoranthene	206-44-0	6.84	17.40	95	UM
Pyrene	129-00-0	7.13	13.00	90	UM
Benzo[a]anthracene	56-55-3	8.80	5.60	97	UM
Chrysene	218-01-9	8.85	4.43	98	UM
Benzo[b]fluoranthene	205-99-2	10.33	5.50	97	UM
Benzo[k]fluoranthene	207-08-9	10.36	2.01	97	UM
Benzo[a]pyrene	50-32-8	10.75	4.65	96	UM
Indeno[1,2,3-cd]pyrene	193-39-5	12.13	3.15	82	UM
Dibenzo[a,h]anthracene	53-70-3	12.16	0.60	99	UM
Benzo[g,h,i]perylene	191-24-2	12.42	2.86	95	UM
Total (USEPA16) PAHs	-	-	< 83.22	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	102
Acenaphthene-d10	97
Phenanthrene-d10	95
Chrysene-d12	111
Perylene-d12	115

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	92
Terphenyl-d14	101

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polychlorinated Biphenyls (congeners)

Customer and Site Details: Soil Mechanics: Isles Quarry
Job Number: S10_2535M
QC Batch Number: 101136
Directory: 0512PCB.GC8
Method: Ultrasonic
Accreditation code: N

Matrix: SOIL
Date Booked in: 04-May-10
Date Extracted: 12-May-10
Date Analysed: 13-May-10

		Concentration, (µg/kg)						
Sample ID	**Customer ID**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB153**	**PCB138**	**PCB180**
* CL1011344	TP304 ES 1 0.50	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1
* CL1011346	TP305 ES 3 1.30	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1
* CL1011347	TP306 ES 3 2.40	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where approp riate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Soil	**QC Batch Number:**	1122
Sample Details:	TP301 ES 2 1.00	**Date Booked in:**	04-May-10	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL1011340	**Date Extracted:**	11-May-10	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S10_2535M	**Date Analysed:**	12-May-10	**Directory/Quant File:**	511SVOC.MS6\ 0511_CCC3.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	N
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	N
2-Chlorophenol	95-57-8	-	< 2.0	-	N
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	N
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	N
Benzyl alcohol	100-51-6	-	< 0.6	-	N
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	N
2-Methylphenol	95-48-7	-	< 0.6	-	N
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	N
Hexachloroethane	67-72-1	-	< 0.6	-	N
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	N
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	N
Nitrobenzene	98-95-3	-	< 0.6	-	N
Isophorone	78-59-1	-	< 0.6	-	N
2-Nitrophenol	88-75-5	-	< 2.0	-	N
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	N
Benzoic Acid	65-85-0 *	-	< 12.0	-	N
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	N
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	N
Naphthalene	91-20-3	-	< 0.2	-	N
4-Chlorophenol	106-48-9	-	< 2.0	-	N
4-Chloroaniline	106-47-8 *	-	< 0.6	-	N
Hexachlorobutadiene	87-68-3	-	< 0.6	-	N
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	N
2-Methylnaphthalene	91-57-6	-	< 0.2	-	N
1-Methylnaphthalene	90-12-0	-	< 0.2	-	N
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	N
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	N
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	N
2-Chloronaphthalene	91-58-7	-	< 0.2	-	N
Biphenyl	92-52-4	-	< 0.2	-	N
Diphenyl ether	101-84-8	-	< 0.2	-	N
2-Nitroaniline	88-74-4	-	< 0.6	-	N
Acenaphthylene	208-96-8	-	< 0.2	-	N
Dimethylphthalate	131-11-3	-	< 0.6	-	N
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	N
Acenaphthene	83-32-9	8.85	0.4	98	N
3-Nitroaniline	99-09-2	-	< 0.6	-	N

Concentrations are reported on a dry weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	N
Dibenzofuran	132-64-9	-	< 0.6	-	N
4-Nitrophenol	100-02-7	-	< 6.0	-	N
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	N
Fluorene	86-73-7	-	< 0.2	-	N
Diethylphthalate	84-66-2	-	< 0.6	-	N
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	N
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	N
4-Nitroaniline	100-01-6	-	< 0.6	-	N
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	N
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	N
Hexachlorobenzene	118-74-1	-	< 0.6	-	N
Pentachlorophenol	87-86-5	-	< 6.0	-	N
Phenanthrene	85-01-8	10.90	1.1	99	N
Anthracene	120-12-7	10.97	0.5	93	N
Di-n-butylphthalate	84-74-2	-	< 0.6	-	N
Fluoranthene	206-44-0	12.74	1.8	100	N
Pyrene	129-00-0	13.08	1.4	91	N
Butylbenzylphthalate	85-68-7	-	< 0.6	-	N
Benzo[a]anthracene	56-55-3	15.00	0.6	100	N
Chrysene	218-01-9	15.06	0.6	100	N
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	N
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	N
Di-n-octylphthalate	117-84-0	-	< 0.2	-	N
Benzo[b]fluoranthene	205-99-2	16.62	0.6	100	N
Benzo[k]fluoranthene	207-08-9	16.66	0.2	100	N
Benzo[a]pyrene	50-32-8	17.07	0.5	100	N
Indeno[1,2,3-cd]pyrene	193-39-5	18.54	0.4	100	N
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	N
Benzo[g,h,i]perylene	191-24-2	18.91	0.4	97	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	92
Naphthalene-d8	93
Acenaphthene-d10	96
Phenanthrene-d10	98
Chrysene-d12	100
Perylene-d12	102

Surrogates	% Rec
2-Fluorophenol	92
Phenol-d5	96
Nitrobenzene-d5	91
2-Fluorobiphenyl	87
2,4,6-Tribromophenol	93
Terphenyl-d14	89

This analysis was conducted on an 'As Recieved' basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Soil	**QC Batch Number:**	11
Sample Details:	TP304 ES 1 0.50	**Date Booked in:**	04-May-10	**Ext Method:**	Ultrasonic	**Multiplier:**	4
LIMS ID Number:	CL1011344	**Date Extracted:**	13-May-10	**Operator:**	AB	**Dilution Factor:**	20
Job Number:	S10_2535M	**Date Analysed:**	14-May-10	**Directory/Quant File:**	13SVOC.GC11\ 0513_CCC3.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 44.0	-	N
bis(2-Chloroethyl)ether	111-44-4	-	< 11.0	-	N
2-Chlorophenol	95-57-8	-	< 44.0	-	N
1,3-Dichlorobenzene	541-73-1	-	< 11.0	-	N
1,4-Dichlorobenzene	106-46-7	-	< 11.0	-	N
Benzyl alcohol	100-51-6	-	< 11.0	-	N
1,2-Dichlorobenzene	95-50-1	-	< 11.0	-	N
2-Methylphenol	95-48-7	-	< 11.0	-	N
bis(2-Chloroisopropyl)ether	108-60-1	-	< 11.0	-	N
Hexachloroethane	67-72-1	-	< 11.0	-	N
N-Nitroso-di-n-propylamine	621-64-7	-	< 11.0	-	N
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 44.0	-	N
Nitrobenzene	98-95-3	-	< 11.0	-	N
Isophorone	78-59-1	-	< 11.0	-	N
2-Nitrophenol	88-75-5	-	< 44.0	-	N
2,4-Dimethylphenol	105-67-9	-	< 44.0	-	N
Benzoic Acid	65-85-0 *	-	< 221.0	-	N
bis(2-Chloroethoxy)methane	111-91-1	-	< 11.0	-	N
2,4-Dichlorophenol	120-83-2	-	< 44.0	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 11.0	-	N
Naphthalene	91-20-3	-	< 4.0	-	N
4-Chlorophenol	106-48-9	-	< 44.0	-	N
4-Chloroaniline	106-47-8 *	-	< 11.0	-	N
Hexachlorobutadiene	87-68-3	-	< 11.0	-	N
4-Chloro-3-methylphenol	59-50-7	-	< 11.0	-	N
2-Methylnaphthalene	91-57-6	-	< 4.0	-	N
1-Methylnaphthalene	90-12-0	-	< 4.0	-	N
Hexachlorocyclopentadiene	77-47-4 *	-	< 11.0	-	N
2,4,6-Trichlorophenol	88-06-2	-	< 44.0	-	N
2,4,5-Trichlorophenol	95-95-4	-	< 44.0	-	N
2-Chloronaphthalene	91-58-7	-	< 4.0	-	N
Biphenyl	92-52-4	-	< 4.0	-	N
Diphenyl ether	101-84-8	-	< 4.0	-	N
2-Nitroaniline	88-74-4	-	< 11.0	-	N
Acenaphthylene	208-96-8	-	< 4.0	-	N
Dimethylphthalate	131-11-3	-	< 11.0	-	N
2,6-Dinitrotoluene	606-20-2	-	< 11.0	-	N
Acenaphthene	83-32-9	-	< 4.0	-	N
3-Nitroaniline	99-09-2	-	< 11.0	-	N

Concentrations are reported on a dry weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 22.0	-	N
Dibenzofuran	132-64-9	-	< 11.0	-	N
4-Nitrophenol	100-02-7	-	< 110.0	-	N
2,4-Dinitrotoluene	121-14-2	-	< 11.0	-	N
Fluorene	86-73-7	-	< 4.0	-	N
Diethylphthalate	84-66-2	-	< 11.0	-	N
4-Chlorophenyl-phenylether	7005-72-3	-	< 11.0	-	N
4,6-Dinitro-2-methylphenol	534-52-1	-	< 110.0	-	N
4-Nitroaniline	100-01-6	-	< 11.0	-	N
N-Nitrosodiphenylamine	86-30-6 *	-	< 11.0	-	N
4-Bromophenyl-phenylether	101-55-3	-	< 11.0	-	N
Hexachlorobenzene	118-74-1	-	< 11.0	-	N
Pentachlorophenol	87-86-5	-	< 110.0	-	N
Phenanthrene	85-01-8	-	< 4.0	-	N
Anthracene	120-12-7	-	< 4.0	-	N
Di-n-butylphthalate	84-74-2	-	< 11.0	-	N
Fluoranthene	206-44-0	-	< 4.0	-	N
Pyrene	129-00-0	-	< 4.0	-	N
Butylbenzylphthalate	85-68-7	-	< 11.0	-	N
Benzo[a]anthracene	56-55-3	-	< 4.0	-	N
Chrysene	218-01-9	-	< 4.0	-	N
3,3'-Dichlorobenzidine	91-94-1	-	< 44.0	-	N
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 11.0	-	N
Di-n-octylphthalate	117-84-0	-	< 4.0	-	N
Benzo[b]fluoranthene	205-99-2	-	< 4.0	-	N
Benzo[k]fluoranthene	207-08-9	-	< 4.0	-	N
Benzo[a]pyrene	50-32-8	-	< 4.0	-	N
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 4.0	-	N
Dibenzo[a,h]anthracene	53-70-3	-	< 4.0	-	N
Benzo[g,h,i]perylene	191-24-2	-	< 4.0	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	82
Naphthalene-d8	86
Acenaphthene-d10	86
Phenanthrene-d10	80
Chrysene-d12	82
Perylene-d12	77

Surrogates	% Rec
2-Fluorophenol	67
Phenol-d5	67
Nitrobenzene-d5	97
2-Fluorobiphenyl	88
2,4,6-Tribromophenol	59
Terphenyl-d14	90

This analysis was conducted on an 'As Recieved' basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Soil	**QC Batch Number:**	
Sample Details:	TP305 ES 3 1.30	**Date Booked in:**	04-May-10	**Ext Method:**	Ultrasonic	**Multiplier:**	4
LIMS ID Number:	CL1011346	**Date Extracted:**		**Operator:**	AB	**Dilution Factor:**	20
Job Number:	S10_2535M	**Date Analysed:**	12-May-10	**Directory/Quant File:**	511SVOC.MS6\ 0511_CCC3.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 47.0	-	N
bis(2-Chloroethyl)ether	111-44-4	-	< 12.0	-	N
2-Chlorophenol	95-57-8	-	< 47.0	-	N
1,3-Dichlorobenzene	541-73-1	-	< 12.0	-	N
1,4-Dichlorobenzene	106-46-7	-	< 12.0	-	N
Benzyl alcohol	100-51-6	-	< 12.0	-	N
1,2-Dichlorobenzene	95-50-1	-	< 12.0	-	N
2-Methylphenol	95-48-7	-	< 12.0	-	N
bis(2-Chloroisopropyl)ether	108-60-1	-	< 12.0	-	N
Hexachloroethane	67-72-1	-	< 12.0	-	N
N-Nitroso-di-n-propylamine	621-64-7	-	< 12.0	-	N
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 47.0	-	N
Nitrobenzene	98-95-3	-	< 12.0	-	N
Isophorone	78-59-1	-	< 12.0	-	N
2-Nitrophenol	88-75-5	-	< 47.0	-	N
2,4-Dimethylphenol	105-67-9	-	< 47.0	-	N
Benzoic Acid	65-85-0 *	-	< 235.0	-	N
bis(2-Chloroethoxy)methane	111-91-1	-	< 12.0	-	N
2,4-Dichlorophenol	120-83-2	-	< 47.0	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 12.0	-	N
Naphthalene	91-20-3	-	< 5.0	-	N
4-Chlorophenol	106-48-9	-	< 47.0	-	N
4-Chloroaniline	106-47-8 *	-	< 12.0	-	N
Hexachlorobutadiene	87-68-3	-	< 12.0	-	N
4-Chloro-3-methylphenol	59-50-7	-	< 12.0	-	N
2-Methylnaphthalene	91-57-6	-	< 5.0	-	N
1-Methylnaphthalene	90-12-0	-	< 5.0	-	N
Hexachlorocyclopentadiene	77-47-4 *	-	< 12.0	-	N
2,4,6-Trichlorophenol	88-06-2	-	< 47.0	-	N
2,4,5-Trichlorophenol	95-95-4	-	< 47.0	-	N
2-Chloronaphthalene	91-58-7	-	< 5.0	-	N
Biphenyl	92-52-4	-	< 5.0	-	N
Diphenyl ether	101-84-8	-	< 5.0	-	N
2-Nitroaniline	88-74-4	-	< 12.0	-	N
Acenaphthylene	208-96-8	-	< 5.0	-	N
Dimethylphthalate	131-11-3	-	< 12.0	-	N
2,6-Dinitrotoluene	606-20-2	-	< 12.0	-	N
Acenaphthene	83-32-9	-	< 5.0	-	N
3-Nitroaniline	99-09-2	-	< 12.0	-	N

Concentrations are reported on a dry weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 24.0	-	N
Dibenzofuran	132-64-9	-	< 12.0	-	N
4-Nitrophenol	100-02-7	-	< 118.0	-	N
2,4-Dinitrotoluene	121-14-2	-	< 12.0	-	N
Fluorene	86-73-7	-	< 5.0	-	N
Diethylphthalate	84-66-2	-	< 12.0	-	N
4-Chlorophenyl-phenylether	7005-72-3	-	< 12.0	-	N
4,6-Dinitro-2-methylphenol	534-52-1	-	< 118.0	-	N
4-Nitroaniline	100-01-6	-	< 12.0	-	N
N-Nitrosodiphenylamine	86-30-6 *	-	< 12.0	-	N
4-Bromophenyl-phenylether	101-55-3	-	< 12.0	-	N
Hexachlorobenzene	118-74-1	-	< 12.0	-	N
Pentachlorophenol	87-86-5	-	< 118.0	-	N
Phenanthrene	85-01-8	-	< 5.0	-	N
Anthracene	120-12-7	-	< 5.0	-	N
Di-n-butylphthalate	84-74-2	-	< 12.0	-	N
Fluoranthene	206-44-0	-	< 5.0	-	N
Pyrene	129-00-0	-	< 5.0	-	N
Butylbenzylphthalate	85-68-7	-	< 12.0	-	N
Benzo[a]anthracene	56-55-3	-	< 5.0	-	N
Chrysene	218-01-9	-	< 5.0	-	N
3,3'-Dichlorobenzidine	91-94-1	-	< 47.0	-	N
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 12.0	-	N
Di-n-octylphthalate	117-84-0	-	< 5.0	-	N
Benzo[b]fluoranthene	205-99-2	-	< 5.0	-	N
Benzo[k]fluoranthene	207-08-9	-	< 5.0	-	N
Benzo[a]pyrene	50-32-8	-	< 5.0	-	N
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 5.0	-	N
Dibenzo[a,h]anthracene	53-70-3	-	< 5.0	-	N
Benzo[g,h,i]perylene	191-24-2	-	< 5.0	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	97
Naphthalene-d8	97
Acenaphthene-d10	97
Phenanthrene-d10	96
Chrysene-d12	90
Perylene-d12	87

Surrogates	% Rec
2-Fluorophenol	73
Phenol-d5	81
Nitrobenzene-d5	77
2-Fluorobiphenyl	88
2,4,6-Tribromophenol	81
Terphenyl-d14	94

This analysis was conducted on an 'As Recieved' basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

SVOC (TICs)

Accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	TP301 ES 2 1.00	**Job Number:**	S10_2535
LIMS ID Number:	CL1011340		
		Multiplier:	0.2
Date Booked in:	04-May-10	**Dilution Factor:**	1
Date Extracted:	11-May-10	**GPC (Y/N):**	N
Date Analysed:	12-May-10	**Matrix:**	Soil
QC Batch Number:	1122	**Method:**	Ultrasonic
Directory/Quant File:	511SVOC.MS6\ 0511_CCC3.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit	Accr. code
Unidentified Peak	-	3.47	1.185	-	N
.gamma.-Sitosterol	000083-47-6	19.11	0.542	95	N
Unidentified Peak	-	12.36	0.542	-	N
4H-Cyclopenta[def]phenanthrene	000203-64-5	11.79	0.435	87	N
9,10-Dimethylanthracene	000781-43-1	12.51	0.386	81	N
Benzo[b]triphenylene	000215-58-7	18.76	0.364	70	N
Azobenzene	103-33-3	-	<0.2	-	N
Carbazole	86-74-8	-	<0.2	-	N
Anthraquinone	84-64-1	-	<0.2	-	N

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

SVOC (TICs)

Accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	TP304 ES 1 0.50	**Job Number:**	S10_2535
LIMS ID Number:	CL1011344		
		Multiplier:	4
Date Booked in:	04-May-10	**Dilution Factor:**	20
Date Extracted:	13-May-10	**GPC (Y/N):**	N
Date Analysed:	14-May-10	**Matrix:**	Soil
QC Batch Number:	11	**Method:**	Ultrasonic
Directory/Quant File:	13SVOC.GC11\ 0513_CCC3.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit	Accr. code
Unidentified Peak	-	18.09	25.038	-	N
Unidentified Peak	-	20.50	18.614	-	N
Unidentified Peak	-	19.37	16.711	-	N
Unidentified Peak	-	18.72	16.663	-	N
Unidentified Peak	-	19.13	16.085	-	N
Unidentified Peak	-	18.97	10.460	-	N
Unidentified Peak	-	19.50	9.652	-	N
Unidentified Peak	-	18.52	9.566	-	N
Unidentified Peak	-	18.82	9.426	-	N
Unidentified Peak	-	18.89	9.421	-	N
Unidentified Peak	-	18.57	9.091	-	N
Unidentified Peak	-	19.74	6.938	-	N
Unidentified Peak	-	17.42	6.359	-	N
Unidentified Peak	-	19.89	5.503	-	N
2H-1,4-Benzothiazin-3(4H)-one, 4-hydroxy-2-methyl-, 1,1-dio:	005522-01-0	20.04	5.173	59	N
Unidentified Peak	-	17.72	5.139	-	N
N-(4-Methoxyphenyl)-2-hydroxyimino-acetamide	1000143-61-3	21.67	5.051	80	N
Unidentified Peak	-	20.13	4.956	-	N
Unidentified Peak	-	19.58	4.706	-	N
Azobenzene	108-43-0	-	<4	-	N
Carbazole	86-74-8	-	<4	-	N
Anthraquinone	84-65-1	-	<4	-	N
Unidentified Peak	-	17.80	4.383	-	N

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

SVOC (TICs)

Accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	TP305 ES 3 1.30	**Job Number:**	S10_2535
LIMS ID Number:	CL1011346		
		Multiplier:	4
Date Booked in:	04-May-10	**Dilution Factor:**	20
Date Extracted:	00-Jan-00	**GPC (Y/N):**	N
Date Analysed:	12-May-10	**Matrix:**	Soil
QC Batch Number:	0	**Method:**	Ultrasonic
Directory/Quant File:	511SVOC.MS6\ 0511_CCC3.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit	Accr. code
Cyclotrisiloxane, hexamethyl-	000541-05-9	3.24	12.431	83	N
Azobenzene	103-33-3	-	<5	-	N
Carbazole	86-74-8	-	<5	-	N
Anthraquinone	84-65-1	-	<5	-	N
1H-12a,5-(Epoxymethano)pyrido[3',4':5,6]cyclohept[1,2-b]indo	003329-95-1	19.78	2.006	55	N

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

Gasoline Range Organics
(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details: Soil Mechanics : Isles Quarry
Job Number: S10_2535
Directory: D:\TES\DATA\Y2010\0507HSA_GC12\050710A 2010-05-07 14-31-15\052F3901.D
Method: Headspace GCFID
Accreditation Code: N

Matrix: Soil
Date Booked in: 04-May-10
Date extracted: 07-May-10
Date Analysed: 08-May-10, 02:3

		Concentration, (mg/kg) - as dry weight.					Aliphatics				
Sample ID	**Client ID**	**Benzene**	**Toluene**	**Ethyl benzene**	**m/p-Xylene**	**o-Xylene**	**C5 - C6**	**>C6 - C7**	**>C7 - C8**	**>C8 - C10**	**Total GRO**
* CL1011340	TP301 ES 2 1.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
* CL1011341	TP302 ES 2 1.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3
* CL1011342	TP302 ES 3 3.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
* CL1011343	TP303 ES 1 1.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
* CL1011344	TP304 ES 1 0.50	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
* CL1011345	TP305 ES 2 1.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
* CL1011346	TP305 ES 3 1.30	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
* CL1011347	TP306 ES 3 2.40	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2

Note: Benzene elutes between C6 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.
Xylenes have been deducted from the C8-C10 band to give the aliphatic fraction, however aromatic compounds may still be contributing to this fraction.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

ALIPHATIC / AROMATIC FRACTION BY GC/FID

Customer and Site Details: Soil Mechanics : Isles Quarry
Job Number: S10_2535
QC Batch Number: 101155
Directory: D:\TES\DATA\Y2010\0515TPH_GC3\069B2801.D
Method: Ultra Sonic

Separation: Silica gel
Eluents: Hexane, DCM

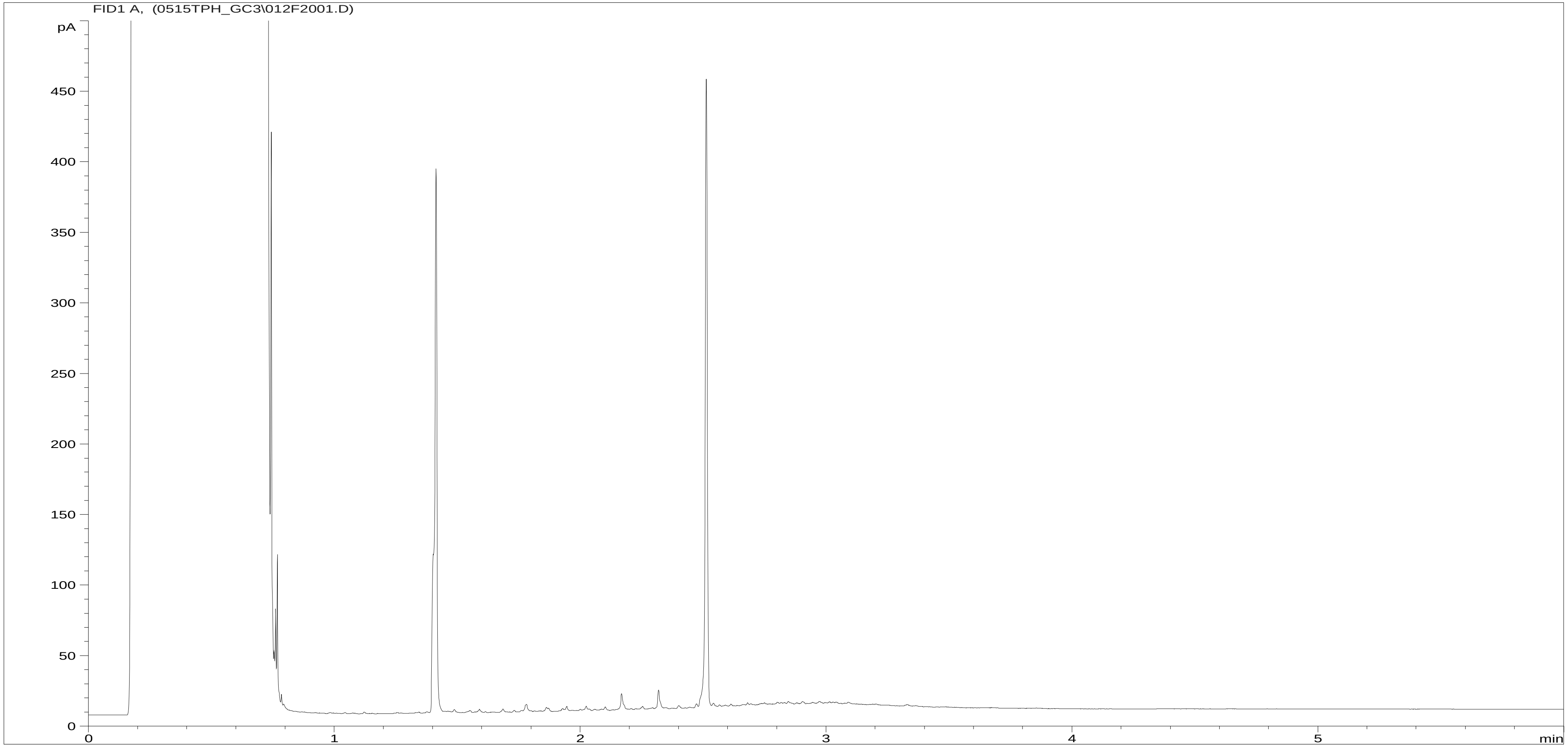
Matrix: Soil
Date Booked in 04-May-10
Date Extracted 14-May-10
Date Analysed: 15-May-10

This sample data is not accredited.

		Concentration, (mg/kg) - as dry weight.											
		>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35		>C8 - C40	
Sample ID	**Client ID**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**
CL1011340	TP301 ES 2 1.00	<5	<5	<5	<5	5.76	<5	12.1	11.8	46.3	50.7	74.2	78
CL1011341	TP302 ES 2 1.00	<5	<5	<5	<5	9.2	21.2	28.2	119	126.4	366	208	632
CL1011342	TP302 ES 3 3.00	<5	<5	<5	<5	<5	<5	<5	<5	<10.47	<10.47	<24	<24
CL1011343	TP303 ES 1 1.00	<4	<4	<4	<4	7.05	<4	14.5	10.8	69.4	105	129	212
CL1011344	TP304 ES 1 0.50	<4	<4	<4	<4	<4	<4	5.65	<4	51	102.9	135	284
CL1011345	TP305 ES 2 1.00	<5	<5	<5	<5	<5	<5	<5	4.93	<10.76	43.9	<25	54.9
CL1011346	TP305 ES 3 1.30	<5	<5	<5	<5	6.08	17.2	20.9	93.8	189	397	271	653
CL1011347	TP306 ES 3 2.40	<5	<5	<5	<5	6.86	<5	26.8	30.5	84.7	172	138	251

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

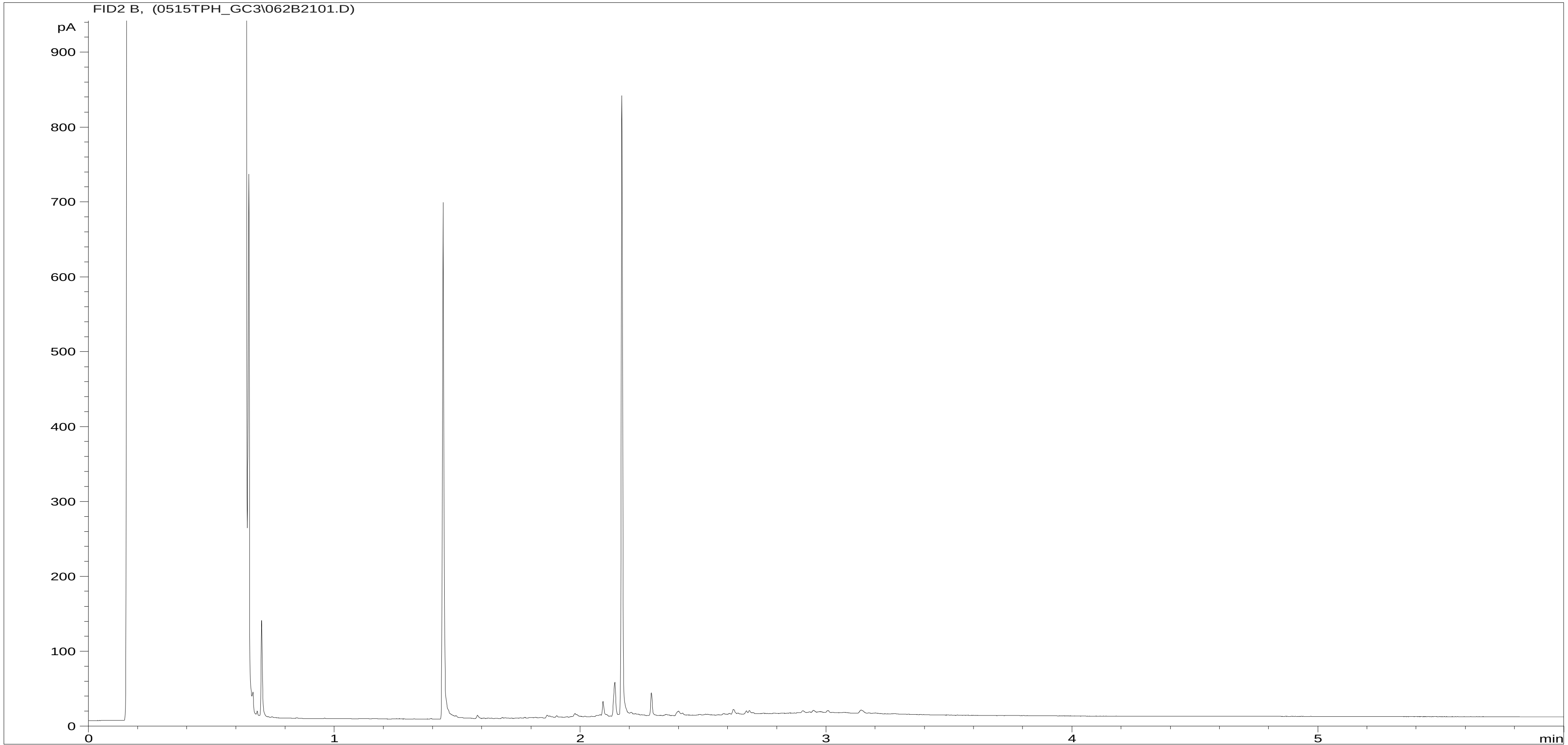
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011340ALI	**Job Number:**	S10_2535M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	TP301 ES 2 1.00
Acquisition Date/Time:	15-May-10		
Datafile:	D:\TES\DATA\Y2010\0515TPH_GC3\012F2001.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

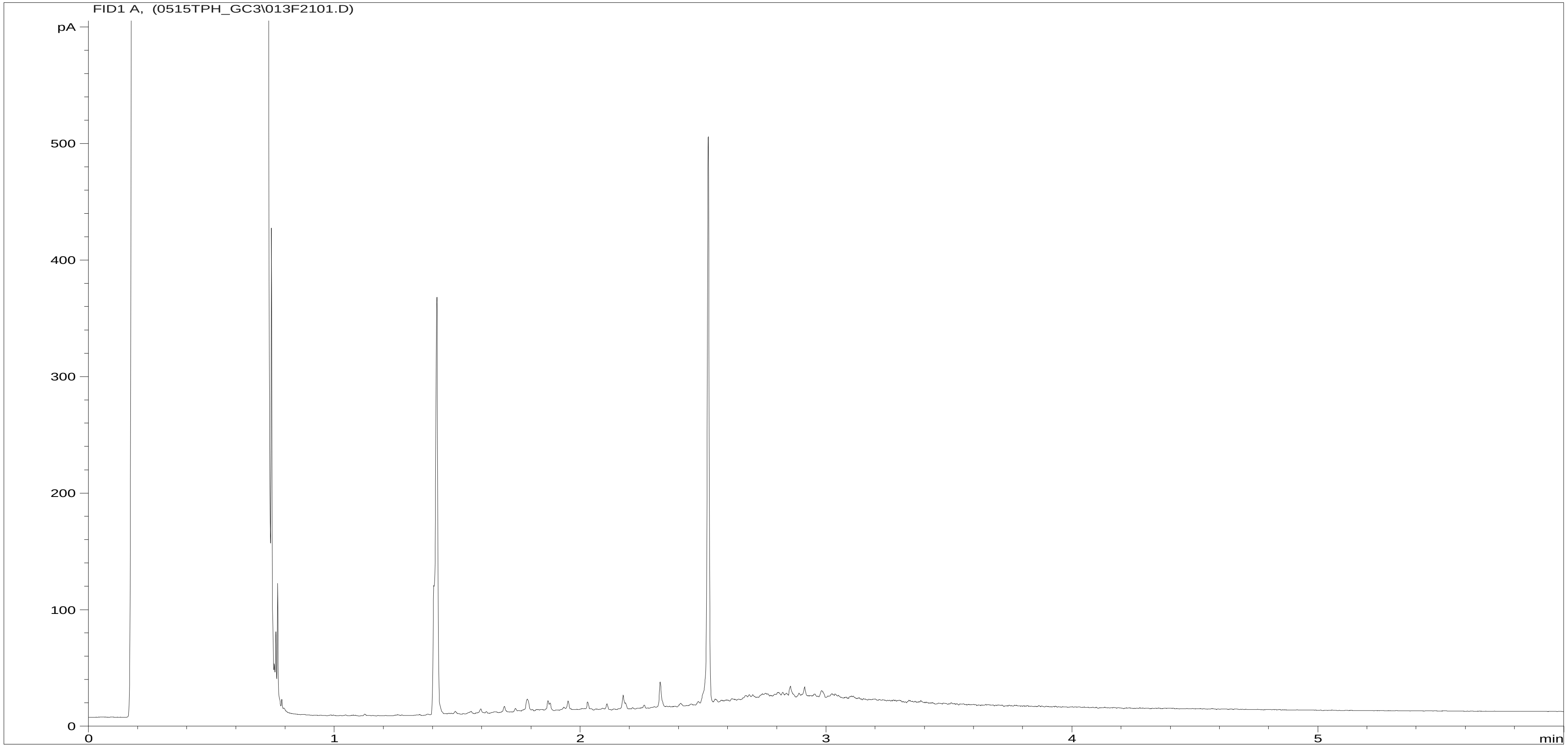
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011340ARO	**Job Number:**	S10_2535M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	TP301 ES 2 1.00
Acquisition Date/Time:	15-May-10		
Datafile:	D:\TES\DATA\Y2010\0515TPH_GC3\062B2101.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

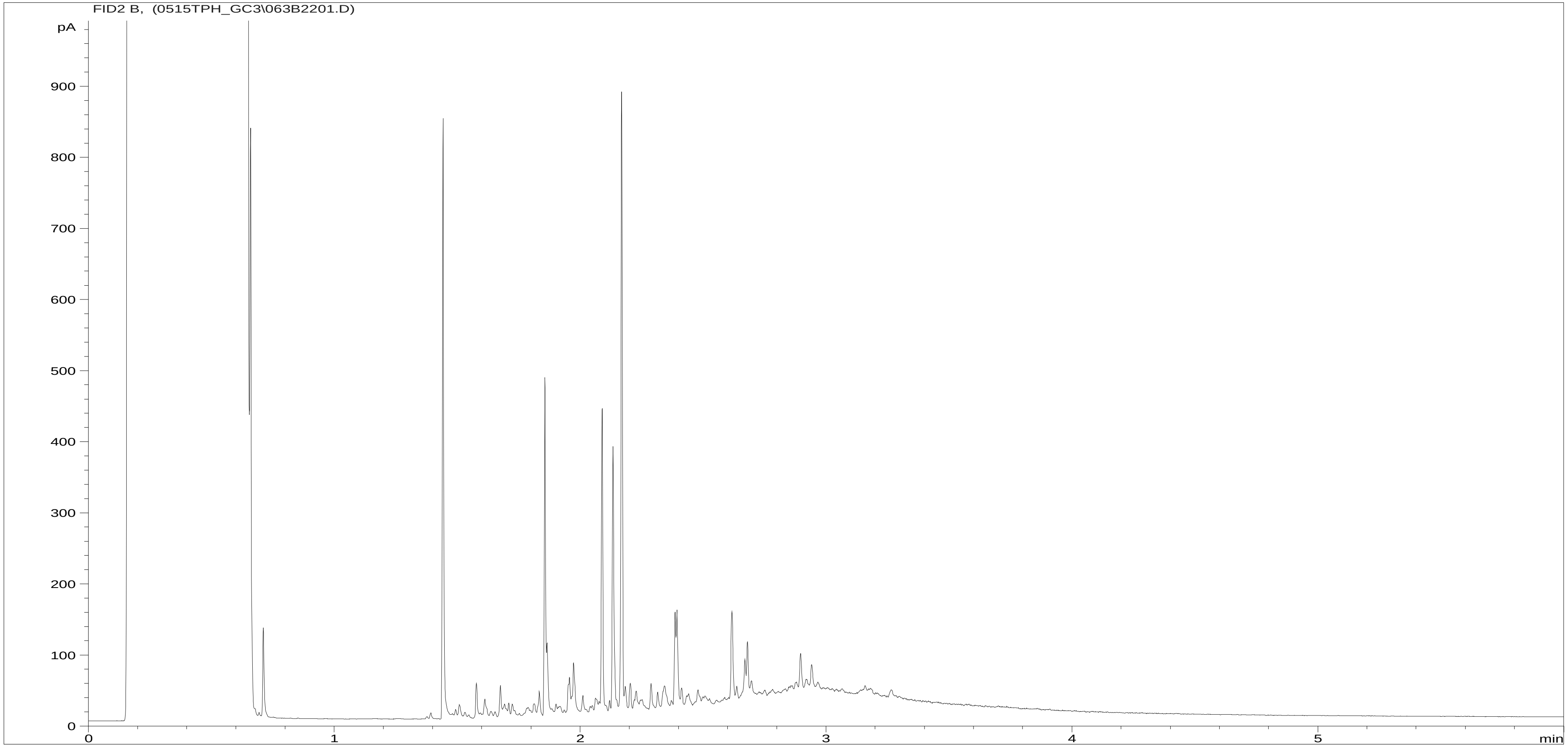
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011341ALI	**Job Number:**	S10_2535M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	TP302 ES 2 1.00
Acquisition Date/Time:	15-May-10		
Datafile:	D:\TES\DATA\Y2010\0515TPH_GC3\013F2101.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

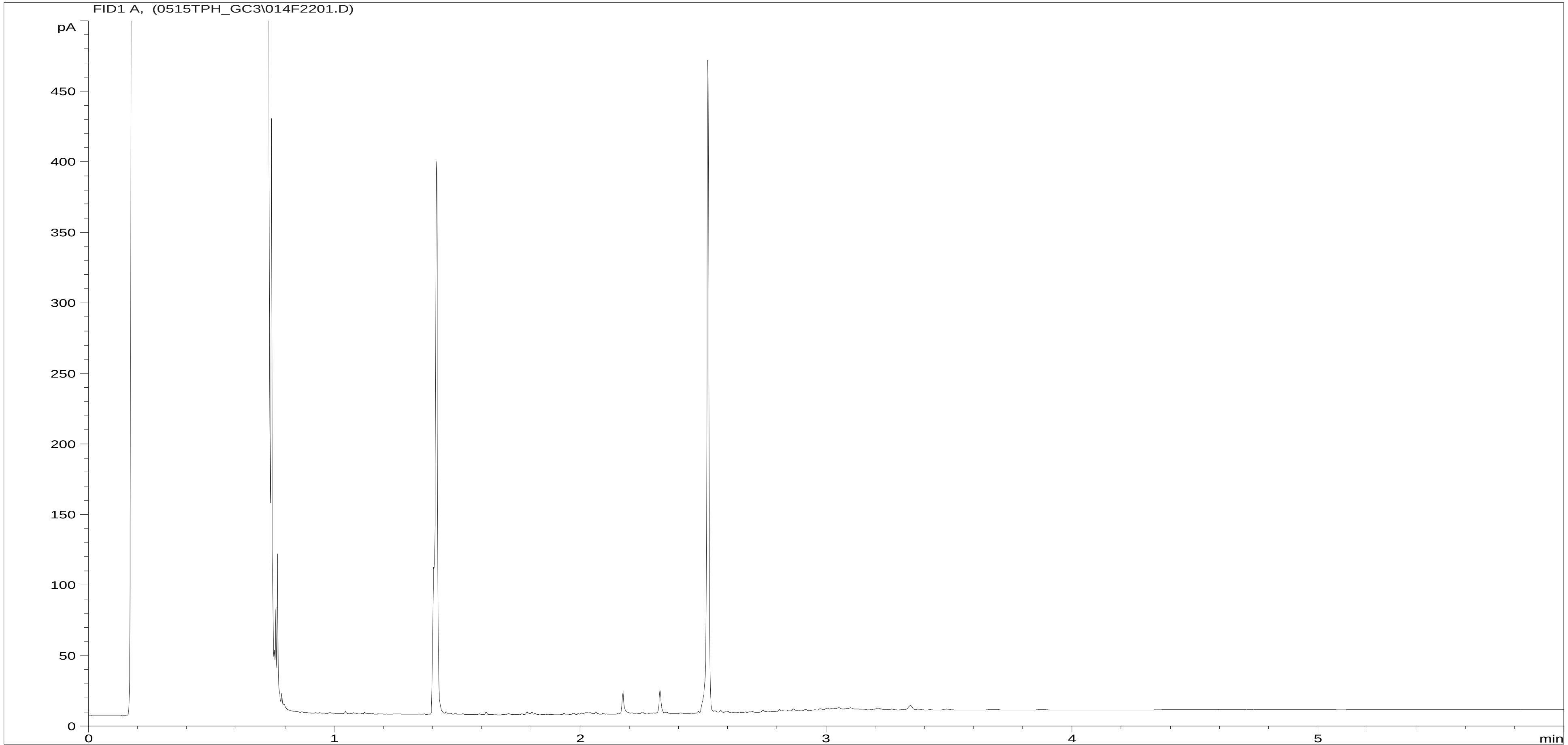
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011341ARO	**Job Number:**	S10_2535M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	TP302 ES 2 1.00
Acquisition Date/Time:	15-May-10		
Datafile:	D:\TES\DATA\Y2010\0515TPH_GC3\063B2201.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

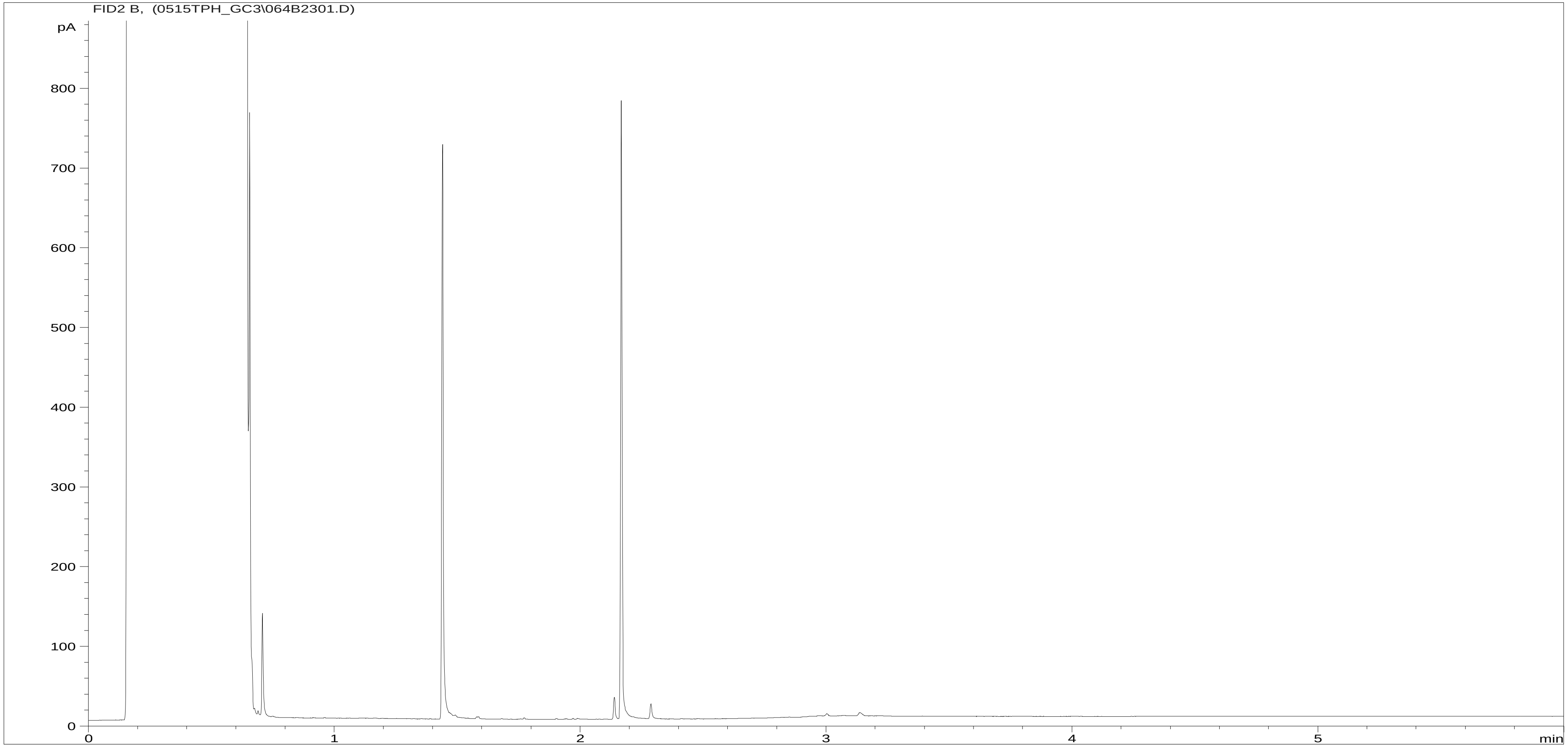
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011342ALI	**Job Number:**	S10_2535M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	TP302 ES 3 3.00
Acquisition Date/Time:	15-May-10		
Datafile:	D:\TES\DATA\Y2010\0515TPH_GC3\014F2201.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

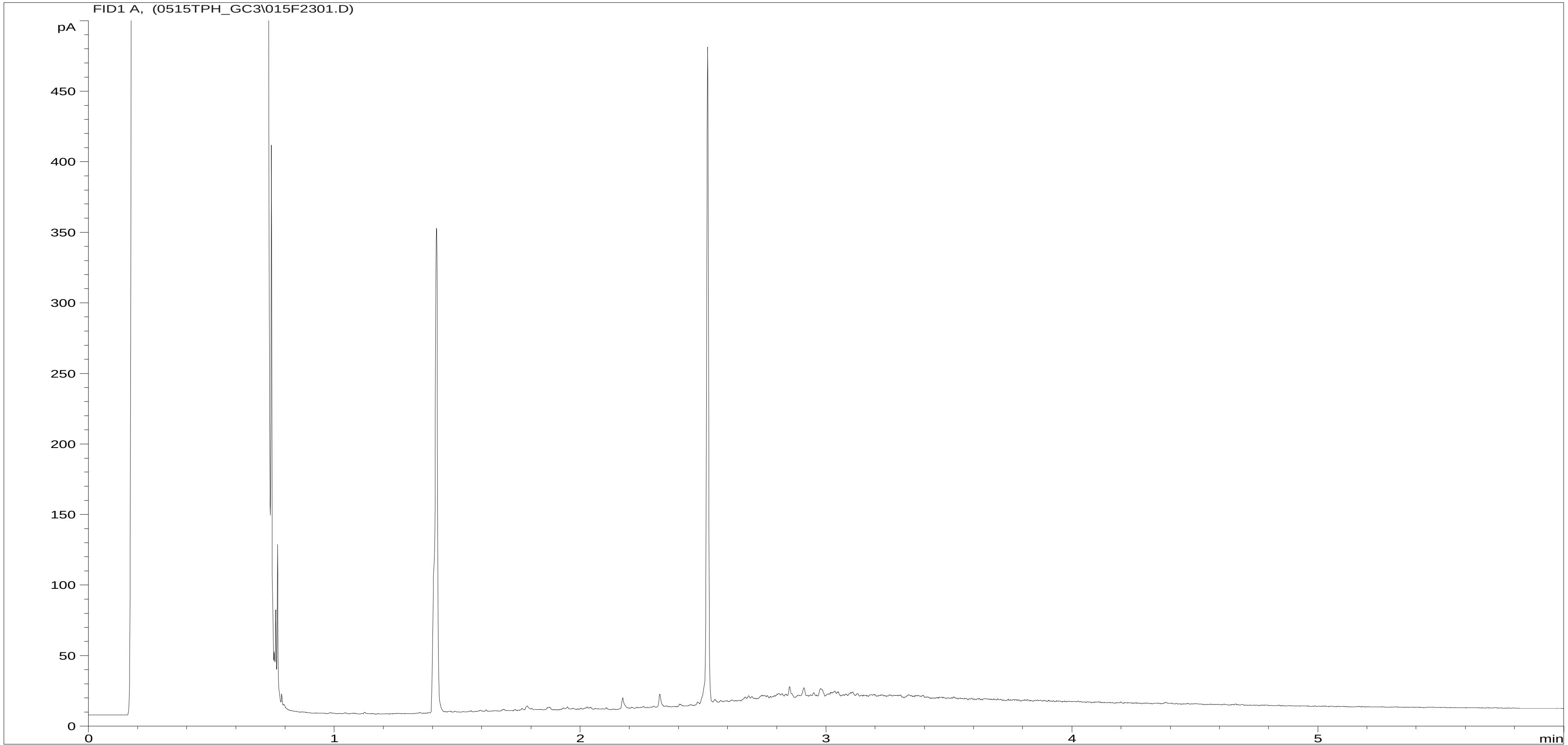
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011342ARO	**Job Number:**	S10_2535M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	TP302 ES 3 3.00
Acquisition Date/Time:	15-May-10		
Datafile:	D:\TES\DATA\Y2010\0515TPH_GC3\064B2301.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

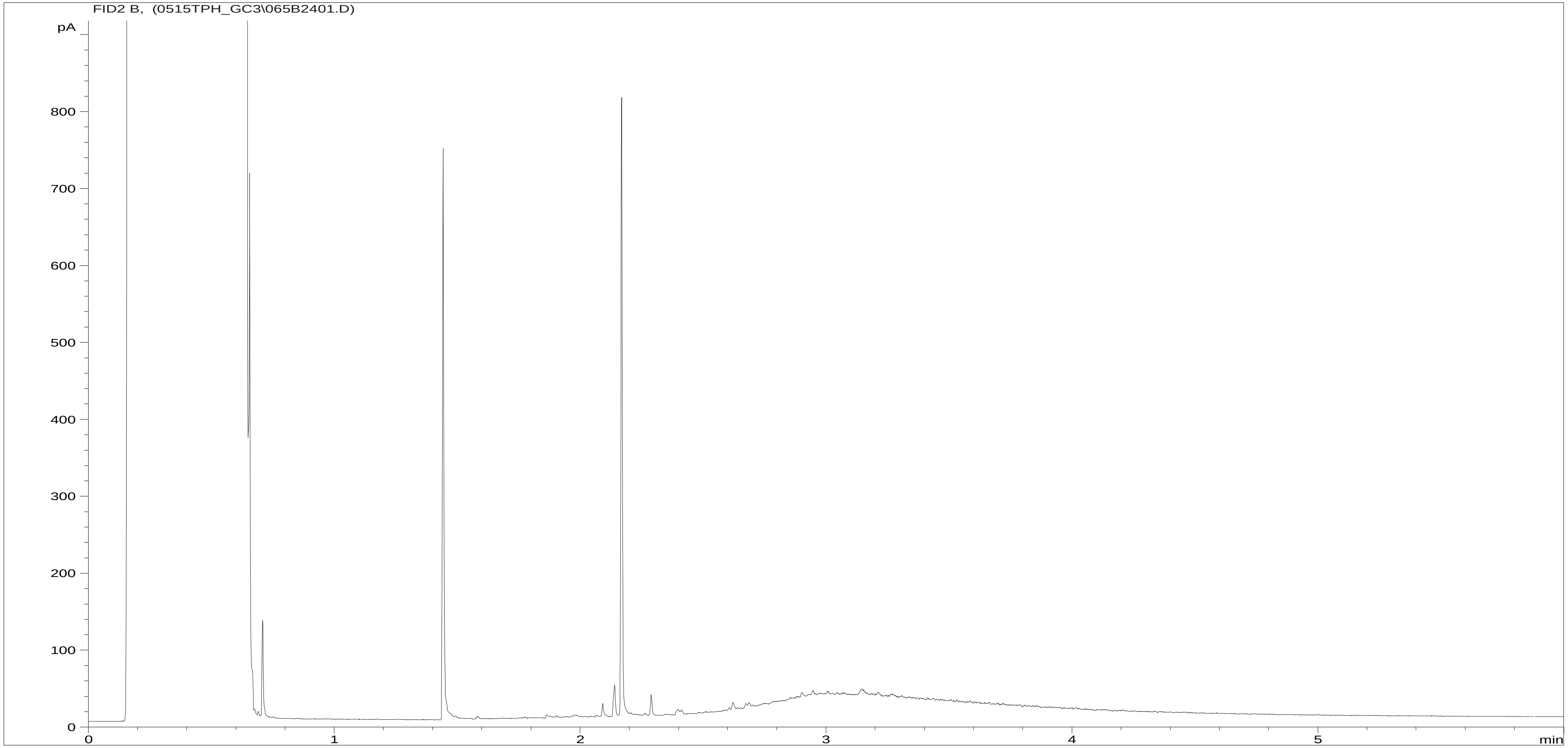
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011343ALI	**Job Number:**	S10_2535M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	TP303 ES 1 1.00
Acquisition Date/Time:	15-May-10		
Datafile:	D:\TES\DATA\Y2010\0515TPH_GC3\015F2301.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

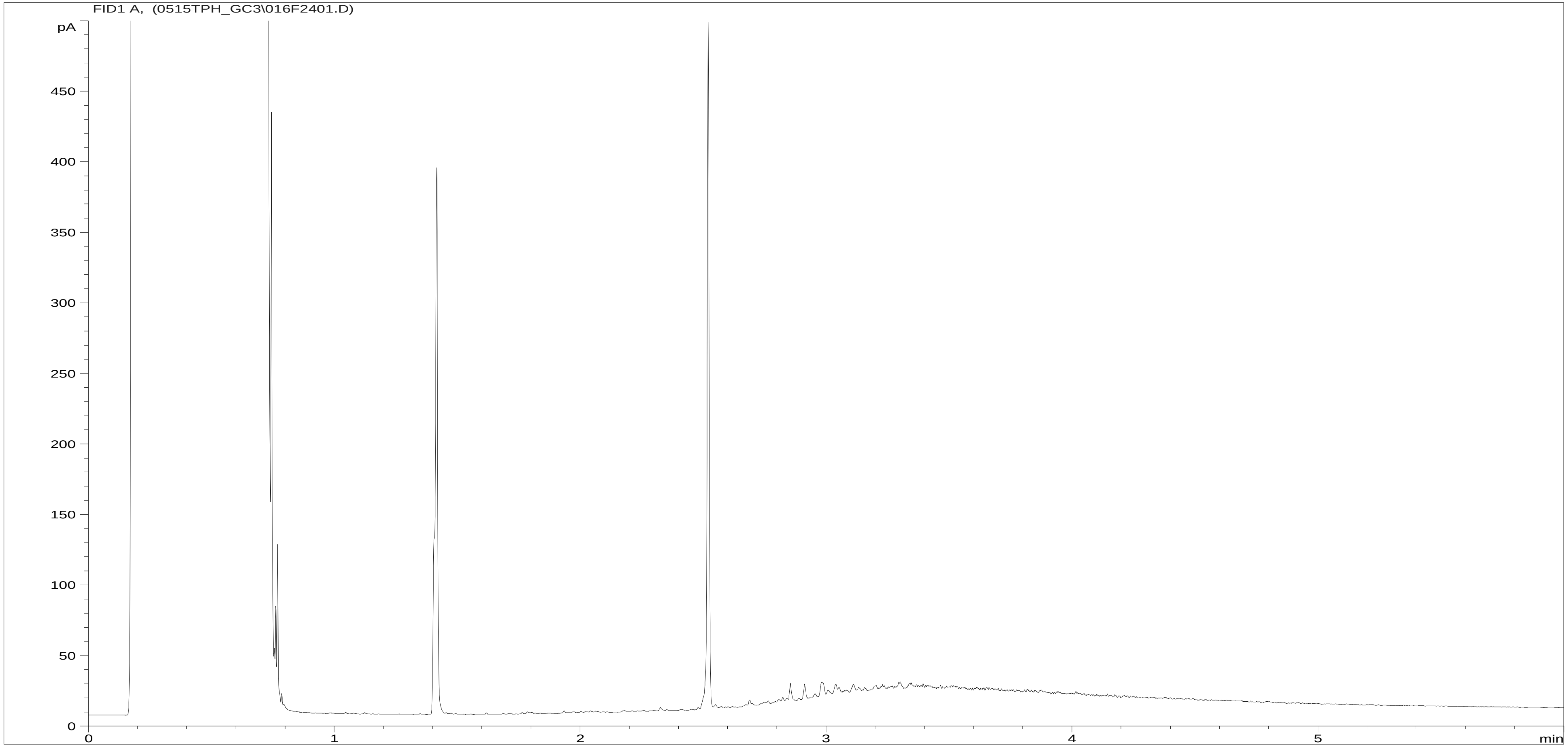
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011343ARO	**Job Number:**	S10_2535M
Multiplier:	11.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	TP303 ES 1 1.00
Acquisition Date/Time:	15-May-10		
Datafile:	D:\TES\DATA\Y2010\0515TPH_GC3\065B2401.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

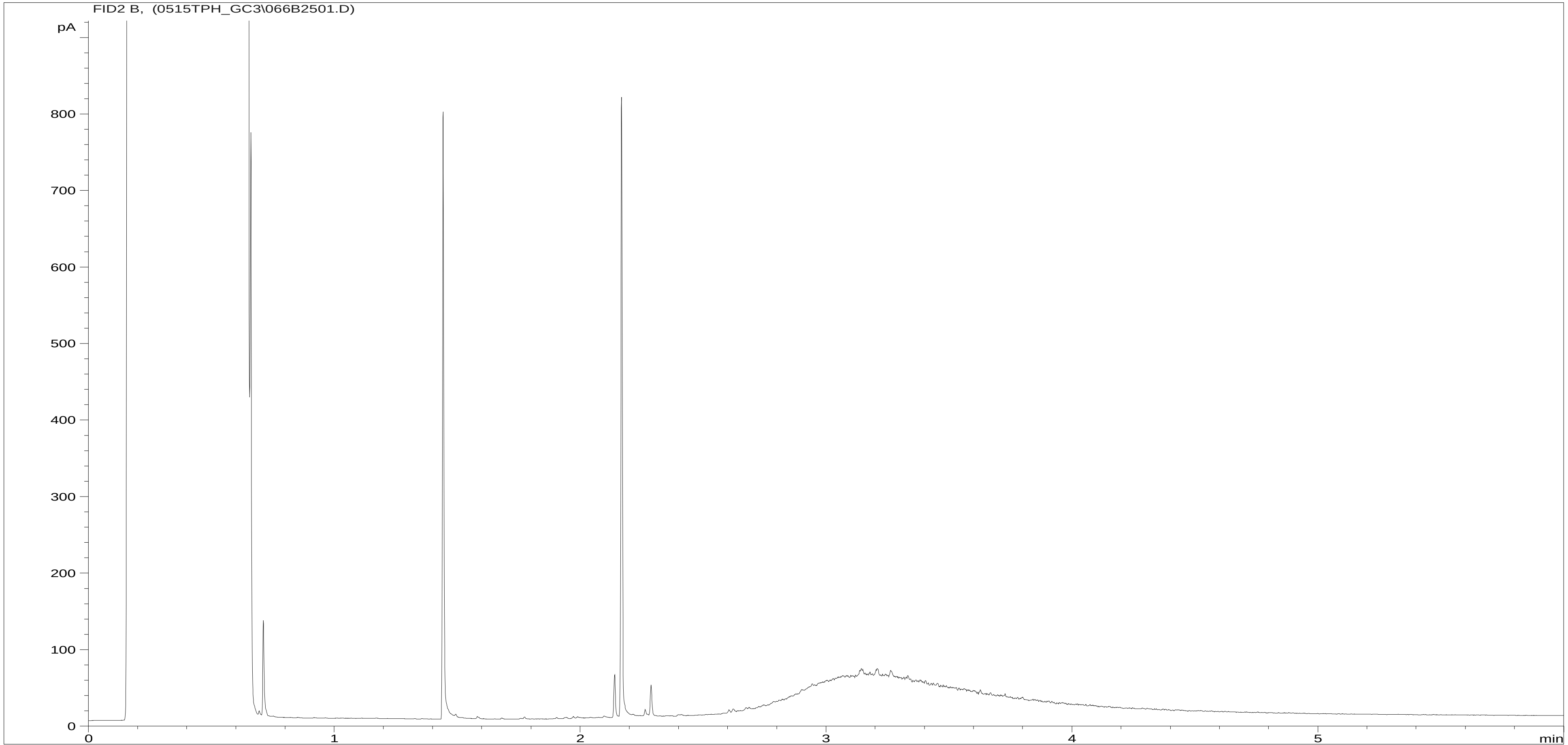
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011344ALI	**Job Number:**	S10_2535M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	TP304 ES 1 0.50
Acquisition Date/Time:	15-May-10		
Datafile:	D:\TES\DATA\Y2010\0515TPH_GC3\016F2401.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

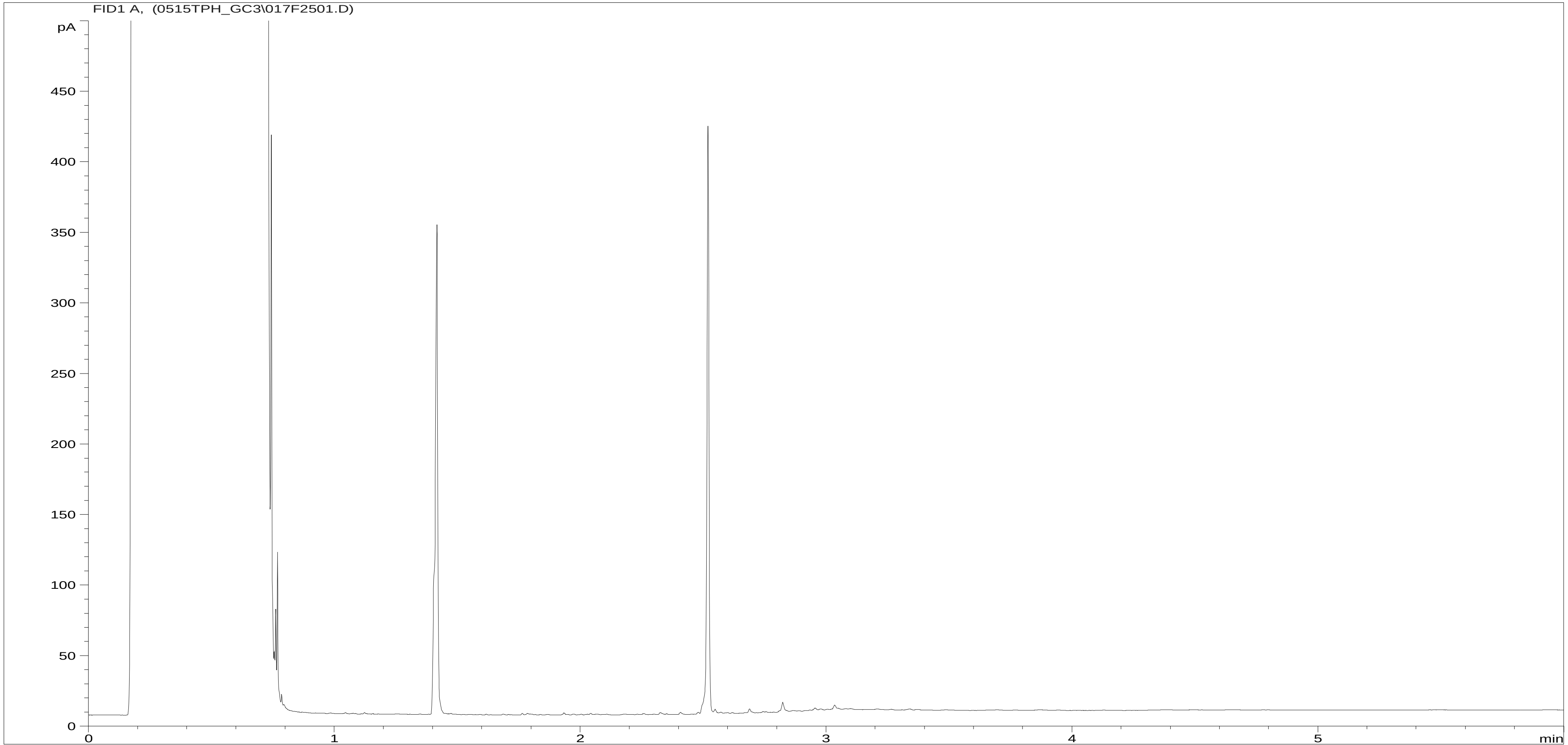
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011344ARO	**Job Number:**	S10_2535M
Multiplier:	11.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	TP304 ES 1 0.50
Acquisition Date/Time:	15-May-10		
Datafile:	D:\TES\DATA\Y2010\0515TPH_GC3\066B2501.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

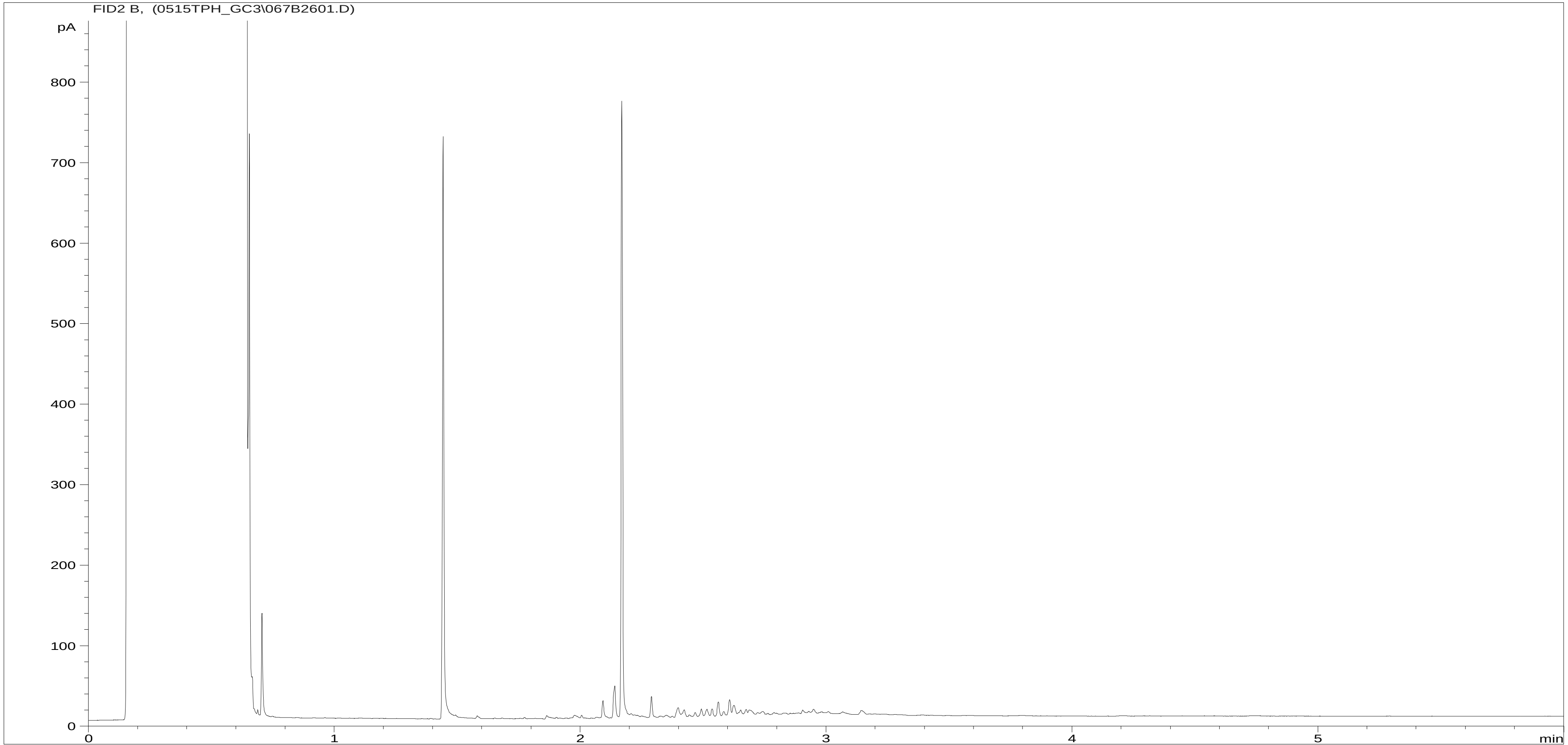
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011345ALI	**Job Number:**	S10_2535M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	TP305 ES 2 1.00
Acquisition Date/Time:	15-May-10		
Datafile:	D:\TES\DATA\Y2010\0515TPH_GC3\017F2501.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

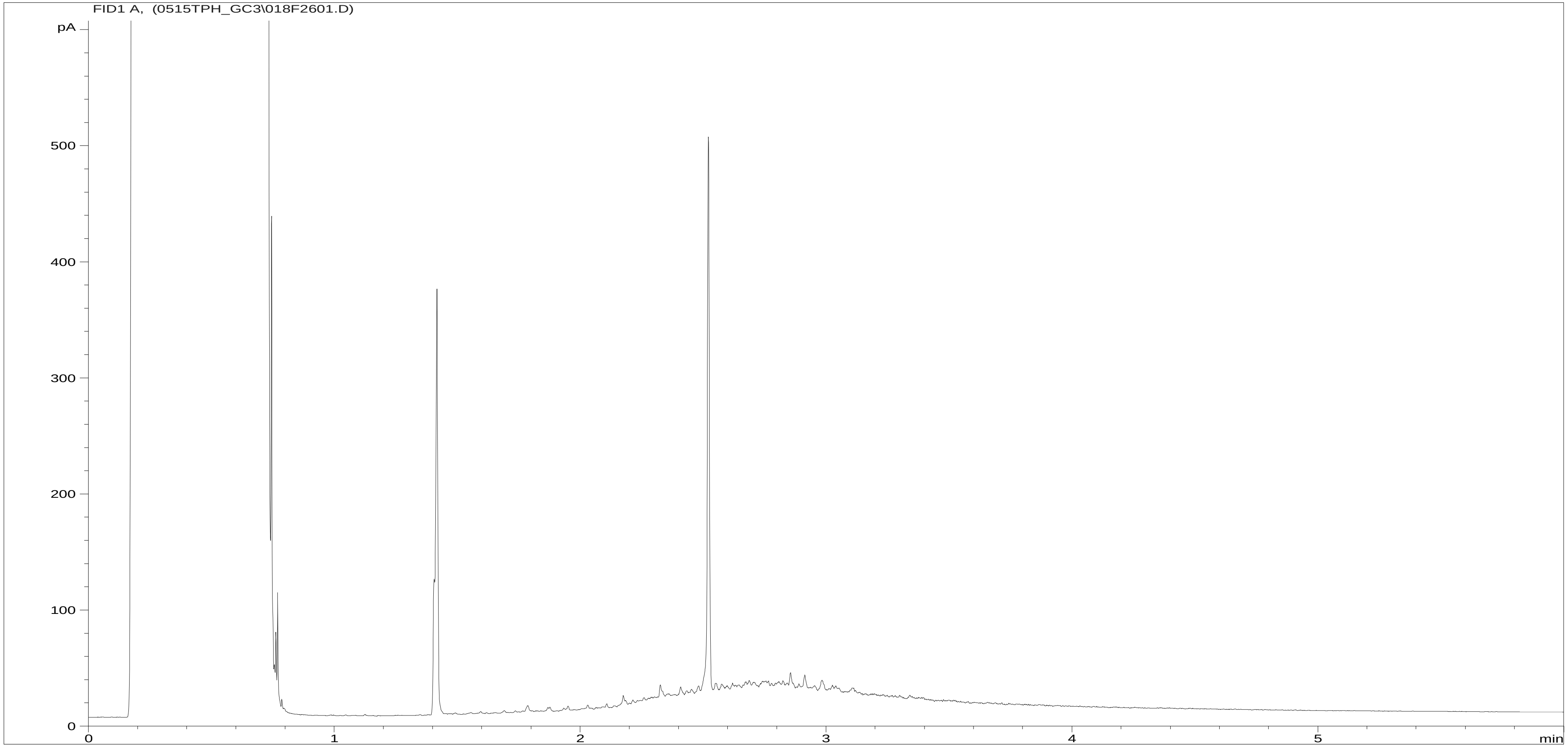
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011345ARO	**Job Number:**	S10_2535M
Multiplier:	11.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	TP305 ES 2 1.00
Acquisition Date/Time:	15-May-10		
Datafile:	D:\TES\DATA\Y2010\0515TPH_GC3\067B2601.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

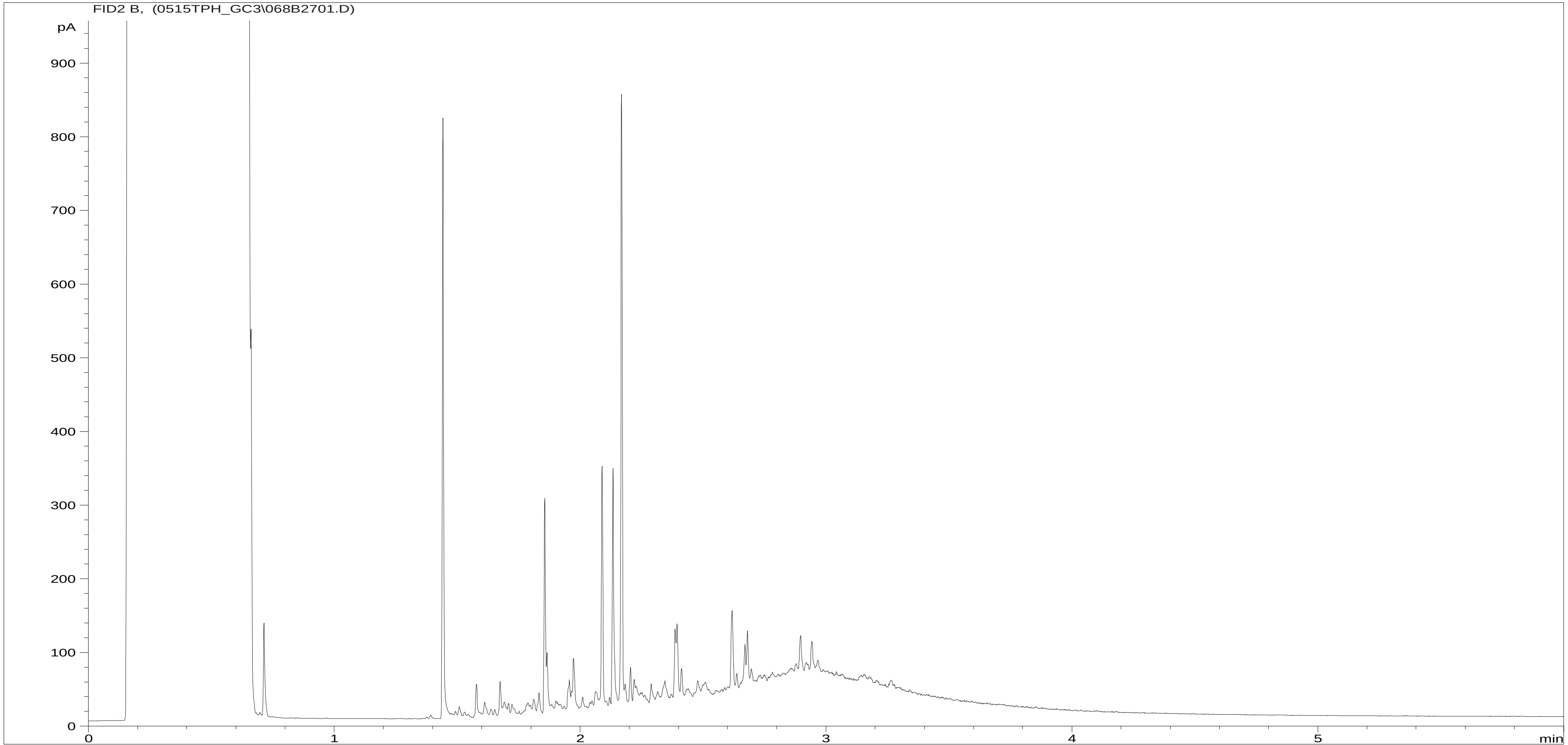
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011346ALI	**Job Number:**	S10_2535M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	TP305 ES 3 1.30
Acquisition Date/Time:	15-May-10		
Datafile:	D:\TES\DATA\Y2010\0515TPH_GC3\018F2601.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

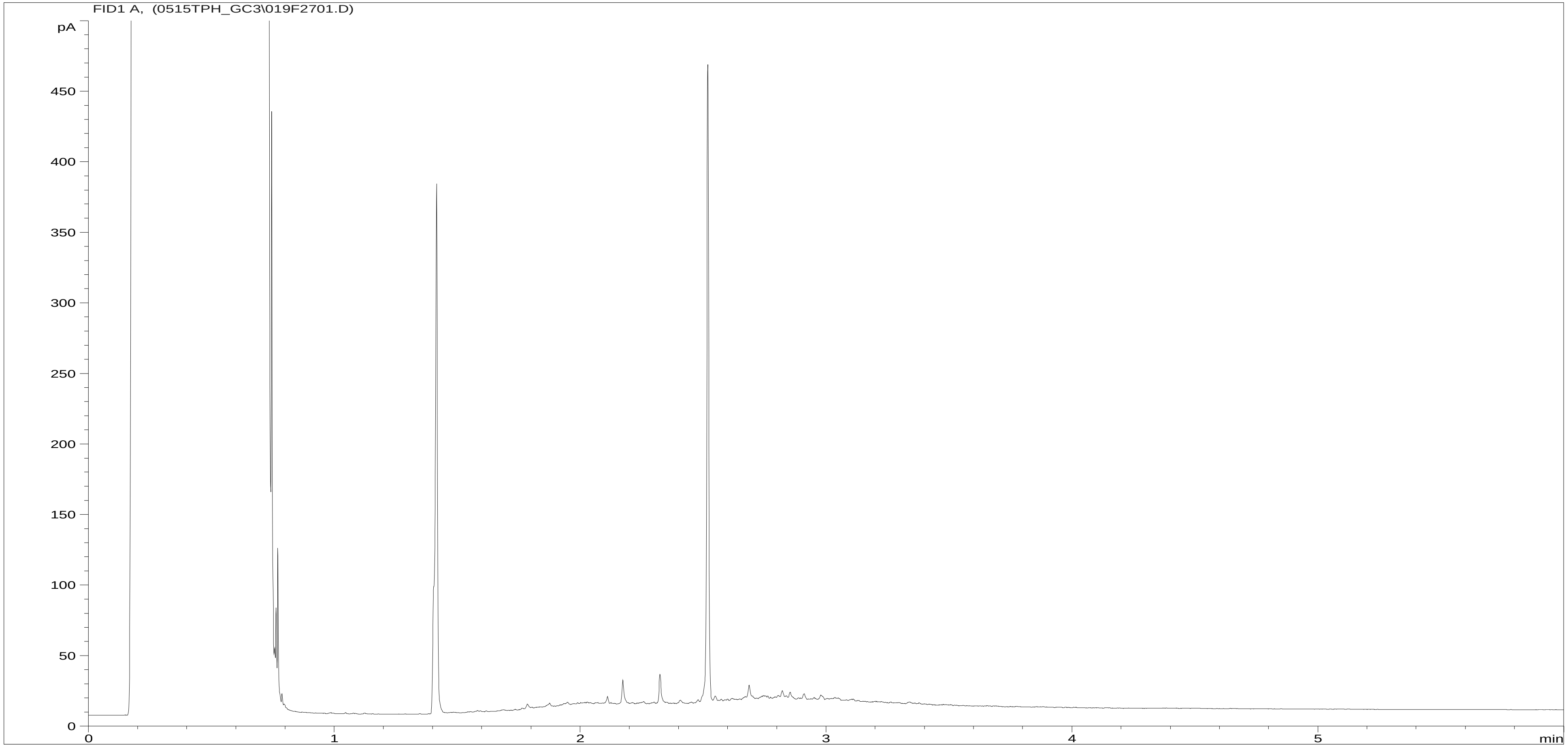
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011346ARO	**Job Number:**	S10_2535M
Multiplier:	11.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	TP305 ES 3 1.30
Acquisition Date/Time:	15-May-10		
Datafile:	D:\TES\DATA\Y2010\0515TPH_GC3\068B2701.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

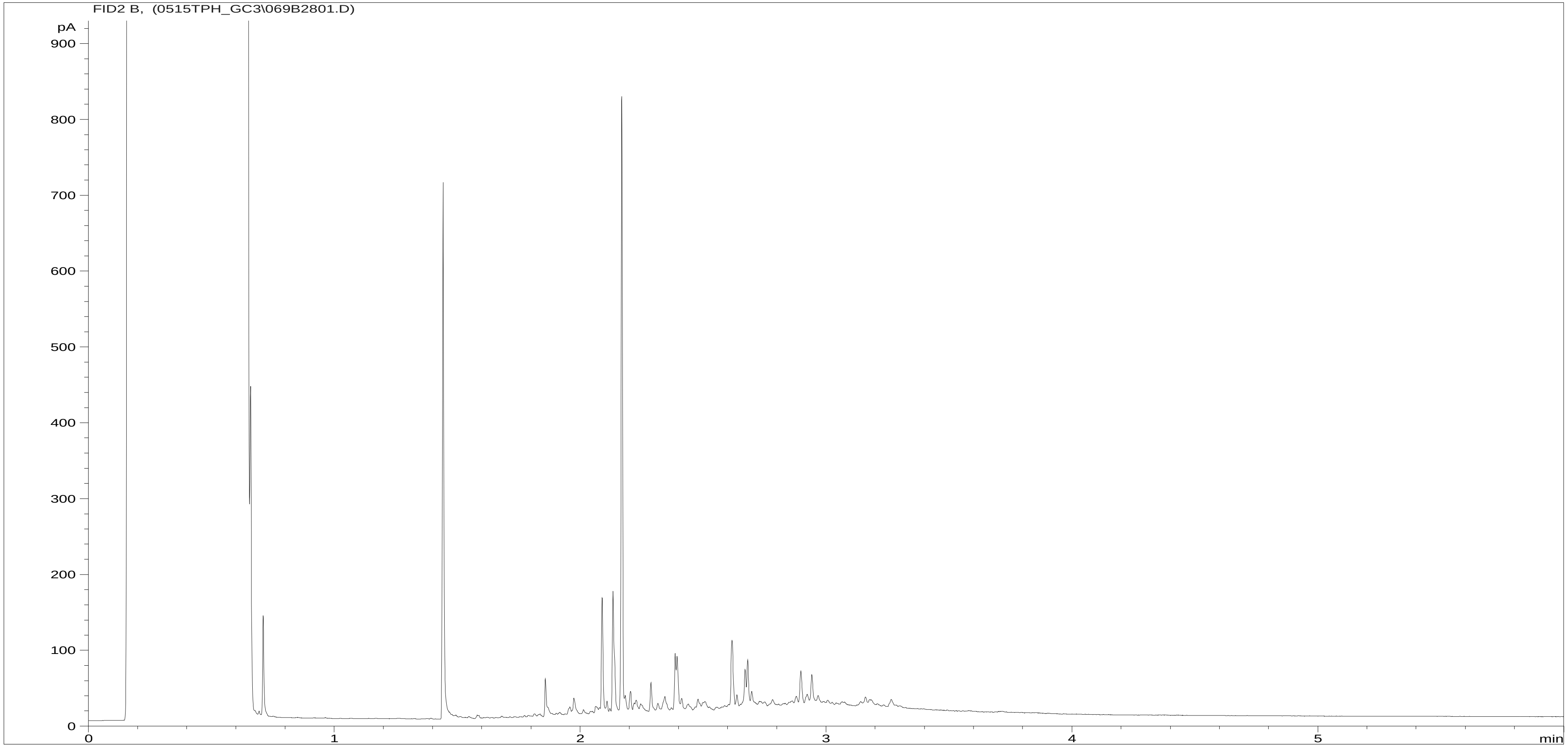
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011347ALI	**Job Number:**	S10_2535M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	TP306 ES 3 2.40
Acquisition Date/Time:	15-May-10		
Datafile:	D:\TES\DATA\Y2010\0515TPH_GC3\019F2701.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011347ARO	**Job Number:**	S10_2535M
Multiplier:	11.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	TP306 ES 3 2.40
Acquisition Date/Time:	15-May-10		
Datafile:	D:\TES\DATA\Y2010\0515TPH_GC3\069B2801.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

		Accredited?:	**Yes**		
Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	0512VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	TP301 ES 2 1.00	**Date Booked in:**	04-May-10	**Method:**	Purge & trap
LIMS ID Number:	CL1011340	**Date Analysed:**	15-May-10	**Multiplier:**	5
Job Number:	S10_2535M	**Operator:**	AB	**Position:**	81

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	UM
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 *	-	< 6	-	N
Bromomethane	74-83-9 *	-	< 29	-	N
Chloroethane	75-00-3	-	< 29	-	UM
Trichlorofluoromethane	75-69-4	-	< 6	-	UM
1,1-Dichloroethene	75-35-4	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	U
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 *	-	< 6	-	N
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6 *	-	< 6	-	N
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 29	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	UM
Dibromochloromethane	124-48-1	-	< 6	-	UM
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	UM
iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5 *	-	< 6	-	N
Propylbenzene	103-65-1	-	< 6	-	U
Bromobenzene	108-86-1	-	< 6	-	UM
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	U
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	UM
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	UM
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 29	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 29	-	U
Hexachlorobutadiene	87-68-3 *	-	< 29	-	N
Naphthalene	91-20-3 *	-	< 29	-	N
1,2,3-Trichlorobenzene	87-61-6	-	< 29	-	UM

Concentrations are reported on a dry weight basis

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.23	89	Dibromofluoromethane	104
1,4-Difluorobenzene	2.53	91	Toluene-d8	91
Chlorobenzene-d5	3.57	77	Bromofluorobenzene	81
1,4-Dichlorobenzene-d4	4.33	54		

This analysis was conducted on an 'As Recieved' basis.

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

Accredited?: Yes

Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	0516VOC.MS3\ Initial Calibration
Sample Details:	TP304 ES 1 0.50	**Date Booked in:**	04-May-10
LIMS ID Number:	CL1011344	**Date Analysed:**	16-May-10
Job Number:	S10_2535M	**Operator:**	AB

Matrix:	Soil
Method:	Purge & trap
Multiplier:	5
Position:	13

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	UM
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 *	-	< 6	-	N
Bromomethane	74-83-9 *	-	< 28	-	N
Chloroethane	75-00-3	-	< 28	-	UM
Trichlorofluoromethane	75-69-4	-	< 6	-	UM
1,1-Dichloroethene	75-35-4	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	U
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3 *	-	< 6	-	N
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6	-	< 6	-	UM
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 *	-	< 6	-	N
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6 *	-	< 6	-	N
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 28	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	UM
Dibromochloromethane	124-48-1	-	< 6	-	UM
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	UM
iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5 *	-	< 6	-	N
Propylbenzene	103-65-1	-	< 6	-	U
Bromobenzene	108-86-1 *	-	< 6	-	N
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	U
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	UM
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	UM
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 28	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 28	-	U
Hexachlorobutadiene	87-68-3 *	-	< 28	-	N
Naphthalene	91-20-3 *	-	< 28	-	N
1,2,3-Trichlorobenzene	87-61-6	-	< 28	-	UM

Concentrations are reported on a dry weight basis

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.23	87	Dibromofluoromethane	105
1,4-Difluorobenzene	2.53	88	Toluene-d8	97
Chlorobenzene-d5	3.57	78	Bromofluorobenzene	82
1,4-Dichlorobenzene-d4	4.33	61		

This analysis was conducted on an 'As Recieved' basis.

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,
- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

Waters Analysis

Unless stated otherwise results are expressed as mg/l

Oil analysis specific

Unless stated otherwise,
- Results are expressed as mg/kg
- SG is expressed as g/cm^3@ 15^{o}C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile
CR Denotes Crocidolite
AM Denotes Amosite
NADIS Denotes No Asbestos Detected In Sample
NBFO Denotes No Bulk Fibres Observed

Symbol Reference

^ Sub-contracted analysis
$$ Unable to analyse due to the nature of the sample
¶ Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.
This may have resulted in deterioration of the sample(s) during transit to the laboratory.
Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling
¥ Results for guidance only due to possible interference
& Blank corrected result
I.S Insufficient sample to complete requested analysis
I.S(g) Insufficient sample to re-analyse, results for guidance only
Intf Unable to analyse due to interferences
N.D Not determined
N.Det Not detected
Req Analysis requested, see attached sheets for results
Þ Raised detection limit due to nature of the sample
***** All accreditation has been removed by the laboratory for this result
‡ MCERTS accreditation has been removed for this result

Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

END OF REPORT

Sample Descriptions

Client : Soil Mechanics

Site : Isles Quarry

Report Number : S10_2535M

Note: major constituent in upper case

Lab ID Number	Client ID	Description
CL/1011340	TP301 ES 2 1.00	Brown Stone SILT
CL/1011341	TP302 ES 2 1.00	Brown Stone CLAY
CL/1011342	TP302 ES 3 3.00	Brown Gravel SILT
CL/1011343	TP303 ES 1 1.00	Brown MADE GROUND
CL/1011344	TP304 ES 1 0.50	Brown Stone SILT
CL/1011345	TP305 ES 2 1.00	Brown Stone CLAY
CL/1011346	TP305 ES 3 1.30	Brown Stone SILT
CL/1011347	TP306 ES 3 2.40	Brown Stone SILT

END OF REPORT

TEST REPORT
SOIL SAMPLE ANALYSIS

1252

Report No. EFS/102548M (Ver. 1)

Soil Mechanics
Fox Pitt
Shinglebarn Lane
West Farleigh
Maidstone Kent
ME15 0PN

Site: Isles Quarry

The 20 samples described in this report were logged for analysis by Scientifics on 04-May-2010.
The analysis was completed by: 18-May-2010

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS or MCERTS accredited
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

On behalf of
Scientifics :
Lisa Thompson Project Co-ordinator

Date of Issue: 18-May-2010

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)
Tests marked '^' have been subcontracted to another laboratory.
(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.
All results are reported on a dry weight basis at 105^{o}C unless otherwise stated. (except QC samples)
Scientifics accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Laboratory ID Number CL/	Client Sample Description	SO4-- (acid sol)	Boron (H20 Soluble)	Arsenic (MS)	Cadmium (MS)	Chromium (MS)	Copper (MS)	Lead (MS)	Mercury (MS)	Nickel (MS)	Selenium (MS)	Zinc (MS)	SO4-- (H2O sol) mg/l	PAH by MS.16(0.08)	PAH by MS.17(0.08)	pH units (AR)	Cyanide(Total) (AR)
	Units :	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pH Units	mg/kg
	Method Codes :	ICPACIDS	ICPBOR	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPWSS	PAHMSUS	PAHMSUS	PHSOIL	SFAPI
	Method Reporting Limits :	20	0.5	0.5	0.2	1.2	1.6	0.7	0.5	2	0.5	16	10	0.08	0.08		0.5
	Accreditation Code:	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM			UM	UM
1011372	SS8 ES 1 0.00		1.8	19	0.29	27.5	27.7	49.9	<0.5	20	<0.5	79.6			Req	8.1	<0.6
1011375	BH101 ES 3 1.00		2.5	14.9	0.37	40.8	31.8	81	<0.50	27.2	<0.5	91		Req		8.4	
1011376	BH101 ES 8 3.00	1020	1.4	13.8	0.3	24.2	11.9	28.1	<0.5	30.6	<0.5	62.6	221			8.4	<0.6
1011377	BH101 ES 27 13.00	1190	1.3	9.8	0.27	17.1	11.5	24	<0.5	33.9	0.6	54.1	119	Req		8.6	<0.6
1011378	BH102 ES 3 1.00		1.5	13.5	0.41	26.9	6	7.2	<0.5	70.9	0.6	39		Req		9.2	
1011379	BH102 ES 9 3.00	2030											83			9.3	<0.6
1011380	BH103 ES 3 1.00		1.1	10.9	0.37	28.5	135.6	82.9	<0.51	20.1	0.6	80.7				8.8	<0.6
1011381	BH103 ES 13 5.00	1010											77			8.8	
1011382	BH103 ES 24 11.00		1	7.9	0.22	19	7	7.6	<0.5	41	<0.5	30.3				8.9	<0.6
1011383	BH103 ES 27 13.00	503	1.2	29	0.33	42	15.3	173	<0.5	55.4	0.5	55.5	25	Req		8.5	
1011384	BH104 ES 3 1.00		1	11.2	0.32	23.3	26.5	115	<0.5	22.2	<0.5	112.7				8.5	<0.6
1011385	BH104 ES 9 3.00 (NVM)														Req	9.0	
1011386	BH104 ES 17 5.00	1800	1.5	6.8	0.26	14.8	6.4	24	<0.5	37.8	<0.5	27.3	174	Req		8.8	
1011387	BH104 ES 36 11.00	1650	1.6	4.6	0.22	12.6	4.7	5.9	<0.5	30.8	<0.5	22	176	Req		9.1	
1011388	BH105A ES 8 3.00		1.2	6.5	0.22	12.9	5.3	3.7	<0.5	39.4	<0.5	24.1				9.0	<0.6
1011389	BH106 ES 4 1.00		1.1	37.5	<0.20	38	6.6	11.6	<0.5	24.9	<0.5	37.5				8.6	<0.6
1011503	BH106 ES 9 3.00														Req	8.3	
1011390	BH106 ES 14 5.00 (NVM)																
1011373	WS213 ES 1 0.50																
1011374	WS213 ES 4 1.40	1570	1.6	6.5	0.25	15.5	6.5	7	<0.5	36.7	<0.5	25.1	82			9.2	<0.6

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Client Name Soil Mechanics

Contact Mr M Ratcliffe

Soils Sample Analysis

Isles Quarry

Date Printed	18-May-10
Report Number	**EFS/102548M**
Table Number	**1**

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appr opriate, in accordance with the MCERTS standard.

Laboratory ID Number CL/	Client Sample Description	Phenol Index.(AR)	Tot.Moisture @ 105C	TPH by GCFID (AR)	TPH by GCFID (AR/Si)	VOC by GCMS (8100)	Acid Neut. Capacity	MTBE	GRO (AA)	L.O.I. % @ 450C	PCB (7 Congeners)	Asbestos (screening)	Organic Matter %	SVOC + TICs (AR)	Total Organic Carbon		
	Units :	mg/kg	%	mg/kg	mg/kg	ug/kg	Mol/kg	ug/kg	mg/kg	%	ug/kg		%	mg/kg	% M/M		
	Method Codes :	SFAPI	TMSS	TPHFIDUS	TPHUSSI	VOCSW8100	ANC	BTEXHSA	GROHSA	LOI(%MM)	PCBUSECD	SEN9	SSL	SVOCMSUS	WSLM59		
	Method Reporting Limits :	0.5	0.2	10.0	10.0	5	0.04	20	0.1	0.2	5		0.1	0.2-10.0	0.01		
	Accreditation Code:	U	U	UM			N	N		N		N	N		N		
1011372	SS8 ES 1 0.00		20.6	466	Req	Req	1.05	<25	Req	4	Req		4.79	Req	1.76		
1011375	BH101 ES 3 1.00	<0.6	16.4		Req				Req				3.79				
1011376	BH101 ES 8 3.00		18.6		Req	Req			Req				2.85	Req			
1011377	BH101 ES 27 13.00	<0.6	16.5		Req				Req				3.57				
1011378	BH102 ES 3 1.00	<0.6	14.2		Req				Req				0.42				
1011379	BH102 ES 9 3.00		12.4										0.31				
1011380	BH103 ES 3 1.00		15.7		Req				Req				3.46	Req			
1011381	BH103 ES 13 5.00	<0.6	16.3										0.69				
1011382	BH103 ES 24 11.00		16.1		Req				Req				0.74	Req			
1011383	BH103 ES 27 13.00	<0.6	17.0		Req				Req				1.04				
1011384	BH104 ES 3 1.00		15.5		Req	Req			Req				1.05	Req			
1011385	BH104 ES 9 3.00 (NVM)		17.4	104‡			12.07			1.4	Req				0.29		
1011386	BH104 ES 17 5.00	<0.6	20.2		Req				Req				0.69				
1011387	BH104 ES 36 11.00	<0.6	16.3		Req				Req			NBFO	0.47				
1011388	BH105A ES 8 3.00		10.2		Req	Req			Req				0.42	Req			
1011389	BH106 ES 4 1.00		19.9		Req	Req			Req				0.86	Req			
1011503	BH106 ES 9 3.00		20.5	16.4			0.08			2	Req				0.12		
1011390	BH106 ES 14 5.00 (NVM)																
1011373	WS213 ES 1 0.50		9.4								Req						
1011374	WS213 ES 4 1.40		12.2		Req	Req			Req		Req		0.37	Req			

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Client Name **Soil Mechanics**

Contact Mr M Ratcliffe

Isles Quarry

Soils Sample Analysis

Date Printed	18-May-10
Report Number	**EFS/102548M**
Table Number	**1**

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105C where appr opriate, in accordance with the MCERTS standard.

Laboratory ID Number CL/	Client Sample Description	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
	Units :	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	Method Codes :	BTEXHSA	BTEXHSA	BTEXHSA	BTEXHSA	BTEXHSA
	Method Reporting Limits :	10	10	10	20	20
	Accreditation Code:	N	N	N	N	N
1011372	SS8 ES 1 0.00					
1011375	BH101 ES 3 1.00					
1011376	BH101 ES 8 3.00					
1011377	BH101 ES 27 13.00					
1011378	BH102 ES 3 1.00					
1011379	BH102 ES 9 3.00					
1011380	BH103 ES 3 1.00					
1011381	BH103 ES 13 5.00					
1011382	BH103 ES 24 11.00					
1011383	BH103 ES 27 13.00					
1011384	BH104 ES 3 1.00					
1011385	BH104 ES 9 3.00 (NVM)	<12	<12	<12	<24	<24
1011386	BH104 ES 17 5.00					
1011387	BH104 ES 36 11.00					
1011388	BH105A ES 8 3.00					
1011389	BH106 ES 4 1.00					
1011503	BH106 ES 9 3.00	<13	<13	<13	<25	<25

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Client Name **Soil Mechanics**
Contact Mr M Ratcliffe

Soils Sample Analysis

Date Printed	18-May-10
Report Number	**EFS/102548M**
Table Number	**1**

Isles Quarry

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appr opriate, in accordance with the MCERTS standard.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	SS8 ES 1 0.00	**Job Number:**	S10_2548M
LIMS ID Number:	CL1011372	**Date Booked in:**	04-May-10
QC Batch Number:	1173	**Date Extracted:**	17-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	17-May-10
Directory:	\0516PAHGC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	**UM**
Acenaphthylene	208-96-8	4.17	0.10	99	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	5.45	0.33	96	UM
Anthracene	120-12-7	5.50	0.18	95	U
Fluoranthene	206-44-0	6.74	1.17	80	UM
Pyrene	129-00-0	7.02	1.00	100	UM
Benzo[a]anthracene	56-55-3	8.67	0.64	90	UM
Chrysene	218-01-9	8.72	0.57	92	UM
Benzo[b]fluoranthene	205-99-2	10.19	0.93	91	UM
Benzo[k]fluoranthene	207-08-9	10.23	0.40	92	UM
Benzo[a]pyrene	50-32-8	10.61	0.80	100	UM
Indeno[1,2,3-cd]pyrene	193-39-5	11.99	0.52	94	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	12.28	0.54	95	UM
Coronene	191-07-1 *	14.25	0.16	67	N
Total (USEPA16) PAHs	-	-	< 7.54	-	N

* Denotes compound is not UKAS accredited

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	82
Acenaphthene-d10	82
Phenanthrene-d10	80
Chrysene-d12	87
Perylene-d12	88

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	93
Terphenyl-d14	103

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH101 ES 3 1.00	**Job Number:**	S10_2548M
LIMS ID Number:	CL1011375	**Date Booked in:**	04-May-10
QC Batch Number:	1173	**Date Extracted:**	17-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	17-May-10
Directory:	\0516PAHGC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	**UM**
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	5.45	0.47	98	UM
Anthracene	120-12-7	5.50	0.22	93	U
Fluoranthene	206-44-0	6.74	1.70	96	UM
Pyrene	129-00-0	7.01	1.46	99	UM
Benzo[a]anthracene	56-55-3	8.67	0.80	90	UM
Chrysene	218-01-9	8.72	0.70	93	UM
Benzo[b]fluoranthene	205-99-2	10.19	1.16	99	UM
Benzo[k]fluoranthene	207-08-9	10.23	0.50	95	UM
Benzo[a]pyrene	50-32-8	10.62	0.87	99	UM
Indeno[1,2,3-cd]pyrene	193-39-5	11.99	0.65	96	UM
Dibenzo[a,h]anthracene	53-70-3	12.02	0.10	77	UM
Benzo[g,h,i]perylene	191-24-2	12.27	0.60	95	UM
Total (USEPA16) PAHs	-	-	< 9.63	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	**% Area**
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	90
Acenaphthene-d10	88
Phenanthrene-d10	88
Chrysene-d12	97
Perylene-d12	96

Surrogates	**% Rec**
Nitrobenzene-d5	NA
2-Fluorobiphenyl	94
Terphenyl-d14	105

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH101 ES 27 13.00	**Job Number:**	S10_2548M
LIMS ID Number:	CL1011377	**Date Booked in:**	04-May-10
QC Batch Number:	1173	**Date Extracted:**	17-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	17-May-10
Directory:	\0516PAHGC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	3.13	0.10	83	**UM**
Acenaphthylene	208-96-8	4.17	0.59	99	U
Acenaphthene	83-32-9	4.28	0.28	98	UM
Fluorene	86-73-7	4.65	0.40	91	UM
Phenanthrene	85-01-8	5.45	4.24	99	UM
Anthracene	120-12-7	5.50	1.78	96	U
Fluoranthene	206-44-0	6.73	9.74	97	UM
Pyrene	129-00-0	7.01	8.13	99	UM
Benzo[a]anthracene	56-55-3	8.67	4.63	97	UM
Chrysene	218-01-9	8.72	3.68	99	UM
Benzo[b]fluoranthene	205-99-2	10.19	5.49	100	UM
Benzo[k]fluoranthene	207-08-9	10.22	2.05	96	UM
Benzo[a]pyrene	50-32-8	10.61	4.60	98	UM
Indeno[1,2,3-cd]pyrene	193-39-5	11.99	2.97	92	UM
Dibenzo[a,h]anthracene	53-70-3	12.02	0.61	89	UM
Benzo[g,h,i]perylene	191-24-2	12.27	2.62	96	UM
Total (USEPA16) PAHs	-	-	51.92	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	89
Acenaphthene-d10	86
Phenanthrene-d10	87
Chrysene-d12	96
Perylene-d12	96

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	94
Terphenyl-d14	102

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH102 ES 3 1.00	**Job Number:**	S10_2548M
LIMS ID Number:	CL1011378	**Date Booked in:**	04-May-10
QC Batch Number:	1173	**Date Extracted:**	17-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	17-May-10
Directory:	\0516PAHGC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.09	-	**UM**
Acenaphthylene	208-96-8	-	< 0.09	-	U
Acenaphthene	83-32-9	-	< 0.09	-	UM
Fluorene	86-73-7	-	< 0.09	-	UM
Phenanthrene	85-01-8	-	< 0.09	-	UM
Anthracene	120-12-7	-	< 0.09	-	U
Fluoranthene	206-44-0	-	< 0.09	-	UM
Pyrene	129-00-0	-	< 0.09	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.09	-	UM
Chrysene	218-01-9	-	< 0.09	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.09	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.09	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.09	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.09	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.09	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.09	-	UM
Total (USEPA16) PAHs	-	-	< 1.49	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	82
Acenaphthene-d10	76
Phenanthrene-d10	71
Chrysene-d12	74
Perylene-d12	73

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	94
Terphenyl-d14	100

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH103 ES 27 13.00	**Job Number:**	S10_2548M
LIMS ID Number:	CL1011383	**Date Booked in:**	04-May-10
QC Batch Number:	1173	**Date Extracted:**	17-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	17-May-10
Directory:	\0516PAHGC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	**UM**
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.54	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	79
Acenaphthene-d10	78
Phenanthrene-d10	77
Chrysene-d12	82
Perylene-d12	85

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	94
Terphenyl-d14	102

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH104 ES 9 3.00 (NVM)	**Job Number:**	S10_2548M
LIMS ID Number:	CL1011385	**Date Booked in:**	04-May-10
QC Batch Number:	1173	**Date Extracted:**	17-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	17-May-10
Directory:	\0516PAHGC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	**U**
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	U
Fluorene	86-73-7	-	< 0.10	-	U
Phenanthrene	85-01-8	-	< 0.10	-	U
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	U
Pyrene	129-00-0	-	< 0.10	-	U
Benzo[a]anthracene	56-55-3	-	< 0.10	-	U
Chrysene	218-01-9	-	< 0.10	-	U
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	U
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	U
Benzo[a]pyrene	50-32-8	-	< 0.10	-	U
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	U
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	U
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	U
Coronene	191-07-1 *	-	< 0.10	-	N
Total (USEPA16) PAHs	-	-	< 1.55	-	N

* Denotes compound is not UKAS accredited

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	91
Acenaphthene-d10	90
Phenanthrene-d10	94
Chrysene-d12	99
Perylene-d12	98

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	94
Terphenyl-d14	100

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH104 ES 17 5.00	**Job Number:**	S10_2548M
LIMS ID Number:	CL1011386	**Date Booked in:**	04-May-10
QC Batch Number:	1173	**Date Extracted:**	17-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	17-May-10
Directory:	\0516PAHGC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	**UM**
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.60	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	86
Acenaphthene-d10	85
Phenanthrene-d10	84
Chrysene-d12	87
Perylene-d12	87

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	95
Terphenyl-d14	102

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH104 ES 36 11.00	**Job Number:**	S10_2548M
LIMS ID Number:	CL1011387	**Date Booked in:**	04-May-10
QC Batch Number:	1173	**Date Extracted:**	17-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	17-May-10
Directory:	\0516PAHGC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	**UM**
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.53	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	98
Acenaphthene-d10	95
Phenanthrene-d10	94
Chrysene-d12	97
Perylene-d12	97

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	95
Terphenyl-d14	98

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH106 ES 9 3.00	**Job Number:**	S10_2548M
LIMS ID Number:	CL1011503	**Date Booked in:**	04-May-10
QC Batch Number:	1173	**Date Extracted:**	17-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	17-May-10
Directory:	\0516PAHGC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	**UM**
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Coronene	191-07-1 *	-	< 0.10	-	N
Total (USEPA16) PAHs	-	-	< 1.61	-	N

* Denotes compound is not UKAS accredited

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	89
Acenaphthene-d10	87
Phenanthrene-d10	85
Chrysene-d12	86
Perylene-d12	84

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	92
Terphenyl-d14	97

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polychlorinated Biphenyls (congeners)

Customer and Site Details:	Soil Mechanics: Isles Quarry	**Matrix:**	SOIL
Job Number:	S10_2548M	**Date Booked in:**	04-May-10
QC Batch Number:	101143	**Date Extracted:**	13-May-10
Directory:	0513PCB.GC8	**Date Analysed:**	14-May-10
Method:	Ultrasonic		
Accreditation code:	N		

		Concentration, (µg/kg)						
Sample ID	**Customer ID**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB153**	**PCB138**	**PCB180**
* CL1011372	SS8 ES 1 0.00	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1
* CL1011373	WS213 ES 1 0.50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
* CL1011374	WS213 ES 4 1.40	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
* CL1011385	BH104 ES 9 3.00 (NVM)	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1
* CL1011503	BH106 ES 9 3.00	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where approp riate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Soil		**QC Batch Number:**	1120
Sample Details:	SS8 ES 1 0.00	**Date Booked in:**	04-May-10	**Ext Method:**	Ultrasonic		**Multiplier:**	0.2
LIMS ID Number:	CL1011372	**Date Extracted:**	11-May-10	**Operator:**	AB		**Dilution Factor:**	1
Job Number:	S10_2548M	**Date Analysed:**	12-May-10	**Directory/Quant File:**	11SVOC.GC11\	0511_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 3.0	-	N
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	N
2-Chlorophenol	95-57-8	-	< 3.0	-	N
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	N
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	N
Benzyl alcohol	100-51-6	-	< 0.6	-	N
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	N
2-Methylphenol	95-48-7	-	< 0.6	-	N
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	N
Hexachloroethane	67-72-1	-	< 0.6	-	N
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	N
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 3.0	-	N
Nitrobenzene	98-95-3	-	< 0.6	-	N
Isophorone	78-59-1	-	< 0.6	-	N
2-Nitrophenol	88-75-5	-	< 3.0	-	N
2,4-Dimethylphenol	105-67-9	-	< 3.0	-	N
Benzoic Acid	65-85-0 *	-	< 13.0	-	N
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	N
2,4-Dichlorophenol	120-83-2	-	< 3.0	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	N
Naphthalene	91-20-3	-	< 0.3	-	N
4-Chlorophenol	106-48-9	-	< 3.0	-	N
4-Chloroaniline	106-47-8 *	-	< 0.6	-	N
Hexachlorobutadiene	87-68-3	-	< 0.6	-	N
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	N
2-Methylnaphthalene	91-57-6	-	< 0.3	-	N
1-Methylnaphthalene	90-12-0	-	< 0.3	-	N
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	N
2,4,6-Trichlorophenol	88-06-2	-	< 3.0	-	N
2,4,5-Trichlorophenol	95-95-4	-	< 3.0	-	N
2-Chloronaphthalene	91-58-7	-	< 0.3	-	N
Biphenyl	92-52-4	-	< 0.3	-	N
Diphenyl ether	101-84-8	-	< 0.3	-	N
2-Nitroaniline	88-74-4	-	< 0.6	-	N
Acenaphthylene	208-96-8	-	< 0.3	-	N
Dimethylphthalate	131-11-3	-	< 0.6	-	N
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	N
Acenaphthene	83-32-9	-	< 0.3	-	N
3-Nitroaniline	99-09-2	-	< 0.6	-	N

Concentrations are reported on a dry weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	N
Dibenzofuran	132-64-9	-	< 0.6	-	N
4-Nitrophenol	100-02-7	-	< 6.0	-	N
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	N
Fluorene	86-73-7	-	< 0.3	-	N
Diethylphthalate	84-66-2	-	< 0.6	-	N
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	N
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	N
4-Nitroaniline	100-01-6	-	< 0.6	-	N
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	N
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	N
Hexachlorobenzene	118-74-1	-	< 0.6	-	N
Pentachlorophenol	87-86-5	-	< 6.0	-	N
Phenanthrene	85-01-8	-	< 0.3	-	N
Anthracene	120-12-7	-	< 0.3	-	N
Di-n-butylphthalate	84-74-2	-	< 0.6	-	N
Fluoranthene	206-44-0	12.67	0.4	100	N
Pyrene	129-00-0	13.01	0.4	92	N
Butylbenzylphthalate	85-68-7	-	< 0.6	-	N
Benzo[a]anthracene	56-55-3	14.92	0.3	100	N
Chrysene	218-01-9	-	< 0.3	-	N
3,3'-Dichlorobenzidine	91-94-1	-	< 3.0	-	N
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	N
Di-n-octylphthalate	117-84-0	-	< 0.3	-	N
Benzo[b]fluoranthene	205-99-2	16.53	0.5	100	N
Benzo[k]fluoranthene	207-08-9	-	< 0.3	-	N
Benzo[a]pyrene	50-32-8	16.97	0.4	100	N
Indeno[1,2,3-cd]pyrene	193-39-5	18.37	0.4	100	N
Dibenzo[a,h]anthracene	53-70-3	-	< 0.3	-	N
Benzo[g,h,i]perylene	191-24-2	18.69	0.4	98	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	84
Naphthalene-d8	86
Acenaphthene-d10	85
Phenanthrene-d10	90
Chrysene-d12	93
Perylene-d12	102

Surrogates	% Rec
2-Fluorophenol	95
Phenol-d5	100
Nitrobenzene-d5	85
2-Fluorobiphenyl	98
2,4,6-Tribromophenol	93
Terphenyl-d14	95

This analysis was conducted on an 'As Recieved' basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Soil	**QC Batch Number:**	1120
Sample Details:	WS213 ES 4 1.40	**Date Booked in:**	04-May-10	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL1011374	**Date Extracted:**	11-May-10	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S10_2548M	**Date Analysed:**	11-May-10	**Directory/Quant File:**	11SVOC.GC11\ 0511_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	N
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	N
2-Chlorophenol	95-57-8	-	< 2.0	-	N
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	N
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	N
Benzyl alcohol	100-51-6	-	< 0.6	-	N
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	N
2-Methylphenol	95-48-7	-	< 0.6	-	N
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	N
Hexachloroethane	67-72-1	-	< 0.6	-	N
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	N
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	N
Nitrobenzene	98-95-3	-	< 0.6	-	N
Isophorone	78-59-1	-	< 0.6	-	N
2-Nitrophenol	88-75-5	-	< 2.0	-	N
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	N
Benzoic Acid	65-85-0 *	-	< 11.0	-	N
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	N
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	N
Naphthalene	91-20-3	-	< 0.2	-	N
4-Chlorophenol	106-48-9	-	< 2.0	-	N
4-Chloroaniline	106-47-8 *	-	< 0.6	-	N
Hexachlorobutadiene	87-68-3	-	< 0.6	-	N
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	N
2-Methylnaphthalene	91-57-6	-	< 0.2	-	N
1-Methylnaphthalene	90-12-0	-	< 0.2	-	N
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	N
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	N
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	N
2-Chloronaphthalene	91-58-7	-	< 0.2	-	N
Biphenyl	92-52-4	-	< 0.2	-	N
Diphenyl ether	101-84-8	-	< 0.2	-	N
2-Nitroaniline	88-74-4	-	< 0.6	-	N
Acenaphthylene	208-96-8	-	< 0.2	-	N
Dimethylphthalate	131-11-3	-	< 0.6	-	N
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	N
Acenaphthene	83-32-9	-	< 0.2	-	N
3-Nitroaniline	99-09-2	-	< 0.6	-	N

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	N
Dibenzofuran	132-64-9	-	< 0.6	-	N
4-Nitrophenol	100-02-7	-	< 6.0	-	N
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	N
Fluorene	86-73-7	9.49	0.3	94	N
Diethylphthalate	84-66-2	-	< 0.6	-	N
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	N
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	N
4-Nitroaniline	100-01-6	-	< 0.6	-	N
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	N
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	N
Hexachlorobenzene	118-74-1	-	< 0.6	-	N
Pentachlorophenol	87-86-5	-	< 6.0	-	N
Phenanthrene	85-01-8	10.85	1.9	99	N
Anthracene	120-12-7	10.93	0.6	94	N
Di-n-butylphthalate	84-74-2	-	< 0.6	-	N
Fluoranthene	206-44-0	12.67	1.6	100	N
Pyrene	129-00-0	13.01	1.3	91	N
Butylbenzylphthalate	85-68-7	-	< 0.6	-	N
Benzo[a]anthracene	56-55-3	14.92	0.7	100	N
Chrysene	218-01-9	14.97	0.6	100	N
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	N
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	N
Di-n-octylphthalate	117-84-0	-	< 0.2	-	N
Benzo[b]fluoranthene	205-99-2	16.53	0.7	100	N
Benzo[k]fluoranthene	207-08-9	16.56	0.2	100	N
Benzo[a]pyrene	50-32-8	16.97	0.6	100	N
Indeno[1,2,3-cd]pyrene	193-39-5	18.37	0.5	100	N
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	N
Benzo[g,h,i]perylene	191-24-2	18.69	0.5	96	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	69
Naphthalene-d8	72
Acenaphthene-d10	71
Phenanthrene-d10	78
Chrysene-d12	82
Perylene-d12	86

Surrogates	% Rec
2-Fluorophenol	93
Phenol-d5	93
Nitrobenzene-d5	90
2-Fluorobiphenyl	98
2,4,6-Tribromophenol	85
Terphenyl-d14	95

This analysis was conducted on an 'As Recieved' basis.

Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Soil	**QC Batch Number:**	1120
Sample Details:	BH101 ES 8 3.00	**Date Booked in:**	04-May-10	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL1011376	**Date Extracted:**	11-May-10	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S10_2548M	**Date Analysed:**	11-May-10	**Directory/Quant File:**	11SVOC.GC11\ 0511_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	N
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	N
2-Chlorophenol	95-57-8	-	< 2.0	-	N
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	N
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	N
Benzyl alcohol	100-51-6	-	< 0.6	-	N
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	N
2-Methylphenol	95-48-7	-	< 0.6	-	N
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	N
Hexachloroethane	67-72-1	-	< 0.6	-	N
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	N
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	N
Nitrobenzene	98-95-3	-	< 0.6	-	N
Isophorone	78-59-1	-	< 0.6	-	N
2-Nitrophenol	88-75-5	-	< 2.0	-	N
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	N
Benzoic Acid	65-85-0 *	-	< 12.0	-	N
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	N
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	N
Naphthalene	91-20-3	-	< 0.2	-	N
4-Chlorophenol	106-48-9	-	< 2.0	-	N
4-Chloroaniline	106-47-8 *	-	< 0.6	-	N
Hexachlorobutadiene	87-68-3	-	< 0.6	-	N
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	N
2-Methylnaphthalene	91-57-6	-	< 0.2	-	N
1-Methylnaphthalene	90-12-0	-	< 0.2	-	N
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	N
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	N
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	N
2-Chloronaphthalene	91-58-7	-	< 0.2	-	N
Biphenyl	92-52-4	-	< 0.2	-	N
Diphenyl ether	101-84-8	-	< 0.2	-	N
2-Nitroaniline	88-74-4	-	< 0.6	-	N
Acenaphthylene	208-96-8	-	< 0.2	-	N
Dimethylphthalate	131-11-3	-	< 0.6	-	N
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	N
Acenaphthene	83-32-9	-	< 0.2	-	N
3-Nitroaniline	99-09-2	-	< 0.6	-	N

Concentrations are reported on a dry weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	N
Dibenzofuran	132-64-9	-	< 0.6	-	N
4-Nitrophenol	100-02-7	-	< 6.0	-	N
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	N
Fluorene	86-73-7	-	< 0.2	-	N
Diethylphthalate	84-66-2	-	< 0.6	-	N
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	N
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	N
4-Nitroaniline	100-01-6	-	< 0.6	-	N
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	N
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	N
Hexachlorobenzene	118-74-1	-	< 0.6	-	N
Pentachlorophenol	87-86-5	-	< 6.0	-	N
Phenanthrene	85-01-8	-	< 0.2	-	N
Anthracene	120-12-7	-	< 0.2	-	N
Di-n-butylphthalate	84-74-2	-	< 0.6	-	N
Fluoranthene	206-44-0	12.67	0.4	100	N
Pyrene	129-00-0	13.01	0.4	89	N
Butylbenzylphthalate	85-68-7	-	< 0.6	-	N
Benzo[a]anthracene	56-55-3	-	< 0.2	-	N
Chrysene	218-01-9	-	< 0.2	-	N
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	N
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	N
Di-n-octylphthalate	117-84-0	-	< 0.2	-	N
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	N
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	N
Benzo[a]pyrene	50-32-8	-	< 0.2	-	N
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	N
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	N
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	71
Naphthalene-d8	74
Acenaphthene-d10	72
Phenanthrene-d10	78
Chrysene-d12	81
Perylene-d12	85

Surrogates	% Rec
2-Fluorophenol	95
Phenol-d5	93
Nitrobenzene-d5	87
2-Fluorobiphenyl	99
2,4,6-Tribromophenol	87
Terphenyl-d14	97

This analysis was conducted on an 'As Recieved' basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Soil		**QC Batch Number:**	1120
Sample Details:	BH103 ES 3 1.00	**Date Booked in:**	04-May-10	**Ext Method:**	Ultrasonic		**Multiplier:**	1
LIMS ID Number:	CL1011380	**Date Extracted:**	11-May-10	**Operator:**	AB		**Dilution Factor:**	5
Job Number:	S10_2548M	**Date Analysed:**	11-May-10	**Directory/Quant File:**	11SVOC.GC11\	0511_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 12.0	-	N
bis(2-Chloroethyl)ether	111-44-4	-	< 3.0	-	N
2-Chlorophenol	95-57-8	-	< 12.0	-	N
1,3-Dichlorobenzene	541-73-1	-	< 3.0	-	N
1,4-Dichlorobenzene	106-46-7	-	< 3.0	-	N
Benzyl alcohol	100-51-6	-	< 3.0	-	N
1,2-Dichlorobenzene	95-50-1	-	< 3.0	-	N
2-Methylphenol	95-48-7	-	< 3.0	-	N
bis(2-Chloroisopropyl)ether	108-60-1	-	< 3.0	-	N
Hexachloroethane	67-72-1	-	< 3.0	-	N
N-Nitroso-di-n-propylamine	621-64-7	-	< 3.0	-	N
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 12.0	-	N
Nitrobenzene	98-95-3	-	< 3.0	-	N
Isophorone	78-59-1	-	< 3.0	-	N
2-Nitrophenol	88-75-5	-	< 12.0	-	N
2,4-Dimethylphenol	105-67-9	-	< 12.0	-	N
Benzoic Acid	65-85-0 *	-	< 59.0	-	N
bis(2-Chloroethoxy)methane	111-91-1	-	< 3.0	-	N
2,4-Dichlorophenol	120-83-2	-	< 12.0	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 3.0	-	N
Naphthalene	91-20-3	-	< 1.0	-	N
4-Chlorophenol	106-48-9	-	< 12.0	-	N
4-Chloroaniline	106-47-8 *	-	< 3.0	-	N
Hexachlorobutadiene	87-68-3	-	< 3.0	-	N
4-Chloro-3-methylphenol	59-50-7	-	< 3.0	-	N
2-Methylnaphthalene	91-57-6	-	< 1.0	-	N
1-Methylnaphthalene	90-12-0	-	< 1.0	-	N
Hexachlorocyclopentadiene	77-47-4 *	-	< 3.0	-	N
2,4,6-Trichlorophenol	88-06-2	-	< 12.0	-	N
2,4,5-Trichlorophenol	95-95-4	-	< 12.0	-	N
2-Chloronaphthalene	91-58-7	-	< 1.0	-	N
Biphenyl	92-52-4	-	< 1.0	-	N
Diphenyl ether	101-84-8	-	< 1.0	-	N
2-Nitroaniline	88-74-4	-	< 3.0	-	N
Acenaphthylene	208-96-8	-	< 1.0	-	N
Dimethylphthalate	131-11-3	-	< 3.0	-	N
2,6-Dinitrotoluene	606-20-2	-	< 3.0	-	N
Acenaphthene	83-32-9	-	< 1.0	-	N
3-Nitroaniline	99-09-2	-	< 3.0	-	N

Concentrations are reported on a dry weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 6.0	-	N
Dibenzofuran	132-64-9	-	< 3.0	-	N
4-Nitrophenol	100-02-7	-	< 30.0	-	N
2,4-Dinitrotoluene	121-14-2	-	< 3.0	-	N
Fluorene	86-73-7	-	< 1.0	-	N
Diethylphthalate	84-66-2	-	< 3.0	-	N
4-Chlorophenyl-phenylether	7005-72-3	-	< 3.0	-	N
4,6-Dinitro-2-methylphenol	534-52-1	-	< 30.0	-	N
4-Nitroaniline	100-01-6	-	< 3.0	-	N
N-Nitrosodiphenylamine	86-30-6 *	-	< 3.0	-	N
4-Bromophenyl-phenylether	101-55-3	-	< 3.0	-	N
Hexachlorobenzene	118-74-1	-	< 3.0	-	N
Pentachlorophenol	87-86-5	-	< 30.0	-	N
Phenanthrene	85-01-8	-	< 1.0	-	N
Anthracene	120-12-7	-	< 1.0	-	N
Di-n-butylphthalate	84-74-2	-	< 3.0	-	N
Fluoranthene	206-44-0	-	< 1.0	-	N
Pyrene	129-00-0	-	< 1.0	-	N
Butylbenzylphthalate	85-68-7	-	< 3.0	-	N
Benzo[a]anthracene	56-55-3	-	< 1.0	-	N
Chrysene	218-01-9	-	< 1.0	-	N
3,3'-Dichlorobenzidine	91-94-1	-	< 12.0	-	N
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 3.0	-	N
Di-n-octylphthalate	117-84-0	-	< 1.0	-	N
Benzo[b]fluoranthene	205-99-2	-	< 1.0	-	N
Benzo[k]fluoranthene	207-08-9	-	< 1.0	-	N
Benzo[a]pyrene	50-32-8	-	< 1.0	-	N
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 1.0	-	N
Dibenzo[a,h]anthracene	53-70-3	-	< 1.0	-	N
Benzo[g,h,i]perylene	191-24-2	-	< 1.0	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	75
Naphthalene-d8	77
Acenaphthene-d10	77
Phenanthrene-d10	82
Chrysene-d12	86
Perylene-d12	91

Surrogates	% Rec
2-Fluorophenol	97
Phenol-d5	92
Nitrobenzene-d5	75
2-Fluorobiphenyl	97
2,4,6-Tribromophenol	80
Terphenyl-d14	97

This analysis was conducted on an 'As Recieved' basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Soil	**QC Batch Number:**	1120
Sample Details:	BH103 ES 24 11.00	**Date Booked in:**	04-May-10	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL1011382	**Date Extracted:**	11-May-10	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S10_2548M	**Date Analysed:**	11-May-10	**Directory/Quant File:**	11SVOC.GC11\ 0511_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	N
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	N
2-Chlorophenol	95-57-8	-	< 2.0	-	N
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	N
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	N
Benzyl alcohol	100-51-6	-	< 0.6	-	N
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	N
2-Methylphenol	95-48-7	-	< 0.6	-	N
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	N
Hexachloroethane	67-72-1	-	< 0.6	-	N
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	N
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	N
Nitrobenzene	98-95-3	-	< 0.6	-	N
Isophorone	78-59-1	-	< 0.6	-	N
2-Nitrophenol	88-75-5	-	< 2.0	-	N
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	N
Benzoic Acid	65-85-0 *	-	< 12.0	-	N
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	N
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	N
Naphthalene	91-20-3	-	< 0.2	-	N
4-Chlorophenol	106-48-9	-	< 2.0	-	N
4-Chloroaniline	106-47-8 *	-	< 0.6	-	N
Hexachlorobutadiene	87-68-3	-	< 0.6	-	N
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	N
2-Methylnaphthalene	91-57-6	-	< 0.2	-	N
1-Methylnaphthalene	90-12-0	-	< 0.2	-	N
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	N
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	N
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	N
2-Chloronaphthalene	91-58-7	-	< 0.2	-	N
Biphenyl	92-52-4	-	< 0.2	-	N
Diphenyl ether	101-84-8	-	< 0.2	-	N
2-Nitroaniline	88-74-4	-	< 0.6	-	N
Acenaphthylene	208-96-8	-	< 0.2	-	N
Dimethylphthalate	131-11-3	-	< 0.6	-	N
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	N
Acenaphthene	83-32-9	-	< 0.2	-	N
3-Nitroaniline	99-09-2	-	< 0.6	-	N

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	N
Dibenzofuran	132-64-9	-	< 0.6	-	N
4-Nitrophenol	100-02-7	-	< 6.0	-	N
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	N
Fluorene	86-73-7	-	< 0.2	-	N
Diethylphthalate	84-66-2	-	< 0.6	-	N
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	N
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	N
4-Nitroaniline	100-01-6	-	< 0.6	-	N
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	N
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	N
Hexachlorobenzene	118-74-1	-	< 0.6	-	N
Pentachlorophenol	87-86-5	-	< 6.0	-	N
Phenanthrene	85-01-8	-	< 0.2	-	N
Anthracene	120-12-7	-	< 0.2	-	N
Di-n-butylphthalate	84-74-2	-	< 0.6	-	N
Fluoranthene	206-44-0	-	< 0.2	-	N
Pyrene	129-00-0	-	< 0.2	-	N
Butylbenzylphthalate	85-68-7	-	< 0.6	-	N
Benzo[a]anthracene	56-55-3	-	< 0.2	-	N
Chrysene	218-01-9	-	< 0.2	-	N
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	N
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	N
Di-n-octylphthalate	117-84-0	-	< 0.2	-	N
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	N
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	N
Benzo[a]pyrene	50-32-8	-	< 0.2	-	N
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	N
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	N
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	80
Naphthalene-d8	81
Acenaphthene-d10	80
Phenanthrene-d10	85
Chrysene-d12	87
Perylene-d12	89

Surrogates	% Rec
2-Fluorophenol	90
Phenol-d5	95
Nitrobenzene-d5	83
2-Fluorobiphenyl	95
2,4,6-Tribromophenol	87
Terphenyl-d14	98

This analysis was conducted on an 'As Recieved' basis.

Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Soil	**QC Batch Number:**	1120
Sample Details:	BH104 ES 3 1.00	**Date Booked in:**	04-May-10	**Ext Method:**	Ultrasonic	**Multiplier:**	1
LIMS ID Number:	CL1011384	**Date Extracted:**	11-May-10	**Operator:**	AB	**Dilution Factor:**	5
Job Number:	S10_2548M	**Date Analysed:**	11-May-10	**Directory/Quant File:**	11SVOC.GC11\ 0511_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 12.0	-	N
bis(2-Chloroethyl)ether	111-44-4	-	< 3.0	-	N
2-Chlorophenol	95-57-8	-	< 12.0	-	N
1,3-Dichlorobenzene	541-73-1	-	< 3.0	-	N
1,4-Dichlorobenzene	106-46-7	-	< 3.0	-	N
Benzyl alcohol	100-51-6	-	< 3.0	-	N
1,2-Dichlorobenzene	95-50-1	-	< 3.0	-	N
2-Methylphenol	95-48-7	-	< 3.0	-	N
bis(2-Chloroisopropyl)ether	108-60-1	-	< 3.0	-	N
Hexachloroethane	67-72-1	-	< 3.0	-	N
N-Nitroso-di-n-propylamine	621-64-7	-	< 3.0	-	N
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 12.0	-	N
Nitrobenzene	98-95-3	-	< 3.0	-	N
Isophorone	78-59-1	-	< 3.0	-	N
2-Nitrophenol	88-75-5	-	< 12.0	-	N
2,4-Dimethylphenol	105-67-9	-	< 12.0	-	N
Benzoic Acid	65-85-0 *	-	< 59.0	-	N
bis(2-Chloroethoxy)methane	111-91-1	-	< 3.0	-	N
2,4-Dichlorophenol	120-83-2	-	< 12.0	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 3.0	-	N
Naphthalene	91-20-3	-	< 1.0	-	N
4-Chlorophenol	106-48-9	-	< 12.0	-	N
4-Chloroaniline	106-47-8 *	-	< 3.0	-	N
Hexachlorobutadiene	87-68-3	-	< 3.0	-	N
4-Chloro-3-methylphenol	59-50-7	-	< 3.0	-	N
2-Methylnaphthalene	91-57-6	-	< 1.0	-	N
1-Methylnaphthalene	90-12-0	-	< 1.0	-	N
Hexachlorocyclopentadiene	77-47-4 *	-	< 3.0	-	N
2,4,6-Trichlorophenol	88-06-2	-	< 12.0	-	N
2,4,5-Trichlorophenol	95-95-4	-	< 12.0	-	N
2-Chloronaphthalene	91-58-7	-	< 1.0	-	N
Biphenyl	92-52-4	-	< 1.0	-	N
Diphenyl ether	101-84-8	-	< 1.0	-	N
2-Nitroaniline	88-74-4	-	< 3.0	-	N
Acenaphthylene	208-96-8	-	< 1.0	-	N
Dimethylphthalate	131-11-3	-	< 3.0	-	N
2,6-Dinitrotoluene	606-20-2	-	< 3.0	-	N
Acenaphthene	83-32-9	-	< 1.0	-	N
3-Nitroaniline	99-09-2	-	< 3.0	-	N

Concentrations are reported on a dry weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 6.0	-	N
Dibenzofuran	132-64-9	-	< 3.0	-	N
4-Nitrophenol	100-02-7	-	< 30.0	-	N
2,4-Dinitrotoluene	121-14-2	-	< 3.0	-	N
Fluorene	86-73-7	-	< 1.0	-	N
Diethylphthalate	84-66-2	-	< 3.0	-	N
4-Chlorophenyl-phenylether	7005-72-3	-	< 3.0	-	N
4,6-Dinitro-2-methylphenol	534-52-1	-	< 30.0	-	N
4-Nitroaniline	100-01-6	-	< 3.0	-	N
N-Nitrosodiphenylamine	86-30-6 *	-	< 3.0	-	N
4-Bromophenyl-phenylether	101-55-3	-	< 3.0	-	N
Hexachlorobenzene	118-74-1	-	< 3.0	-	N
Pentachlorophenol	87-86-5	-	< 30.0	-	N
Phenanthrene	85-01-8	-	< 1.0	-	N
Anthracene	120-12-7	-	< 1.0	-	N
Di-n-butylphthalate	84-74-2	-	< 3.0	-	N
Fluoranthene	206-44-0	12.66	2.1	100	N
Pyrene	129-00-0	13.01	1.8	89	N
Butylbenzylphthalate	85-68-7	-	< 3.0	-	N
Benzo[a]anthracene	56-55-3	14.92	1.0	100	N
Chrysene	218-01-9	-	< 1.0	-	N
3,3'-Dichlorobenzidine	91-94-1	-	< 12.0	-	N
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 3.0	-	N
Di-n-octylphthalate	117-84-0	-	< 1.0	-	N
Benzo[b]fluoranthene	205-99-2	16.53	1.8	100	N
Benzo[k]fluoranthene	207-08-9	-	< 1.0	-	N
Benzo[a]pyrene	50-32-8	16.97	1.5	100	N
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 1.0	-	N
Dibenzo[a,h]anthracene	53-70-3	-	< 1.0	-	N
Benzo[g,h,i]perylene	191-24-2	18.69	1.3	97	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	83
Naphthalene-d8	87
Acenaphthene-d10	85
Phenanthrene-d10	90
Chrysene-d12	95
Perylene-d12	99

Surrogates	% Rec
2-Fluorophenol	105
Phenol-d5	97
Nitrobenzene-d5	87
2-Fluorobiphenyl	102
2,4,6-Tribromophenol	89
Terphenyl-d14	101

This analysis was conducted on an 'As Recieved' basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Soil	**QC Batch Number:**	1120
Sample Details:	BH105A ES 8 3.00	**Date Booked in:**	04-May-10	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL1011388	**Date Extracted:**	11-May-10	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S10_2548M	**Date Analysed:**	11-May-10	**Directory/Quant File:**	11SVOC.GC11\ 0511_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	N
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	N
2-Chlorophenol	95-57-8	-	< 2.0	-	N
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	N
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	N
Benzyl alcohol	100-51-6	-	< 0.6	-	N
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	N
2-Methylphenol	95-48-7	-	< 0.6	-	N
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	N
Hexachloroethane	67-72-1	-	< 0.6	-	N
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	N
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	N
Nitrobenzene	98-95-3	-	< 0.6	-	N
Isophorone	78-59-1	-	< 0.6	-	N
2-Nitrophenol	88-75-5	-	< 2.0	-	N
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	N
Benzoic Acid	65-85-0 *	-	< 11.0	-	N
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	N
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	N
Naphthalene	91-20-3	-	< 0.2	-	N
4-Chlorophenol	106-48-9	-	< 2.0	-	N
4-Chloroaniline	106-47-8 *	-	< 0.6	-	N
Hexachlorobutadiene	87-68-3	-	< 0.6	-	N
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	N
2-Methylnaphthalene	91-57-6	-	< 0.2	-	N
1-Methylnaphthalene	90-12-0	-	< 0.2	-	N
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	N
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	N
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	N
2-Chloronaphthalene	91-58-7	-	< 0.2	-	N
Biphenyl	92-52-4	-	< 0.2	-	N
Diphenyl ether	101-84-8	-	< 0.2	-	N
2-Nitroaniline	88-74-4	-	< 0.6	-	N
Acenaphthylene	208-96-8	-	< 0.2	-	N
Dimethylphthalate	131-11-3	-	< 0.6	-	N
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	N
Acenaphthene	83-32-9	-	< 0.2	-	N
3-Nitroaniline	99-09-2	-	< 0.6	-	N

Concentrations are reported on a dry weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	N
Dibenzofuran	132-64-9	-	< 0.6	-	N
4-Nitrophenol	100-02-7	-	< 6.0	-	N
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	N
Fluorene	86-73-7	-	< 0.2	-	N
Diethylphthalate	84-66-2	-	< 0.6	-	N
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	N
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	N
4-Nitroaniline	100-01-6	-	< 0.6	-	N
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	N
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	N
Hexachlorobenzene	118-74-1	-	< 0.6	-	N
Pentachlorophenol	87-86-5	-	< 6.0	-	N
Phenanthrene	85-01-8	-	< 0.2	-	N
Anthracene	120-12-7	-	< 0.2	-	N
Di-n-butylphthalate	84-74-2	-	< 0.6	-	N
Fluoranthene	206-44-0	-	< 0.2	-	N
Pyrene	129-00-0	-	< 0.2	-	N
Butylbenzylphthalate	85-68-7	-	< 0.6	-	N
Benzo[a]anthracene	56-55-3	-	< 0.2	-	N
Chrysene	218-01-9	-	< 0.2	-	N
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	N
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.6	-	N
Di-n-octylphthalate	117-84-0	-	< 0.2	-	N
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	N
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	N
Benzo[a]pyrene	50-32-8	-	< 0.2	-	N
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	N
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	N
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	76
Naphthalene-d8	78
Acenaphthene-d10	78
Phenanthrene-d10	82
Chrysene-d12	85
Perylene-d12	87

Surrogates	% Rec
2-Fluorophenol	89
Phenol-d5	95
Nitrobenzene-d5	86
2-Fluorobiphenyl	94
2,4,6-Tribromophenol	80
Terphenyl-d14	95

This analysis was conducted on an 'As Recieved' basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Semi-Volatile Organic Compounds

Accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Soil	**QC Batch Number:**	1120
Sample Details:	BH106 ES 4 1.00	**Date Booked in:**	04-May-10	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL1011389	**Date Extracted:**	11-May-10	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S10_2548M	**Date Analysed:**	11-May-10	**Directory/Quant File:**	11SVOC.GC11\ 0511_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Phenol	108-95-2	-	< 2.0	-	N
bis(2-Chloroethyl)ether	111-44-4	-	< 0.6	-	N
2-Chlorophenol	95-57-8	-	< 2.0	-	N
1,3-Dichlorobenzene	541-73-1	-	< 0.6	-	N
1,4-Dichlorobenzene	106-46-7	-	< 0.6	-	N
Benzyl alcohol	100-51-6	-	< 0.6	-	N
1,2-Dichlorobenzene	95-50-1	-	< 0.6	-	N
2-Methylphenol	95-48-7	-	< 0.6	-	N
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.6	-	N
Hexachloroethane	67-72-1	-	< 0.6	-	N
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.6	-	N
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-	N
Nitrobenzene	98-95-3	-	< 0.6	-	N
Isophorone	78-59-1	-	< 0.6	-	N
2-Nitrophenol	88-75-5	-	< 2.0	-	N
2,4-Dimethylphenol	105-67-9	-	< 2.0	-	N
Benzoic Acid	65-85-0 *	-	< 12.0	-	N
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.6	-	N
2,4-Dichlorophenol	120-83-2	-	< 2.0	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 0.6	-	N
Naphthalene	91-20-3	-	< 0.2	-	N
4-Chlorophenol	106-48-9	-	< 2.0	-	N
4-Chloroaniline	106-47-8 *	-	< 0.6	-	N
Hexachlorobutadiene	87-68-3	-	< 0.6	-	N
4-Chloro-3-methylphenol	59-50-7	-	< 0.6	-	N
2-Methylnaphthalene	91-57-6	-	< 0.2	-	N
1-Methylnaphthalene	90-12-0	-	< 0.2	-	N
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.6	-	N
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-	N
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-	N
2-Chloronaphthalene	91-58-7	-	< 0.2	-	N
Biphenyl	92-52-4	-	< 0.2	-	N
Diphenyl ether	101-84-8	-	< 0.2	-	N
2-Nitroaniline	88-74-4	-	< 0.6	-	N
Acenaphthylene	208-96-8	-	< 0.2	-	N
Dimethylphthalate	131-11-3	-	< 0.6	-	N
2,6-Dinitrotoluene	606-20-2	-	< 0.6	-	N
Acenaphthene	83-32-9	-	< 0.2	-	N
3-Nitroaniline	99-09-2	-	< 0.6	-	N

Concentrations are reported on a dry weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit	Accr. code
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-	N
Dibenzofuran	132-64-9	-	< 0.6	-	N
4-Nitrophenol	100-02-7	-	< 6.0	-	N
2,4-Dinitrotoluene	121-14-2	-	< 0.6	-	N
Fluorene	86-73-7	-	< 0.2	-	N
Diethylphthalate	84-66-2	-	< 0.6	-	N
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.6	-	N
4,6-Dinitro-2-methylphenol	534-52-1	-	< 6.0	-	N
4-Nitroaniline	100-01-6	-	< 0.6	-	N
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.6	-	N
4-Bromophenyl-phenylether	101-55-3	-	< 0.6	-	N
Hexachlorobenzene	118-74-1	-	< 0.6	-	N
Pentachlorophenol	87-86-5	-	< 6.0	-	N
Phenanthrene	85-01-8	-	< 0.2	-	N
Anthracene	120-12-7	-	< 0.2	-	N
Di-n-butylphthalate	84-74-2	-	< 0.6	-	N
Fluoranthene	206-44-0	-	< 0.2	-	N
Pyrene	129-00-0	-	< 0.2	-	N
Butylbenzylphthalate	85-68-7	-	< 0.6	-	N
Benzo[a]anthracene	56-55-3	-	< 0.2	-	N
Chrysene	218-01-9	-	< 0.2	-	N
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-	N
bis(2-Ethylhexyl)phthalate	117-81-7	15.12	17.4	100	N
Di-n-octylphthalate	117-84-0	-	< 0.2	-	N
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-	N
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-	N
Benzo[a]pyrene	50-32-8	-	< 0.2	-	N
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-	N
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-	N
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	67
Naphthalene-d8	68
Acenaphthene-d10	68
Phenanthrene-d10	72
Chrysene-d12	74
Perylene-d12	73

Surrogates	% Rec
2-Fluorophenol	90
Phenol-d5	97
Nitrobenzene-d5	84
2-Fluorobiphenyl	94
2,4,6-Tribromophenol	83
Terphenyl-d14	97

This analysis was conducted on an 'As Recieved' basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

SVOC (TICs)

Accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	SS8 ES 1 0.00	**Job Number:**	S10_2548
LIMS ID Number:	CL1011372		
		Multiplier:	0.2
Date Booked in:	04-May-10	**Dilution Factor:**	1
Date Extracted:	11-May-10	**GPC (Y/N):**	N
Date Analysed:	12-May-10	**Matrix:**	Soil
QC Batch Number:	1120	**Method:**	Ultrasonic
Directory/Quant File:	11SVOC.GC11\ 0511_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit	Accr. code
Unidentified peak	-	3.44	1.292	-	N
Unidentified peak	-	17.78	0.578	-	N
Unidentified peak	-	18.14	0.385	-	N
Azobenzene	103-33-3	-	<0.3	-	N
Carbazole	86-74-8	-	<0.3	-	N
Anthraquinone	84-65-1	-	<0.3	-	N

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appr opriate, in accordance with the MCERTS standard.

SVOC (TICs)

Accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS213 ES 4 1.40	**Job Number:**	S10_2548
LIMS ID Number:	CL1011374		
		Multiplier:	0.2
Date Booked in:	04-May-10	**Dilution Factor:**	1
Date Extracted:	11-May-10	**GPC (Y/N):**	N
Date Analysed:	11-May-10	**Matrix:**	Soil
QC Batch Number:	1120	**Method:**	Ultrasonic
Directory/Quant File:	11SVOC.GC11\ 0511_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit	Accr. code
Unidentified peak	-	3.43	1.733	-	N
Benzo[a]naphthacene	000226-88-0	18.56	0.342	78	N
Carbazole	86-74-8	11.20	0.260	90	N
Azobenzene	103-33-3	-	<0.2	-	N
Anthraquinone	84-65-1	-	<0.2	-	N

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

SVOC (TICs)

Accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH101 ES 8 3.00	**Job Number:**	S10_2548
LIMS ID Number:	CL1011376		
		Multiplier:	0.2
Date Booked in:	04-May-10	**Dilution Factor:**	1
Date Extracted:	11-May-10	**GPC (Y/N):**	N
Date Analysed:	11-May-10	**Matrix:**	Soil
QC Batch Number:	1120	**Method:**	Ultrasonic
Directory/Quant File:	11SVOC.GC11\ 0511_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit	Accr. code
Azobenzene	103-33-3	-	<0.2	-	N
Carbazole	86-74-8	-	<0.2	-	N
Anthraquinone	84-65-1	-	<0.2	-	N

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

SVOC (TICs)

Accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH103 ES 3 1.00	**Job Number:**	S10_2548
LIMS ID Number:	CL1011380		
		Multiplier:	1
Date Booked in:	04-May-10	**Dilution Factor:**	5
Date Extracted:	11-May-10	**GPC (Y/N):**	N
Date Analysed:	11-May-10	**Matrix:**	Soil
QC Batch Number:	1120	**Method:**	Ultrasonic
Directory/Quant File:	11SVOC.GC11\ 0511_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit	Accr. code
Azobenzene	103-33-3	-	<1	-	N
Carbazole	86-74-8	-	<1	-	N
Anthraquinone	84-65-1	-	<1	-	N

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

SVOC (TICs)

Accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH103 ES 24 11.00	**Job Number:**	S10_2548
LIMS ID Number:	CL1011382		
		Multiplier:	0.2
Date Booked in:	04-May-10	**Dilution Factor:**	1
Date Extracted:	11-May-10	**GPC (Y/N):**	N
Date Analysed:	11-May-10	**Matrix:**	Soil
QC Batch Number:	1120	**Method:**	Ultrasonic
Directory/Quant File:	11SVOC.GC11\ 0511_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit	Accr. code
Unidentified peak	-	3.45	1.306	-	N
Azobenzene	103-33-3	-	<0.2	-	N
Carbazole	86-74-8	-	<0.2	-	N
Anthraquinone	84-65-1	-	<0.2	-	N

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

SVOC (TICs)

Accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH104 ES 3 1.00	**Job Number:**	S10_2548
LIMS ID Number:	CL1011384		
		Multiplier:	1
Date Booked in:	04-May-10	**Dilution Factor:**	5
Date Extracted:	11-May-10	**GPC (Y/N):**	N
Date Analysed:	11-May-10	**Matrix:**	Soil
QC Batch Number:	1120	**Method:**	Ultrasonic
Directory/Quant File:	11SVOC.GC11\ 0511_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit	Accr. code
Unidentified peak	-	18.52	2.902	-	N
1-Butyl-6,8-dichlorobenz[cd]indole-2(1H)-thione	1000224-41-7	18.25	2.221	72	N
Unidentified peak	-	19.35	1.972	-	N
Unidentified peak	-	19.54	1.938	-	N
Unidentified peak	-	18.14	1.701	-	N
Unidentified peak	-	18.06	1.623	-	N
Unidentified peak	-	19.19	1.605	-	N
Unidentified peak	-	19.78	1.598	-	N
Perylene	000198-55-0	16.90	1.498	95	N
Unidentified peak	-	19.12	1.374	-	N
Unidentified peak	-	18.46	1.329	-	N
Dibenzopyrene	-	20.37	1.250	89	N
Dibenzopyrene	-	20.24	1.212	70	N
Unidentified peak	-	18.74	1.192	-	N
Unidentified peak	-	20.03	1.121	-	N
Unidentified peak	-	17.85	1.003	-	N
Unidentified peak	-	17.75	0.970	-	N
Unidentified peak	-	19.91	0.844	-	N
Unidentified peak	-	17.62	0.781	-	N
Azobenzene	103-33-3	-	<1.2	-	N
Carbazole	86-74-8	-	<1.2	-	N
Anthraquinone	84-65-1	-	<1.2	-	N

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

SVOC (TICs)

Accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH105A ES 8 3.00	**Job Number:**	S10_2548
LIMS ID Number:	CL1011388		
		Multiplier:	0.2
Date Booked in:	04-May-10	**Dilution Factor:**	1
Date Extracted:	11-May-10	**GPC (Y/N):**	N
Date Analysed:	11-May-10	**Matrix:**	Soil
QC Batch Number:	1120	**Method:**	Ultrasonic
Directory/Quant File:	11SVOC.GC11\ 0511_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit	Accr. code
Unidentified peak	-	3.45	4.680	-	N
Azobenzene	103-33-3	-	<0.2	-	N
Carbazole	86-74-8	-	<0.2	-	N
Anthraquinone	84-65-1	-	<0.2	-	N

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

SVOC (TICs)

Accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH106 ES 4 1.00	**Job Number:**	S10_2548
LIMS ID Number:	CL1011389		
		Multiplier:	0.2
Date Booked in:	04-May-10	**Dilution Factor:**	1
Date Extracted:	11-May-10	**GPC (Y/N):**	N
Date Analysed:	11-May-10	**Matrix:**	Soil
QC Batch Number:	1120	**Method:**	Ultrasonic
Directory/Quant File:	11SVOC.GC11\ 0511_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit	Accr. code
Unidentified peak	-	3.43	1.239	-	N
Azobenzene	103-33-3	-	<0.2	-	N
Carbazole	86-74-8	-	<0.2	-	N
Anthraquinone	84-65-1	-	<0.2	-	N

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a dry weight basis.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

Gasoline Range Organics
(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details: Soil Mechanics : Isles Quarry
Job Number: S10_2548
Directory: D:\TES\DATA\Y2010\0512HSA_GC12\051210A 2010-05-12 14-20-28\121B0801.D
Method: Headspace GCFID
Accreditation Code: N

Matrix: Soil
Date Booked in: 04-May-10
Date extracted: 12-May-10
Date Analysed: 12-May-10, 17:0

			Concentration, (mg/kg) - as dry weight.					**Aliphatics**				
	Sample ID	**Client ID**	**Benzene**	**Toluene**	**Ethyl benzene**	**m/p-Xylene**	**o-Xylene**	**C5 - C6**	**>C6 - C7**	**>C7 - C8**	**>C8 - C10**	**Total GRO**
*	CL1011372	SS8 ES 1 0.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	0.7	0.9
*	CL1011374	WS213 ES 4 1.40	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
*	CL1011375	BH101 ES 3 1.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
*	CL1011376	BH101 ES 8 3.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
*	CL1011377	BH101 ES 27 13.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
*	CL1011378	BH102 ES 3 1.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
*	CL1011380	BH103 ES 3 1.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
*	CL1011382	BH103 ES 24 11.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
*	CL1011383	BH103 ES 27 13.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
*	CL1011384	BH104 ES 3 1.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
*	CL1011386	BH104 ES 17 5.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	<0.3	<0.3	<0.3
*	CL1011387	BH104 ES 36 11.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
*	CL1011388	BH105A ES 8 3.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2
*	CL1011389	BH106 ES 4 1.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2

Note: Benzene elutes between C6 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.
Xylenes have been deducted from the C8-C10 band to give the aliphatic fraction, however aromatic compounds may still be contributing to this fraction.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

ALIPHATIC / AROMATIC FRACTION BY GC/FID

Customer and Site Details: Soil Mechanics : Isles Quarry
Job Number: S10_2548
QC Batch Number: 101149
Directory: D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\060B6501.D
Method: Ultra Sonic

Separation: Silica gel
Eluents: Hexane, DCM

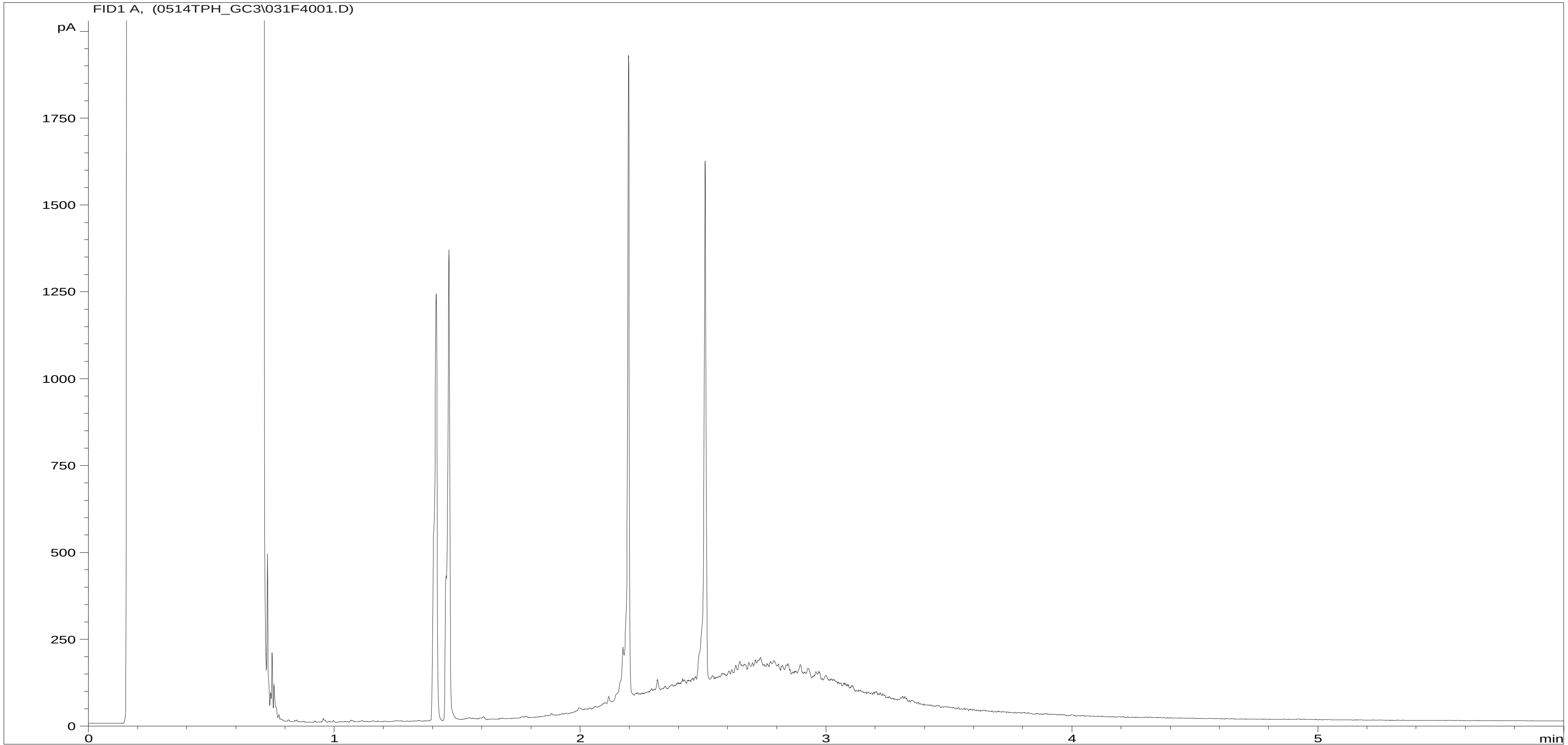
Matrix: Soil
Date Booked in: 04-May-10
Date Extracted: 14-May-10
Date Analysed: 15-May-10, 00:14:31

This sample data is not accredited.

		Concentration, (mg/kg) - as dry weight.											
		>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35		>C8 - C40	
Sample ID	**Client ID**	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics
CL1011372	SS8 ES 1 0.00	<5	<5	<5	<5	<5	<5	12.3	9.24	183	105.3	229	144
CL1011374	WS213 ES 4 1.40	<5	<5	<5	<5	<5	4.62	<5	18	<9.98	38	<23	67.5
CL1011375	BH101 ES 3 1.00	<5	<5	<5	<5	<5	<5	5.93	5.41	39	64.7	48.7	96.2
CL1011376	BH101 ES 8 3.00	<5	<5	<5	<5	<5	<5	21	19.9	321	236	386	311
CL1011377	BH101 ES 27 13.00	<5	<5	<5	<5	<5	23.7	6.49	139	40.8	390	55	608
CL1011378	BH102 ES 3 1.00	<5	<5	<5	<5	<5	<5	<5	<5	<10.21	<10.21	<23	<23
CL1011380	BH103 ES 3 1.00	<5	<5	<5	<5	<5	<5	<5	5.62	17.7	55.4	24	82.1
CL1011382	BH103 ES 24 11.00	<5	<5	<5	<5	<5	<5	<5	<5	<10.44	<10.44	<24	<24
CL1011383	BH103 ES 27 13.00	<5	<5	<5	<5	<5	<5	11.6	<5	320	81	489	140
CL1011384	BH104 ES 3 1.00	<5	<5	<5	<5	<5	<5	<5	13.3	37.5	95	44.6	138
CL1011386	BH104 ES 17 5.00	<5	<5	<5	<5	<5	<5	8	<5	33.1	18	44	28.1
CL1011387	BH104 ES 36 11.00	<5	<5	<5	<5	<5	<5	<5	<5	<10.47	<10.47	<24	<24
CL1011388	BH105A ES 8 3.00	<4	<4	<4	<4	<4	<4	<4	<4	<9.76	<9.76	<22	<22
CL1011389	BH106 ES 4 1.00	<5	<5	<5	<5	<5	<5	<5	<5	<10.94	<10.94	<25	<25

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

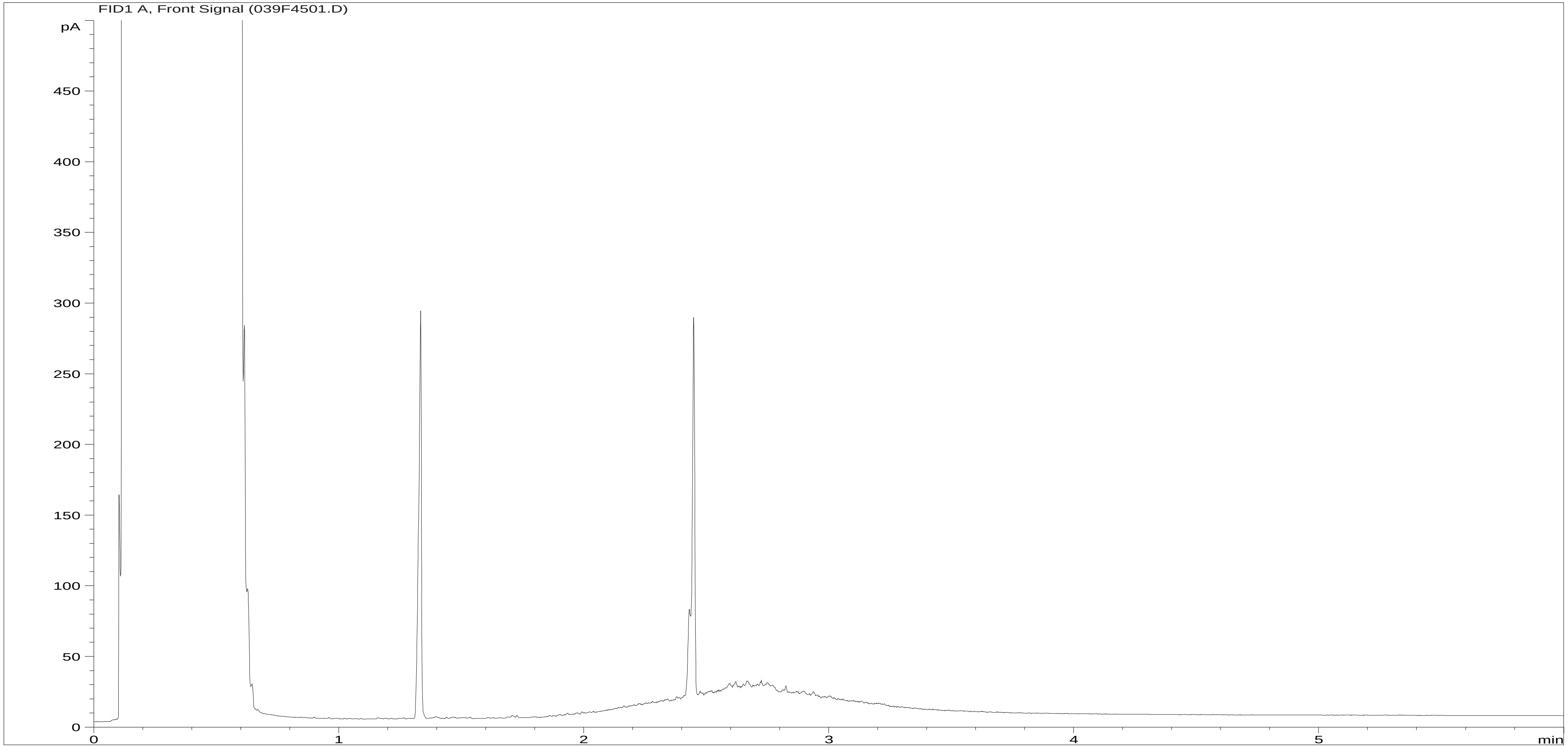
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL1011372	**Job Number:**	S10_2548M
Multiplier:	4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	SS8 ES 1 0.00
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\031F4001.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

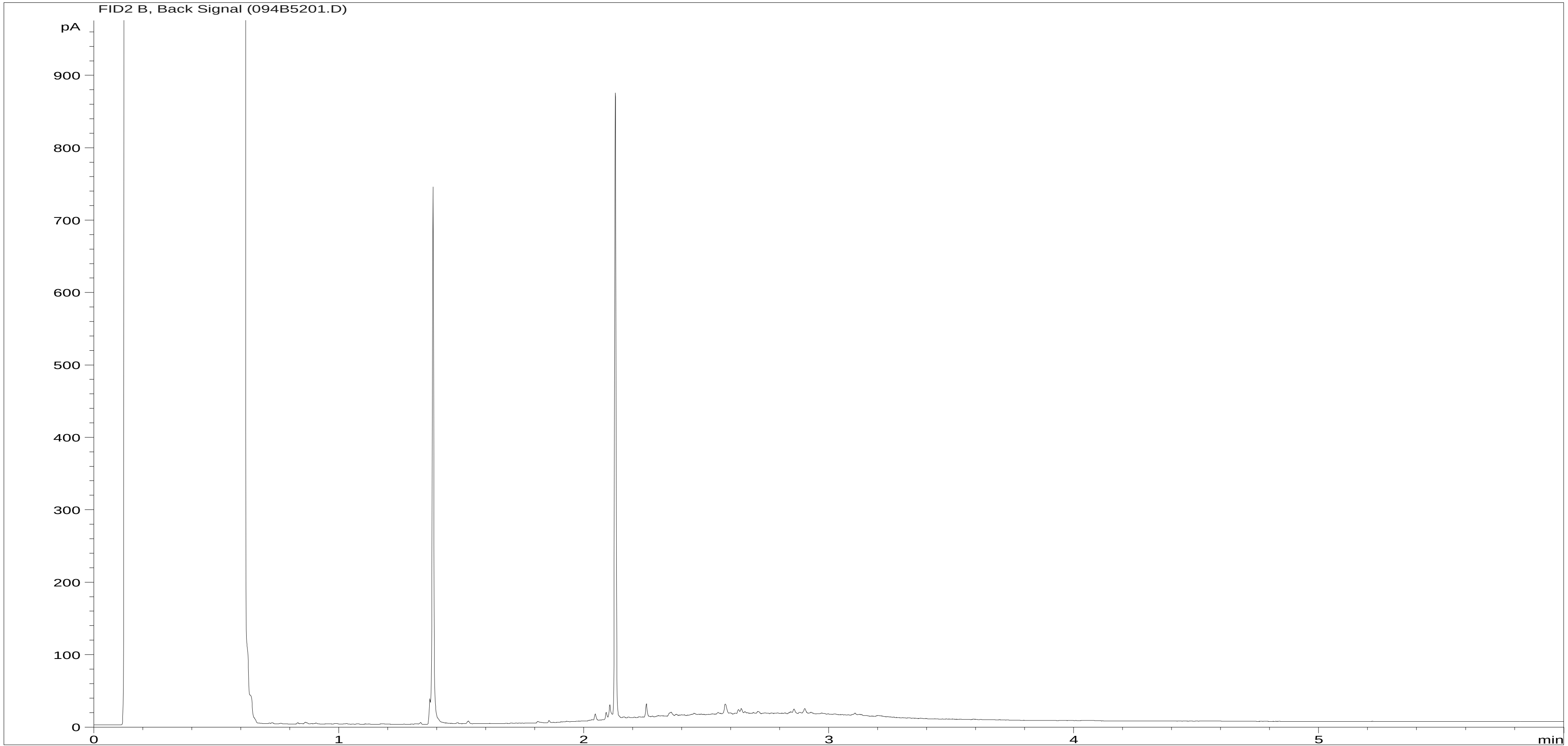
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011372ALI	**Job Number:**	S10_2548M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	SS8 ES 1 0.00
Acquisition Date/Time:	14-May-10, 20:15:20		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\039F4501.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

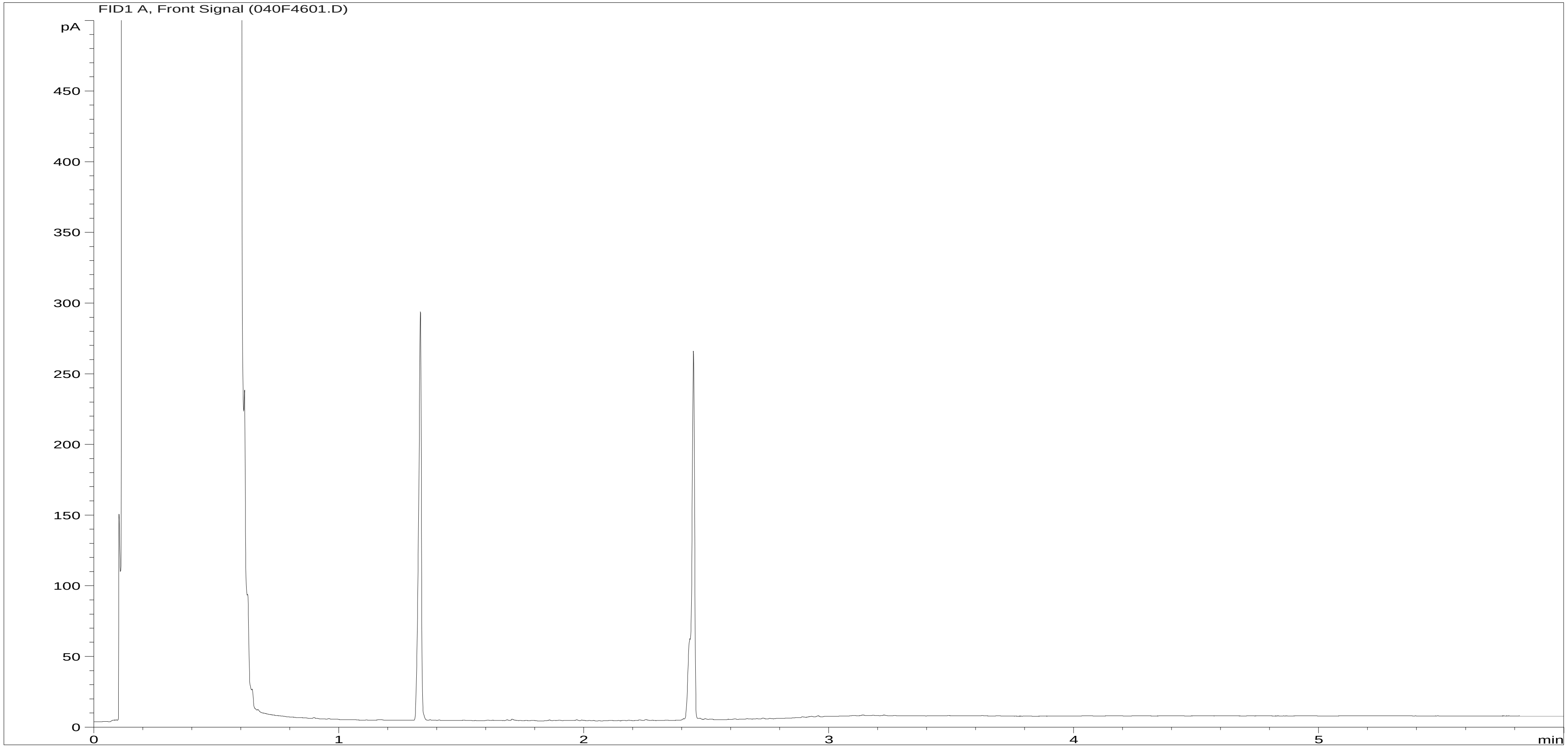
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011372ARO	**Job Number:**	S10_2548M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	SS8 ES 1 0.00
Acquisition Date/Time:	14-May-10, 21:39:58		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\094B5201.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

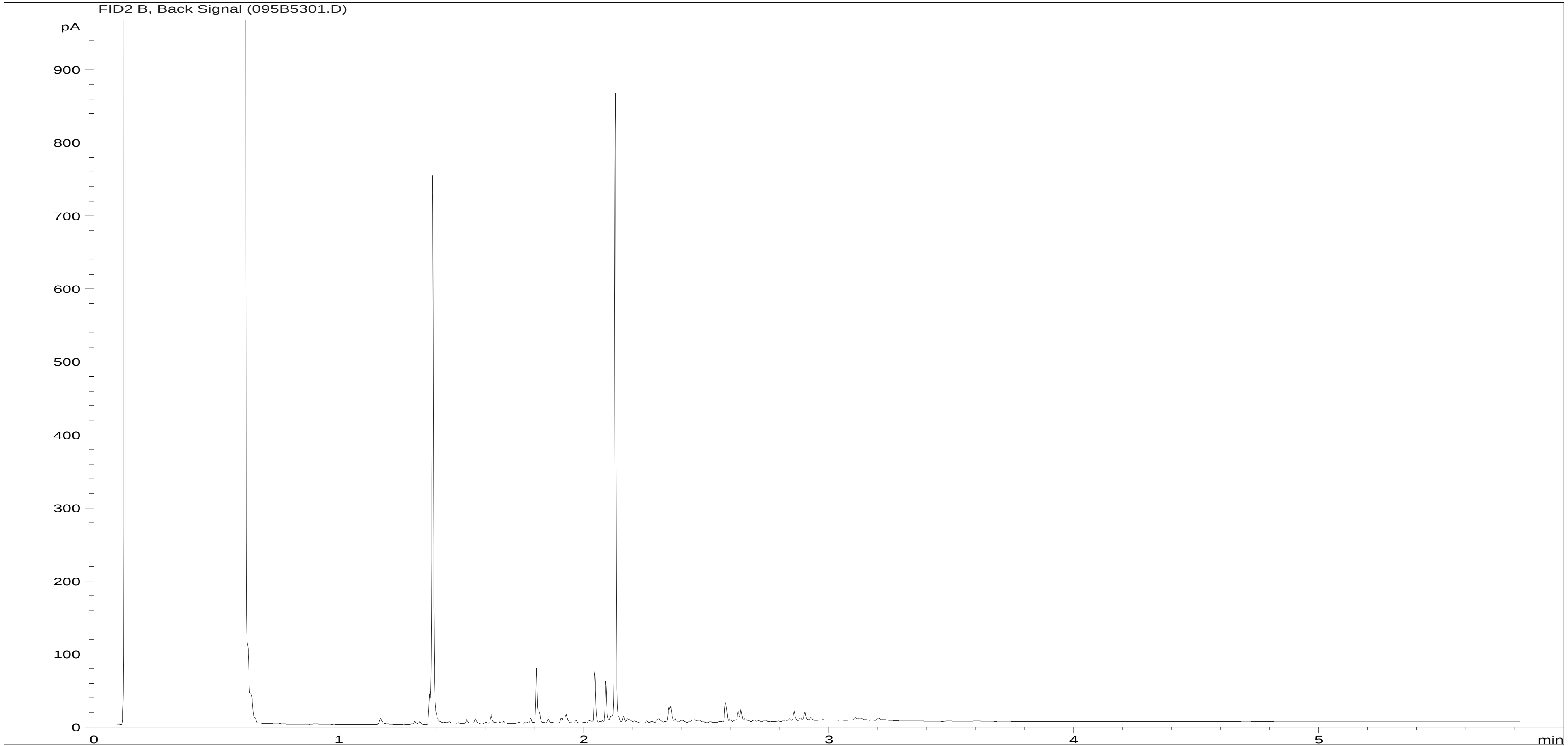
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011374ALI	**Job Number:**	S10_2548M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS213 ES 4 1.40
Acquisition Date/Time:	14-May-10, 20:27:34		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\040F4601.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.

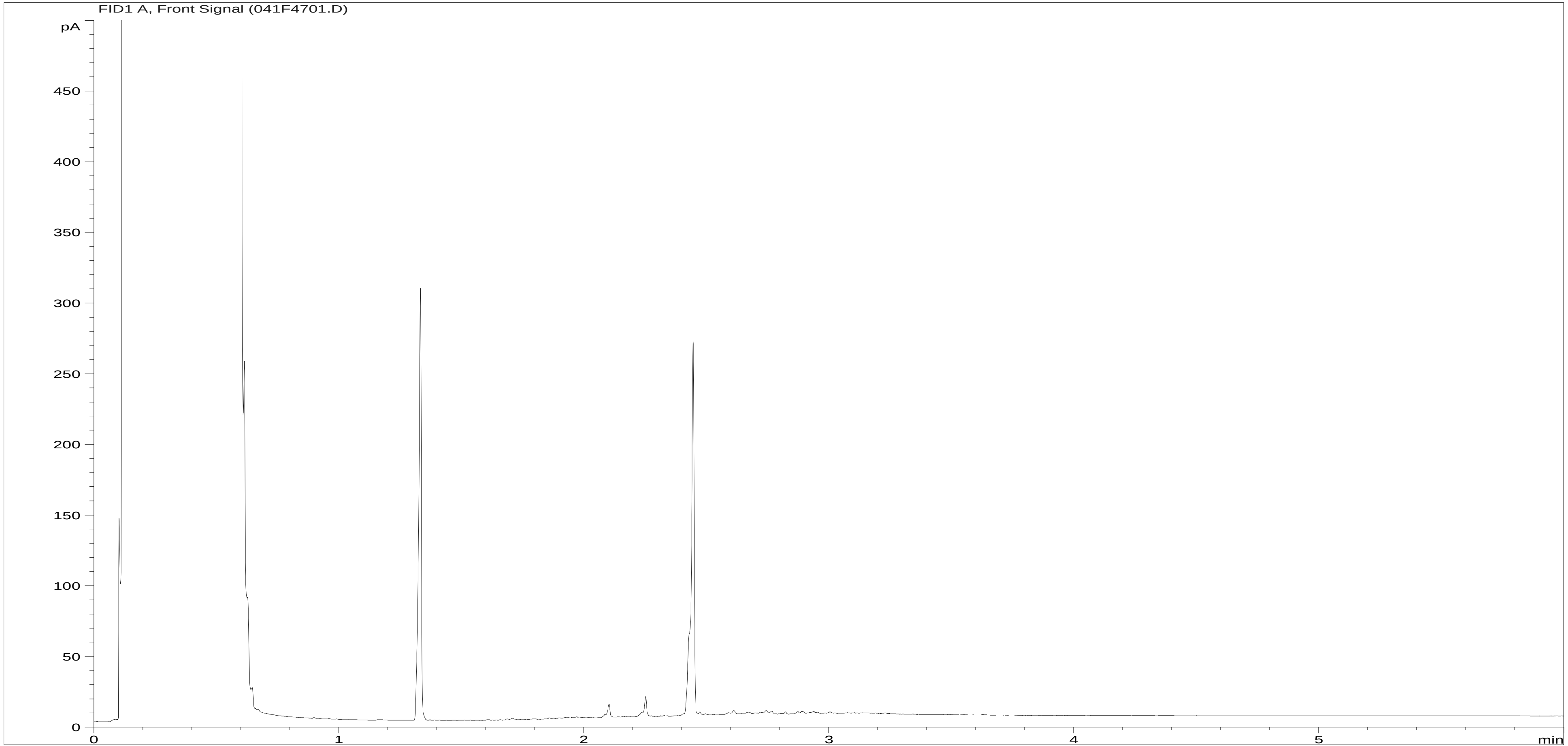


Sample ID:	CL1011374ARO	**Job Number:**	S10_2548M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS213 ES 4 1.40
Acquisition Date/Time:	14-May-10, 21:51:58		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\095B5301.D		

Where individual results are flagged see report notes for status.

Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

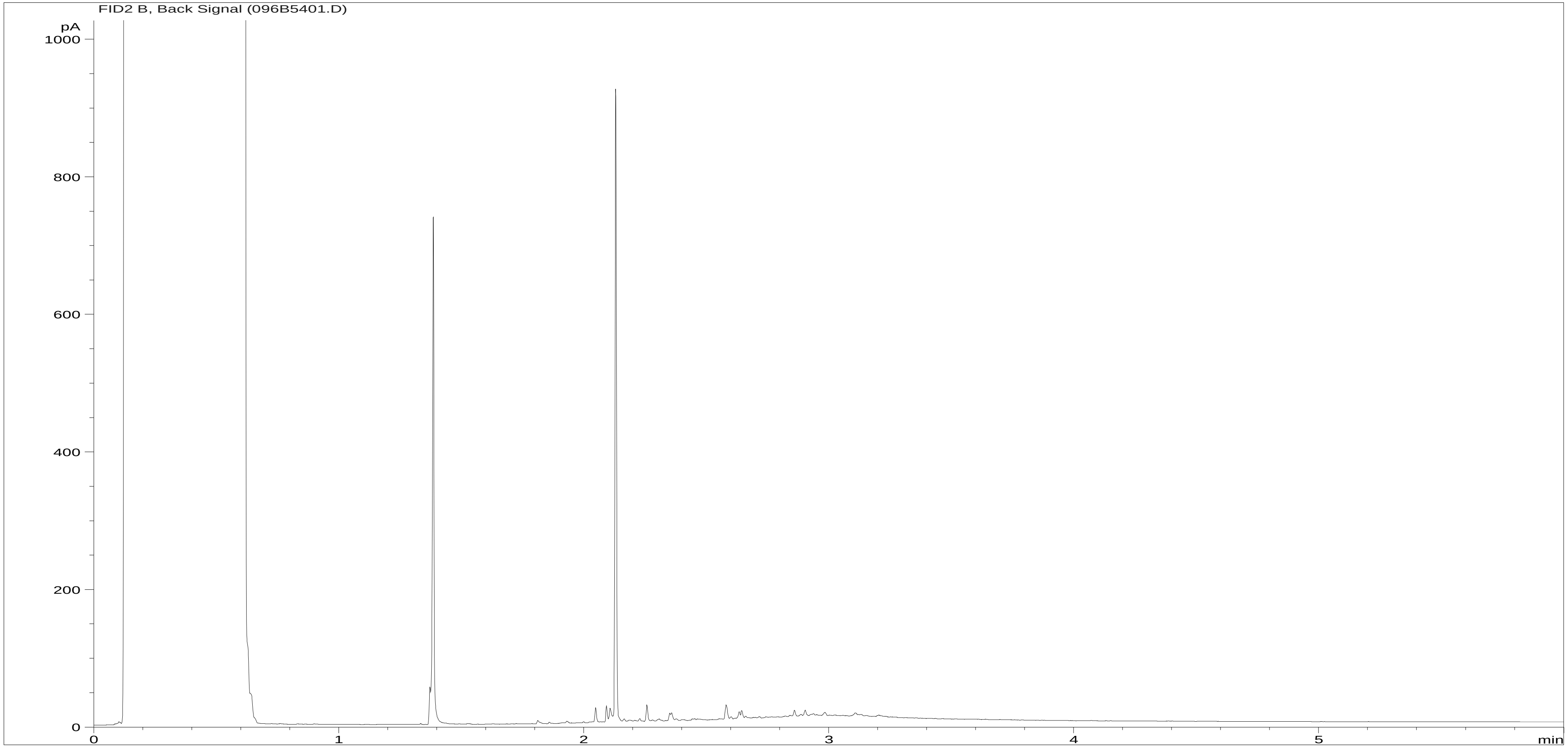
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011375ALI	**Job Number:**	S10_2548M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH101 ES 3 1.00
Acquisition Date/Time:	14-May-10, 20:39:56		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\041F4701.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

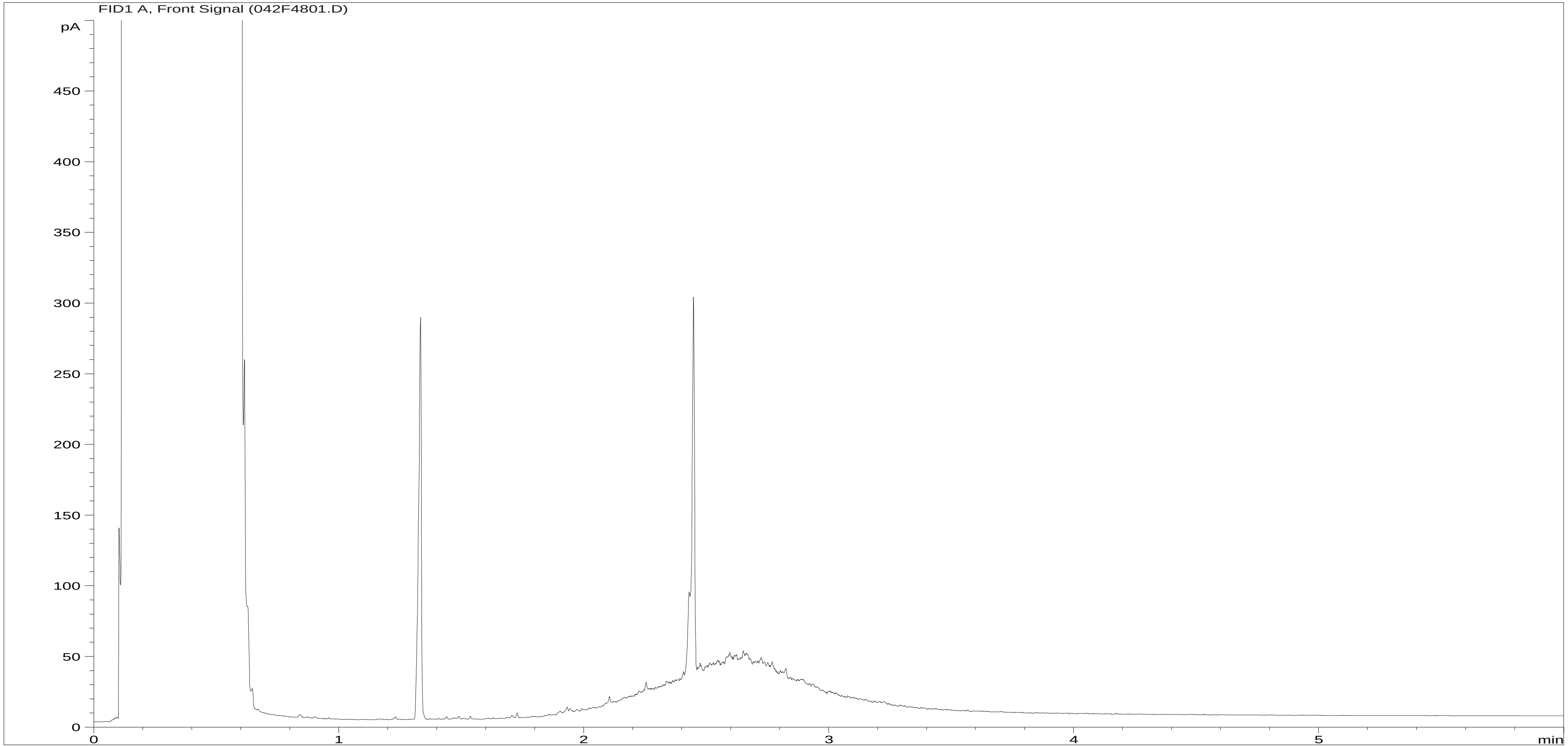
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011375ARO	**Job Number:**	S10_2548M
Multiplier:	11.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH101 ES 3 1.00
Acquisition Date/Time:	14-May-10, 22:03:49		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\096B5401.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

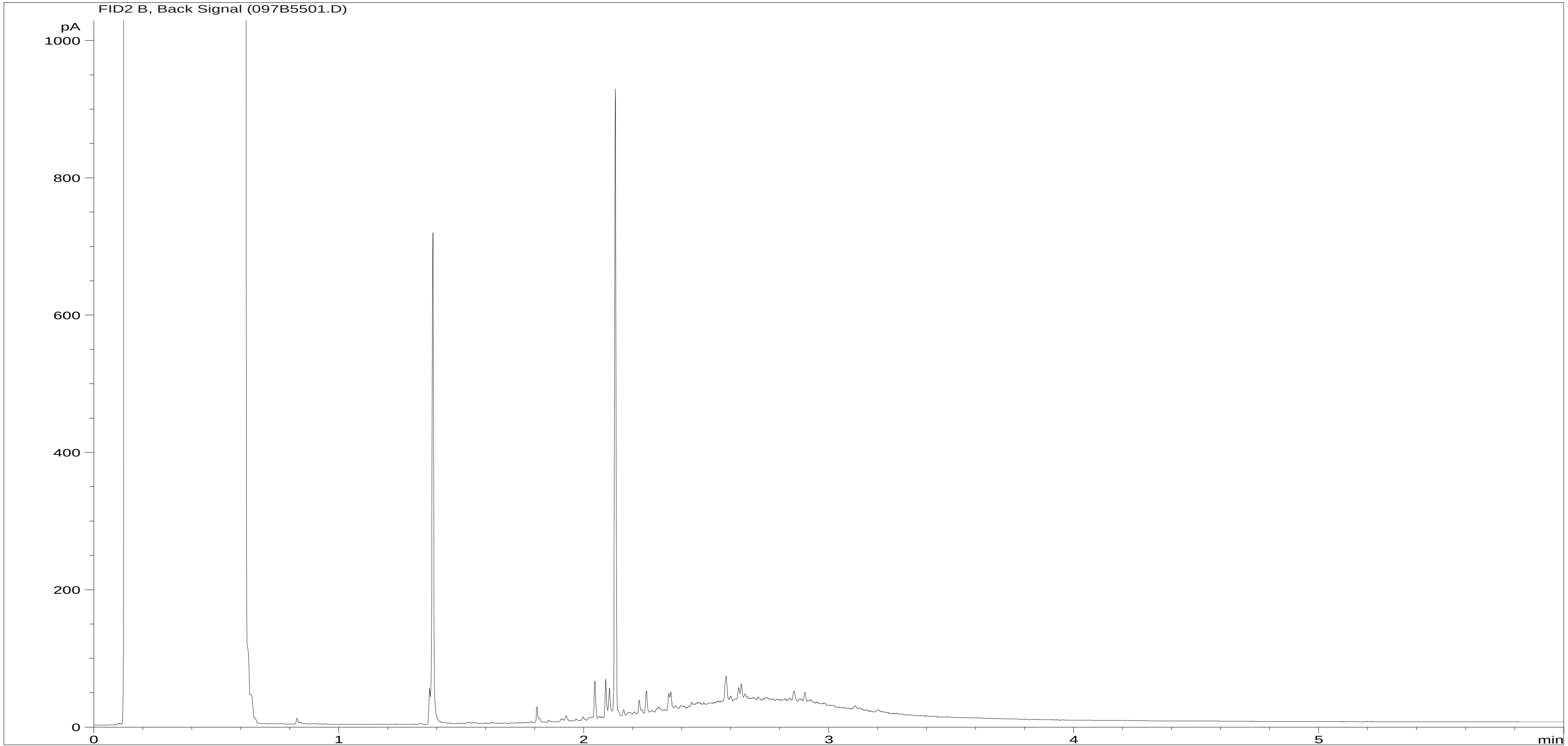
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011376ALI	**Job Number:**	S10_2548M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH101 ES 8 3.00
Acquisition Date/Time:	14-May-10, 20:52:01		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\042F4801.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

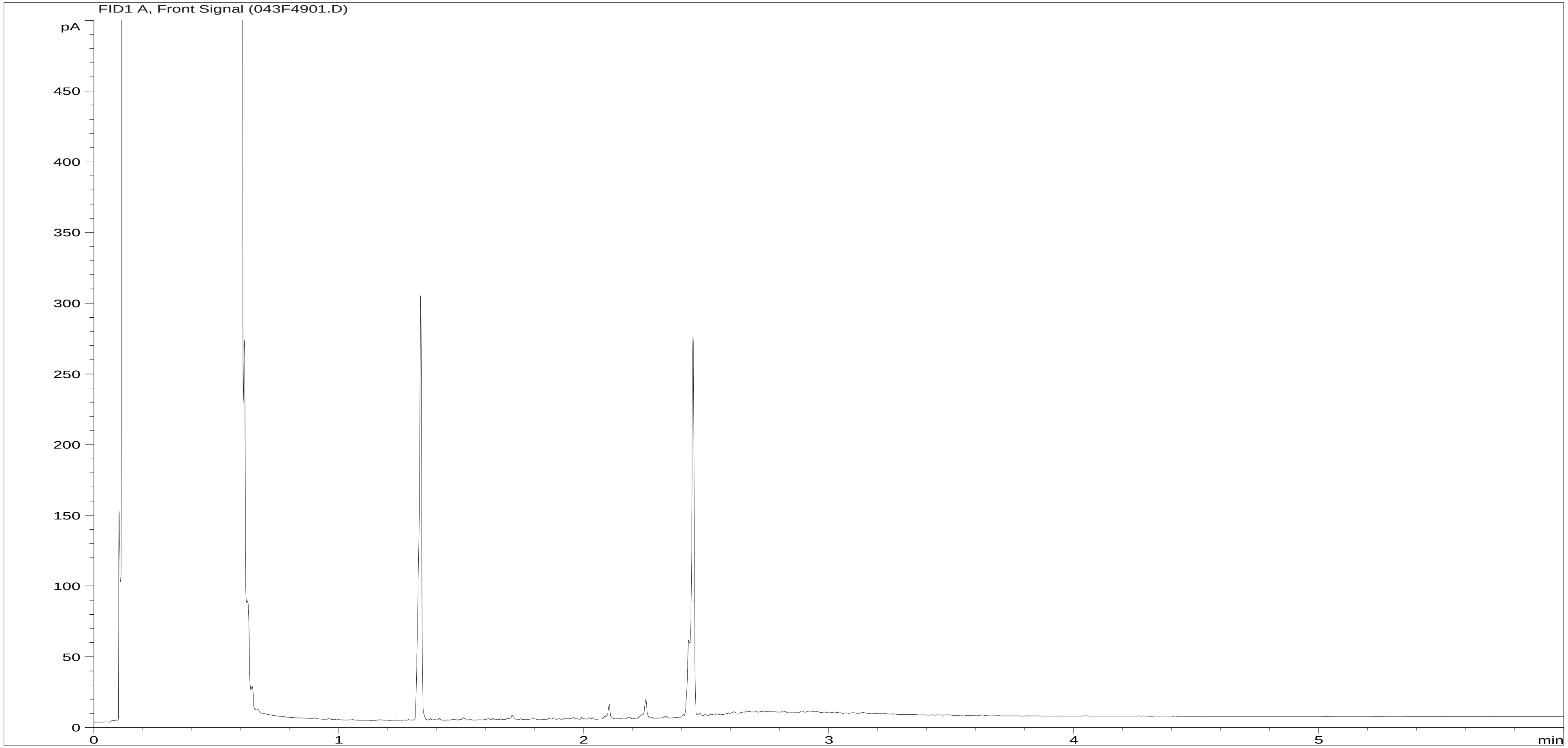
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011376ARO	**Job Number:**	S10_2548M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH101 ES 8 3.00
Acquisition Date/Time:	14-May-10, 22:15:49		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\097B5501.D		

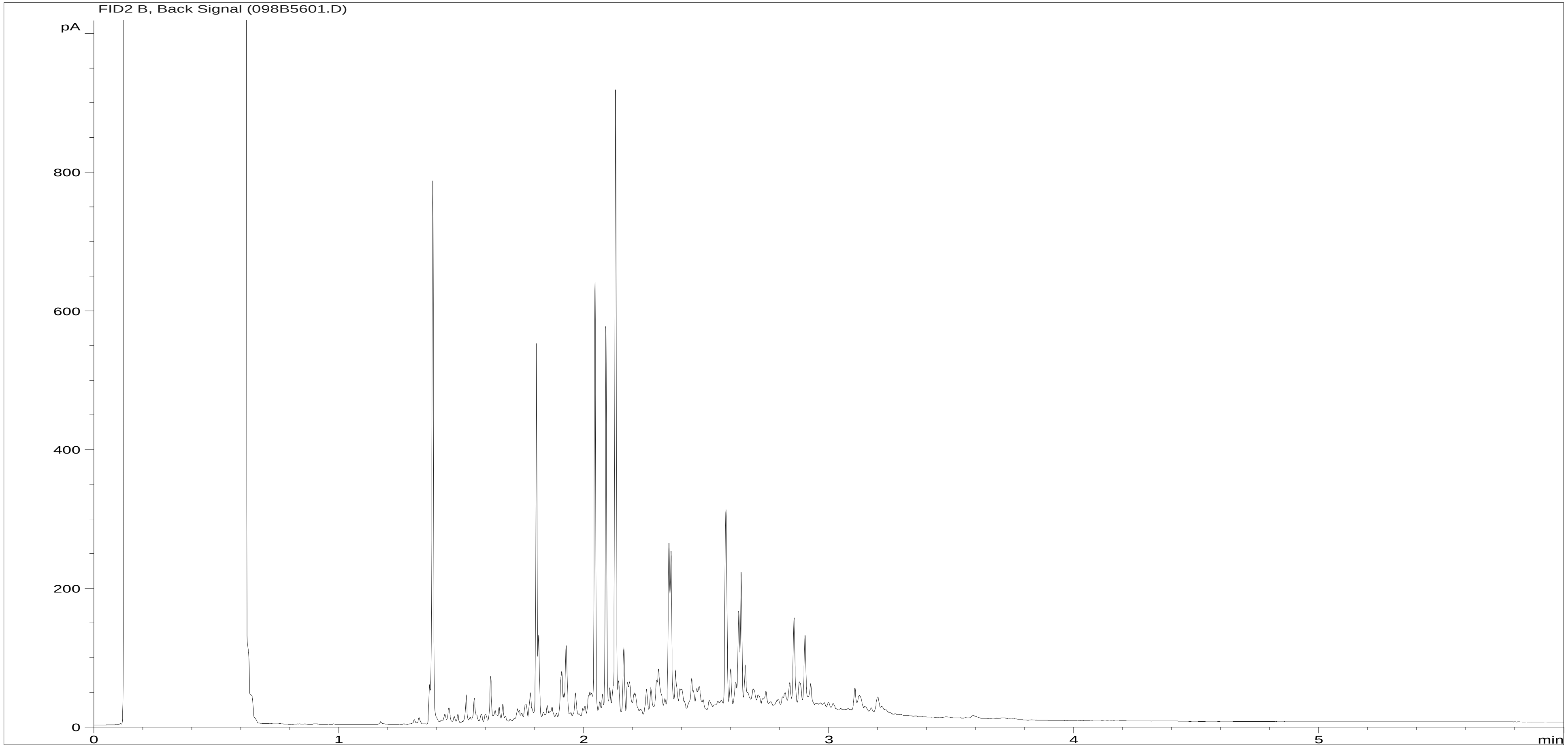
Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011377ALI	**Job Number:**	S10_2548M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH101 ES 27 13.00
Acquisition Date/Time:	14-May-10, 21:03:59		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\043F4901.D		

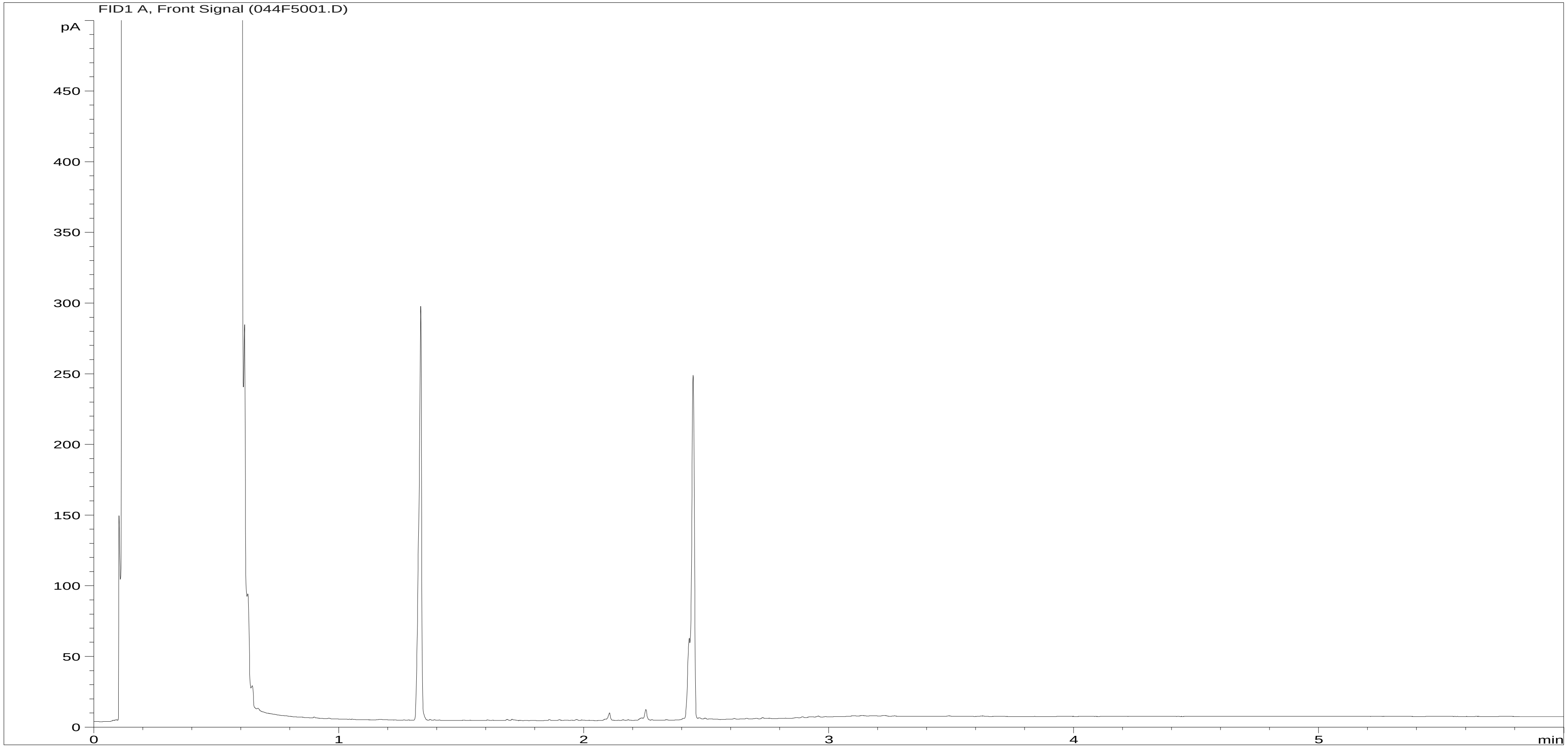
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011377ARO	**Job Number:**	S10_2548M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH101 ES 27 13.00
Acquisition Date/Time:	14-May-10, 22:27:56		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\098B5601.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

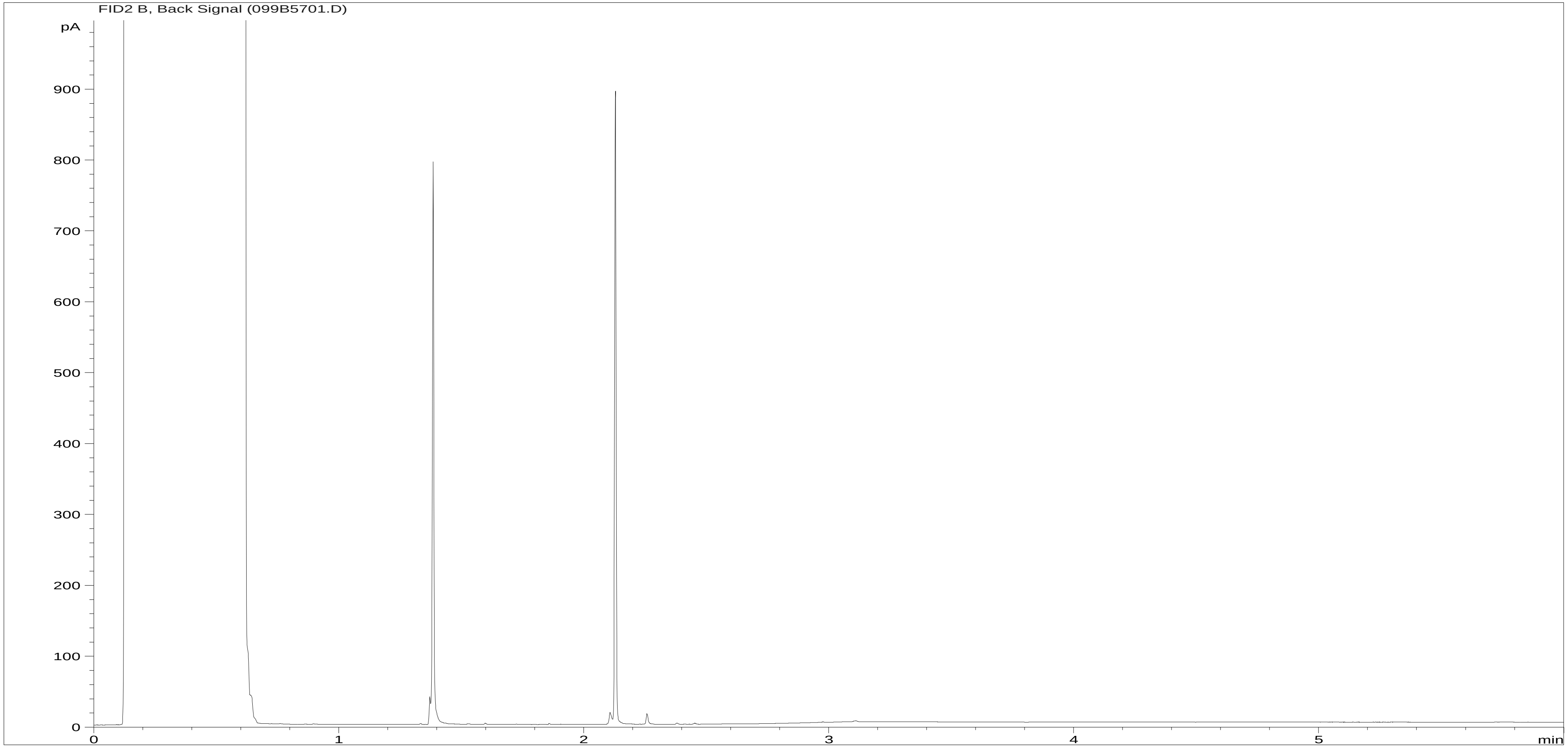
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011378ALI	**Job Number:**	S10_2548M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH102 ES 3 1.00
Acquisition Date/Time:	14-May-10, 21:15:50		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\044F5001.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

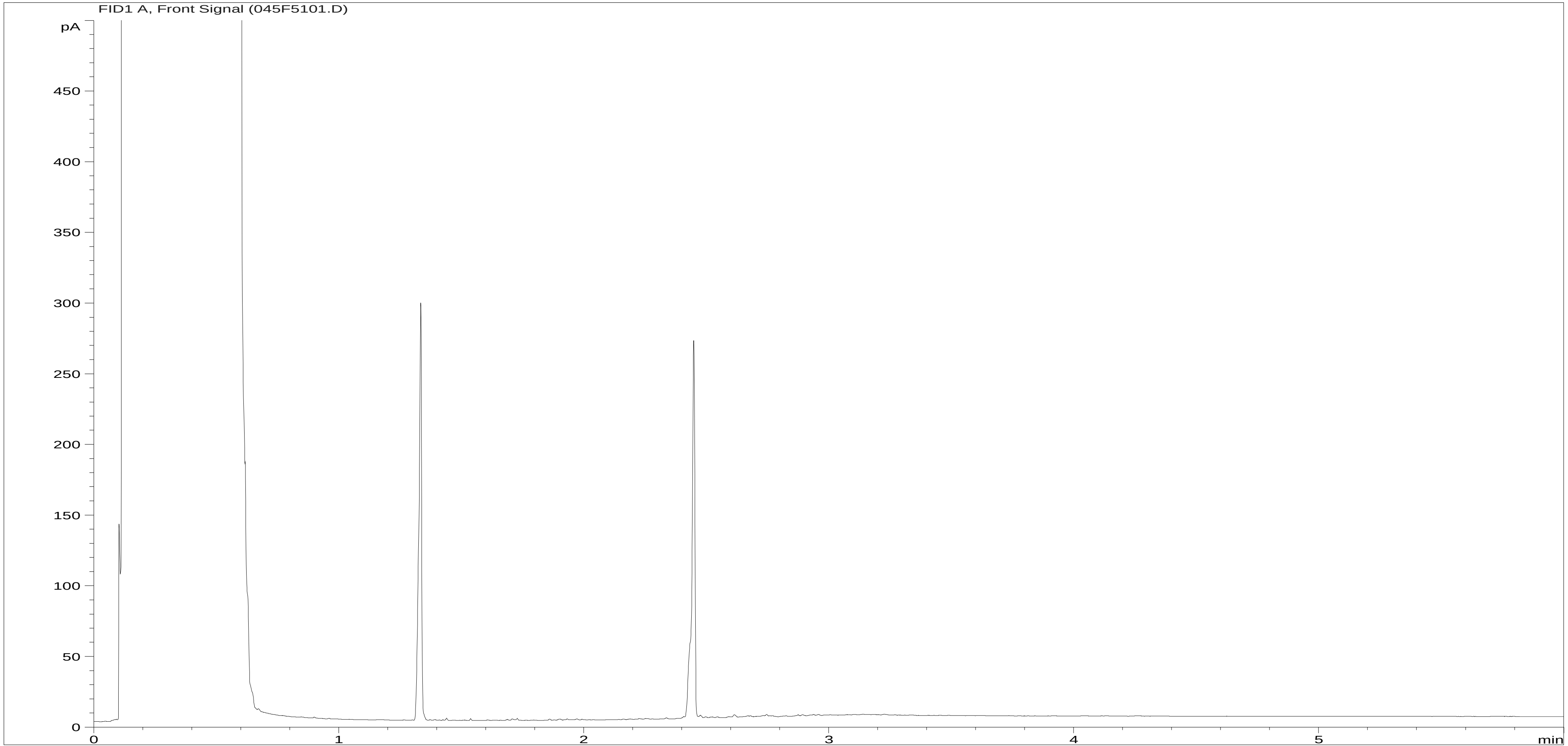
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011378ARO	**Job Number:**	S10_2548M
Multiplier:	11.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH102 ES 3 1.00
Acquisition Date/Time:	14-May-10, 22:40:13		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\099B5701.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

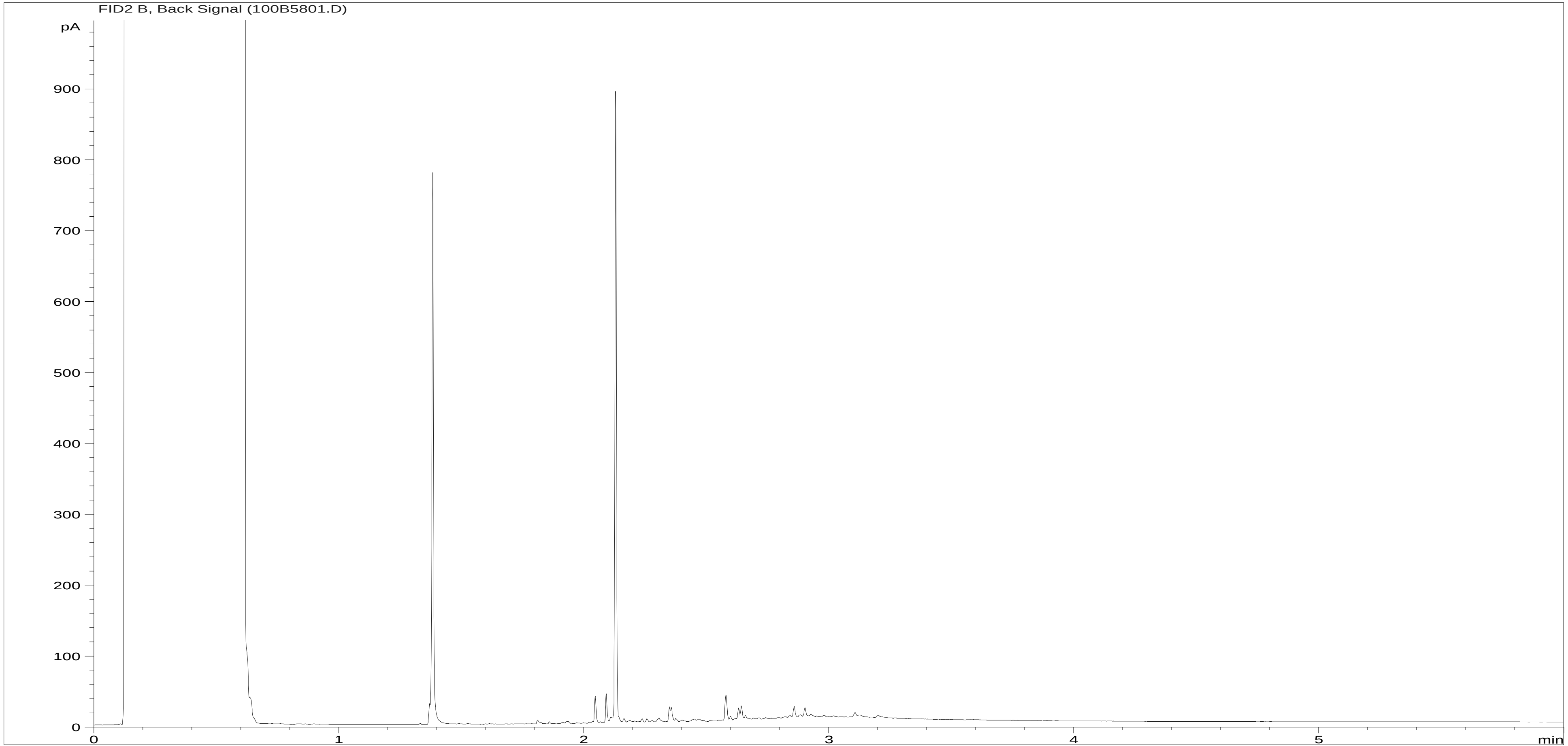
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011380ALI	**Job Number:**	S10_2548M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH103 ES 3 1.00
Acquisition Date/Time:	14-May-10, 21:27:52		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\045F5101.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

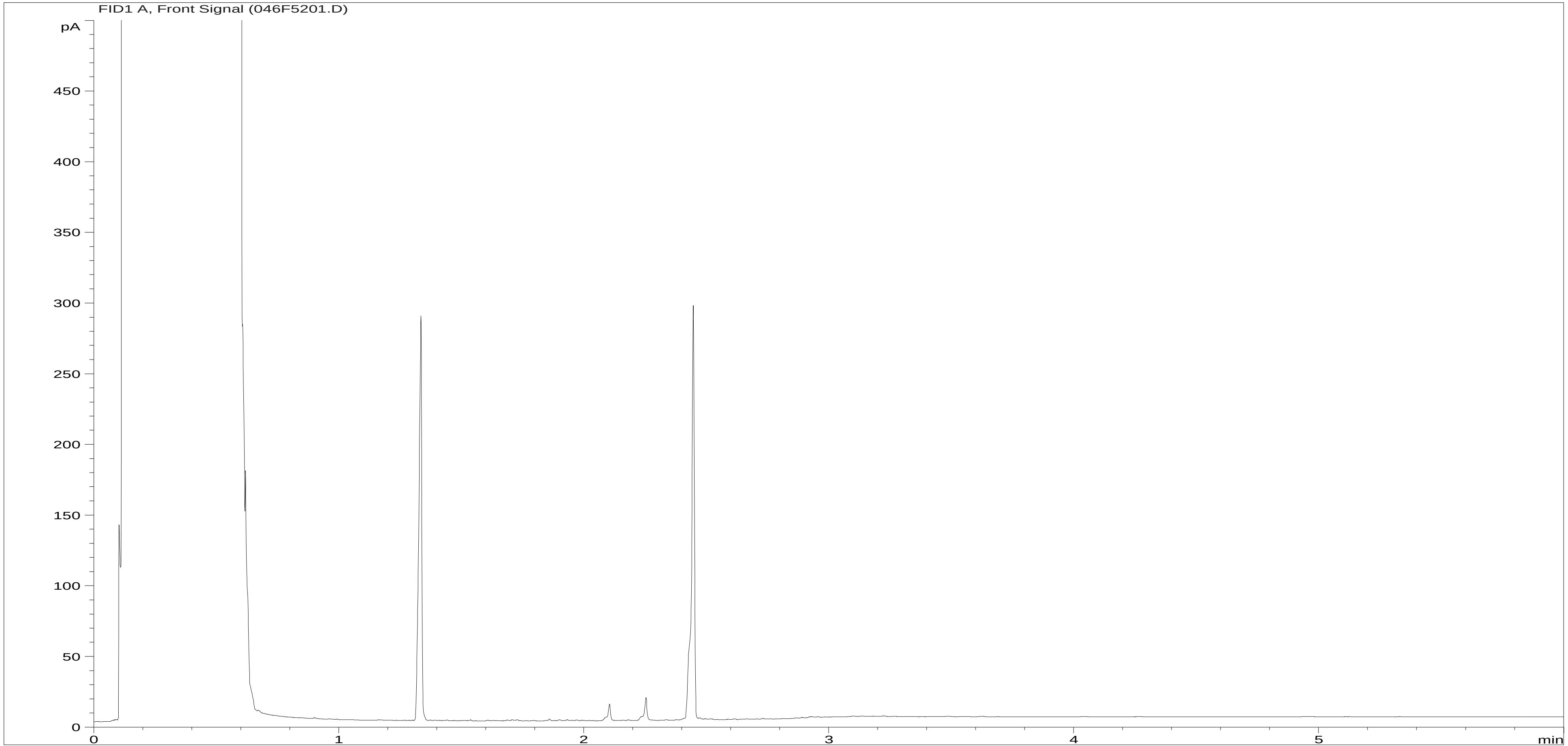
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011380ARO	**Job Number:**	S10_2548M
Multiplier:	11.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH103 ES 3 1.00
Acquisition Date/Time:	14-May-10, 22:52:07		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\100B5801.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

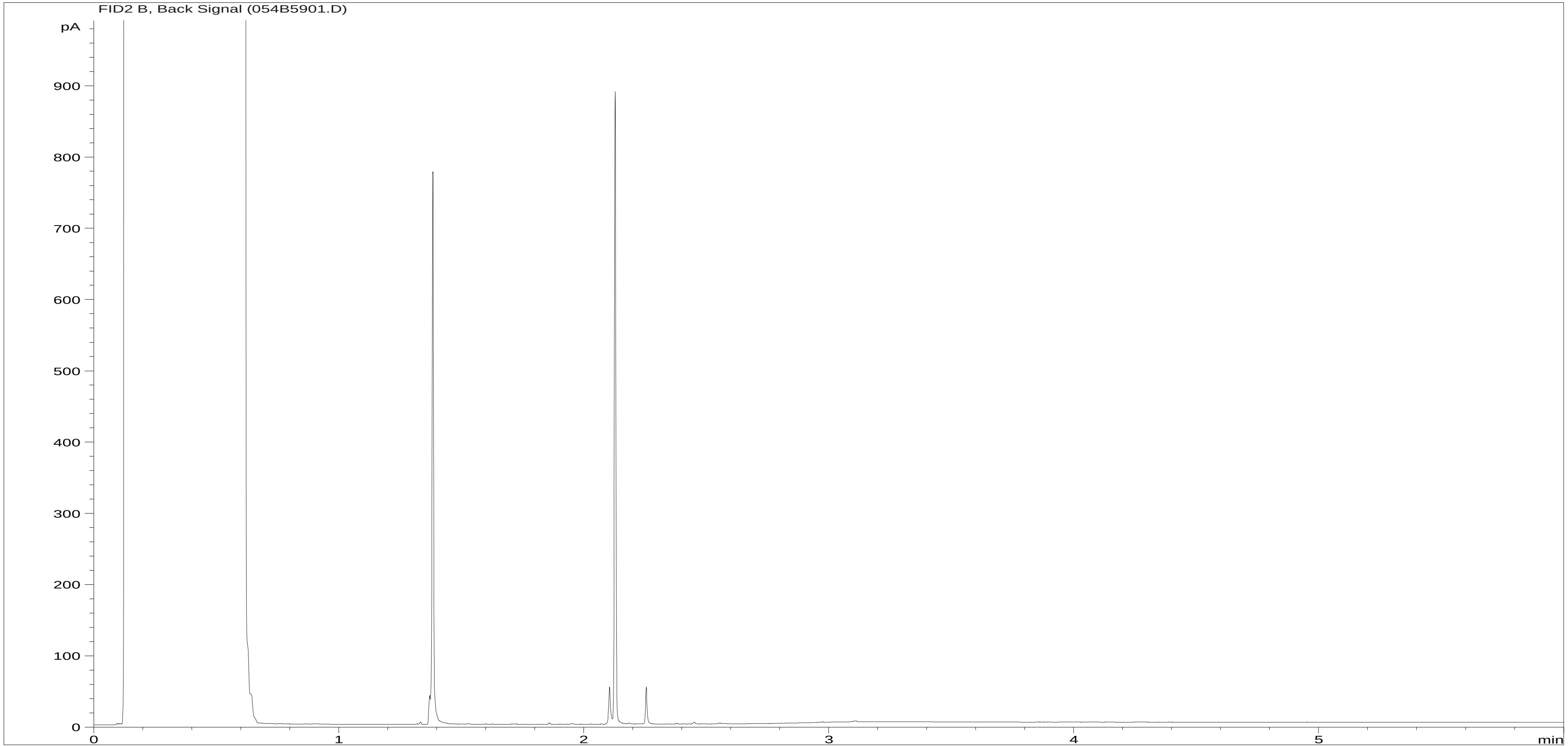
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011382ALI	**Job Number:**	S10_2548M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH103 ES 24 11.00
Acquisition Date/Time:	14-May-10, 21:39:58		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\046F5201.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

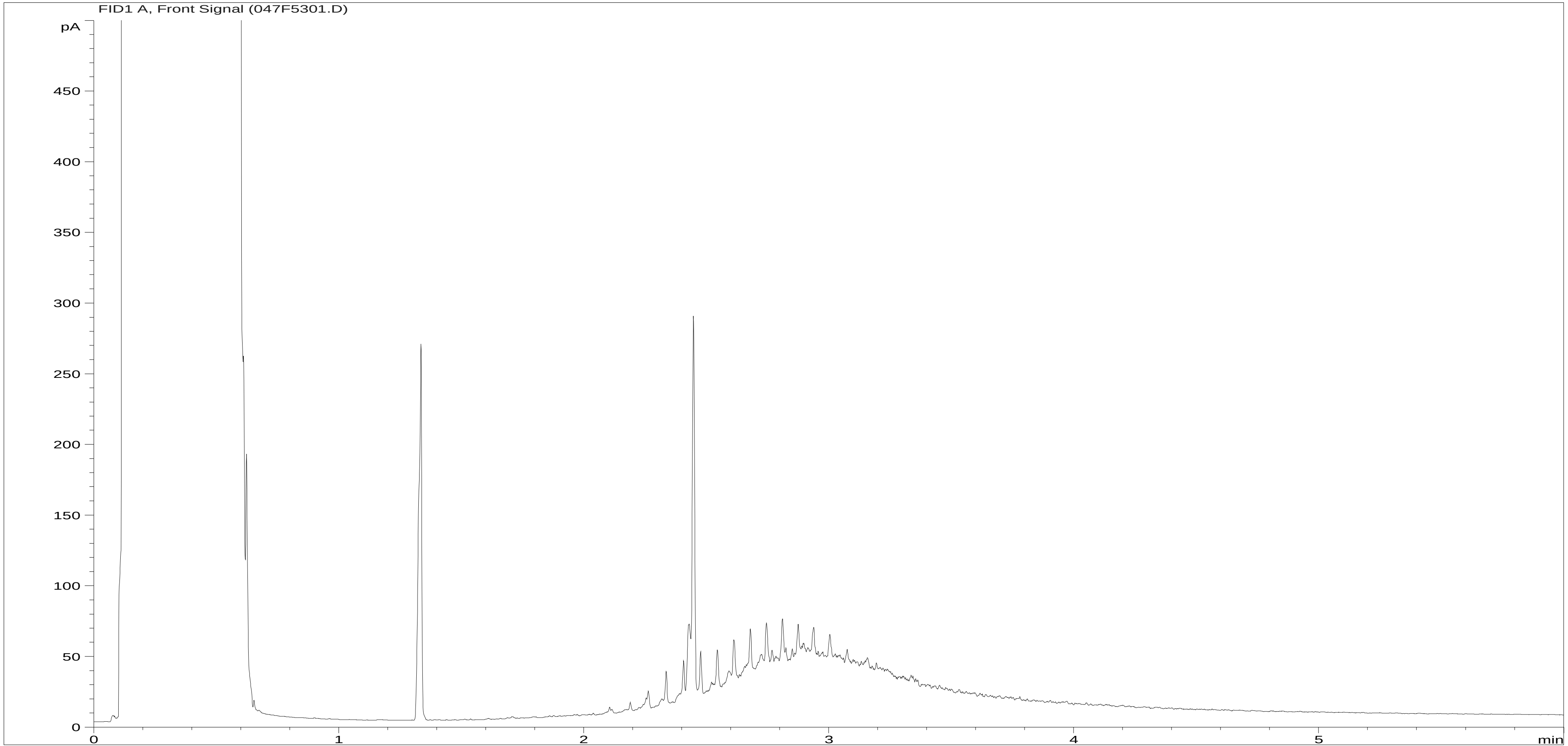
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011382ARO	**Job Number:**	S10_2548M
Multiplier:	11.78	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH103 ES 24 11.00
Acquisition Date/Time:	14-May-10, 23:03:56		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\054B5901.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

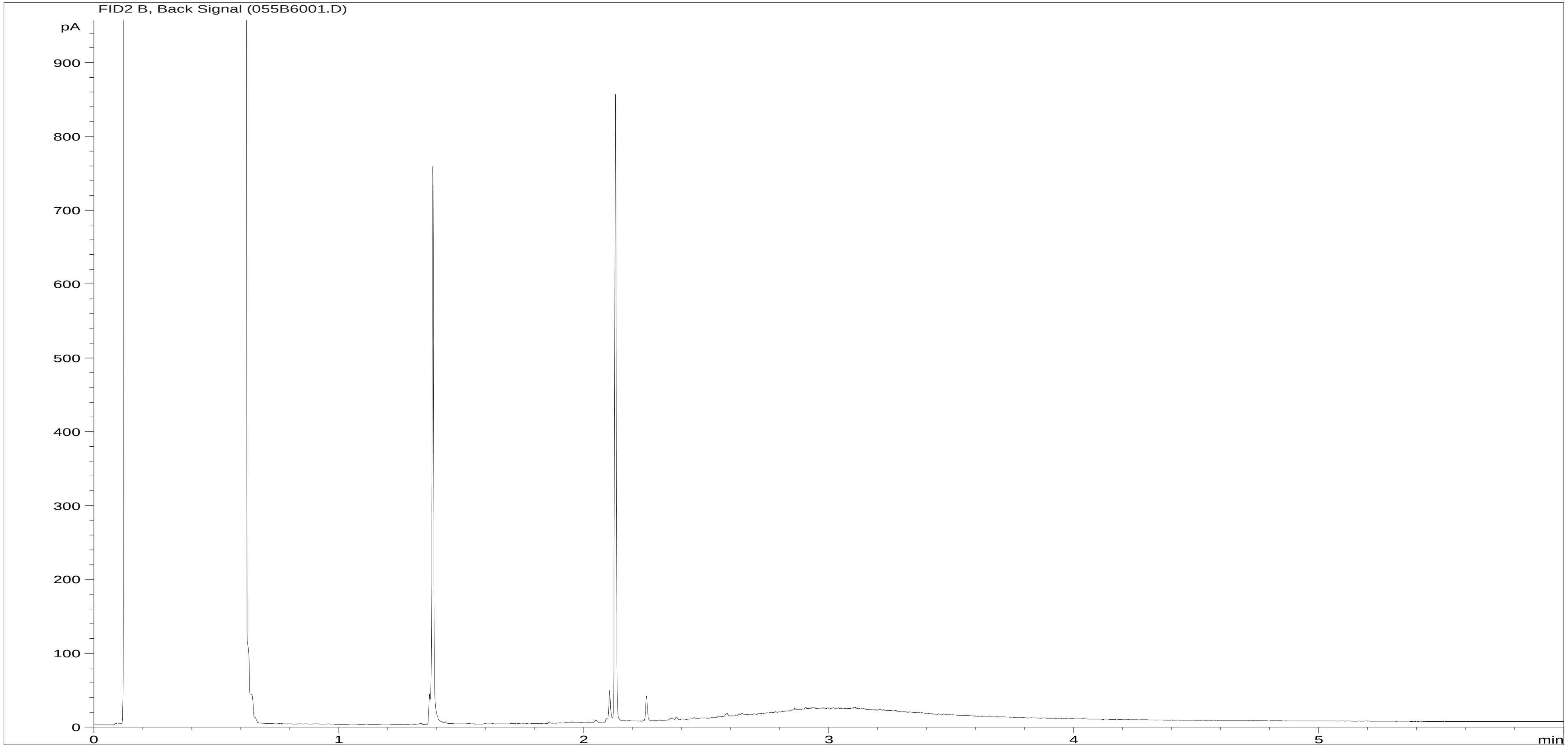
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011383ALI	**Job Number:**	S10_2548M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH103 ES 27 13.00
Acquisition Date/Time:	14-May-10, 21:51:58		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\047F5301.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

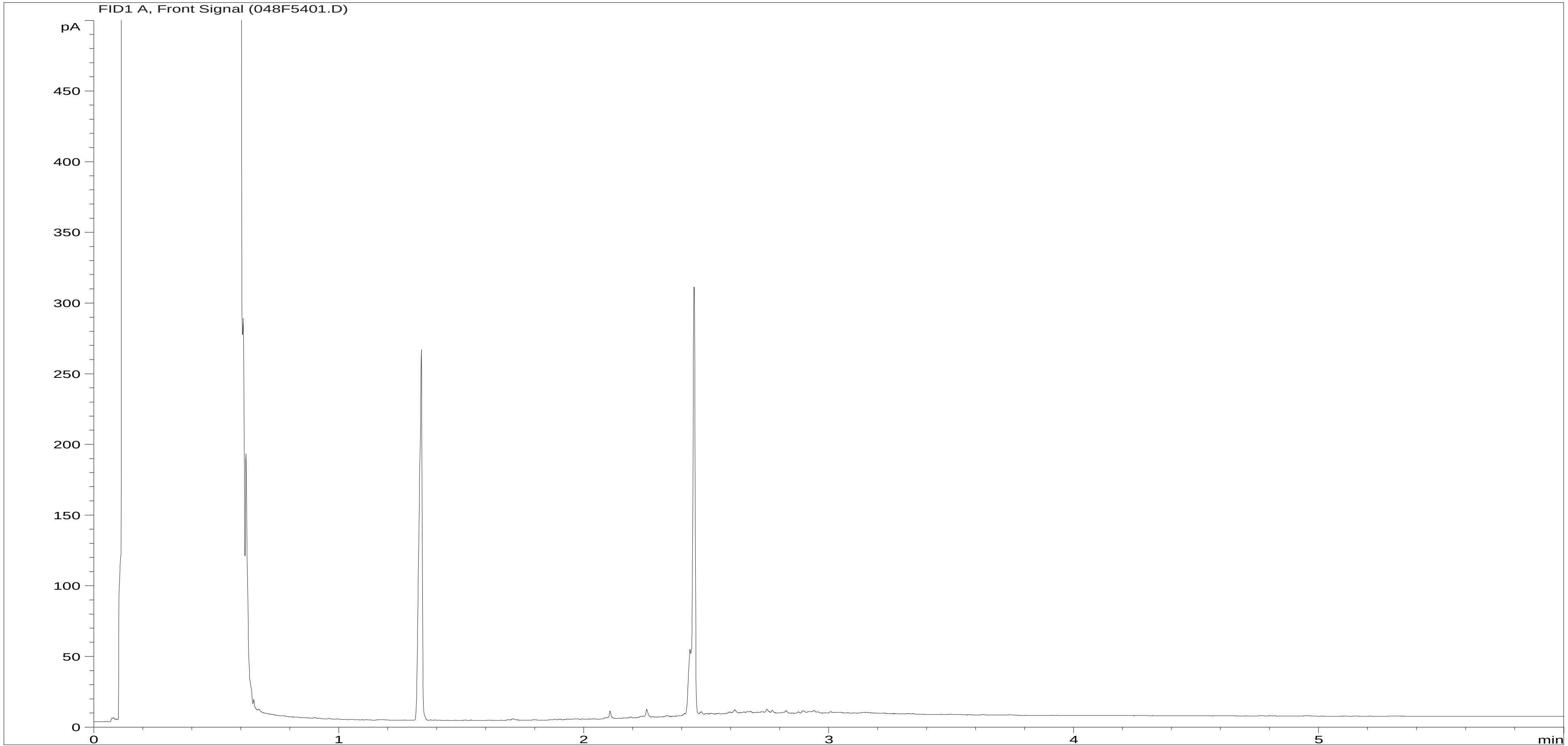
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011383ARO	**Job Number:**	S10_2548M
Multiplier:	11.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH103 ES 27 13.00
Acquisition Date/Time:	14-May-10, 23:15:44		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\055B6001.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

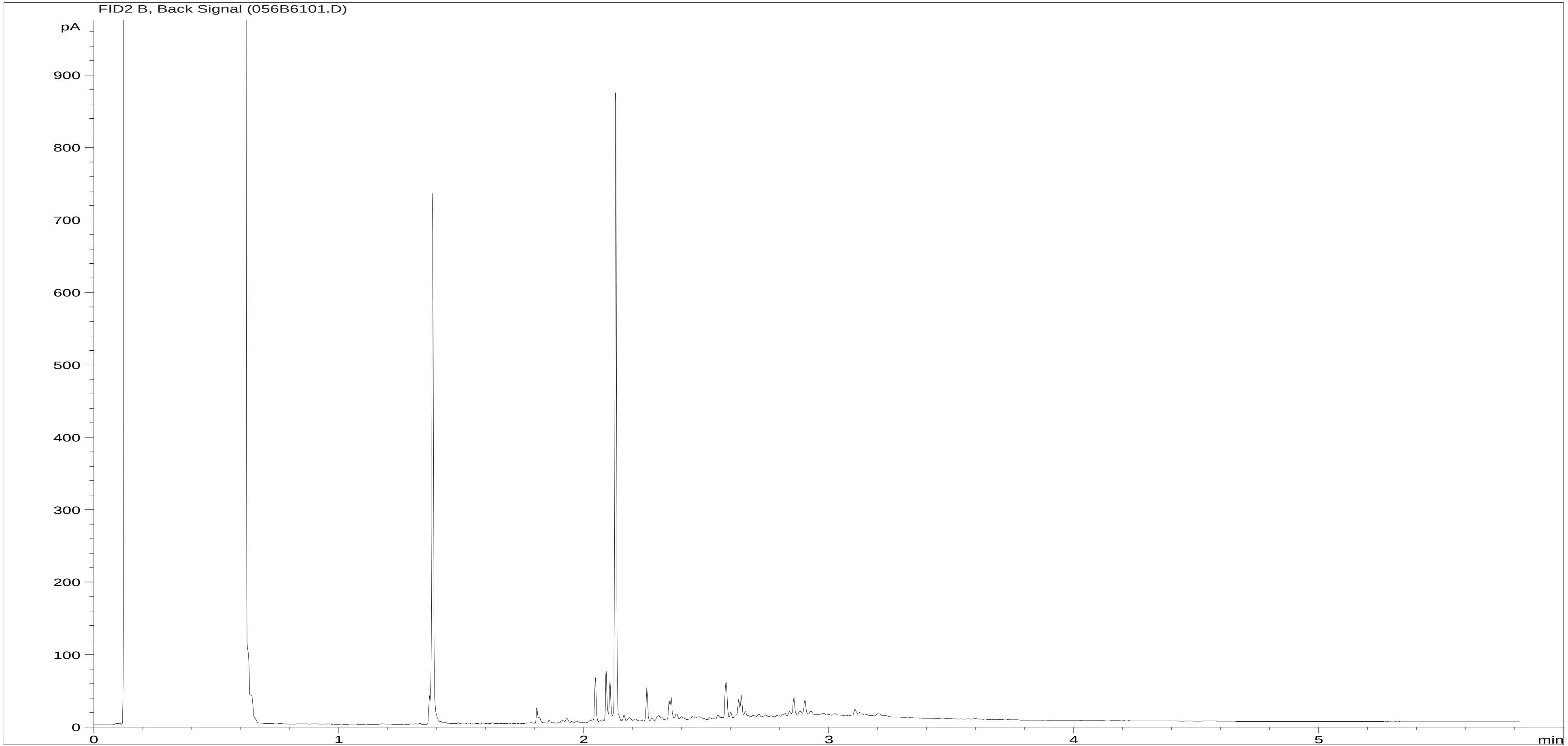
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011384ALI	**Job Number:**	S10_2548M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH104 ES 3 1.00
Acquisition Date/Time:	14-May-10, 22:03:49		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\048F5401.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

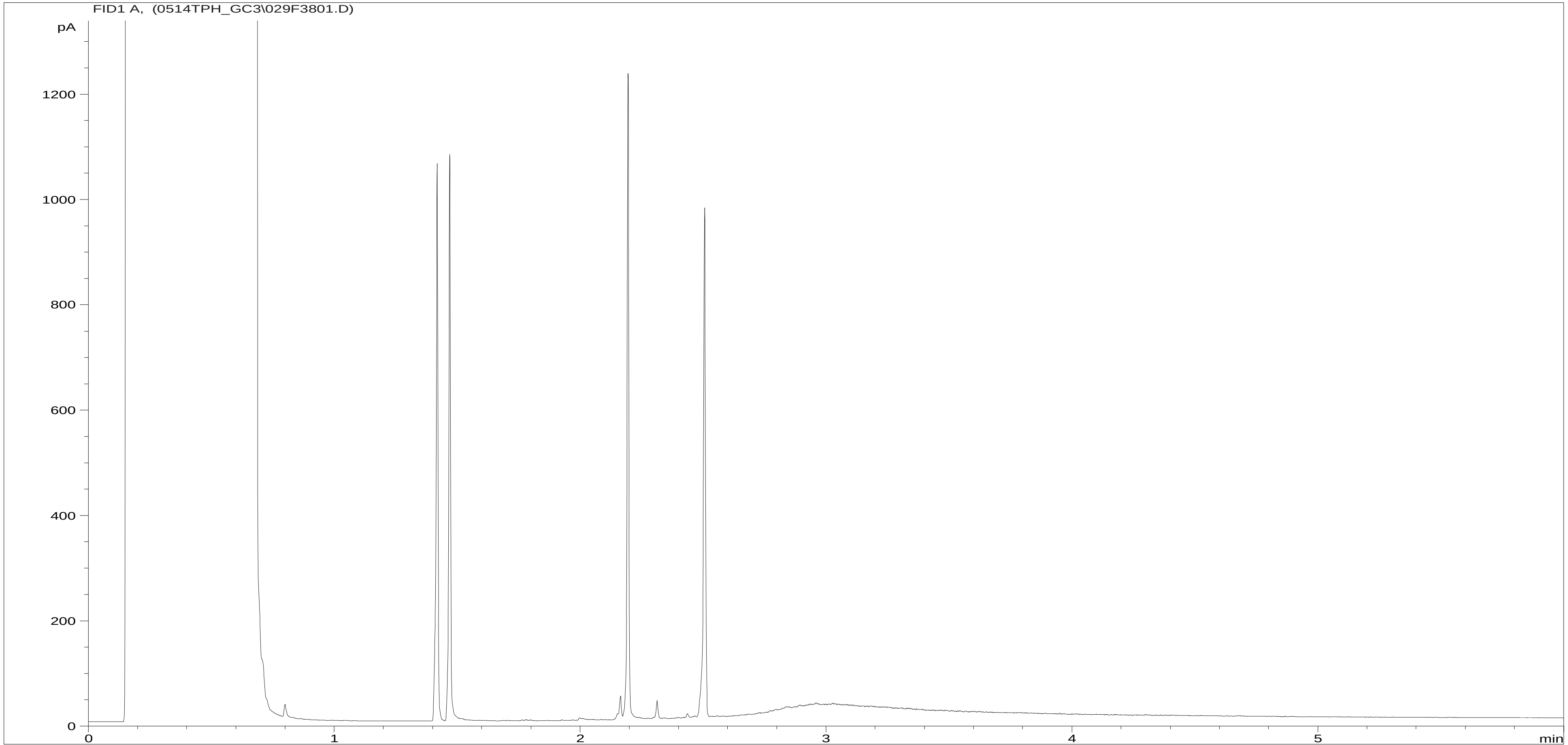
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011384ARO	**Job Number:**	S10_2548M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH104 ES 3 1.00
Acquisition Date/Time:	14-May-10, 23:27:40		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\056B6101.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

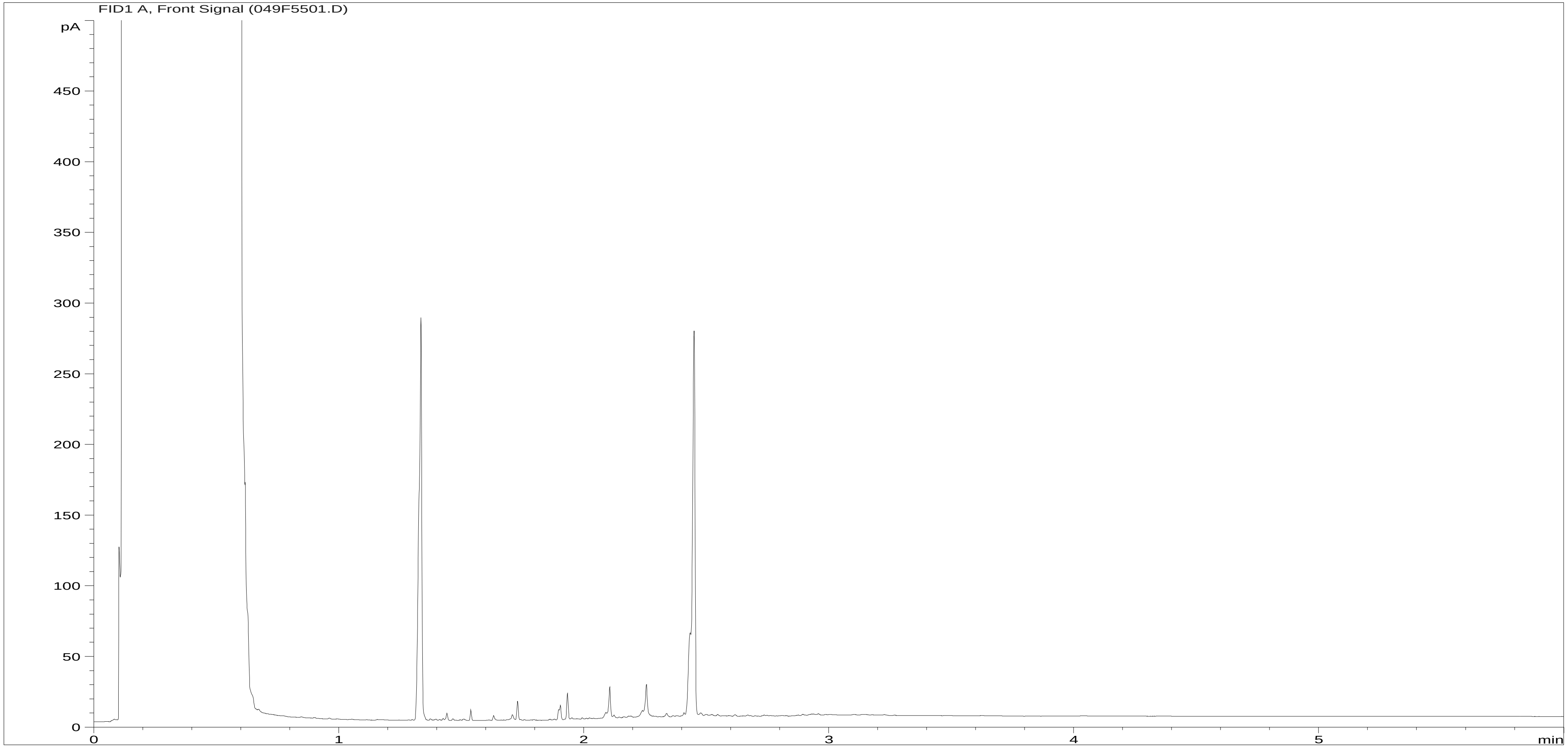
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL1011385	**Job Number:**	S10_2548M
Multiplier:	8	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	BH104 ES 9 3.00 (NVM)
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\029F3801.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

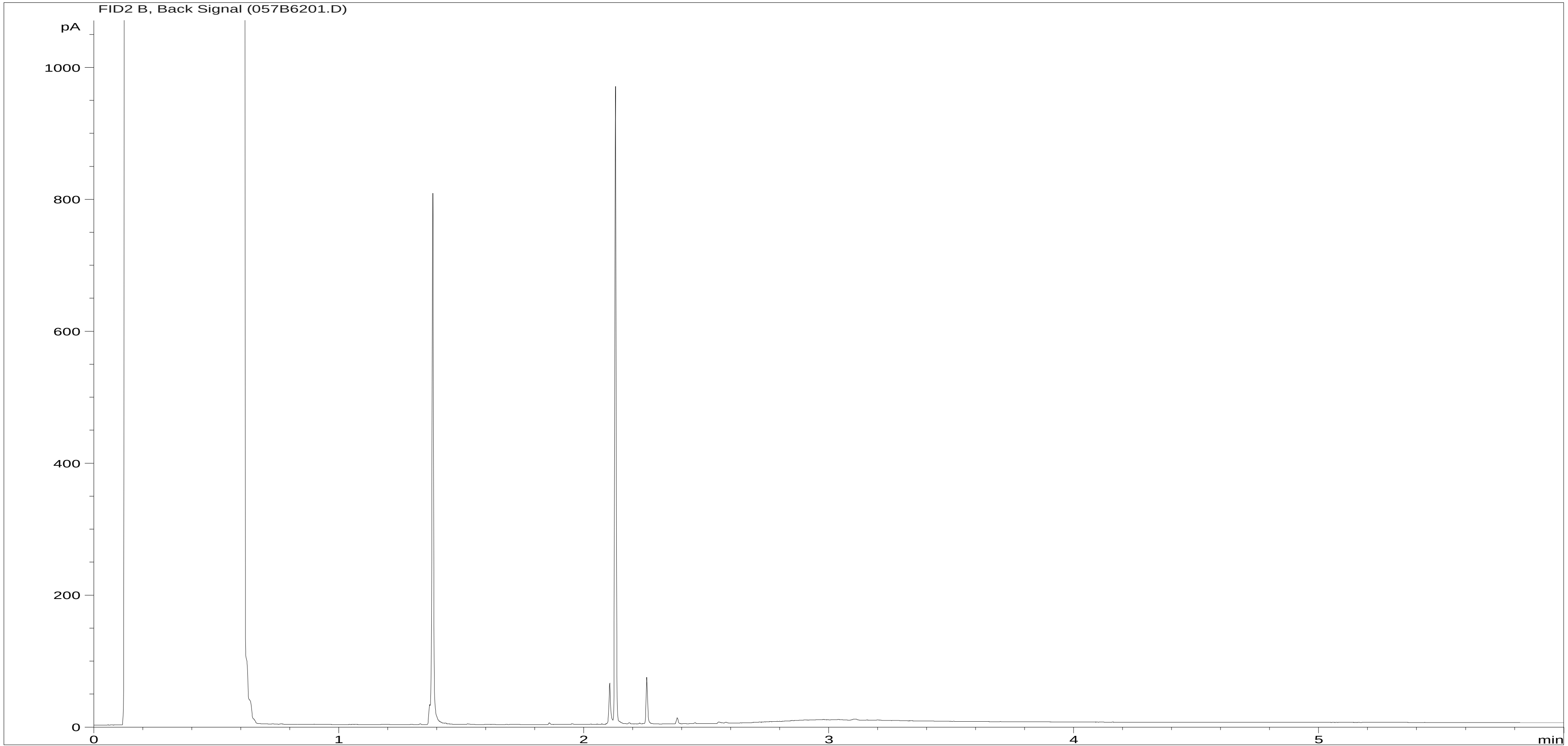
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011386ALI	**Job Number:**	S10_2548M
Multiplier:	13.26	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH104 ES 17 5.00
Acquisition Date/Time:	14-May-10, 22:15:49		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\049F5501.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

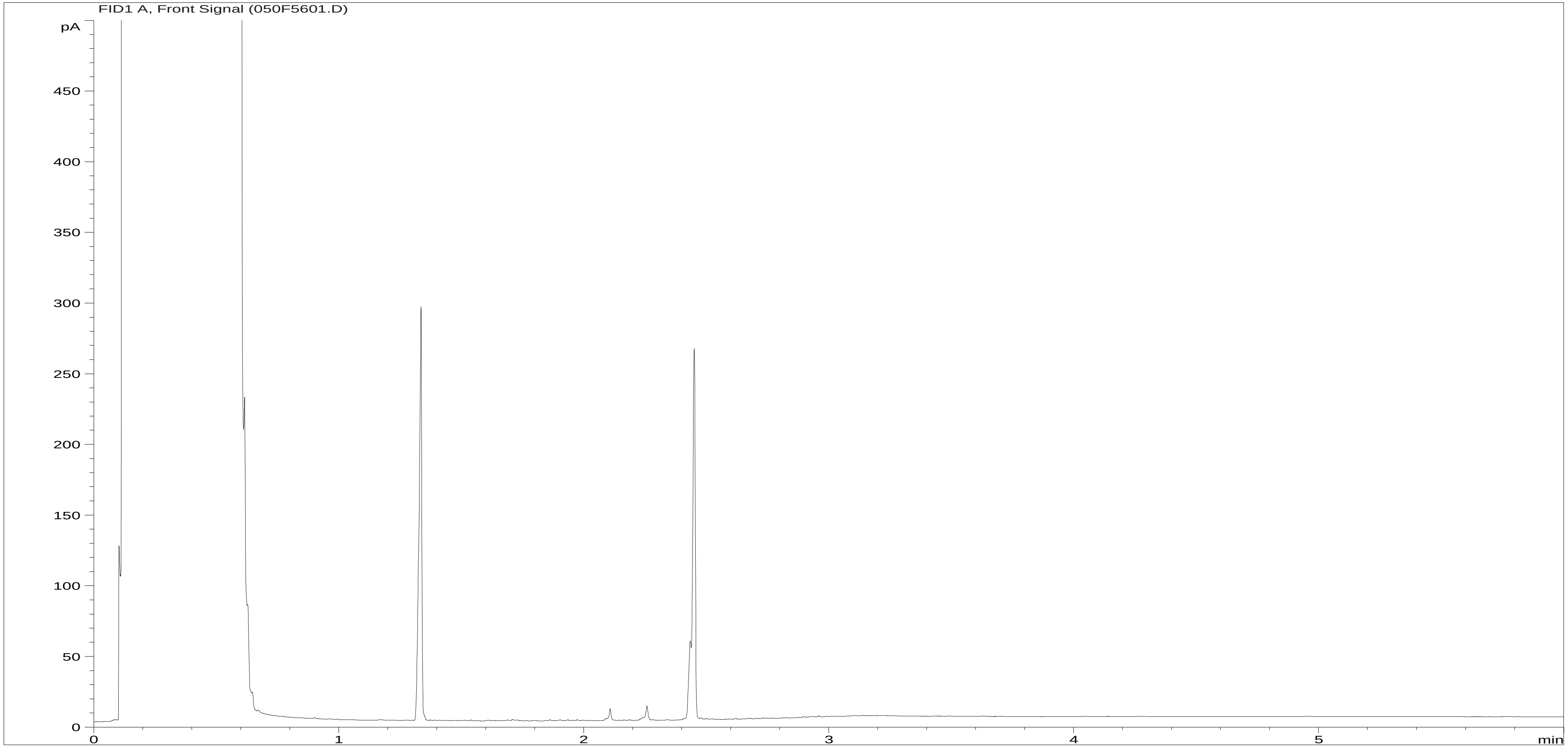
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011386ARO	**Job Number:**	S10_2548M
Multiplier:	9.86	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH104 ES 17 5.00
Acquisition Date/Time:	14-May-10, 23:39:42		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\057B6201.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

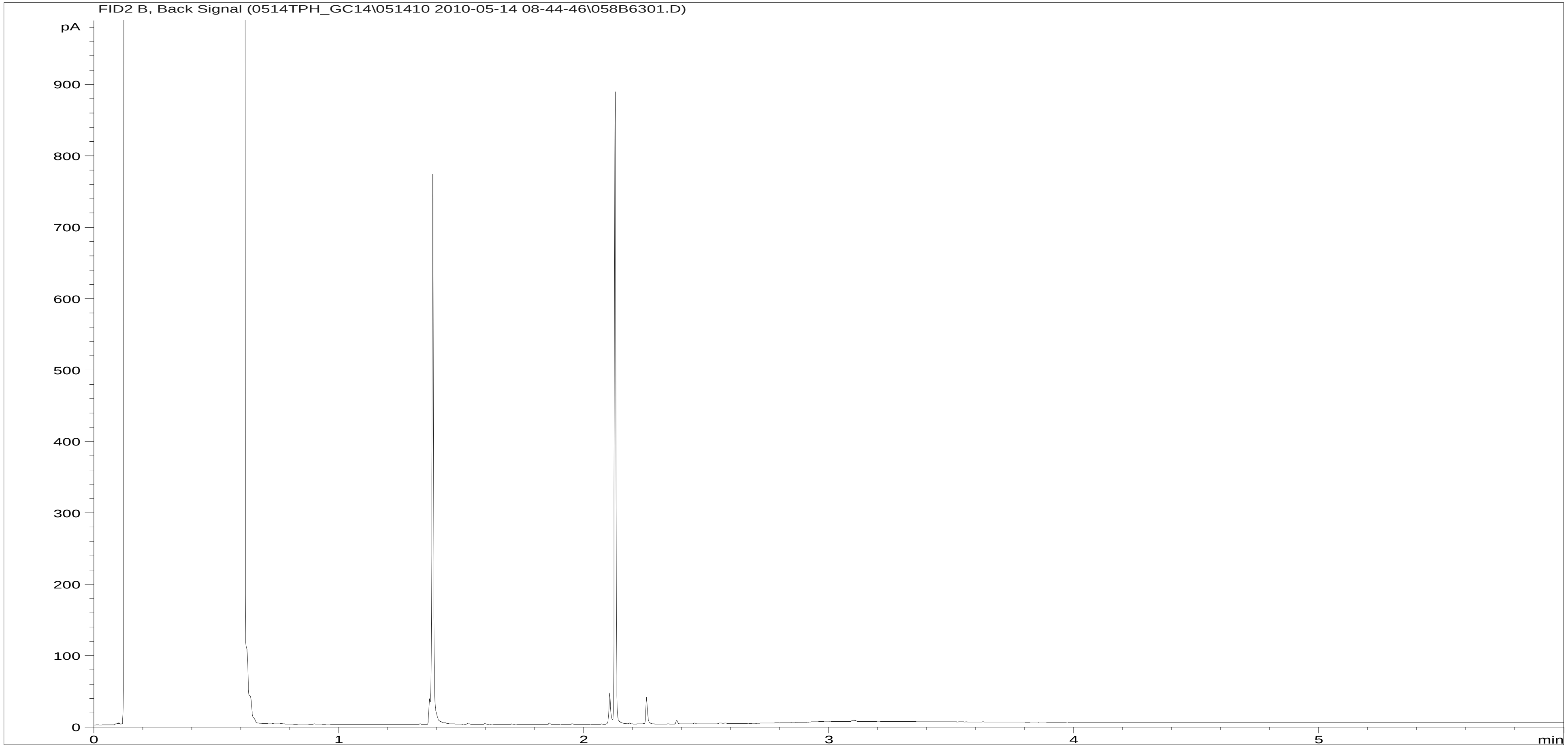
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011387ALI	**Job Number:**	S10_2548M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH104 ES 36 11.00
Acquisition Date/Time:	14-May-10, 22:27:56		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\050F5601.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

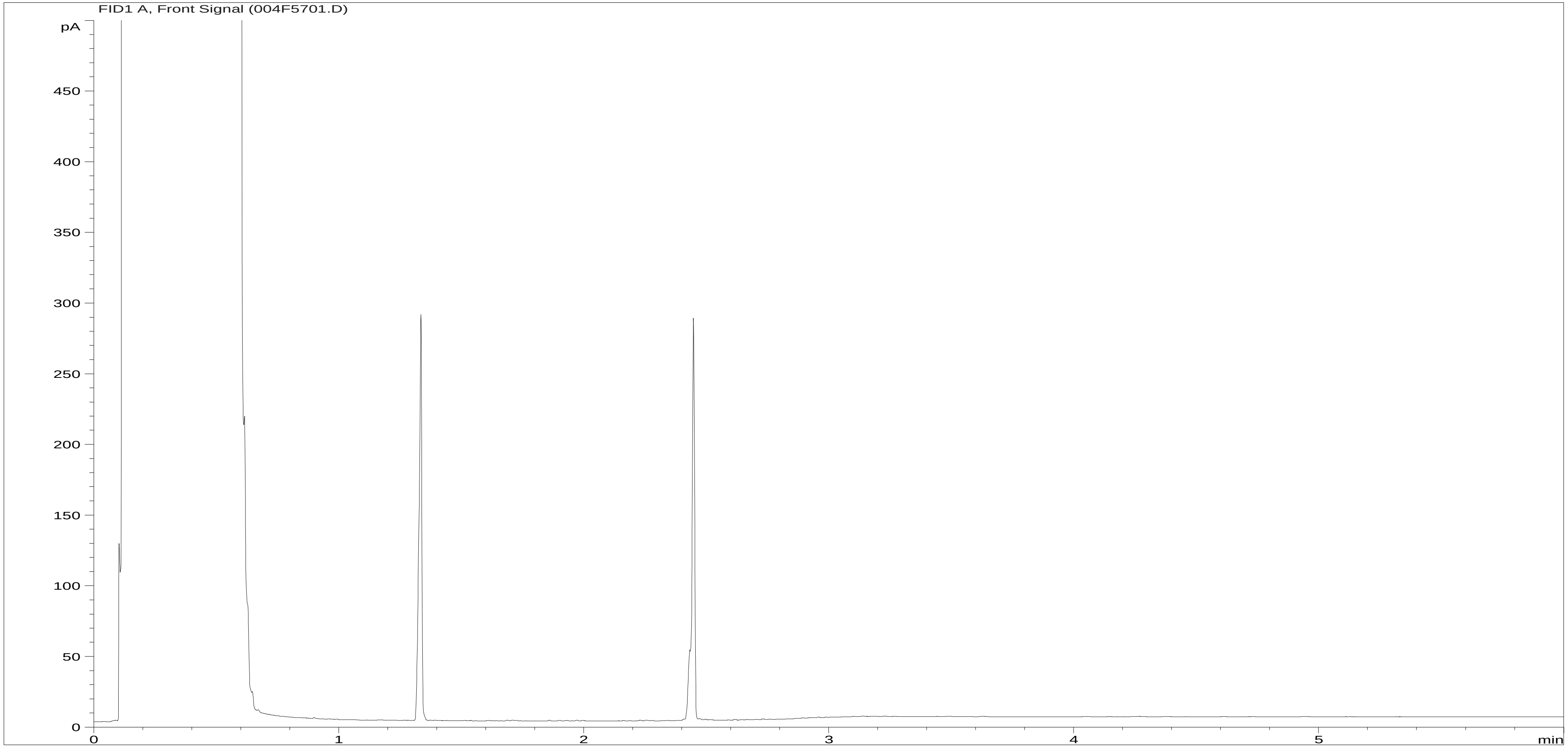
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011387ARO	**Job Number:**	S10_2548M
Multiplier:	11.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH104 ES 36 11.00
Acquisition Date/Time:	14-May-10, 23:51:17		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\058B6301.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

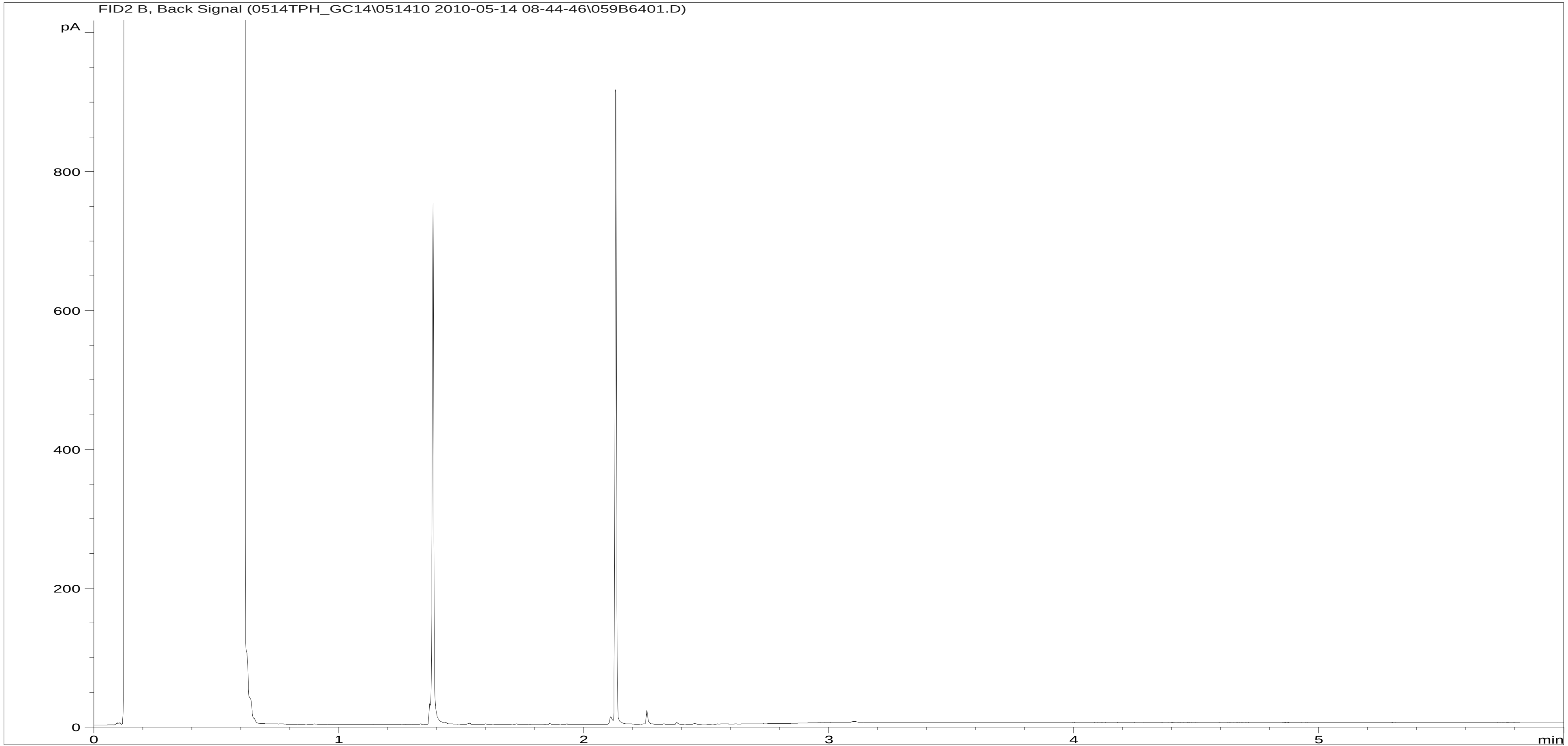
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011388ALI	**Job Number:**	S10_2548M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH105A ES 8 3.00
Acquisition Date/Time:	14-May-10, 22:40:13		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\004F5701.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

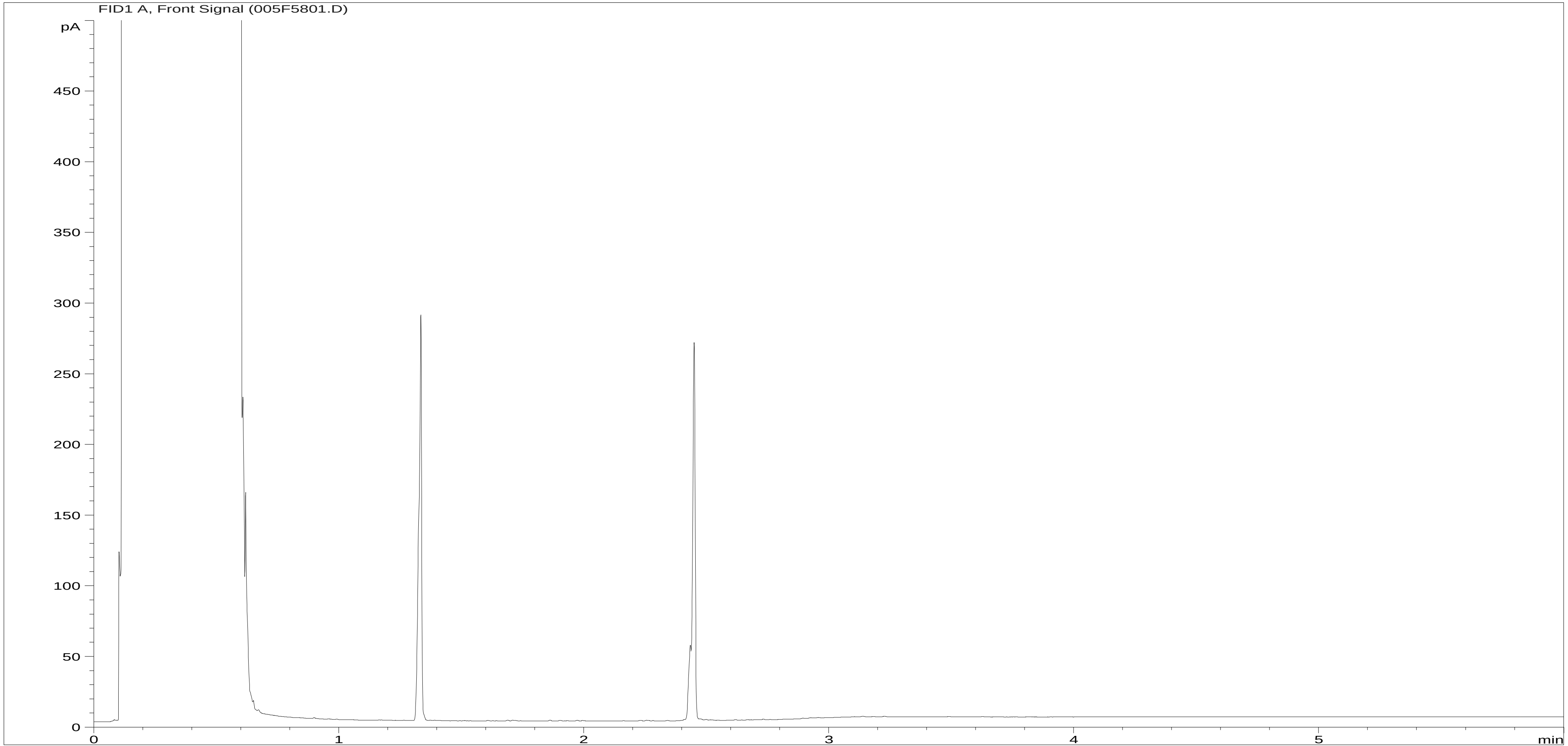
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011388ARO	**Job Number:**	S10_2548M
Multiplier:	11.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH105A ES 8 3.00
Acquisition Date/Time:	15-May-10, 00:02:51		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\059B6401.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

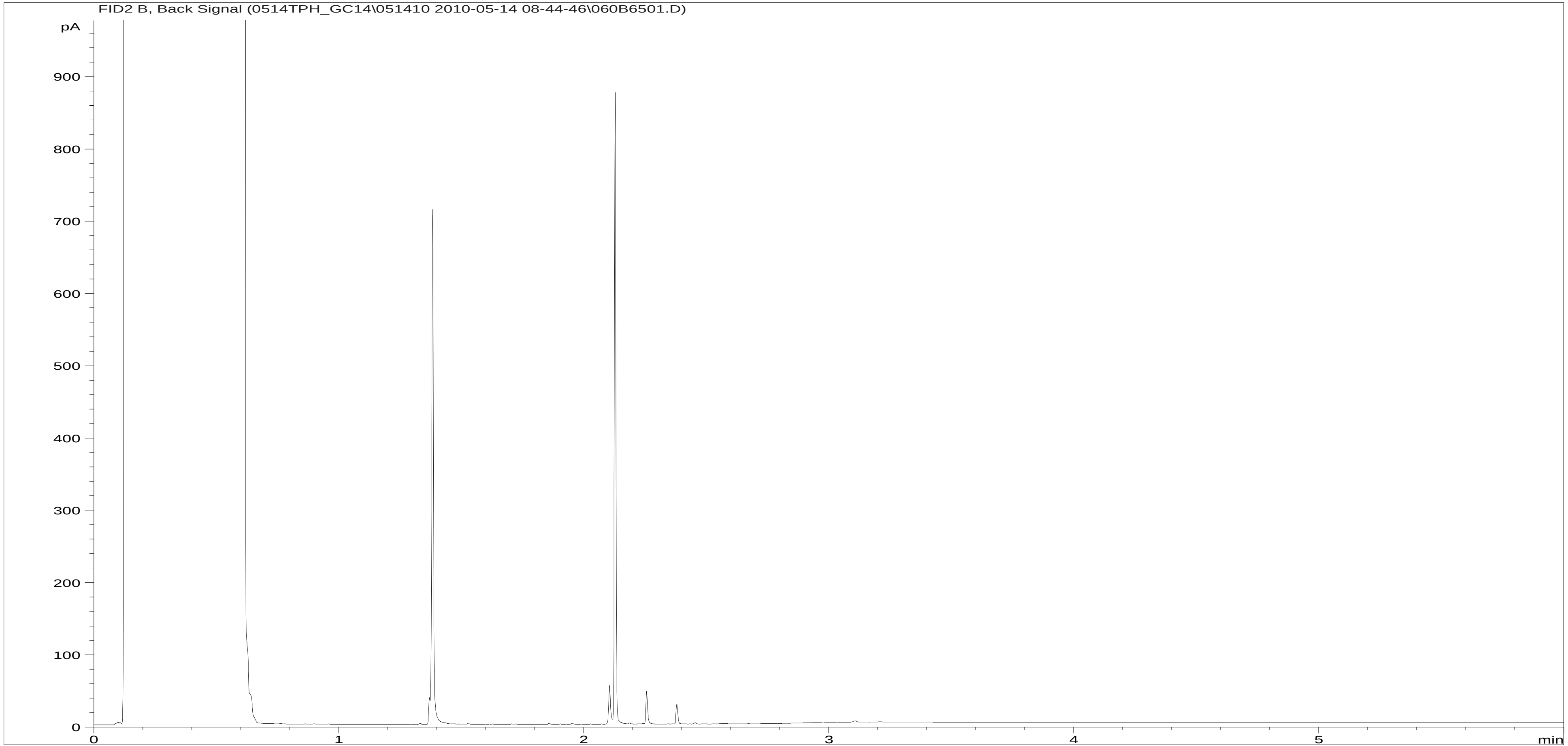
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	CL1011389ALI	**Job Number:**	S10_2548M
Multiplier:	14.82	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH106 ES 4 1.00
Acquisition Date/Time:	14-May-10, 22:52:07		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\005F5801.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

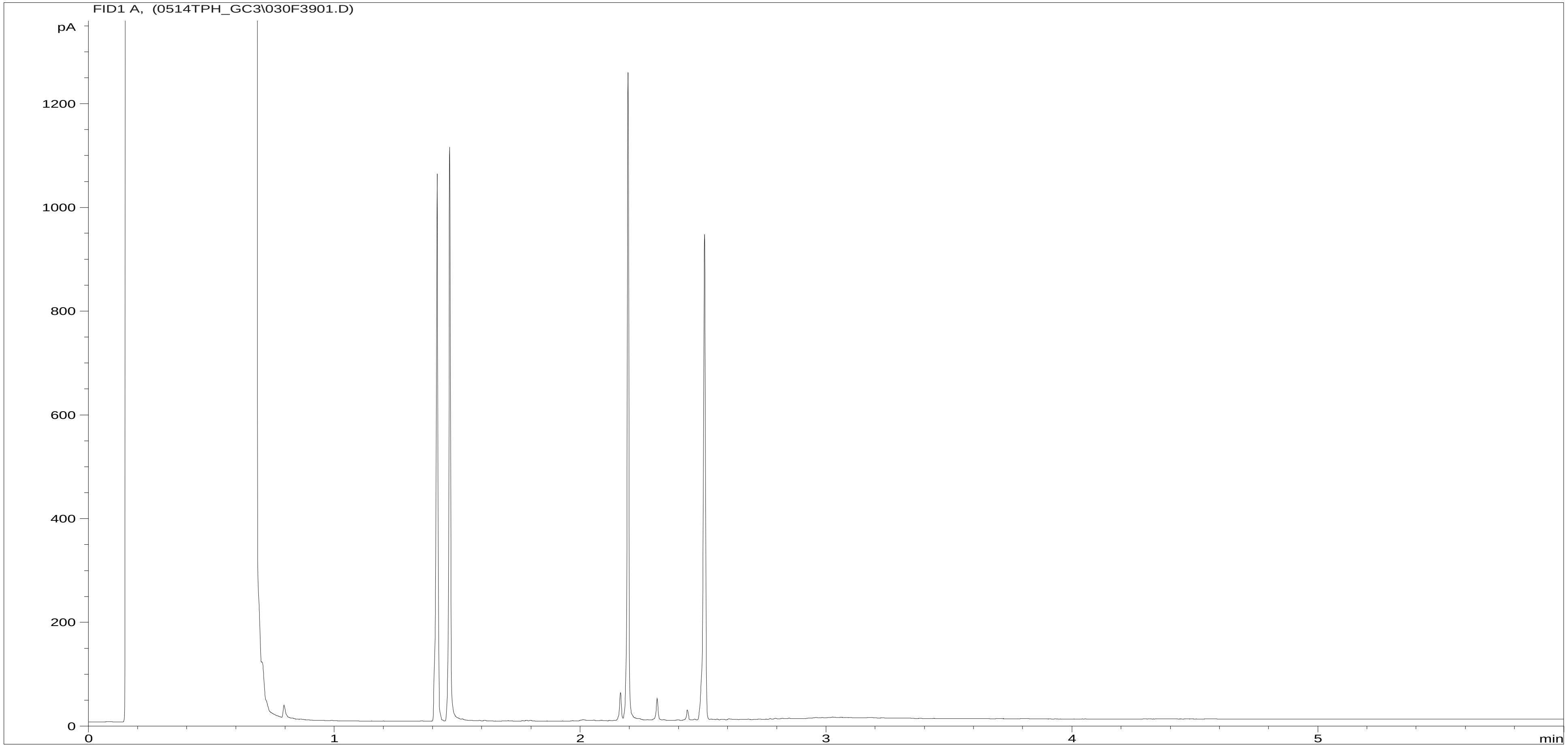
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	CL1011389ARO	**Job Number:**	S10_2548M
Multiplier:	11.4	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	BH106 ES 4 1.00
Acquisition Date/Time:	15-May-10, 00:14:31		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC14\051410 2010-05-14 08-44-46\060B6501.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL1011503	**Job Number:**	S10_2548M
Multiplier:	8	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	BH106 ES 9 3.00
Acquisition Date/Time:	14-May-10		
Datafile:	D:\TES\DATA\Y2010\0514TPH_GC3\030F3901.D		

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

		Accredited?:	Yes		
Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	0512VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	SS8 ES 1 0.00	**Date Booked in:**	04-May-10	**Method:**	Purge & trap
LIMS ID Number:	CL1011372	**Date Analysed:**	15-May-10	**Multiplier:**	5
Job Number:	S10_2548M	**Operator:**	AB	**Position:**	99

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	UM
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 *	-	< 6	-	N
Bromomethane	74-83-9 *	-	< 31	-	N
Chloroethane	75-00-3	-	< 31	-	UM
Trichlorofluoromethane	75-69-4	-	< 6	-	UM
1,1-Dichloroethene	75-35-4	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	U
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6 *	-	< 6	-	N
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 *	-	< 6	-	N
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6 *	-	< 6	-	N
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 31	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	UM
Dibromochloromethane	124-48-1	-	< 6	-	UM
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	UM
iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5 *	-	< 6	-	N
Propylbenzene	103-65-1	-	< 6	-	U
Bromobenzene	108-86-1	-	< 6	-	UM
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	U
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	UM
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	UM
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 31	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 31	-	U
Hexachlorobutadiene	87-68-3 *	-	< 31	-	N
Naphthalene	91-20-3 *	-	< 31	-	N
1,2,3-Trichlorobenzene	87-61-6	-	< 31	-	UM

Concentrations are reported on a dry weight basis

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.23	88	Dibromofluoromethane	110
1,4-Difluorobenzene	2.53	87	Toluene-d8	71
Chlorobenzene-d5	3.57	64	Bromofluorobenzene	95
1,4-Dichlorobenzene-d4	4.33	57		

This analysis was conducted on an 'As Recieved' basis.

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

		Accredited?:	**Yes**		
Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	0512VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS213 ES 4 1.40	**Date Booked in:**	04-May-10	**Method:**	Purge & trap
LIMS ID Number:	CL1011374	**Date Analysed:**	15-May-10	**Multiplier:**	5
Job Number:	S10_2548M	**Operator:**	AB	**Position:**	1

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	UM
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 *	-	< 6	-	N
Bromomethane	74-83-9 *	-	< 28	-	N
Chloroethane	75-00-3	-	< 28	-	UM
Trichlorofluoromethane	75-69-4	-	< 6	-	UM
1,1-Dichloroethene	75-35-4	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	U
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6 *	-	< 6	-	N
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 *	-	< 6	-	N
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6 *	-	< 6	-	N
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 28	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	UM
Dibromochloromethane	124-48-1	-	< 6	-	UM
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	UM
iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5 *	-	< 6	-	N
Propylbenzene	103-65-1	-	< 6	-	U
Bromobenzene	108-86-1	-	< 6	-	UM
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	U
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	UM
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	UM
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 28	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 28	-	U
Hexachlorobutadiene	87-68-3 *	-	< 28	-	N
Naphthalene	91-20-3 *	-	< 28	-	N
1,2,3-Trichlorobenzene	87-61-6	-	< 28	-	UM

Concentrations are reported on a dry weight basis

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.23	86	Dibromofluoromethane	102
1,4-Difluorobenzene	2.53	87	Toluene-d8	98
Chlorobenzene-d5	3.57	83	Bromofluorobenzene	92
1,4-Dichlorobenzene-d4	4.33	78		

This analysis was conducted on an 'As Recieved' basis.

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

	Accredited?:	**Yes**			
Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	0512VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	BH101 ES 8 3.00	**Date Booked in:**	04-May-10	**Method:**	Purge & trap
LIMS ID Number:	CL1011376	**Date Analysed:**	15-May-10	**Multiplier:**	5
Job Number:	S10_2548M	**Operator:**	AB	**Position:**	2

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	UM
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 *	-	< 6	-	N
Bromomethane	74-83-9 *	-	< 31	-	N
Chloroethane	75-00-3	-	< 31	-	UM
Trichlorofluoromethane	75-69-4	-	< 6	-	UM
1,1-Dichloroethene	75-35-4	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	U
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6 *	-	< 6	-	N
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 *	-	< 6	-	N
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6 *	-	< 6	-	N
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 31	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	UM
Dibromochloromethane	124-48-1	-	< 6	-	UM
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	UM
iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5 *	-	< 6	-	N
Propylbenzene	103-65-1	-	< 6	-	U
Bromobenzene	108-86-1	-	< 6	-	UM
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	U
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	UM
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	UM
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 31	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 31	-	U
Hexachlorobutadiene	87-68-3 *	-	< 31	-	N
Naphthalene	91-20-3 *	-	< 31	-	N
1,2,3-Trichlorobenzene	87-61-6	-	< 31	-	UM

Concentrations are reported on a dry weight basis

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.23	90	Dibromofluoromethane	107
1,4-Difluorobenzene	2.53	90	Toluene-d8	96
Chlorobenzene-d5	3.57	78	Bromofluorobenzene	83
1,4-Dichlorobenzene-d4	4.33	61		

This analysis was conducted on an 'As Recieved' basis.

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

	Accredited?:	**Yes**			
Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	0512VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	BH104 ES 3 1.00	**Date Booked in:**	04-May-10	**Method:**	Purge & trap
LIMS ID Number:	CL1011384	**Date Analysed:**	15-May-10	**Multiplier:**	5
Job Number:	S10_2548M	**Operator:**	AB	**Position:**	3

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	UM
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 *	-	< 6	-	N
Bromomethane	74-83-9 *	-	< 30	-	N
Chloroethane	75-00-3	-	< 30	-	UM
Trichlorofluoromethane	75-69-4	-	< 6	-	UM
1,1-Dichloroethene	75-35-4	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	U
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6 *	-	< 6	-	N
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 *	-	< 6	-	N
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6 *	-	< 6	-	N
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 30	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	UM
Dibromochloromethane	124-48-1	-	< 6	-	UM
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	UM
iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5 *	-	< 6	-	N
Propylbenzene	103-65-1	-	< 6	-	U
Bromobenzene	108-86-1	-	< 6	-	UM
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	U
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	UM
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	UM
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 30	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 30	-	U
Hexachlorobutadiene	87-68-3 *	-	< 30	-	N
Naphthalene	91-20-3 *	-	< 30	-	N
1,2,3-Trichlorobenzene	87-61-6	-	< 30	-	UM

Concentrations are reported on a dry weight basis

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.23	94	Dibromofluoromethane	103
1,4-Difluorobenzene	2.53	95	Toluene-d8	97
Chlorobenzene-d5	3.57	84	Bromofluorobenzene	85
1,4-Dichlorobenzene-d4	4.33	65		

This analysis was conducted on an 'As Recieved' basis.

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

	Accredited?:	Yes			
Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	0512VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	BH105A ES 8 3.00	**Date Booked in:**	04-May-10	**Method:**	Purge & trap
LIMS ID Number:	CL1011388	**Date Analysed:**	16-May-10	**Multiplier:**	5
Job Number:	S10_2548M	**Operator:**	AB	**Position:**	4

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	UM
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 *	-	< 6	-	N
Bromomethane	74-83-9 *	-	< 28	-	N
Chloroethane	75-00-3	-	< 28	-	UM
Trichlorofluoromethane	75-69-4	-	< 6	-	UM
1,1-Dichloroethene	75-35-4	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	U
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6 *	-	< 6	-	N
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 *	-	< 6	-	N
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6 *	-	< 6	-	N
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 28	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	UM
Dibromochloromethane	124-48-1	-	< 6	-	UM
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	UM
iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5 *	-	< 6	-	N
Propylbenzene	103-65-1	-	< 6	-	U
Bromobenzene	108-86-1	-	< 6	-	UM
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	U
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	UM
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	UM
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 28	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 28	-	U
Hexachlorobutadiene	87-68-3 *	-	< 28	-	N
Naphthalene	91-20-3 *	-	< 28	-	N
1,2,3-Trichlorobenzene	87-61-6	-	< 28	-	UM

Concentrations are reported on a dry weight basis

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.23	89	Dibromofluoromethane	105
1,4-Difluorobenzene	2.53	91	Toluene-d8	97
Chlorobenzene-d5	3.57	87	Bromofluorobenzene	90
1,4-Dichlorobenzene-d4	4.33	81		

This analysis was conducted on an 'As Recieved' basis.

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

Volatile Organic Compounds by PTGCMS

		Accredited?:	**Yes**		
Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	0512VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	BH106 ES 4 1.00	**Date Booked in:**	04-May-10	**Method:**	Purge & trap
LIMS ID Number:	CL1011389	**Date Analysed:**	16-May-10	**Multiplier:**	5
Job Number:	S10_2548M	**Operator:**	AB	**Position:**	5

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Dichlorodifluoromethane	75-71-8	-	< 6	-	UM
Chloromethane	74-87-3	-	< 6	-	UM
Vinyl Chloride	75-01-4 *	-	< 6	-	N
Bromomethane	74-83-9 *	-	< 31	-	N
Chloroethane	75-00-3	-	< 31	-	UM
Trichlorofluoromethane	75-69-4	-	< 6	-	UM
1,1-Dichloroethene	75-35-4	-	< 6	-	UM
trans 1,2-Dichloroethene	156-60-5	-	< 6	-	U
1,1-Dichloroethane	75-34-3	-	< 6	-	UM
2,2-Dichloropropane	594-20-7	-	< 6	-	UM
cis 1,2-Dichloroethene	156-59-2	-	< 6	-	UM
Bromochloromethane	74-97-5	-	< 6	-	UM
Chloroform	67-66-3	-	< 6	-	UM
1,1,1-Trichloroethane	71-55-6	-	< 6	-	UM
Carbon Tetrachloride	56-23-5	-	< 6	-	UM
1,1-Dichloropropene	563-58-6	-	< 6	-	UM
Benzene	71-43-2	-	< 6	-	UM
1,2-Dichloroethane	107-06-2	-	< 6	-	UM
Trichloroethene	79-01-6 *	-	< 6	-	N
1,2-Dichloropropane	78-87-5	-	< 6	-	UM
Dibromomethane	74-95-3	-	< 6	-	UM
Bromodichloromethane	75-27-4	-	< 6	-	UM
cis 1,3-Dichloropropene	10061-01-5 *	-	< 6	-	N
Toluene	108-88-3	-	< 6	-	UM
trans 1,3-Dichloropropene	10061-02-6 *	-	< 6	-	N
1,1,2-Trichloroethane	79-00-5	-	< 6	-	UM
Tetrachloroethene	127-18-4	-	< 31	-	UM
1,3-Dichloropropane	142-28-9	-	< 6	-	UM
Dibromochloromethane	124-48-1	-	< 6	-	UM
1,2-Dibromoethane	106-93-4	-	< 6	-	U
Chlorobenzene	108-90-7	-	< 6	-	UM
Ethylbenzene	100-41-4	-	< 6	-	UM
1,1,1,2-Tetrachloroethane	630-20-6	-	< 6	-	UM
m and p-Xylene	108-38-3/106-42-3	-	< 6	-	UM
o-Xylene	95-47-6	-	< 6	-	UM

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit	Accr. code
Styrene	100-42-5	-	< 6	-	UM
Bromoform	75-25-2	-	< 6	-	UM
iso-Propylbenzene	98-82-8	-	< 6	-	UM
1,1,2,2-Tetrachloroethane	79-34-5 *	-	< 6	-	N
Propylbenzene	103-65-1	-	< 6	-	U
Bromobenzene	108-86-1	-	< 6	-	UM
1,2,3-Trichloropropane	96-18-4	-	< 6	-	U
2-Chlorotoluene	95-49-8	-	< 6	-	UM
1,3,5-Trimethylbenzene	108-67-8	-	< 6	-	UM
4-Chlorotoluene	106-43-4	-	< 6	-	UM
tert-Butylbenzene	98-06-6	-	< 6	-	U
1,2,4-Trimethylbenzene	95-63-6	-	< 6	-	UM
sec-Butylbenzene	135-98-8	-	< 6	-	UM
p-Isopropyltoluene	99-87-6	-	< 6	-	U
1,3-Dichlorobenzene	541-73-1	-	< 6	-	UM
1,4-Dichlorobenzene	106-46-7	-	< 6	-	UM
n-Butylbenzene	104-51-8	-	< 6	-	U
1,2-Dichlorobenzene	95-50-1	-	< 6	-	UM
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 31	-	N
1,2,4-Trichlorobenzene	120-82-1	-	< 31	-	U
Hexachlorobutadiene	87-68-3 *	-	< 31	-	N
Naphthalene	91-20-3 *	-	< 31	-	N
1,2,3-Trichlorobenzene	87-61-6	-	< 31	-	UM

Concentrations are reported on a dry weight basis

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.23	90	Dibromofluoromethane	107
1,4-Difluorobenzene	2.53	91	Toluene-d8	102
Chlorobenzene-d5	3.57	89	Bromofluorobenzene	90
1,4-Dichlorobenzene-d4	4.33	82		

This analysis was conducted on an 'As Recieved' basis.

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105°C where appropriate, in accordance with the MCERTS standard.

WASTE ACCEPTANCE CRITERIA TESTING
BSEN 12457/3

					Leaching Data	
Client	Soil Mechanics				Weight of sample (kg)	0.225
Contact	Mr M Ratcliffe				Moisture content @ 105℃ (%)	20.6
					Equivalent Weight based on drying at 105℃ (kg)	0.178
Site	Isles Quarry				Volume of water required to carry out 2:1 stage (litres)	0.308
					Weight of Sieved Soil to carry out 2:1 stage (kg)	0.285
Sample Description		**Report No**	**Sample No**	**Issue Date**	Weight of Deionised water to carry out 2:1 stage (kg)	0.390
SS8 ES 1 0.00		s10_2548	CL/1011372	18-May-10	Volume to undertake analysis (2:1 Stage) (litres)	0.300
					Weight of Deionised water to carry out 8:1 stage (kg)	1.367

Accreditation	Method Code	Solid Waste Analysis (Dry Basis)	Concentration in Solid (Dry Weight Basis)	Landfill Waste Acceptance Criteria Limit Values: Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
N	WSLM59	Total Organic Carbon (% M/M)	1.76	3	5	6
N	LOI450	Loss on Ignition (%)	4			10
N	BTEXHSA	Sum of BTEX (mg/kg)	<0.04	6		
N	PCBUSECD	Sum of 7 Congener PCB's (mg/kg)	<0.035	1		
U	TPHFIDUS	Mineral Oil (mg/kg)	466	500		
N	PAHMSUS	PAH Sum of 17 (mg/kg)	<7.71	100		
U	PHSOIL	pH (pH units)	8.1		>6	
N	ANC	Acid Neutralisation Capacity (mol/kg) @pH 7	1.05		To be evaluated	To be evaluated

Accreditation	Method Code	Leachate Analysis	2:1 Leachate	8:1 Leachate	Calculated amount leached @ 2:1	Calculated cumulative amount leached @ 10:1	Landfill Waste Acceptance Criteria Limit Values for BSEN 12457/3 @ L/S 10 litre kg-1 mg/kg (dry weight)		
			mg/l except ºº		mg/kg (dry weight)				
U	WSLM3	pH (pH units) ºº	7.5	8.3	Calculated data not UKAS Accredited				
U	WSLM2	Conductivity (µs/cm) ºº	291	141					
N	ICPMSW	Arsenic	0.005	0.004	0.01	0.04	0.5	2	25
N	ICPWATVAR	Barium	0.43	0.22	0.86	2.6	20	100	300
N	ICPMSW	Cadmium	<0.0001	<0.0001	<0.0002	<0.001	0.04	1	5
N	ICPMSW	Chromium	0.002	0.001	0.004	0.01	0.5	10	70
N	ICPMSW	Copper	0.019	0.016	0.038	0.17	2	50	100
N	ICPMSW	Mercury	<0.0001	<0.0001	<0.0002	<0.001	0.01	0.2	2
N	ICPMSW	Molybdenum	0.004	0.003	0.008	0.03	0.5	10	30
N	ICPMSW	Nickel	0.004	0.002	0.008	0.02	0.4	10	40
N	ICPMSW	Lead	0.008	0.005	0.016	0.06	0.5	10	50
N	ICPMSW	Antimony	0.003	0.005	0.006	0.05	0.06	0.7	5
N	ICPMSW	Selenium	0.001	<0.001	0.002	<0.01	0.1	0.5	7
N	ICPMSW	Zinc	0.062	0.088	0.124	0.84	4	50	200
N	KONENS	Chloride	10	2	20	34	800	15000	25000
N	ISEF	Fluoride	0.4	0.5	0.8	5	10	150	500
N	ICPWATVAR	Sulphate as SO4	38	7	76	122	1000	20000	50000
N	WSLM27	Total Dissolved Solids	227	110	454	1297	4000	60000	100000
N	SFAPI	Phenol Index	<0.05	<0.05	<0.1	<0.5	1		
N	WSLM13	Dissolved Organic Carbon	24	9.1	48	116	500	800	1000

Template Ver. 1

Landfill Waste Acceptance Criteria limit values correct as of 11th March 2009.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

WASTE ACCEPTANCE CRITERIA TESTING
BSEN 12457/3

Client	Soil Mechanics				Leaching Data	
					Weight of sample (kg)	0.225
Contact	Mr M Ratcliffe				Moisture content @ 105℃ (%)	17.4
					Equivalent Weight based on drying at 105℃ (kg)	0.187
Site	Isles Quarry				Volume of water required to carry out 2:1 stage (litres)	0.335
					Weight of Sieved Soil to carry out 2:1 stage (kg)	0.271
Sample Description		Report No	Sample No	Issue Date	Weight of Deionised water to carry out 2:1 stage (kg)	0.404
BH104 ES 9 3.00 (NVM)		s10_2548	CL/1011385	18-May-10	Volume to undertake analysis (2:1 Stage) (litres)	0.300
					Weight of Deionised water to carry out 8:1 stage (kg)	1.421

Accreditation	Method Code	Solid Waste Analysis (Dry Basis)	Concentration in Solid (Dry Weight Basis)	Landfill Waste Acceptance Criteria Limit Values		
				Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
N	WSLM59	Total Organic Carbon (% M/M)	0.29	3	5	6
N	LOI450	Loss on Ignition (%)	1.4			10
U	BTEXHSA	Sum of BTEX (mg/kg)	<0.05	6		
N	PCBUSECD	Sum of 7 Congener PCB's (mg/kg)	<0.035	1		
U	TPHFIDUS	Mineral Oil (mg/kg)	104	500		
N	PAHMSUS	PAH Sum of 17 (mg/kg)	<1.65	100		
U	PHSOIL	pH (pH units)	9		>6	
N	ANC	Acid Neutralisation Capacity (mol/kg) @pH 7	12.07		To be evaluated	To be evaluated

Accreditation	Method Code	Leachate Analysis	2:1 Leachate	8:1 Leachate	Calculated amount leached @ 2:1	Calculated cumulative amount leached @ 10:1	Landfill Waste Acceptance Criteria Limit Values for BSEN 12457/3 @ L/S 10 litre kg-1 mg/kg (dry weight)		
			mg/l except ºº		mg/kg (dry weight)				
U	WSLM3	pH (pH units) ºº	7.6	9	Calculated data not UKAS Accredited				
U	WSLM2	Conductivity (µs/cm) ºº	299	<100					
N	ICPMSW	Arsenic	0.002	0.003	0.004	0.03	0.5	2	25
N	ICPWATVAR	Barium	0.36	0.11	0.72	1.5	20	100	300
N	ICPMSW	Cadmium	<0.0001	<0.0001	<0.0002	<0.001	0.04	1	5
N	ICPMSW	Chromium	0.001	<0.001	0.002	<0.01	0.5	10	70
N	ICPMSW	Copper	0.002	0.001	0.004	0.01	2	50	100
N	ICPMSW	Mercury	<0.0001	<0.0001	<0.0002	<0.001	0.01	0.2	2
N	ICPMSW	Molybdenum	0.029	0.006	0.058	0.1	0.5	10	30
N	ICPMSW	Nickel	0.002	<0.001	0.004	<0.01	0.4	10	40
N	ICPMSW	Lead	<0.001	<0.001	<0.002	<0.01	0.5	10	50
N	ICPMSW	Antimony	0.003	0.003	0.006	0.03	0.06	0.7	5
N	ICPMSW	Selenium	<0.001	<0.001	<0.002	<0.01	0.1	0.5	7
N	ICPMSW	Zinc	0.017	0.004	0.034	0.06	4	50	200
N	KONENS	Chloride	9	1	18	23	800	15000	25000
N	ISEF	Fluoride	2.6	0.4	5.2	8	10	150	500
N	ICPWATVAR	Sulphate as SO4	86	13	172	247	1000	20000	50000
N	WSLM27	Total Dissolved Solids	233	75	466	1004	4000	60000	100000
N	SFAPI	Phenol Index	<0.05	<0.05	<0.1	<0.5	1		
N	WSLM13	Dissolved Organic Carbon	7.1	2.9	14.2	36	500	800	1000

Template Ver. 1

Landfill Waste Acceptance Criteria limit values correct as of 11th March 2009.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appr opriate, in accordance with the MCERTS standard.

WASTE ACCEPTANCE CRITERIA TESTING
BSEN 12457/3

					Leaching Data	
Client	Soil Mechanics				Weight of sample (kg)	0.225
					Moisture content @ 105℃ (%)	20.5
Contact	Mr M Ratcliffe				Equivalent Weight based on drying at 105℃ (kg)	0.178
					Volume of water required to carry out 2:1 stage (litres)	0.308
Site	Isles Quarry				Weight of Sieved Soil to carry out 2:1 stage (kg)	0.285
Sample Description		**Report No**	**Sample No**	**Issue Date**	Weight of Deionised water to carry out 2:1 stage (kg)	0.390
BH106 ES 9 3.00		s10_2548	CL/1011503	18-May-10	Volume to undertake analysis (2:1 Stage) (litres)	0.300
					Weight of Deionised water to carry out 8:1 stage (kg)	1.367

Accreditation	Method Code	Solid Waste Analysis (Dry Basis)	Concentration in Solid (Dry Weight Basis)	Landfill Waste Acceptance Criteria Limit Values: Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
N	WSLM59	Total Organic Carbon (% M/M)	0.12	3	5	6
N	LOI450	Loss on Ignition (%)	2			10
U	BTEXHSA	Sum of BTEX (mg/kg)	<0.06	6		
N	PCBUSECD	Sum of 7 Congener PCB's (mg/kg)	<0.035	1		
U	TPHFIDUS	Mineral Oil (mg/kg)	16.4	500		
N	PAHMSUS	PAH Sum of 17 (mg/kg)	<1.71	100		
U	PHSOIL	pH (pH units)	8.3		>6	
N	ANC	Acid Neutralisation Capacity (mol/kg) @pH 7	0.08		To be evaluated	To be evaluated

Accreditation	Method Code	Leachate Analysis	2:1 Leachate	8:1 Leachate	Calculated amount leached @ 2:1	Calculated cumulative amount leached @ 10:1	Landfill Waste Acceptance Criteria Limit Values for BSEN 12457/3 @ L/S 10 litre kg-1 mg/kg (dry weight)		
			mg/l except ºº		mg/kg (dry weight)				
U	WSLM3	pH (pH units) ºº	7.5	8.4	Calculated data not UKAS Accredited				
U	WSLM2	Conductivity (µs/cm) ºº	141	<100					
N	ICPMSW	Arsenic	0.003	0.002	0.006	0.02	0.5	2	25
N	ICPWATVAR	Barium	0.45	0.29	0.9	3.2	20	100	300
N	ICPMSW	Cadmium	<0.0001	<0.0001	<0.0002	<0.001	0.04	1	5
N	ICPMSW	Chromium	<0.001	<0.001	<0.002	<0.01	0.5	10	70
N	ICPMSW	Copper	0.003	0.004	0.006	0.04	2	50	100
N	ICPMSW	Mercury	<0.0001	<0.0001	<0.0002	<0.001	0.01	0.2	2
N	ICPMSW	Molybdenum	<0.001	<0.001	<0.002	<0.01	0.5	10	30
N	ICPMSW	Nickel	0.001	<0.001	0.002	<0.01	0.4	10	40
N	ICPMSW	Lead	0.001	<0.001	0.002	<0.01	0.5	10	50
N	ICPMSW	Antimony	<0.001	0.002	<0.002	<0.02	0.06	0.7	5
N	ICPMSW	Selenium	<0.001	<0.001	<0.002	<0.01	0.1	0.5	7
N	ICPMSW	Zinc	0.085	0.021	0.17	0.32	4	50	200
N	KONENS	Chloride	12	2	24	37	800	15000	25000
N	ISEF	Fluoride	6	0.2	12	12	10	150	500
N	ICPWATVAR	Sulphate as SO4	10	<3	20	<42	1000	20000	50000
N	WSLM27	Total Dissolved Solids	110	72	220	784	4000	60000	100000
N	SFAPI	Phenol Index	<0.05	<0.05	<0.1	<0.5	1		
N	WSLM13	Dissolved Organic Carbon	6	11	12	102	500	800	1000

Template Ver. 1

Landfill Waste Acceptance Criteria limit values correct as of 11th March 2009.

Where individual results are flagged see report notes for status.
Results corrected to dry weight at 105℃ where appropriate, in accordance with the MCERTS standard.

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,
- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

Waters Analysis

Unless stated otherwise results are expressed as mg/l

Oil analysis specific

Unless stated otherwise,
- Results are expressed as mg/kg
- SG is expressed as g/cm^3@ 15^oC

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile
CR Denotes Crocidolite
AM Denotes Amosite
NADIS Denotes No Asbestos Detected In Sample
NBFO Denotes No Bulk Fibres Observed

Symbol Reference

^ Sub-contracted analysis
$$ Unable to analyse due to the nature of the sample
¶ Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.
This may have resulted in deterioration of the sample(s) during transit to the laboratory.
Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling
¥ Results for guidance only due to possible interference
& Blank corrected result
I.S Insufficient sample to complete requested analysis
I.S(g) Insufficient sample to re-analyse, results for guidance only
Intf Unable to analyse due to interferences
N.D Not determined
N.Det Not detected
Req Analysis requested, see attached sheets for results
Þ Raised detection limit due to nature of the sample
***** All accreditation has been removed by the laboratory for this result
‡ MCERTS accreditation has been removed for this result

Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

END OF REPORT

Sample Descriptions

Client : Soil Mechanics

Site : Isles Quarry

Report Number : S10_2548M

Note: major constituent in upper case

Lab ID Number	Client ID	Description
CL/1011372	SS8 ES 1 0.00	Brown Silt CLAY
CL/1011373	WS213 ES 1 0.50	Brown Stone SILT
CL/1011374	WS213 ES 4 1.40	Brown Stone SILT
CL/1011375	BH101 ES 3 1.00	Brown MADE GROUND
CL/1011376	BH101 ES 8 3.00	Brown Stone CLAY
CL/1011377	BH101 ES 27 13.00	Brown Clay SILT Stone
CL/1011378	BH102 ES 3 1.00	Brown Stone SILT
CL/1011379	BH102 ES 9 3.00	Brown Stone SILT
CL/1011380	BH103 ES 3 1.00	Brown Stone CLAY
CL/1011381	BH103 ES 13 5.00	Brown Clay SILT Stone
CL/1011382	BH103 ES 24 11.00	Brown Stone SILT
CL/1011383	BH103 ES 27 13.00	Brown Stone SILT
CL/1011384	BH104 ES 3 1.00	Brown Stone SILT
CL/1011385	BH104 ES 9 3.00 (NVM)	Brown Silt STONE
CL/1011386	BH104 ES 17 5.00	Brown Stone SILT
CL/1011387	BH104 ES 36 11.00	Brown Stone SILT
CL/1011388	BH105A ES 8 3.00	Brown Stone SILT
CL/1011389	BH106 ES 4 1.00	Brown CLAY
CL/1011503	BH106 ES 9 3.00	Brown Clay SILT

END OF REPORT

TEST REPORT
WATER SAMPLE ANALYSIS

1252

Report No. EXR/105961 (Ver. 2)

Soil Mechanics
Fox Pitt
Shinglebarn Lane
West Farleigh
Maidstone
Kent
ME15 0PN

Site: Isles Quarry

The 4 samples described in this report were logged for analysis by Scientifics on 04-May-2010.
The analysis was completed by: 17-May-2010

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS accredited
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

On behalf of
Scientifics :
Lisa Thompson Project Co-ordinator

Date of Issue: 17-May-2010

Tests marked '^' have been subcontracted to another laboratory.

Scientifics accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Laboratory ID Number EX/	Client Sample Description	pH units	Total Hardness as CaCO3	Volatile Organic Compounds	Total Sulphur as SO4 (Dissolved) a	Calcium as Ca (Dissolved) a	Magnesium as Mg (Dissolved) a	Nickel as Ni (Dissolved)	Chromium as Cr (Dissolved)	Cadmium as Cd (Dissolved)	PAH MS-SIM (16)	Copper as Cu (Dissolved)	Lead as Pb (Dissolved)	Zinc as Zn (Dissolved)	Arsenic as As (Dissolved)	Boron as B (Dissolved) a	Mercury as Hg (Dissolved)
	Units :		mg/l	ug/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	Method Codes :	WSLM3	Calc_HD	VOCHSAW	CPWATVAR	CPWATVAR	CPWATVAR	ICPMSW	ICPMSW	ICPMSW	PAHMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	CPWATVAR	ICPMSW
	Method Reporting Limits :			1	3.0	1.0	1.0	0.001	0.001	0.0001	0.01	0.001	0.001	0.002	0.001	0.01	0.0001
	UKAS Accredited :	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
1013652	BH2 W 7.97	6.8	774	Req	276	252	35	0.055	0.003	<0.0001		0.037	<0.001	0.051	0.002	0.54	<0.0001
1013653	BH3 W 8.40	6.8	950	Req	213	337	26	0.021	0.002	<0.0001		<0.001	<0.001	0.019	<0.001	0.21	<0.0001
1013654	BH 104 W 16.18	6.6	783	Req	293	295	11	0.025	0.001	<0.0001		<0.001	<0.001	0.023	<0.001	0.18	<0.0001
1013655	WS 207 W 3.40	6.4	252	Req	71	81	12	0.016	0.001	<0.0001	Req	<0.001	0.001	0.009	<0.001	0.01	<0.0001

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Client Name **Soil Mechanics**

Contact Mr M Ratcliffe

Isles Quarry

Water Sample Analysis

Date Printed	17-May-10
Report Number	**EXR/105961**
Table Number	**1**

Where individual results are flagged see report notes for status.

Units :		mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l					
Method Codes :		ICPMSW	SFAPI	SVOCSW	WAL1	PCBCONEC	GROHSA	TPHFID-Si	PHEHPLC	PHEHPLC	PHEHPLC	PHEHPLC					
Method Reporting Limits :		0.001	0.02	0.002	0.1	0.05	0.1	0.01	0.0005	0.0005	0.0005	0.0005					
UKAS Accredited :		yes	yes	yes	no	no	no	no	no	no	no	no					
Laboratory ID Number EX/	Client Sample Description	Selenium as Se (Dissolved)	Cyanide (Total) as CN	SVOC + TICS	Ammonia (Free) as N	PCB - 7 Congeners	GRO-HSA (AA)	TPH GC (AA)	Phenol	Cresols	Dimethylphenols	Trimethylphenols					
1013652	BH2 W 7.97	<0.001	<0.02	Req	<0.1	Req	Req	Req									
1013653	BH3 W 8.40	<0.001	<0.02	Req	<0.1	Req	Req	Req									
1013654	BH 104 W 16.18	<0.001	<0.02	Req	<0.1	Req	Req	Req									
1013655	WS 207 W 3.40	<0.001	<0.02		<0.1	Req	Req	I.S	<0.0005	<0.0005	<0.0005	<0.0005					

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Client Name	**Soil Mechanics**
Contact	Mr M Ratcliffe

Isles Quarry

Water Sample Analysis

Date Printed	17-May-10
Report Number	**EXR/105961**
Table Number	**1**

Where individual results are flagged see report notes for status.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS 207 W 3.40	**Job Number:**	W10_5961
LIMS ID Number:	EX1013655	**Date Booked in:**	04-May-10
QC Batch Number:	0819	**Date Extracted:**	12-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	12-May-10
Directory:	0512PAH.MS4\	**Matrix:**	Water
Dilution:	1.0	**Ext Method:**	Sep. Funnel

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration ug/l	% Fit
Naphthalene	91-20-3	-	< 0.010	-
Acenaphthylene	208-96-8	-	< 0.010	-
Acenaphthene	83-32-9	4.45	0.577	99
Fluorene	86-73-7	4.84	0.442	74
Phenanthrene	85-01-8	5.69	0.309	M
Anthracene	120-12-7	-	< 0.010	-
Fluoranthene	206-44-0	7.03	0.392	79
Pyrene	129-00-0	7.32	0.560	74
Benzo[a]anthracene	56-55-3	9.01	0.112	51
Chrysene	218-01-9	9.06	0.110	50
Benzo[b]fluoranthene	205-99-2	10.54	0.111	M
Benzo[k]fluoranthene	207-08-9	10.58	0.038	M
Benzo[a]pyrene	50-32-8	10.97	0.081	64
Indeno[1,2,3-cd]pyrene	193-39-5	12.35	0.055	M
Dibenzo[a,h]anthracene	53-70-3	12.38	0.012	M
Benzo[g,h,i]perylene	191-24-2	12.65	0.055	M
Total (USEPA16) PAHs	-	-	< 2.884	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	101
Acenaphthene-d10	106
Phenanthrene-d10	109
Chrysene-d12	117
Perylene-d12	117

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	71
Terphenyl-d14	82

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Where individual results are flagged see report notes for status.

Polychlorinated Biphenyls (congeners)

Customer and Site Details: Soil Mechanics: Isles Quarry
Job Number: W10_5961
QC Batch Number: 101116
Directory: 0510PCB.GC8
Method: Separating Funnel

Matrix: Water
Date Booked in: 04-May-10
Date Extracted: 10-May-10
Date Analysed: 10-May-10

*** This sample data is not UKAS accredited.**

		Concentration, (µg/l)						
Sample ID	**Customer ID**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB153**	**PCB138**	**PCB180**
* EX1013652	BH2 W 7.97	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
* EX1013653	BH3 W 8.40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
* EX1013654	BH 104 W 16.18	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
* EX1013655	WS 207 W 3.40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Water	**QC Batch Number:**	1105
Sample Details:	BH2 W 7.97	**Date Booked in:**	04-May-10	**Ext Method:**	Sep. Funnel	**Multiplier:**	0.005
LIMS ID Number:	EX1013652	**Date Extracted:**	07-May-10	**Operator:**	AB	**Dilution Factor:**	2.5
Job Number:	W10_5961	**Date Analysed:**	07-May-10	**Directory/Quant File:**	07SVOC.GC11\ 0507_CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/l	% Fit
Phenol	108-95-2	-	< 0.020	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.005	-
2-Chlorophenol	95-57-8	-	< 0.020	-
1,3-Dichlorobenzene	541-73-1	-	< 0.005	-
1,4-Dichlorobenzene	106-46-7	-	< 0.005	-
Benzyl alcohol	100-51-6	-	< 0.005	-
1,2-Dichlorobenzene	95-50-1	-	< 0.005	-
2-Methylphenol	95-48-7	-	< 0.005	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.005	-
Hexachloroethane	67-72-1	-	< 0.005	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.005	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.020	-
Nitrobenzene	98-95-3	-	< 0.005	-
Isophorone	78-59-1	-	< 0.005	-
2-Nitrophenol	88-75-5	-	< 0.020	-
2,4-Dimethylphenol	105-67-9	-	< 0.020	-
Benzoic Acid	65-85-0 *	-	< 0.100	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.005	-
2,4-Dichlorophenol	120-83-2	-	< 0.020	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.005	-
Naphthalene	91-20-3	-	< 0.002	-
4-Chlorophenol	106-48-9	-	< 0.020	-
4-Chloroaniline	106-47-8 *	-	< 0.005	-
Hexachlorobutadiene	87-68-3	-	< 0.005	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.005	-
2-Methylnaphthalene	91-57-6	-	< 0.002	-
1-Methylnaphthalene	90-12-0	-	< 0.002	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.005	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.020	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.020	-
2-Chloronaphthalene	91-58-7	-	< 0.002	-
Biphenyl	92-52-4	-	< 0.002	-
Diphenyl ether	101-84-8	-	< 0.002	-
2-Nitroaniline	88-74-4	-	< 0.005	-
Acenaphthylene	208-96-8	-	< 0.002	-
Dimethylphthalate	131-11-3	-	< 0.005	-
2,6-Dinitrotoluene	606-20-2	-	< 0.005	-
Acenaphthene	83-32-9	-	< 0.002	-
3-Nitroaniline	99-09-2	-	< 0.005	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/l	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 0.010	-
Dibenzofuran	132-64-9	-	< 0.005	-
4-Nitrophenol	100-02-7	-	< 0.050	-
2,4-Dinitrotoluene	121-14-2	-	< 0.005	-
Fluorene	86-73-7	-	< 0.002	-
Diethylphthalate	84-66-2	-	< 0.005	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.005	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 0.050	-
4-Nitroaniline	100-01-6	-	< 0.005	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.005	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.005	-
Hexachlorobenzene	118-74-1	-	< 0.005	-
Pentachlorophenol	87-86-5	-	< 0.050	-
Phenanthrene	85-01-8	-	< 0.002	-
Anthracene	120-12-7	-	< 0.002	-
Di-n-butylphthalate	84-74-2	-	< 0.005	-
Fluoranthene	206-44-0	-	< 0.002	-
Pyrene	129-00-0	-	< 0.002	-
Butylbenzylphthalate	85-68-7	-	< 0.005	-
Benzo[a]anthracene	56-55-3	-	< 0.002	-
Chrysene	218-01-9	-	< 0.002	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.020	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.005	-
Di-n-octylphthalate	117-84-0	-	< 0.002	-
Benzo[b]fluoranthene	205-99-2	-	< 0.002	-
Benzo[k]fluoranthene	207-08-9	-	< 0.002	-
Benzo[a]pyrene	50-32-8	-	< 0.002	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.002	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.002	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.002	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	94
Naphthalene-d8	97
Acenaphthene-d10	98
Phenanthrene-d10	100
Chrysene-d12	100
Perylene-d12	100

Surrogates	% Rec
2-Fluorophenol	44
Phenol-d5	30
Nitrobenzene-d5	73
2-Fluorobiphenyl	78
2,4,6-Tribromophenol	69
Terphenyl-d14	73

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Water	**QC Batch Number:**	1105
Sample Details:	BH3 W 8.40	**Date Booked in:**	04-May-10	**Ext Method:**	Sep. Funnel	**Multiplier:**	0.005
LIMS ID Number:	EX1013653	**Date Extracted:**	07-May-10	**Operator:**	AB	**Dilution Factor:**	2.5
Job Number:	w10_5961	**Date Analysed:**	07-May-10	**Directory/Quant File:**	07SVOC.GC11\ 0507_CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/l	% Fit
Phenol	108-95-2	-	< 0.020	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.005	-
2-Chlorophenol	95-57-8	-	< 0.020	-
1,3-Dichlorobenzene	541-73-1	-	< 0.005	-
1,4-Dichlorobenzene	106-46-7	-	< 0.005	-
Benzyl alcohol	100-51-6	-	< 0.005	-
1,2-Dichlorobenzene	95-50-1	-	< 0.005	-
2-Methylphenol	95-48-7	-	< 0.005	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.005	-
Hexachloroethane	67-72-1	-	< 0.005	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.005	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.020	-
Nitrobenzene	98-95-3	-	< 0.005	-
Isophorone	78-59-1	-	< 0.005	-
2-Nitrophenol	88-75-5	-	< 0.020	-
2,4-Dimethylphenol	105-67-9	-	< 0.020	-
Benzoic Acid	65-85-0 *	-	< 0.100	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.005	-
2,4-Dichlorophenol	120-83-2	-	< 0.020	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.005	-
Naphthalene	91-20-3	-	< 0.002	-
4-Chlorophenol	106-48-9	-	< 0.020	-
4-Chloroaniline	106-47-8 *	-	< 0.005	-
Hexachlorobutadiene	87-68-3	-	< 0.005	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.005	-
2-Methylnaphthalene	91-57-6	-	< 0.002	-
1-Methylnaphthalene	90-12-0	-	< 0.002	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.005	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.020	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.020	-
2-Chloronaphthalene	91-58-7	-	< 0.002	-
Biphenyl	92-52-4	-	< 0.002	-
Diphenyl ether	101-84-8	-	< 0.002	-
2-Nitroaniline	88-74-4	-	< 0.005	-
Acenaphthylene	208-96-8	-	< 0.002	-
Dimethylphthalate	131-11-3	-	< 0.005	-
2,6-Dinitrotoluene	606-20-2	-	< 0.005	-
Acenaphthene	83-32-9	-	< 0.002	-
3-Nitroaniline	99-09-2	-	< 0.005	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/l	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 0.010	-
Dibenzofuran	132-64-9	-	< 0.005	-
4-Nitrophenol	100-02-7	-	< 0.050	-
2,4-Dinitrotoluene	121-14-2	-	< 0.005	-
Fluorene	86-73-7	-	< 0.002	-
Diethylphthalate	84-66-2	-	< 0.005	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.005	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 0.050	-
4-Nitroaniline	100-01-6	-	< 0.005	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.005	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.005	-
Hexachlorobenzene	118-74-1	-	< 0.005	-
Pentachlorophenol	87-86-5	-	< 0.050	-
Phenanthrene	85-01-8	-	< 0.002	-
Anthracene	120-12-7	-	< 0.002	-
Di-n-butylphthalate	84-74-2	-	< 0.005	-
Fluoranthene	206-44-0	-	< 0.002	-
Pyrene	129-00-0	-	< 0.002	-
Butylbenzylphthalate	85-68-7	-	< 0.005	-
Benzo[a]anthracene	56-55-3	-	< 0.002	-
Chrysene	218-01-9	-	< 0.002	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.020	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.005	-
Di-n-octylphthalate	117-84-0	-	< 0.002	-
Benzo[b]fluoranthene	205-99-2	-	< 0.002	-
Benzo[k]fluoranthene	207-08-9	-	< 0.002	-
Benzo[a]pyrene	50-32-8	-	< 0.002	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.002	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.002	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.002	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	94
Naphthalene-d8	99
Acenaphthene-d10	99
Phenanthrene-d10	103
Chrysene-d12	102
Perylene-d12	103

Surrogates	% Rec
2-Fluorophenol	21
Phenol-d5	14
Nitrobenzene-d5	72
2-Fluorobiphenyl	77
2,4,6-Tribromophenol	24
Terphenyl-d14	77

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Water	**QC Batch Number:**	1105
Sample Details:	BH 104 W 16.18	**Date Booked in:**	04-May-10	**Ext Method:**	Sep. Funnel	**Multiplier:**	0.005
LIMS ID Number:	EX1013654	**Date Extracted:**	07-May-10	**Operator:**	AB	**Dilution Factor:**	2.5
Job Number:	w10_5961	**Date Analysed:**	07-May-10	**Directory/Quant File:**	07SVOC.GC11\ 0507_CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/l	% Fit
Phenol	108-95-2	-	< 0.020	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.005	-
2-Chlorophenol	95-57-8	-	< 0.020	-
1,3-Dichlorobenzene	541-73-1	-	< 0.005	-
1,4-Dichlorobenzene	106-46-7	-	< 0.005	-
Benzyl alcohol	100-51-6	-	< 0.005	-
1,2-Dichlorobenzene	95-50-1	-	< 0.005	-
2-Methylphenol	95-48-7	-	< 0.005	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.005	-
Hexachloroethane	67-72-1	-	< 0.005	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.005	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.020	-
Nitrobenzene	98-95-3	-	< 0.005	-
Isophorone	78-59-1	-	< 0.005	-
2-Nitrophenol	88-75-5	-	< 0.020	-
2,4-Dimethylphenol	105-67-9	-	< 0.020	-
Benzoic Acid	65-85-0 *	-	< 0.100	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.005	-
2,4-Dichlorophenol	120-83-2	-	< 0.020	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.005	-
Naphthalene	91-20-3	-	< 0.002	-
4-Chlorophenol	106-48-9	-	< 0.020	-
4-Chloroaniline	106-47-8 *	-	< 0.005	-
Hexachlorobutadiene	87-68-3	-	< 0.005	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.005	-
2-Methylnaphthalene	91-57-6	-	< 0.002	-
1-Methylnaphthalene	90-12-0	-	< 0.002	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.005	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.020	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.020	-
2-Chloronaphthalene	91-58-7	-	< 0.002	-
Biphenyl	92-52-4	-	< 0.002	-
Diphenyl ether	101-84-8	-	< 0.002	-
2-Nitroaniline	88-74-4	-	< 0.005	-
Acenaphthylene	208-96-8	-	< 0.002	-
Dimethylphthalate	131-11-3	-	< 0.005	-
2,6-Dinitrotoluene	606-20-2	-	< 0.005	-
Acenaphthene	83-32-9	-	< 0.002	-
3-Nitroaniline	99-09-2	-	< 0.005	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/l	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 0.010	-
Dibenzofuran	132-64-9	-	< 0.005	-
4-Nitrophenol	100-02-7	-	< 0.050	-
2,4-Dinitrotoluene	121-14-2	-	< 0.005	-
Fluorene	86-73-7	-	< 0.002	-
Diethylphthalate	84-66-2	-	< 0.005	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.005	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 0.050	-
4-Nitroaniline	100-01-6	-	< 0.005	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.005	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.005	-
Hexachlorobenzene	118-74-1	-	< 0.005	-
Pentachlorophenol	87-86-5	-	< 0.050	-
Phenanthrene	85-01-8	-	< 0.002	-
Anthracene	120-12-7	-	< 0.002	-
Di-n-butylphthalate	84-74-2	-	< 0.005	-
Fluoranthene	206-44-0	-	< 0.002	-
Pyrene	129-00-0	-	< 0.002	-
Butylbenzylphthalate	85-68-7	-	< 0.005	-
Benzo[a]anthracene	56-55-3	-	< 0.002	-
Chrysene	218-01-9	-	< 0.002	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.020	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.005	-
Di-n-octylphthalate	117-84-0	-	< 0.002	-
Benzo[b]fluoranthene	205-99-2	-	< 0.002	-
Benzo[k]fluoranthene	207-08-9	-	< 0.002	-
Benzo[a]pyrene	50-32-8	-	< 0.002	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.002	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.002	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.002	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	93
Naphthalene-d8	97
Acenaphthene-d10	98
Phenanthrene-d10	99
Chrysene-d12	99
Perylene-d12	97

Surrogates	% Rec
2-Fluorophenol	44
Phenol-d5	30
Nitrobenzene-d5	77
2-Fluorobiphenyl	80
2,4,6-Tribromophenol	76
Terphenyl-d14	82

SVOC (TICs)

UKAS accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH2 W 7.97	**Job Number:**	W10_5961
LIMS ID Number:	EX1013652		
		Multiplier:	0.005
Date Booked in:	04-May-10	**Dilution Factor:**	2.5
Date Extracted:	07-May-10	**GPC (Y/N):**	N
Date Analysed:	07-May-10	**Matrix:**	Water
QC Batch Number:	1105	**Method:**	Sep. Funnel
Directory/Quant File:	07SVOC.GC11\ 0507_CCC2.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/l	% Fit
None Detected	-	-	<0.05	-
Azobenzene	103-33-3	-	<0.002	-
Carbazole	86-74-8	-	<0.002	-
Anthraquinone	64-56-1	-	<0.002	-

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.

Where individual results are flagged see report notes for status.

SVOC (TICs)

UKAS accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH3 W 8.40	**Job Number:**	w10_5961
LIMS ID Number:	EX1013653		
		Multiplier:	0.005
Date Booked in:	04-May-10	**Dilution Factor:**	2.5
Date Extracted:	07-May-10	**GPC (Y/N):**	N
Date Analysed:	07-May-10	**Matrix:**	Water
QC Batch Number:	1105	**Method:**	Sep. Funnel
Directory/Quant File:	07SVOC.GC11\ 0507_CCC2.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/l	% Fit
None Detected	-	-	<0.05	-
Azobenzene	103-33-3	-	<0.002	-
Carbazole	86-74-8	-	<0.002	-
Anthraquinone	64-56-1	-	<0.002	-

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.

SVOC (TICs)

UKAS accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH 104 W 16.18	**Job Number:**	w10_5961
LIMS ID Number:	EX1013654		
		Multiplier:	0.005
Date Booked in:	04-May-10	**Dilution Factor:**	2.5
Date Extracted:	07-May-10	**GPC (Y/N):**	N
Date Analysed:	07-May-10	**Matrix:**	Water
QC Batch Number:	1105	**Method:**	Sep. Funnel
Directory/Quant File:	07SVOC.GC11\ 0507_CCC2.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/l	% Fit
None Detected	-	-	<0.05	-
Azobenzene	103-33-3	-	<0.002	-
Carbazole	86-74-8	-	<0.002	-
Anthraquinone	64-56-1	-	<0.002	-

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.

Gasoline Range Organics
(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details: Soil Mechanics : Isles Quarry
Job Number: W10_5961
Directory: D:\TES\DATA\Y2010\0510HSA_GC12\051010B 2010-05-10 10-36-35\019F1401.D
Method: Headspace GCFID

Matrix: Water
Date Booked in: 04-May-10
Date extracted: 10-May-10
Date Analysed: 10-May-10, 14:5

*** Sample data with an asterisk are not UKAS accredited.**

		Concentration, (mg/l)					Aliphatics				
Sample ID	**Client ID**	**Benzene**	**Toluene**	**Ethyl benzene**	**m/p-Xylene**	**o-Xylene**	**C5 - C6**	**>C6 - C7**	**>C7 - C8**	**>C8 - C10**	**Total GRO**
* EX1013652	BH2 W 7.97	<0.005	<0.005	<0.005	<0.005	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
* EX1013653	BH3 W 8.40	<0.005	<0.005	<0.005	<0.005	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
* EX1013654	BH 104 W 16.18	<0.005	<0.005	<0.005	<0.005	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
* EX1013655	WS 207 W 3.40	<0.005	<0.005	<0.005	<0.005	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1

Note: Benzene elutes between C6 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.
Xylenes have been deducted from the C8-C10 band to give the aliphatic fraction, however aromatic compounds may still be contributing to this fraction.

Where individual results are flagged see report notes for status.

ALIPHATIC / AROMATIC FRACTION BY GC/FID

Customer and Site Details: Soil Mechanics : Isles Quarry
Job Number: W10_5961 **Separation:** Silica gel
QC Batch Number: 100824 **Eluents:** Hexane, DCM
Directory: D:\TES\DATA\Y2010\0516TPH_GC15\051610 2010-05-16 11-49-19\059B1201.D
Method: Separating Funnel

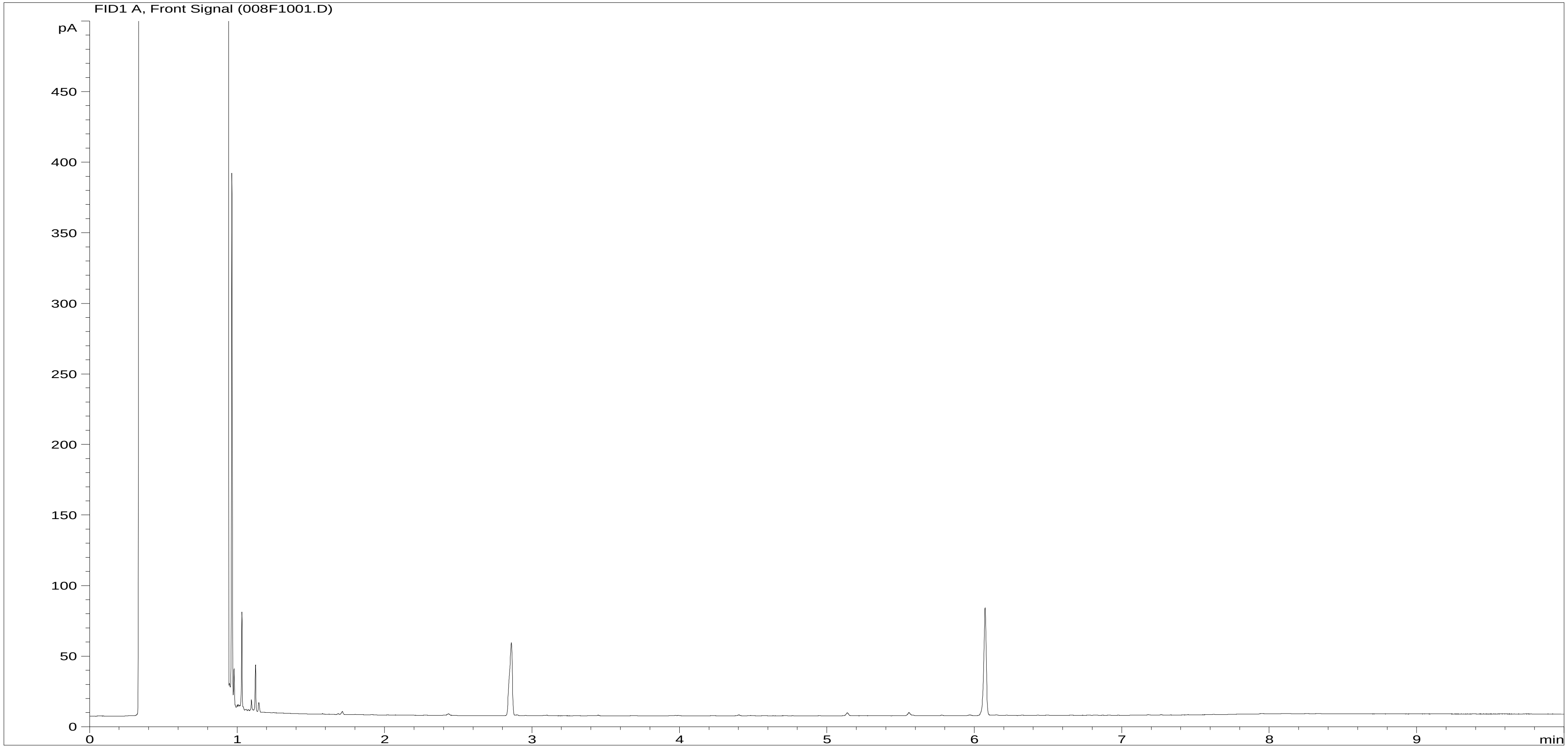
Matrix: Water
Date Booked ir 04-May-10
Date Extracted 14-May-10
Date Analysed 16-May-10, 15:17:43

*** This sample data is not UKAS accredited.**

		Concentration, (mg/l)											
		>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35		>C8 - C40	
Sample ID	**Client ID**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**
EX1013652	BH2 W 7.97	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
EX1013653	BH3 W 8.40	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
EX1013654	BH 104 W 16.18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Where individual results are flagged see report notes for status.

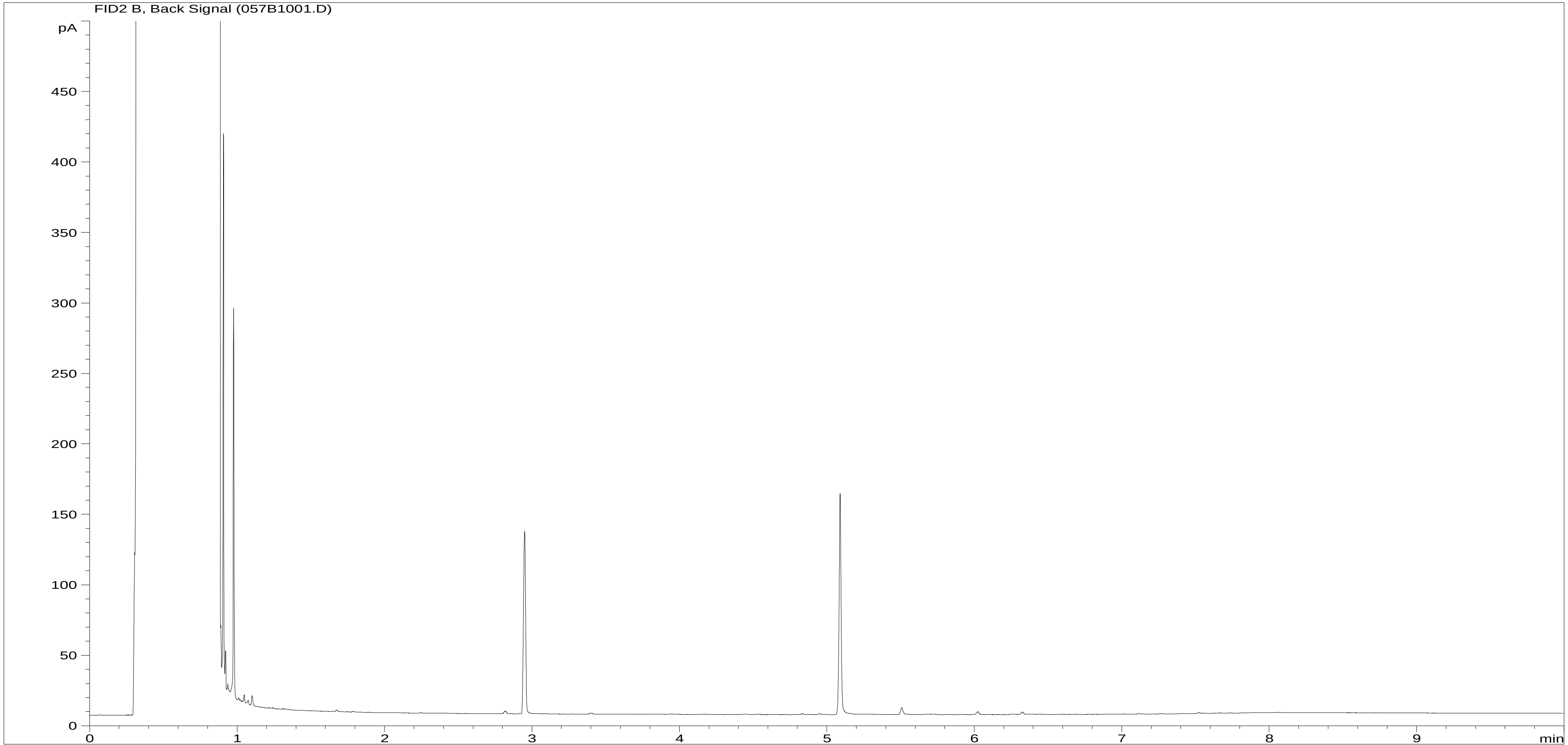
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	EX1013652ALI	**Job Number:**	W10_5961
Multiplier:	0.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	BH2 W 7.97
Acquisition Date/Time:	16-May-10, 14:43:13		
Datafile:	D:\TES\DATA\Y2010\0516TPH_GC15\051610 2010-05-16 11-49-19\008F1001.D		

Where individual results are flagged see report notes for status.

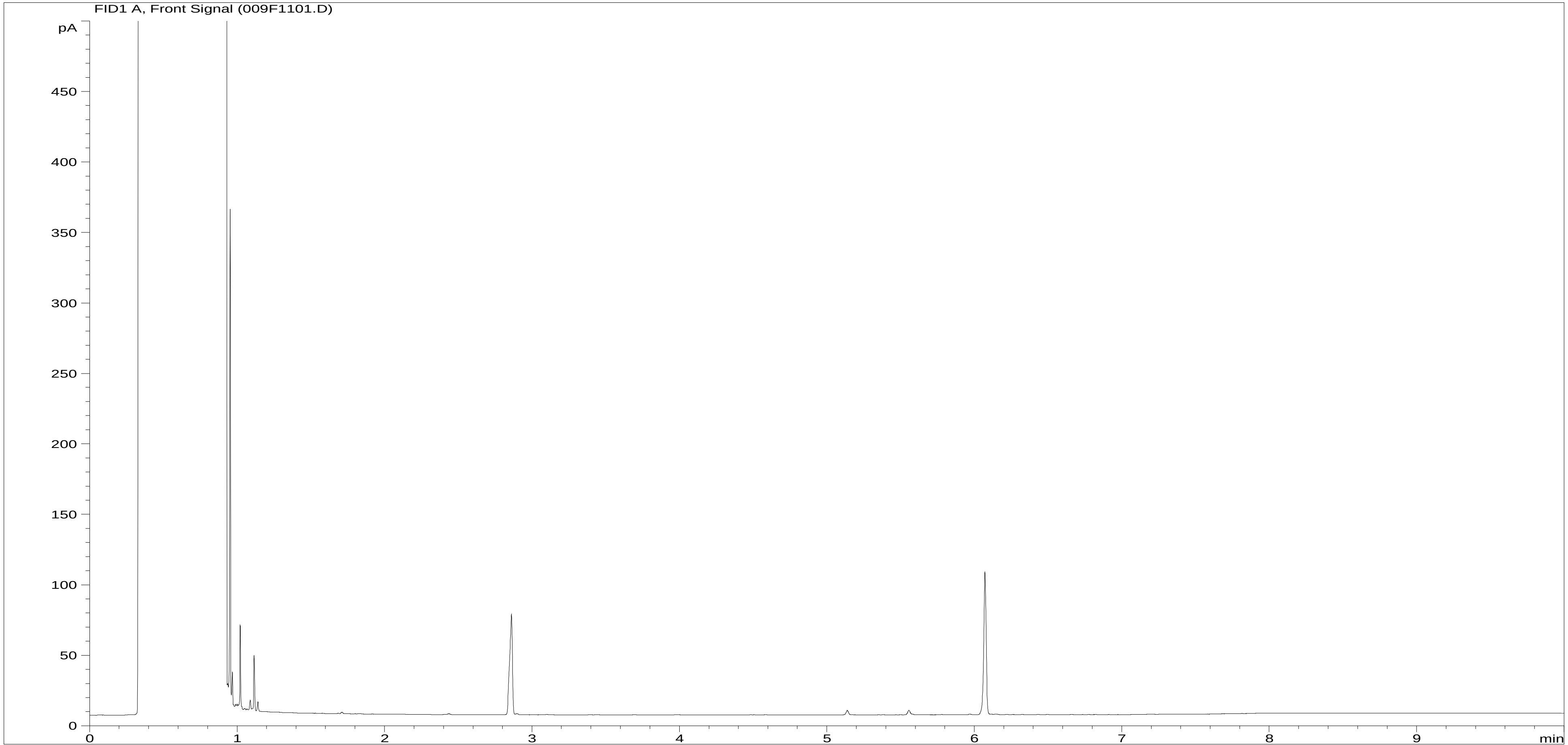
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	EX1013652ARO	**Job Number:**	W10_5961
Multiplier:	0.015	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	BH2 W 7.97
Acquisition Date/Time:	16-May-10, 14:43:13		
Datafile:	D:\TES\DATA\Y2010\0516TPH_GC15\051610 2010-05-16 11-49-19\057B1001.D		

Where individual results are flagged see report notes for status.

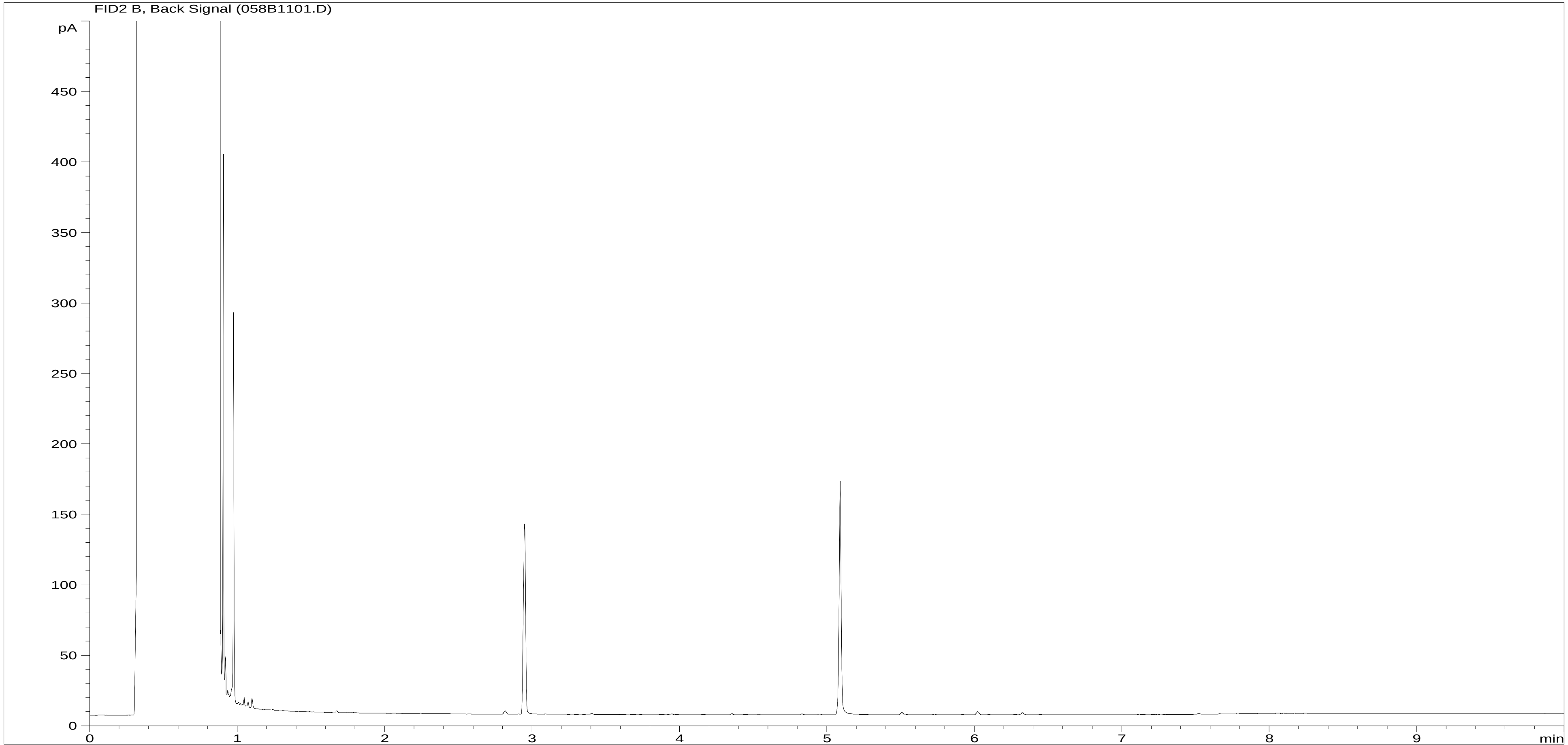
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	EX1013653ALI	**Job Number:**	W10_5961
Multiplier:	0.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	BH3 W 8.40
Acquisition Date/Time:	16-May-10, 15:00:25		
Datafile:	D:\TES\DATA\Y2010\0516TPH_GC15\051610 2010-05-16 11-49-19\009F1101.D		

Where individual results are flagged see report notes for status.

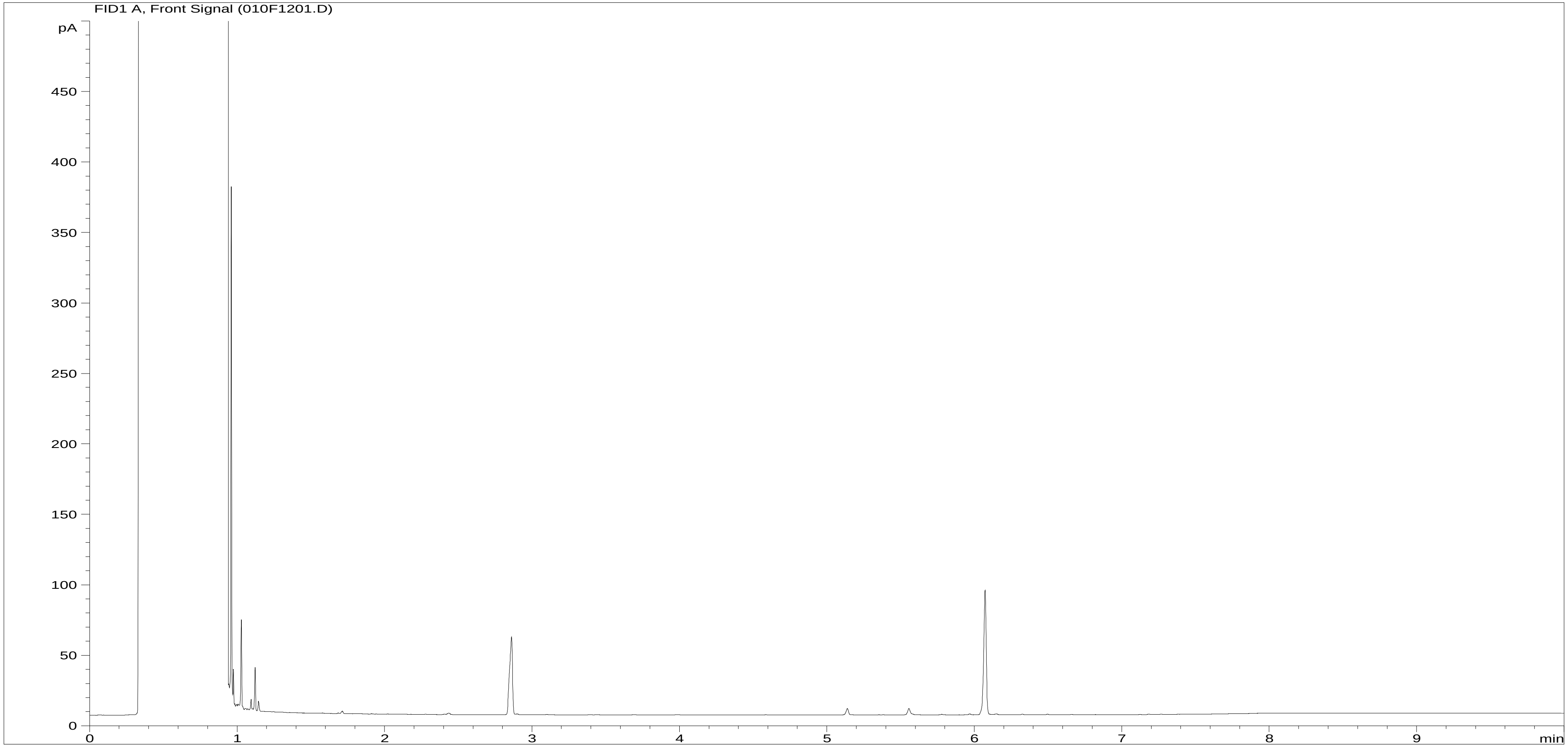
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	EX1013653ARO	**Job Number:**	W10_5961
Multiplier:	0.015	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	BH3 W 8.40
Acquisition Date/Time:	16-May-10, 15:00:25		
Datafile:	D:\TES\DATA\Y2010\0516TPH_GC15\051610 2010-05-16 11-49-19\058B1101.D		

Where individual results are flagged see report notes for status.

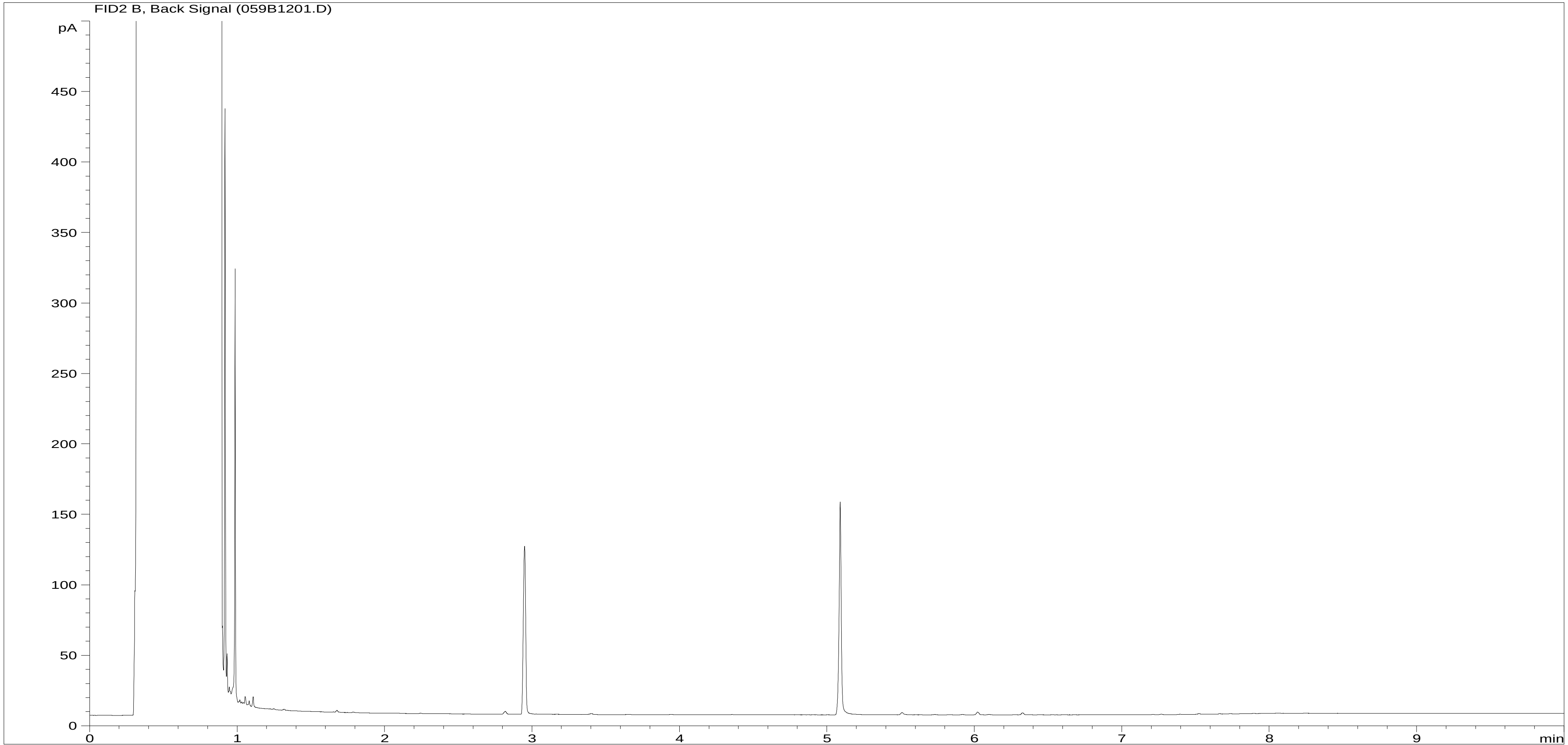
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	EX1013654ALI	**Job Number:**	W10_5961
Multiplier:	0.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	BH 104 W 16.18
Acquisition Date/Time:	16-May-10, 15:17:43		
Datafile:	D:\TES\DATA\Y2010\0516TPH_GC15\051610 2010-05-16 11-49-19\010F1201.D		

Where individual results are flagged see report notes for status.

Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	EX1013654ARO	**Job Number:**	W10_5961
Multiplier:	0.015	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	BH 104 W 16.18
Acquisition Date/Time:	16-May-10, 15:17:43		
Datafile:	D:\TES\DATA\Y2010\0516TPH_GC15\051610 2010-05-16 11-49-19\059B1201.D		

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: Yes

Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	507VOC.MS11\	Initial Calibration	**Matrix:**	Water
Sample Details:	BH2 W 7.97	**Date Booked in:**	04-May-10		**Method:**	Headspace
LIMS ID Number:	EX1013652	**Date Analysed:**	08-May-10		**Multiplier:**	1
Job Number:	W10_5961	**Operator:**	PR		**Position:**	14

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8 *	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9 *	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7 *	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 5	-
1,2,4-Trichlorobenzene	120-82-1	-	< 5	-
Hexachlorobutadiene	87-68-3	-	< 5	-
Naphthalene	91-20-3	-	< 5	-
1,2,3-Trichlorobenzene	87-61-6	-	< 5	-

Compounds marked * are not UKAS accredited
"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.65	77	Dibromofluoromethane	119
1,4-Difluorobenzene	4.00	80	Toluene-d8	97
Chlorobenzene-d5	5.12	83	Bromofluorobenzene	89
1,4-Dichlorobenzene-d4	5.91	70		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: Yes

Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	507VOC.MS11\	Initial Calibration	**Matrix:**	Water
Sample Details:	BH3 W 8.40	**Date Booked in:**	04-May-10		**Method:**	Headspace
LIMS ID Number:	EX1013653	**Date Analysed:**	08-May-10		**Multiplier:**	1
Job Number:	W10_5961	**Operator:**	PR		**Position:**	15

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8 *	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9 *	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7 *	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 5	-
1,2,4-Trichlorobenzene	120-82-1	-	< 5	-
Hexachlorobutadiene	87-68-3	-	< 5	-
Naphthalene	91-20-3	-	< 5	-
1,2,3-Trichlorobenzene	87-61-6	-	< 5	-

Compounds marked * are not UKAS accredited
"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.65	84	Dibromofluoromethane	116
1,4-Difluorobenzene	4.00	86	Toluene-d8	98
Chlorobenzene-d5	5.12	87	Bromofluorobenzene	90
1,4-Dichlorobenzene-d4	5.91	75		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: Yes

Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	507VOC.MS11\ Initial Calibration	**Matrix:**	Water
Sample Details:	BH 104 W 16.18	**Date Booked in:**	04-May-10	**Method:**	Headspace
LIMS ID Number:	EX1013654	**Date Analysed:**	08-May-10	**Multiplier:**	1
Job Number:	W10_5961	**Operator:**	PR	**Position:**	16

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8 *	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9 *	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7 *	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 5	-
1,2,4-Trichlorobenzene	120-82-1	-	< 5	-
Hexachlorobutadiene	87-68-3	-	< 5	-
Naphthalene	91-20-3	-	< 5	-
1,2,3-Trichlorobenzene	87-61-6	-	< 5	-

Compounds marked * are not UKAS accredited
"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.65	86	Dibromofluoromethane	118
1,4-Difluorobenzene	4.00	88	Toluene-d8	99
Chlorobenzene-d5	5.12	90	Bromofluorobenzene	89
1,4-Dichlorobenzene-d4	5.91	77		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: Yes

Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	507VOC.MS11\ Initial Calibration	**Matrix:**	Water
Sample Details:	WS 207 W 3.40	**Date Booked in:**	04-May-10	**Method:**	Headspace
LIMS ID Number:	EX1013655	**Date Analysed:**	08-May-10	**Multiplier:**	1
Job Number:	W10_5961	**Operator:**	PR	**Position:**	17

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8 *	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9 *	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7 *	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 5	-
1,2,4-Trichlorobenzene	120-82-1	-	< 5	-
Hexachlorobutadiene	87-68-3	-	< 5	-
Naphthalene	91-20-3	-	< 5	-
1,2,3-Trichlorobenzene	87-61-6	-	< 5	-

Compounds marked * are not UKAS accredited
"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.65	80	Dibromofluoromethane	119
1,4-Difluorobenzene	4.00	84	Toluene-d8	98
Chlorobenzene-d5	5.12	87	Bromofluorobenzene	91
1,4-Dichlorobenzene-d4	5.92	75		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,
- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

Waters Analysis

Unless stated otherwise results are expressed as mg/l

Oil analysis specific

Unless stated otherwise,
- Results are expressed as mg/kg
- SG is expressed as g/cm^3@ 15^oC

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile
CR Denotes Crocidolite
AM Denotes Amosite
NADIS Denotes No Asbestos Detected In Sample
NBFO Denotes No Bulk Fibres Observed

Symbol Reference

^ Sub-contracted analysis
$$ Unable to analyse due to the nature of the sample
¶ Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.
This may have resulted in deterioration of the sample(s) during transit to the laboratory.
Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling
¥ Results for guidance only due to possible interference
& Blank corrected result
I.S Insufficient sample to complete requested analysis
I.S(g) Insufficient sample to re-analyse, results for guidance only
Intf Unable to analyse due to interferences
N.D Not determined
N.Det Not detected
Req Analysis requested, see attached sheets for results
Þ Raised detection limit due to nature of the sample
***** All accreditation has been removed by the laboratory for this result
‡ MCERTS accreditation has been removed for this result

Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

END OF REPORT

Where individual results are flagged see report notes for status.

TEST REPORT

LEACHATE SAMPLE ANALYSIS

1252

Report No. EXR/106153 (Ver. 1)

Soil Mechanics
Fox Pitt
Shinglebarn Lane
West Farleigh
Maidstone
Kent
ME15 0PN

<u>Site: Isles Quarry</u>

The 2 samples described in this report were logged for analysis by Scientifics on 11-May-2010.
The analysis was completed by: 18-May-2010

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS accredited
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

On behalf of
Scientifics :
Lisa Thompson Project Co-ordinator

Date of Issue: 18-May-2010

Tests marked '^' have been subcontracted to another laboratory.

Scientifics accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Laboratory ID Number EX/	Client Sample Description	pH units	Volatile Organic Compounds	Nickel as Ni (Dissolved)	Chromium as Cr (Dissolved)	Cadmium as Cd (Dissolved)	Copper as Cu (Dissolved)	Lead as Pb (Dissolved)	Zinc as Zn (Dissolved)	Arsenic as As (Dissolved)	Boron as B (Dissolved) a	Mercury as Hg (Dissolved)	Selenium as Se (Dissolved)	Cyanide (Total) as CN	SVOC + TICS	GRO-HSA (AA)	TPH GC (AA)
	Units :		ug/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	Method Codes :	WSLM3	VOCHSAW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	CPWATVAR	ICPMSW	ICPMSW	SFAPI	SVOCSW	GROHSA	TPHFID-Si
	Method Reporting Limits :		1	0.001	0.001	0.0001	0.001	0.001	0.002	0.001	0.01	0.0001	0.001	0.02	0.002	0.1	0.01
	UKAS Accredited :	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	no
1014319	TP301 ES 1 1.00	7.4	Req	0.001	0.003	<0.0001	0.011	<0.001	0.004	0.019	0.22	<0.0001	0.001	<0.02	Req	Req	Req
1014320	TP305 ES 1 1.00	7.7		<0.001	<0.001	<0.0001	0.008	<0.001	0.031	0.001	0.28	<0.0001	<0.001	<0.02	Req	Req	Req

scientifics

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Client Name **Soil Mechanics**

Contact Mr M Ratcliffe

Isles Quarry

Leachate Sample Analysis

Date Printed	18-May-10
Report Number	**EXR/106153**
Table Number	**1**

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Leachate	**QC Batch Number:**	1135
Sample Details:	TP301 ES 1 1.00	**Date Booked in:**	11-May-10	**Ext Method:**	Sep. Funnel	**Multiplier:**	0.005
LIMS ID Number:	EX1014319	**Date Extracted:**	12-May-10	**Operator:**	AB	**Dilution Factor:**	2.5
Job Number:	W10_6153	**Date Analysed:**	12-May-10	**Directory/Quant File:**	12SVOC.GC11\ 0512_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/l	% Fit
Phenol	108-95-2	-	< 0.020	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.005	-
2-Chlorophenol	95-57-8	-	< 0.020	-
1,3-Dichlorobenzene	541-73-1	-	< 0.005	-
1,4-Dichlorobenzene	106-46-7	-	< 0.005	-
Benzyl alcohol	100-51-6	-	< 0.005	-
1,2-Dichlorobenzene	95-50-1	-	< 0.005	-
2-Methylphenol	95-48-7	-	< 0.005	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.005	-
Hexachloroethane	67-72-1	-	< 0.005	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.005	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.020	-
Nitrobenzene	98-95-3	-	< 0.005	-
Isophorone	78-59-1	-	< 0.005	-
2-Nitrophenol	88-75-5	-	< 0.020	-
2,4-Dimethylphenol	105-67-9	-	< 0.020	-
Benzoic Acid	65-85-0 *	-	< 0.100	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.005	-
2,4-Dichlorophenol	120-83-2	-	< 0.020	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.005	-
Naphthalene	91-20-3	-	< 0.002	-
4-Chlorophenol	106-48-9	-	< 0.020	-
4-Chloroaniline	106-47-8 *	-	< 0.005	-
Hexachlorobutadiene	87-68-3	-	< 0.005	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.005	-
2-Methylnaphthalene	91-57-6	-	< 0.002	-
1-Methylnaphthalene	90-12-0	-	< 0.002	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.005	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.020	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.020	-
2-Chloronaphthalene	91-58-7	-	< 0.002	-
Biphenyl	92-52-4	-	< 0.002	-
Diphenyl ether	101-84-8	-	< 0.002	-
2-Nitroaniline	88-74-4	-	< 0.005	-
Acenaphthylene	208-96-8	-	< 0.002	-
Dimethylphthalate	131-11-3	-	< 0.005	-
2,6-Dinitrotoluene	606-20-2	-	< 0.005	-
Acenaphthene	83-32-9	-	< 0.002	-
3-Nitroaniline	99-09-2	-	< 0.005	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/l	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 0.010	-
Dibenzofuran	132-64-9	-	< 0.005	-
4-Nitrophenol	100-02-7	-	< 0.050	-
2,4-Dinitrotoluene	121-14-2	-	< 0.005	-
Fluorene	86-73-7	-	< 0.002	-
Diethylphthalate	84-66-2	-	< 0.005	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.005	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 0.050	-
4-Nitroaniline	100-01-6	-	< 0.005	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.005	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.005	-
Hexachlorobenzene	118-74-1	-	< 0.005	-
Pentachlorophenol	87-86-5	-	< 0.050	-
Phenanthrene	85-01-8	-	< 0.002	-
Anthracene	120-12-7	-	< 0.002	-
Di-n-butylphthalate	84-74-2	-	< 0.005	-
Fluoranthene	206-44-0	-	< 0.002	-
Pyrene	129-00-0	-	< 0.002	-
Butylbenzylphthalate	85-68-7	-	< 0.005	-
Benzo[a]anthracene	56-55-3	-	< 0.002	-
Chrysene	218-01-9	-	< 0.002	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.020	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.005	-
Di-n-octylphthalate	117-84-0	-	< 0.002	-
Benzo[b]fluoranthene	205-99-2	-	< 0.002	-
Benzo[k]fluoranthene	207-08-9	-	< 0.002	-
Benzo[a]pyrene	50-32-8	-	< 0.002	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.002	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.002	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.002	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	85
Naphthalene-d8	84
Acenaphthene-d10	83
Phenanthrene-d10	82
Chrysene-d12	82
Perylene-d12	81

Surrogates	% Rec
2-Fluorophenol	48
Phenol-d5	32
Nitrobenzene-d5	94
2-Fluorobiphenyl	100
2,4,6-Tribromophenol	97
Terphenyl-d14	103

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Leachate	**QC Batch Number:**	1135
Sample Details:	TP305 ES 1 1.00	**Date Booked in:**	11-May-10	**Ext Method:**	Sep. Funnel	**Multiplier:**	0.005
LIMS ID Number:	EX1014320	**Date Extracted:**	12-May-10	**Operator:**	AB	**Dilution Factor:**	2.5
Job Number:	W10_6153	**Date Analysed:**	12-May-10	**Directory/Quant File:**	12SVOC.GC11\ 0512_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/l	% Fit
Phenol	108-95-2	-	< 0.020	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.005	-
2-Chlorophenol	95-57-8	-	< 0.020	-
1,3-Dichlorobenzene	541-73-1	-	< 0.005	-
1,4-Dichlorobenzene	106-46-7	-	< 0.005	-
Benzyl alcohol	100-51-6	-	< 0.005	-
1,2-Dichlorobenzene	95-50-1	-	< 0.005	-
2-Methylphenol	95-48-7	-	< 0.005	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.005	-
Hexachloroethane	67-72-1	-	< 0.005	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.005	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.020	-
Nitrobenzene	98-95-3	-	< 0.005	-
Isophorone	78-59-1	-	< 0.005	-
2-Nitrophenol	88-75-5	-	< 0.020	-
2,4-Dimethylphenol	105-67-9	-	< 0.020	-
Benzoic Acid	65-85-0 *	-	< 0.100	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.005	-
2,4-Dichlorophenol	120-83-2	-	< 0.020	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.005	-
Naphthalene	91-20-3	-	< 0.002	-
4-Chlorophenol	106-48-9	-	< 0.020	-
4-Chloroaniline	106-47-8 *	-	< 0.005	-
Hexachlorobutadiene	87-68-3	-	< 0.005	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.005	-
2-Methylnaphthalene	91-57-6	-	< 0.002	-
1-Methylnaphthalene	90-12-0	-	< 0.002	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.005	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.020	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.020	-
2-Chloronaphthalene	91-58-7	-	< 0.002	-
Biphenyl	92-52-4	-	< 0.002	-
Diphenyl ether	101-84-8	-	< 0.002	-
2-Nitroaniline	88-74-4	-	< 0.005	-
Acenaphthylene	208-96-8	-	< 0.002	-
Dimethylphthalate	131-11-3	-	< 0.005	-
2,6-Dinitrotoluene	606-20-2	-	< 0.005	-
Acenaphthene	83-32-9	-	< 0.002	-
3-Nitroaniline	99-09-2	-	< 0.005	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/l	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 0.010	-
Dibenzofuran	132-64-9	-	< 0.005	-
4-Nitrophenol	100-02-7	-	< 0.050	-
2,4-Dinitrotoluene	121-14-2	-	< 0.005	-
Fluorene	86-73-7	-	< 0.002	-
Diethylphthalate	84-66-2	-	< 0.005	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.005	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 0.050	-
4-Nitroaniline	100-01-6	-	< 0.005	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.005	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.005	-
Hexachlorobenzene	118-74-1	-	< 0.005	-
Pentachlorophenol	87-86-5	-	< 0.050	-
Phenanthrene	85-01-8	-	< 0.002	-
Anthracene	120-12-7	-	< 0.002	-
Di-n-butylphthalate	84-74-2	-	< 0.005	-
Fluoranthene	206-44-0	-	< 0.002	-
Pyrene	129-00-0	-	< 0.002	-
Butylbenzylphthalate	85-68-7	-	< 0.005	-
Benzo[a]anthracene	56-55-3	-	< 0.002	-
Chrysene	218-01-9	-	< 0.002	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.020	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.005	-
Di-n-octylphthalate	117-84-0	-	< 0.002	-
Benzo[b]fluoranthene	205-99-2	-	< 0.002	-
Benzo[k]fluoranthene	207-08-9	-	< 0.002	-
Benzo[a]pyrene	50-32-8	-	< 0.002	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.002	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.002	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.002	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	92
Naphthalene-d8	92
Acenaphthene-d10	90
Phenanthrene-d10	89
Chrysene-d12	90
Perylene-d12	91

Surrogates	% Rec
2-Fluorophenol	51
Phenol-d5	33
Nitrobenzene-d5	91
2-Fluorobiphenyl	96
2,4,6-Tribromophenol	90
Terphenyl-d14	100

Where individual results are flagged see report notes for status.

SVOC (TICs)

UKAS accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	TP301 ES 1 1.00	**Job Number:**	W10_6153
LIMS ID Number:	EX1014319		
		Multiplier:	0.005
Date Booked in:	11-May-10	**Dilution Factor:**	2.5
Date Extracted:	12-May-10	**GPC (Y/N):**	N
Date Analysed:	12-May-10	**Matrix:**	Leachate
QC Batch Number:	1135	**Method:**	Sep. Funnel
Directory/Quant File:	12SVOC.GC11\ 0512_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/l	% Fit
None detected			<0.05	

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.

SVOC (TICs)

UKAS accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	TP305 ES 1 1.00	**Job Number:**	W10_6153
LIMS ID Number:	EX1014320		
		Multiplier:	0.005
Date Booked in:	11-May-10	**Dilution Factor:**	2.5
Date Extracted:	12-May-10	**GPC (Y/N):**	N
Date Analysed:	12-May-10	**Matrix:**	Leachate
QC Batch Number:	1135	**Method:**	Sep. Funnel
Directory/Quant File:	12SVOC.GC11\ 0512_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/l	% Fit
None detected			<0.05	

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.

Gasoline Range Organics

(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details: Soil Mechanics : Isles Quarry
Job Number: W10_6153
Directory: D:\TES\DATA\Y2010\0512HSA_GC12\051210A 2010-05-12 14-20-28\013F0301.D
Method: Headspace GCFID

Matrix: LEACHATE
Date Booked in: 11-May-10
Date extracted: 12-May-10
Date Analysed: 12-May-10, 15:1

*** Sample data with an asterisk are not UKAS accredited.**

			Concentration, (mg/l)					Aliphatics				
	Sample ID	**Client ID**	**Benzene**	**Toluene**	**Ethyl benzene**	**m/p-Xylene**	**o-Xylene**	**C5 - C6**	**>C6 - C7**	**>C7 - C8**	**>C8 - C10**	**Total GRO**
*	EX1014319	TP301 ES 1 1.00	<0.005	<0.005	<0.005	<0.005	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
*	EX1014320	TP305 ES 1 1.00	<0.005	<0.005	<0.005	<0.005	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1

Note: Benzene elutes between C6 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.
Xylenes have been deducted from the C8-C10 band to give the aliphatic fraction, however aromatic compounds may still be contributing to this fraction.

Where individual results are flagged see report notes for status.

ALIPHATIC / AROMATIC FRACTION BY GC/FID

Customer and Site Details: Soil Mechanics : Isles Quarry
Job Number: W10_6153
QC Batch Number: 100834
Directory: D:\TES\DATA\Y2010\0517TPH_GC15\051710 2010-05-17 09-55-24\088B4501.D
Method: Separating Funnel

Separation: Silica gel
Eluents: Hexane, DCM

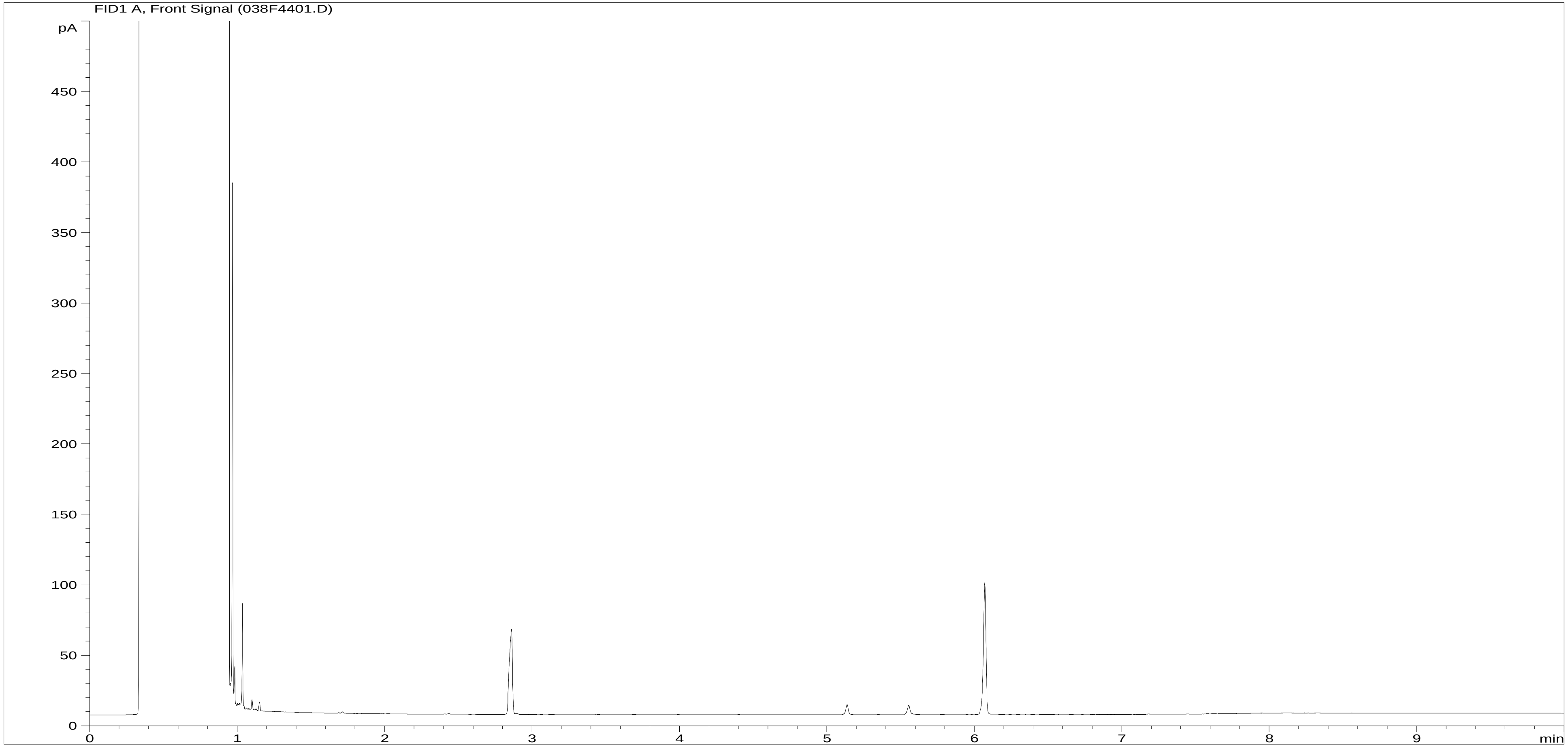
Matrix: Leachate
Date Booked ir 11-May-10
Date Extracted 17-May-10
Date Analysed 17-May-10, 22:56:45

*** This sample data is not UKAS accredited.**

		Concentration, (mg/l)											
		>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35		>C8 - C40	
Sample ID	**Client ID**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**
EX1014319	TP301 ES 1 1.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
EX1014320	TP305 ES 1 1.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Where individual results are flagged see report notes for status.

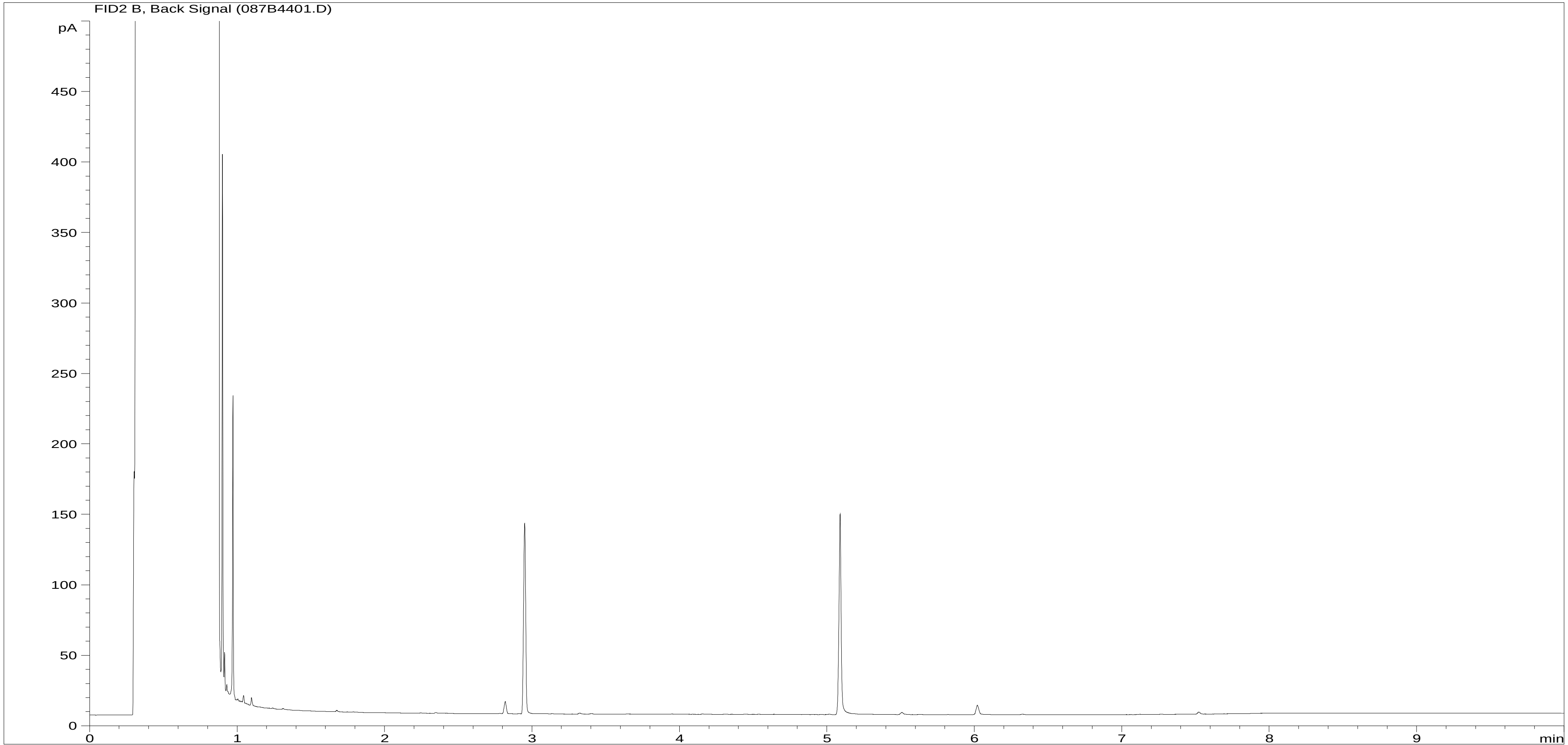
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	EX1014319ALI	**Job Number:**	W10_6153
Multiplier:	0.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	TP301 ES 1 1.00
Acquisition Date/Time:	17-May-10, 22:39:36		
Datafile:	D:\TES\DATA\Y2010\0517TPH_GC15\051710 2010-05-17 09-55-24\038F4401.D		

Where individual results are flagged see report notes for status.

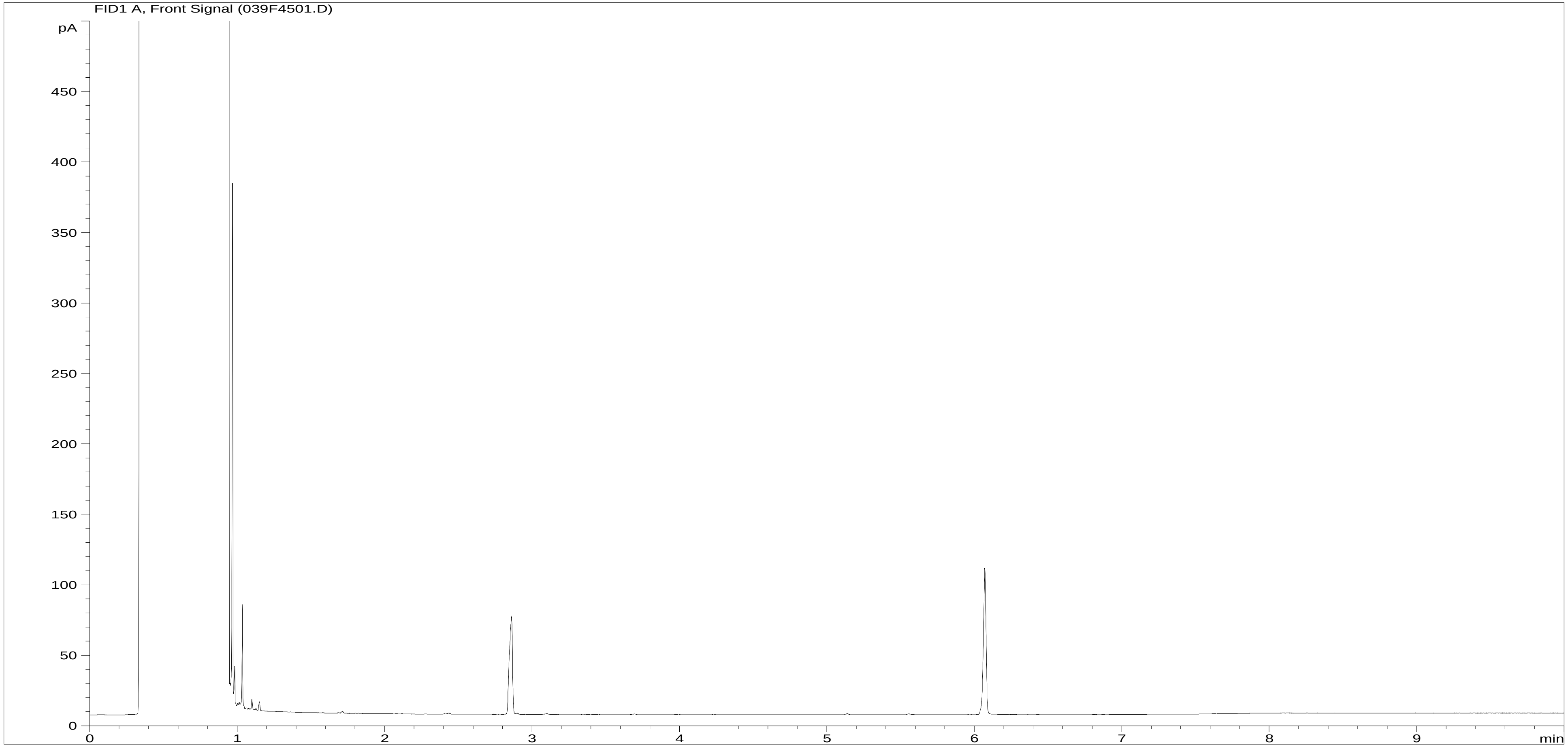
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	EX1014319ARO	**Job Number:**	W10_6153
Multiplier:	0.015	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	TP301 ES 1 1.00
Acquisition Date/Time:	17-May-10, 22:39:36		
Datafile:	D:\TES\DATA\Y2010\0517TPH_GC15\051710 2010-05-17 09-55-24\087B4401.D		

Where individual results are flagged see report notes for status.

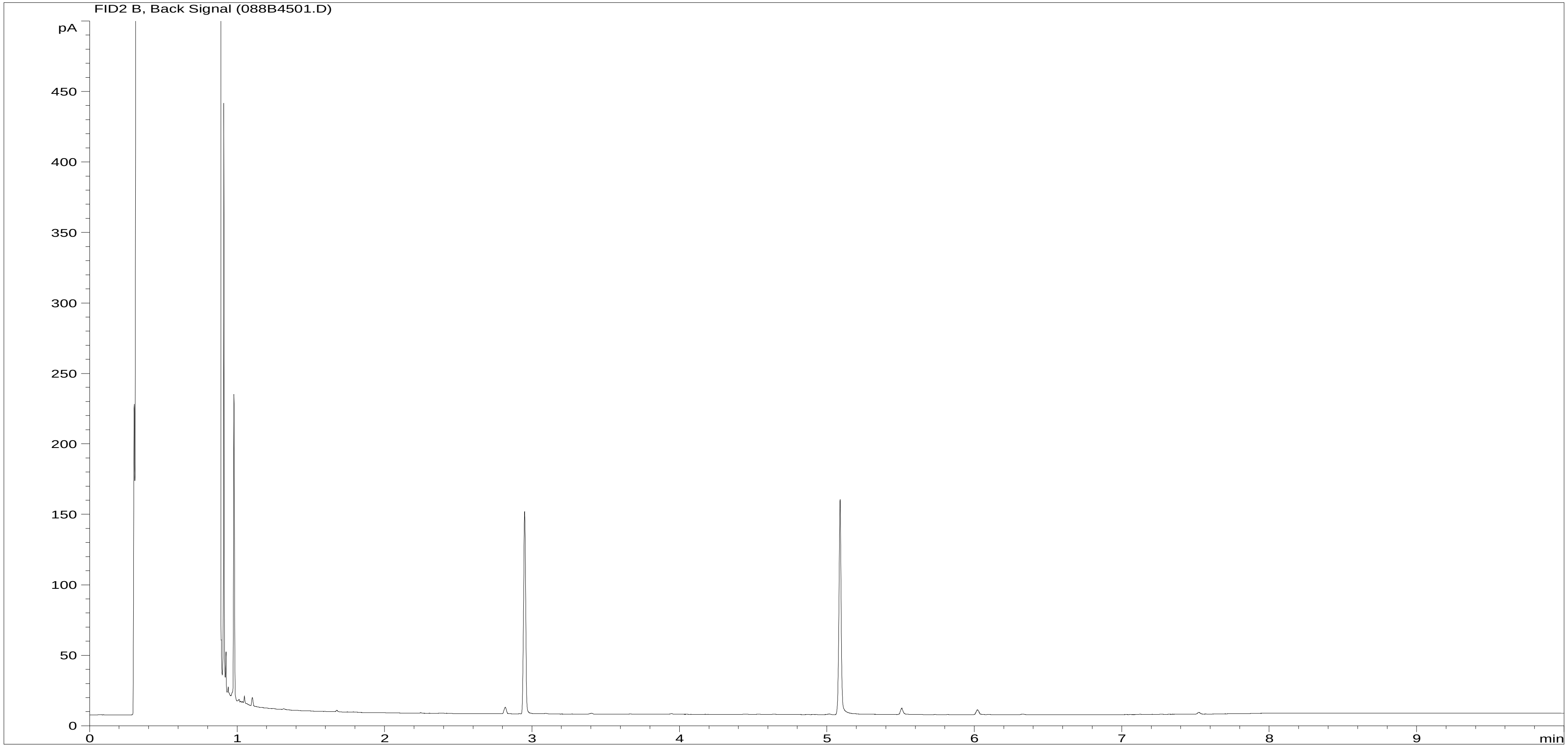
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	EX1014320ALI	**Job Number:**	W10_6153
Multiplier:	0.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	TP305 ES 1 1.00
Acquisition Date/Time:	17-May-10, 22:56:45		
Datafile:	D:\TES\DATA\Y2010\0517TPH_GC15\051710 2010-05-17 09-55-24\039F4501.D		

Where individual results are flagged see report notes for status.

Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	EX1014320ARO	**Job Number:**	W10_6153
Multiplier:	0.016	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	TP305 ES 1 1.00
Acquisition Date/Time:	17-May-10, 22:56:45		
Datafile:	D:\TES\DATA\Y2010\0517TPH_GC15\051710 2010-05-17 09-55-24\088B4501.D		

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	513VOC.MS11\ Initial Calibration	**Matrix:**	Leachate
Sample Details:	TP301 ES 1 1.00	**Date Booked in:**	11-May-10	**Method:**	Headspace
LIMS ID Number:	EX1014319	**Date Analysed:**	13-May-10	**Multiplier:**	1
Job Number:	W10_6153	**Operator:**	PR	**Position:**	5

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8 *	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9 *	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7 *	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 5	-
1,2,4-Trichlorobenzene	120-82-1	-	< 5	-
Hexachlorobutadiene	87-68-3	-	< 5	-
Naphthalene	91-20-3	-	< 5	-
1,2,3-Trichlorobenzene	87-61-6	-	< 5	-

Compounds marked * are not UKAS accredited
"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.65	99	Dibromofluoromethane	111
1,4-Difluorobenzene	4.00	101	Toluene-d8	100
Chlorobenzene-d5	5.12	102	Bromofluorobenzene	89
1,4-Dichlorobenzene-d4	5.91	90		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,
- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

Waters Analysis

Unless stated otherwise results are expressed as mg/l

Oil analysis specific

Unless stated otherwise,
- Results are expressed as mg/kg
- SG is expressed as g/cm^3@ 15^{o}C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile
CR Denotes Crocidolite
AM Denotes Amosite
NADIS Denotes No Asbestos Detected In Sample
NBFO Denotes No Bulk Fibres Observed

Symbol Reference

^ Sub-contracted analysis
$$ Unable to analyse due to the nature of the sample
¶ Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.
This may have resulted in deterioration of the sample(s) during transit to the laboratory.
Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling
¥ Results for guidance only due to possible interference
& Blank corrected result
I.S Insufficient sample to complete requested analysis
I.S(g) Insufficient sample to re-analyse, results for guidance only
Intf Unable to analyse due to interferences
N.D Not determined
N.Det Not detected
Req Analysis requested, see attached sheets for results
Þ Raised detection limit due to nature of the sample
***** All accreditation has been removed by the laboratory for this result
‡ MCERTS accreditation has been removed for this result

Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

END OF REPORT

Where individual results are flagged see report notes for status.

TEST REPORT
LEACHATE SAMPLE ANALYSIS

UKAS TESTING
1252

Report No. EXR/106156 (Ver. 1)

Soil Mechanics
Fox Pitt
Shinglebarn Lane
West Farleigh
Maidstone
Kent
ME15 0PN

Site: Isles Quarry

The 6 samples described in this report were logged for analysis by Scientifics on 11-May-2010.
The analysis was completed by: 18-May-2010

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS accredited
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

On behalf of
Scientifics :
Lisa Thompson Project Co-ordinator

Date of Issue: 18-May-2010

Tests marked '^' have been subcontracted to another laboratory.

Scientifics accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Laboratory ID Number EX/	Client Sample Description	pH units	Volatile Organic Compounds	Nickel as Ni (Dissolved)	Chromium as Cr (Dissolved)	Cadmium as Cd (Dissolved)	PAH MS-SIM (16)	Copper as Cu (Dissolved)	Lead as Pb (Dissolved)	Zinc as Zn (Dissolved)	Arsenic as As (Dissolved)	Boron as B (Dissolved) a	Mercury as Hg (Dissolved)	Selenium as Se (Dissolved)	Cyanide (Total) as CN	Phenol Index as C6H5OH	SVOC + TICS
	Units :		ug/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	Method Codes :	WSLM3	VOCHSAW	ICPMSW	ICPMSW	ICPMSW	PAHMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPWATVAR	ICPMSW	ICPMSW	SFAPI	SFAPI	SVOCSW
	Method Reporting Limits :		1	0.001	0.001	0.0001	0.01	0.001	0.001	0.002	0.001	0.01	0.0001	0.001	0.02	0.05	0.002
	UKAS Accredited :	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
1014323	WS203 ES 1 0.50	7.5	Req	<0.001	0.002	<0.0001	Req	0.004	<0.001	0.011	0.005	0.16	<0.0001	<0.001		<0.05	
1014324	WS204 ES 3 1.30	7.7	Req	<0.001	0.002	<0.0001		0.007	0.001	0.034	0.003	0.19	<0.0001	<0.001	<0.02		Req
1014325	WS205A ES 1 1.50	7.6		<0.001	<0.001	<0.0001	Req	0.006	0.002	0.047	0.016	0.2	<0.0001	<0.001		<0.05	
1014326	WS206 ES 1 0.30	7.7	Req	<0.001	0.001	<0.0001		0.008	<0.001	0.032	0.002	0.15	<0.0001	<0.001			Req
1014327	WS207 ES 1 0.75	7.8	Req	0.001	<0.001	<0.0001		0.009	<0.001	0.091	0.015	0.26	<0.0001	<0.001	<0.02		Req
1014328	WS210 ES 1 0.40	7.8		<0.001	<0.001	<0.0001		0.008	0.002	0.029	0.004	0.16	<0.0001	<0.001	<0.02		Req

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Client Name Soil Mechanics

Contact Mr M Ratcliffe

Leachate Sample Analysis

Isles Quarry

Date Printed	18-May-10
Report Number	**EXR/106156**
Table Number	**1**

Where individual results are flagged see report notes for status.

Laboratory ID Number EX/	Client Sample Description	GRO-HSA (AA)	TPH GC (AA)
	Units :	mg/l	mg/l
	Method Codes :	GROHSA	TPHFID-Si
	Method Reporting Limits :	0.1	0.01
	UKAS Accredited :	no	no
1014323	WS203 ES 1 0.50	Req	Req
1014324	WS204 ES 3 1.30	Req	Req
1014325	WS205A ES 1 1.50	*	Req
1014326	WS206 ES 1 0.30	Req	Req
1014327	WS207 ES 1 0.75	Req	Req
1014328	WS210 ES 1 0.40	Req	Req

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Client Name **Soil Mechanics**

Contact Mr M Ratcliffe

Leachate Sample Analysis

Isles Quarry

Date Printed	18-May-10
Report Number	**EXR/106156**
Table Number	**1**

Where individual results are flagged see report notes for status.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS203 ES 1 0.50	**Job Number:**	W10_6156
LIMS ID Number:	EX1014323	**Date Booked in:**	11-May-10
QC Batch Number:	0829	**Date Extracted:**	15-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	15-May-10
Directory:	0514PAH.MS4\	**Matrix:**	Leachate
Dilution:	1.0	**Ext Method:**	Sep. Funnel

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration ug/l	% Fit
Naphthalene	91-20-3	3.28	3.640	97
Acenaphthylene	208-96-8	4.33	0.080	60
Acenaphthene	83-32-9	4.45	1.200	99
Fluorene	86-73-7	4.84	0.275	94
Phenanthrene	85-01-8	5.69	0.051	M
Anthracene	120-12-7	5.74	0.018	M
Fluoranthene	206-44-0	7.03	0.011	M
Pyrene	129-00-0	-	< 0.010	-
Benzo[a]anthracene	56-55-3	-	< 0.010	-
Chrysene	218-01-9	-	< 0.010	-
Benzo[b]fluoranthene	205-99-2	-	< 0.010	-
Benzo[k]fluoranthene	207-08-9	-	< 0.010	-
Benzo[a]pyrene	50-32-8	-	< 0.010	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.010	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.010	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.010	-
Total (USEPA16) PAHs	-	-	< 5.365	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	113
Acenaphthene-d10	104
Phenanthrene-d10	108
Chrysene-d12	104
Perylene-d12	97

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	67
Terphenyl-d14	80

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Where individual results are flagged see report notes for status.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS205A ES 1 1.50	**Job Number:**	W10_6156
LIMS ID Number:	EX1014325	**Date Booked in:**	11-May-10
QC Batch Number:	0829	**Date Extracted:**	15-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	15-May-10
Directory:	0514PAH.MS4\	**Matrix:**	Leachate
Dilution:	1.0	**Ext Method:**	Sep. Funnel

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration ug/l	% Fit
Naphthalene	91-20-3	3.28	0.018	M
Acenaphthylene	208-96-8	-	< 0.010	-
Acenaphthene	83-32-9	4.45	0.020	M
Fluorene	86-73-7	-	< 0.010	-
Phenanthrene	85-01-8	5.74	0.018	M
Anthracene	120-12-7	-	< 0.010	-
Fluoranthene	206-44-0	7.03	0.020	M
Pyrene	129-00-0	-	< 0.010	-
Benzo[a]anthracene	56-55-3	-	< 0.010	-
Chrysene	218-01-9	-	< 0.010	-
Benzo[b]fluoranthene	205-99-2	-	< 0.010	-
Benzo[k]fluoranthene	207-08-9	-	< 0.010	-
Benzo[a]pyrene	50-32-8	-	< 0.010	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.010	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.010	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.010	-
Total (USEPA16) PAHs	-	-	< 0.196	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	117
Acenaphthene-d10	108
Phenanthrene-d10	112
Chrysene-d12	103
Perylene-d12	96

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	65
Terphenyl-d14	73

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Leachate	**QC Batch Number:**	1135
Sample Details:	WS204 ES 3 1.30	**Date Booked in:**	11-May-10	**Ext Method:**	Sep. Funnel	**Multiplier:**	0.005
LIMS ID Number:	EX1014324	**Date Extracted:**	12-May-10	**Operator:**	AB	**Dilution Factor:**	2.5
Job Number:	W10_6156	**Date Analysed:**	12-May-10	**Directory/Quant File:**	12SVOC.GC11\ 0512_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/l	% Fit
Phenol	108-95-2	-	< 0.020	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.005	-
2-Chlorophenol	95-57-8	-	< 0.020	-
1,3-Dichlorobenzene	541-73-1	-	< 0.005	-
1,4-Dichlorobenzene	106-46-7	-	< 0.005	-
Benzyl alcohol	100-51-6	-	< 0.005	-
1,2-Dichlorobenzene	95-50-1	-	< 0.005	-
2-Methylphenol	95-48-7	-	< 0.005	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.005	-
Hexachloroethane	67-72-1	-	< 0.005	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.005	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.020	-
Nitrobenzene	98-95-3	-	< 0.005	-
Isophorone	78-59-1	-	< 0.005	-
2-Nitrophenol	88-75-5	-	< 0.020	-
2,4-Dimethylphenol	105-67-9	-	< 0.020	-
Benzoic Acid	65-85-0 *	-	< 0.100	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.005	-
2,4-Dichlorophenol	120-83-2	-	< 0.020	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.005	-
Naphthalene	91-20-3	-	< 0.002	-
4-Chlorophenol	106-48-9	-	< 0.020	-
4-Chloroaniline	106-47-8 *	-	< 0.005	-
Hexachlorobutadiene	87-68-3	-	< 0.005	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.005	-
2-Methylnaphthalene	91-57-6	-	< 0.002	-
1-Methylnaphthalene	90-12-0	-	< 0.002	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.005	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.020	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.020	-
2-Chloronaphthalene	91-58-7	-	< 0.002	-
Biphenyl	92-52-4	-	< 0.002	-
Diphenyl ether	101-84-8	-	< 0.002	-
2-Nitroaniline	88-74-4	-	< 0.005	-
Acenaphthylene	208-96-8	-	< 0.002	-
Dimethylphthalate	131-11-3	-	< 0.005	-
2,6-Dinitrotoluene	606-20-2	-	< 0.005	-
Acenaphthene	83-32-9	-	< 0.002	-
3-Nitroaniline	99-09-2	-	< 0.005	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/l	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 0.010	-
Dibenzofuran	132-64-9	-	< 0.005	-
4-Nitrophenol	100-02-7	-	< 0.050	-
2,4-Dinitrotoluene	121-14-2	-	< 0.005	-
Fluorene	86-73-7	-	< 0.002	-
Diethylphthalate	84-66-2	-	< 0.005	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.005	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 0.050	-
4-Nitroaniline	100-01-6	-	< 0.005	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.005	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.005	-
Hexachlorobenzene	118-74-1	-	< 0.005	-
Pentachlorophenol	87-86-5	-	< 0.050	-
Phenanthrene	85-01-8	-	< 0.002	-
Anthracene	120-12-7	-	< 0.002	-
Di-n-butylphthalate	84-74-2	-	< 0.005	-
Fluoranthene	206-44-0	-	< 0.002	-
Pyrene	129-00-0	-	< 0.002	-
Butylbenzylphthalate	85-68-7	-	< 0.005	-
Benzo[a]anthracene	56-55-3	-	< 0.002	-
Chrysene	218-01-9	-	< 0.002	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.020	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.005	-
Di-n-octylphthalate	117-84-0	-	< 0.002	-
Benzo[b]fluoranthene	205-99-2	-	< 0.002	-
Benzo[k]fluoranthene	207-08-9	-	< 0.002	-
Benzo[a]pyrene	50-32-8	-	< 0.002	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.002	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.002	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.002	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	90
Naphthalene-d8	89
Acenaphthene-d10	87
Phenanthrene-d10	87
Chrysene-d12	88
Perylene-d12	90

Surrogates	% Rec
2-Fluorophenol	48
Phenol-d5	32
Nitrobenzene-d5	93
2-Fluorobiphenyl	96
2,4,6-Tribromophenol	94
Terphenyl-d14	98

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Leachate	**QC Batch Number:**	1135
Sample Details:	WS206 ES 1 0.30	**Date Booked in:**	11-May-10	**Ext Method:**	Sep. Funnel	**Multiplier:**	0.005
LIMS ID Number:	EX1014326	**Date Extracted:**	12-May-10	**Operator:**	AB	**Dilution Factor:**	2.5
Job Number:	W10_6156	**Date Analysed:**	12-May-10	**Directory/Quant File:**	12SVOC.GC11\ 0512_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/l	% Fit
Phenol	108-95-2	-	< 0.020	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.005	-
2-Chlorophenol	95-57-8	-	< 0.020	-
1,3-Dichlorobenzene	541-73-1	-	< 0.005	-
1,4-Dichlorobenzene	106-46-7	-	< 0.005	-
Benzyl alcohol	100-51-6	-	< 0.005	-
1,2-Dichlorobenzene	95-50-1	-	< 0.005	-
2-Methylphenol	95-48-7	-	< 0.005	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.005	-
Hexachloroethane	67-72-1	-	< 0.005	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.005	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.020	-
Nitrobenzene	98-95-3	-	< 0.005	-
Isophorone	78-59-1	-	< 0.005	-
2-Nitrophenol	88-75-5	-	< 0.020	-
2,4-Dimethylphenol	105-67-9	-	< 0.020	-
Benzoic Acid	65-85-0 *	-	< 0.100	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.005	-
2,4-Dichlorophenol	120-83-2	-	< 0.020	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.005	-
Naphthalene	91-20-3	-	< 0.002	-
4-Chlorophenol	106-48-9	-	< 0.020	-
4-Chloroaniline	106-47-8 *	-	< 0.005	-
Hexachlorobutadiene	87-68-3	-	< 0.005	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.005	-
2-Methylnaphthalene	91-57-6	-	< 0.002	-
1-Methylnaphthalene	90-12-0	-	< 0.002	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.005	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.020	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.020	-
2-Chloronaphthalene	91-58-7	-	< 0.002	-
Biphenyl	92-52-4	-	< 0.002	-
Diphenyl ether	101-84-8	-	< 0.002	-
2-Nitroaniline	88-74-4	-	< 0.005	-
Acenaphthylene	208-96-8	-	< 0.002	-
Dimethylphthalate	131-11-3	-	< 0.005	-
2,6-Dinitrotoluene	606-20-2	-	< 0.005	-
Acenaphthene	83-32-9	-	< 0.002	-
3-Nitroaniline	99-09-2	-	< 0.005	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/l	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 0.010	-
Dibenzofuran	132-64-9	-	< 0.005	-
4-Nitrophenol	100-02-7	-	< 0.050	-
2,4-Dinitrotoluene	121-14-2	-	< 0.005	-
Fluorene	86-73-7	-	< 0.002	-
Diethylphthalate	84-66-2	-	< 0.005	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.005	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 0.050	-
4-Nitroaniline	100-01-6	-	< 0.005	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.005	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.005	-
Hexachlorobenzene	118-74-1	-	< 0.005	-
Pentachlorophenol	87-86-5	-	< 0.050	-
Phenanthrene	85-01-8	-	< 0.002	-
Anthracene	120-12-7	-	< 0.002	-
Di-n-butylphthalate	84-74-2	-	< 0.005	-
Fluoranthene	206-44-0	-	< 0.002	-
Pyrene	129-00-0	-	< 0.002	-
Butylbenzylphthalate	85-68-7	-	< 0.005	-
Benzo[a]anthracene	56-55-3	-	< 0.002	-
Chrysene	218-01-9	-	< 0.002	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.020	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.005	-
Di-n-octylphthalate	117-84-0	-	< 0.002	-
Benzo[b]fluoranthene	205-99-2	-	< 0.002	-
Benzo[k]fluoranthene	207-08-9	-	< 0.002	-
Benzo[a]pyrene	50-32-8	-	< 0.002	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.002	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.002	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.002	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	89
Naphthalene-d8	87
Acenaphthene-d10	86
Phenanthrene-d10	84
Chrysene-d12	84
Perylene-d12	83

Surrogates	% Rec
2-Fluorophenol	48
Phenol-d5	33
Nitrobenzene-d5	92
2-Fluorobiphenyl	96
2,4,6-Tribromophenol	96
Terphenyl-d14	102

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Leachate	**QC Batch Number:**	1145
Sample Details:	WS207 ES 1 0.75	**Date Booked in:**	11-May-10	**Ext Method:**	Sep. Funnel	**Multiplier:**	0.005
LIMS ID Number:	EX1014327	**Date Extracted:**	13-May-10	**Operator:**	AB	**Dilution Factor:**	2.5
Job Number:	W10_6156	**Date Analysed:**	14-May-10	**Directory/Quant File:**	13SVOC.GC11\ 0513_CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/l	% Fit
Phenol	108-95-2	-	< 0.020	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.005	-
2-Chlorophenol	95-57-8	-	< 0.020	-
1,3-Dichlorobenzene	541-73-1	-	< 0.005	-
1,4-Dichlorobenzene	106-46-7	-	< 0.005	-
Benzyl alcohol	100-51-6	-	< 0.005	-
1,2-Dichlorobenzene	95-50-1	-	< 0.005	-
2-Methylphenol	95-48-7	-	< 0.005	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.005	-
Hexachloroethane	67-72-1	-	< 0.005	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.005	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.020	-
Nitrobenzene	98-95-3	-	< 0.005	-
Isophorone	78-59-1	-	< 0.005	-
2-Nitrophenol	88-75-5	-	< 0.020	-
2,4-Dimethylphenol	105-67-9	-	< 0.020	-
Benzoic Acid	65-85-0 *	-	< 0.100	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.005	-
2,4-Dichlorophenol	120-83-2	-	< 0.020	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.005	-
Naphthalene	91-20-3	6.79	0.003	91
4-Chlorophenol	106-48-9	-	< 0.020	-
4-Chloroaniline	106-47-8 *	-	< 0.005	-
Hexachlorobutadiene	87-68-3	-	< 0.005	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.005	-
2-Methylnaphthalene	91-57-6	7.51	0.007	88
1-Methylnaphthalene	90-12-0	7.61	0.017	92
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.005	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.020	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.020	-
2-Chloronaphthalene	91-58-7	-	< 0.002	-
Biphenyl	92-52-4	-	< 0.002	-
Diphenyl ether	101-84-8	-	< 0.002	-
2-Nitroaniline	88-74-4	-	< 0.005	-
Acenaphthylene	208-96-8	-	< 0.002	-
Dimethylphthalate	131-11-3	-	< 0.005	-
2,6-Dinitrotoluene	606-20-2	-	< 0.005	-
Acenaphthene	83-32-9	-	< 0.002	-
3-Nitroaniline	99-09-2	-	< 0.005	-

Compounds marked with a * are reported not UKAS.

Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/l	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 0.010	-
Dibenzofuran	132-64-9	-	< 0.005	-
4-Nitrophenol	100-02-7	-	< 0.050	-
2,4-Dinitrotoluene	121-14-2	-	< 0.005	-
Fluorene	86-73-7	-	< 0.002	-
Diethylphthalate	84-66-2	-	< 0.005	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.005	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 0.050	-
4-Nitroaniline	100-01-6	-	< 0.005	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.005	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.005	-
Hexachlorobenzene	118-74-1	-	< 0.005	-
Pentachlorophenol	87-86-5	-	< 0.050	-
Phenanthrene	85-01-8	-	< 0.002	-
Anthracene	120-12-7	-	< 0.002	-
Di-n-butylphthalate	84-74-2	-	< 0.005	-
Fluoranthene	206-44-0	-	< 0.002	-
Pyrene	129-00-0	-	< 0.002	-
Butylbenzylphthalate	85-68-7	-	< 0.005	-
Benzo[a]anthracene	56-55-3	-	< 0.002	-
Chrysene	218-01-9	-	< 0.002	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.020	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.005	-
Di-n-octylphthalate	117-84-0	-	< 0.002	-
Benzo[b]fluoranthene	205-99-2	-	< 0.002	-
Benzo[k]fluoranthene	207-08-9	-	< 0.002	-
Benzo[a]pyrene	50-32-8	-	< 0.002	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.002	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.002	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.002	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	97
Naphthalene-d8	97
Acenaphthene-d10	99
Phenanthrene-d10	98
Chrysene-d12	97
Perylene-d12	99

Surrogates	% Rec
2-Fluorophenol	52
Phenol-d5	36
Nitrobenzene-d5	75
2-Fluorobiphenyl	78
2,4,6-Tribromophenol	96
Terphenyl-d14	81

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Leachate	**QC Batch Number:**	1135
Sample Details:	WS210 ES 1 0.40	**Date Booked in:**	11-May-10	**Ext Method:**	Sep. Funnel	**Multiplier:**	0.005
LIMS ID Number:	EX1014328	**Date Extracted:**	12-May-10	**Operator:**	AB	**Dilution Factor:**	2.5
Job Number:	W10_6156	**Date Analysed:**	12-May-10	**Directory/Quant File:**	12SVOC.GC11\ 0512_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/l	% Fit
Phenol	108-95-2	-	< 0.020	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.005	-
2-Chlorophenol	95-57-8	-	< 0.020	-
1,3-Dichlorobenzene	541-73-1	-	< 0.005	-
1,4-Dichlorobenzene	106-46-7	-	< 0.005	-
Benzyl alcohol	100-51-6	-	< 0.005	-
1,2-Dichlorobenzene	95-50-1	-	< 0.005	-
2-Methylphenol	95-48-7	-	< 0.005	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.005	-
Hexachloroethane	67-72-1	-	< 0.005	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.005	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.020	-
Nitrobenzene	98-95-3	-	< 0.005	-
Isophorone	78-59-1	-	< 0.005	-
2-Nitrophenol	88-75-5	-	< 0.020	-
2,4-Dimethylphenol	105-67-9	-	< 0.020	-
Benzoic Acid	65-85-0 *	-	< 0.100	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.005	-
2,4-Dichlorophenol	120-83-2	-	< 0.020	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.005	-
Naphthalene	91-20-3	-	< 0.002	-
4-Chlorophenol	106-48-9	-	< 0.020	-
4-Chloroaniline	106-47-8 *	-	< 0.005	-
Hexachlorobutadiene	87-68-3	-	< 0.005	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.005	-
2-Methylnaphthalene	91-57-6	-	< 0.002	-
1-Methylnaphthalene	90-12-0	-	< 0.002	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.005	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.020	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.020	-
2-Chloronaphthalene	91-58-7	-	< 0.002	-
Biphenyl	92-52-4	-	< 0.002	-
Diphenyl ether	101-84-8	-	< 0.002	-
2-Nitroaniline	88-74-4	-	< 0.005	-
Acenaphthylene	208-96-8	-	< 0.002	-
Dimethylphthalate	131-11-3	-	< 0.005	-
2,6-Dinitrotoluene	606-20-2	-	< 0.005	-
Acenaphthene	83-32-9	-	< 0.002	-
3-Nitroaniline	99-09-2	-	< 0.005	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/l	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 0.010	-
Dibenzofuran	132-64-9	-	< 0.005	-
4-Nitrophenol	100-02-7	-	< 0.050	-
2,4-Dinitrotoluene	121-14-2	-	< 0.005	-
Fluorene	86-73-7	-	< 0.002	-
Diethylphthalate	84-66-2	-	< 0.005	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.005	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 0.050	-
4-Nitroaniline	100-01-6	-	< 0.005	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.005	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.005	-
Hexachlorobenzene	118-74-1	-	< 0.005	-
Pentachlorophenol	87-86-5	-	< 0.050	-
Phenanthrene	85-01-8	-	< 0.002	-
Anthracene	120-12-7	-	< 0.002	-
Di-n-butylphthalate	84-74-2	-	< 0.005	-
Fluoranthene	206-44-0	-	< 0.002	-
Pyrene	129-00-0	-	< 0.002	-
Butylbenzylphthalate	85-68-7	-	< 0.005	-
Benzo[a]anthracene	56-55-3	-	< 0.002	-
Chrysene	218-01-9	-	< 0.002	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.020	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.005	-
Di-n-octylphthalate	117-84-0	-	< 0.002	-
Benzo[b]fluoranthene	205-99-2	-	< 0.002	-
Benzo[k]fluoranthene	207-08-9	-	< 0.002	-
Benzo[a]pyrene	50-32-8	-	< 0.002	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.002	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.002	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.002	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	87
Naphthalene-d8	85
Acenaphthene-d10	85
Phenanthrene-d10	84
Chrysene-d12	85
Perylene-d12	85

Surrogates	% Rec
2-Fluorophenol	53
Phenol-d5	36
Nitrobenzene-d5	96
2-Fluorobiphenyl	100
2,4,6-Tribromophenol	98
Terphenyl-d14	104

SVOC (TICs)

UKAS accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS204 1.3	**Job Number:**	W10_6156
LIMS ID Number:	EX1014324		
		Multiplier:	0.005
Date Booked in:	11-May-10	**Dilution Factor:**	2.5
Date Extracted:	12-May-10	**GPC (Y/N):**	N
Date Analysed:	12-May-10	**Matrix:**	Leachate
QC Batch Number:	1135	**Method:**	Sep. Funnel
Directory/Quant File:	12SVOC.GC11\ 0512_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/l	% Fit

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.

Where individual results are flagged see report notes for status.

SVOC (TICs)

UKAS accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS206 ES 1 0.30	**Job Number:**	W10_6156
LIMS ID Number:	EX1014326		
		Multiplier:	0.005
Date Booked in:	11-May-10	**Dilution Factor:**	2.5
Date Extracted:	12-May-10	**GPC (Y/N):**	N
Date Analysed:	12-May-10	**Matrix:**	Leachate
QC Batch Number:	1135	**Method:**	Sep. Funnel
Directory/Quant File:	12SVOC.GC11\ 0512_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/l	% Fit
None detected			<0.05	

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.

Where individual results are flagged see report notes for status.

SVOC (TICs)

UKAS accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS207 ES 1 0.75	**Job Number:**	W10_6156
LIMS ID Number:	EX1014327		
		Multiplier:	0.005
Date Booked in:	11-May-10	**Dilution Factor:**	2.5
Date Extracted:	13-May-10	**GPC (Y/N):**	N
Date Analysed:	14-May-10	**Matrix:**	Leachate
QC Batch Number:	1145	**Method:**	Sep. Funnel
Directory/Quant File:	13SVOC.GC11\ 0513_CCC2.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/l	% Fit
None Detected	-	-	<0.05	-

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.

Where individual results are flagged see report notes for status.

SVOC (TICs)

UKAS accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS210 ES 1 0.40	**Job Number:**	W10_6156
LIMS ID Number:	EX1014328		
		Multiplier:	0.005
Date Booked in:	11-May-10	**Dilution Factor:**	2.5
Date Extracted:	12-May-10	**GPC (Y/N):**	N
Date Analysed:	12-May-10	**Matrix:**	Leachate
QC Batch Number:	1135	**Method:**	Sep. Funnel
Directory/Quant File:	12SVOC.GC11\ 0512_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/l	% Fit
None detected			<0.05	

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.

Gasoline Range Organics
(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details: Soil Mechanics : Isles Quarry
Job Number: W10_6156
Directory: D:\TES\DATA\Y2010\0512HSA_GC12\051210A 2010-05-12 14-20-28\018F0801.D
Method: Headspace GCFID

Matrix: LEACHATE
Date Booked in: 11-May-10
Date extracted: 13-May-10
Date Analysed: 12-May-10, 17:0

*** Sample data with an asterisk are not UKAS accredited.**

			Concentration, (mg/l)				Aliphatics				
	Sample ID	**Client ID**	**Benzene**	**Toluene**	**Ethyl benzene**	**m/p-Xylene**	**o-Xylene**	**C5 - C6**	**>C6 - C7**	**>C7 - C8**	**>C8 - C10**	**Total GRO**
*	EX1014323	WS203 ES 1 0.50	<0.005	<0.005	<0.005	<0.005	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
*	EX1014324	WS204 ES 3 1.30	<0.005	<0.005	<0.005	<0.005	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
*	EX1014325	WS205A ES 1 1.50	<0.005	<0.005	<0.005	<0.005	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
*	EX1014326	WS206 ES 1 0.30	<0.005	<0.005	<0.005	<0.005	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
*	EX1014327	WS207 ES 1 0.75	<0.005	<0.005	0.009	0.084	0.067	<0.1	<0.1	<0.1	1.1	1.3
*	EX1014328	WS210 ES 1 0.40	<0.005	<0.005	<0.005	<0.005	<0.005	<0.1	<0.1	<0.1	0.2	0.2

Note: Benzene elutes between C6 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.
Xylenes have been deducted from the C8-C10 band to give the aliphatic fraction, however aromatic compounds may still be contributing to this fraction.

Where individual results are flagged see report notes for status.

ALIPHATIC / AROMATIC FRACTION BY GC/FID

Customer and Site Details: Soil Mechanics : Isles Quarry
Job Number: W10_6156
QC Batch Number: 100829
Directory: D:\TES\DATA\Y2010\0517TPH_GC15\051710 2010-05-17 09-55-24\062B1501.D
Method: Separating Funnel

Separation: Silica gel
Eluents: Hexane, DCM

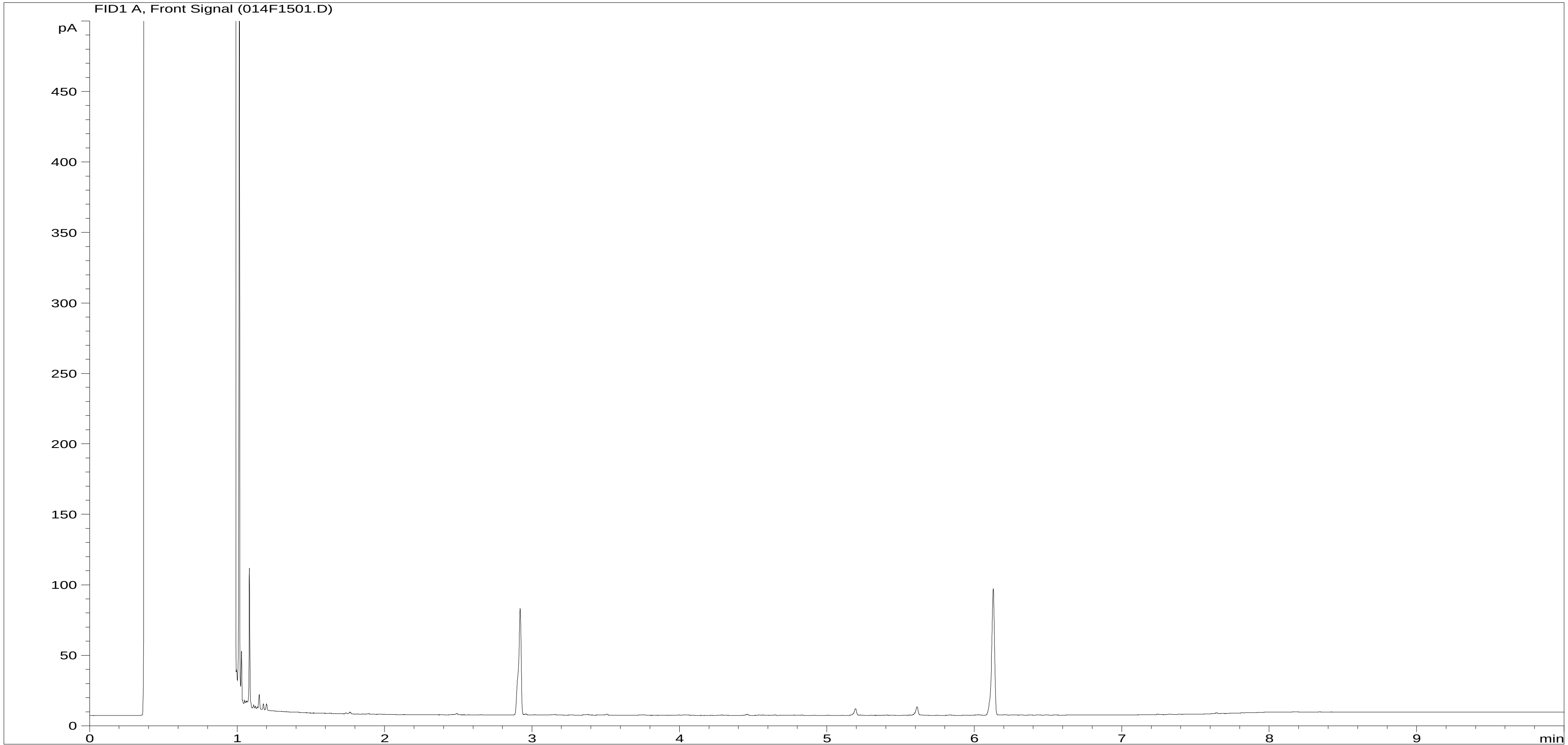
Matrix: Leachate
Date Booked ir 11-May-10
Date Extracted 15-May-10
Date Analysed 17-May-10, 14:14:59

*** This sample data is not UKAS accredited.**

		Concentration, (mg/l)											
		>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35		>C8 - C40	
Sample ID	**Client ID**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**
EX1014323	WS203 ES 1 0.50	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	0.024
EX1014324	WS204 ES 3 1.30	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
EX1014325	WS205A ES 1 1.50	<0.01	<0.01	<0.01	<0.01	0.019	<0.01	<0.01	<0.01	0.053	<0.01	0.085	<0.01
EX1014326	WS206 ES 1 0.30	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
EX1014327	WS207 ES 1 0.75	<0.01	<0.01	<0.01	0.026	<0.01	0.057	<0.01	<0.01	<0.01	<0.01	<0.01	0.096
EX1014328	WS210 ES 1 0.40	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Where individual results are flagged see report notes for status.

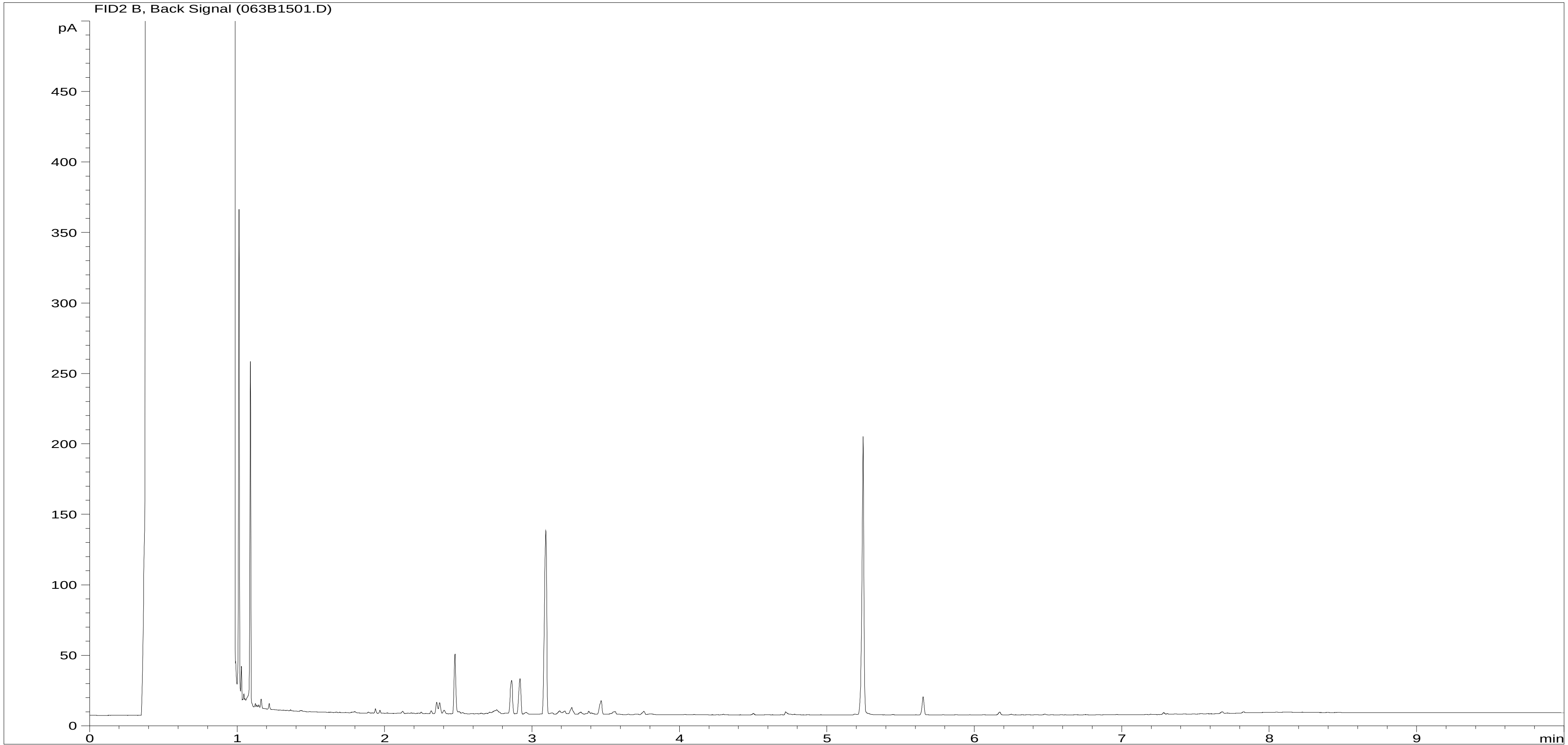
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	EX1014323ALI	**Job Number:**	W10_6156
Multiplier:	0.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	WS203 ES 1 0.50
Acquisition Date/Time:	17-May-10, 14:38:10		
Datafile:	D:\TES\DATA\Y2010\0517TPH_GC16\051710 2010-05-17 09-53-38\014F1501.D		

Where individual results are flagged see report notes for status.

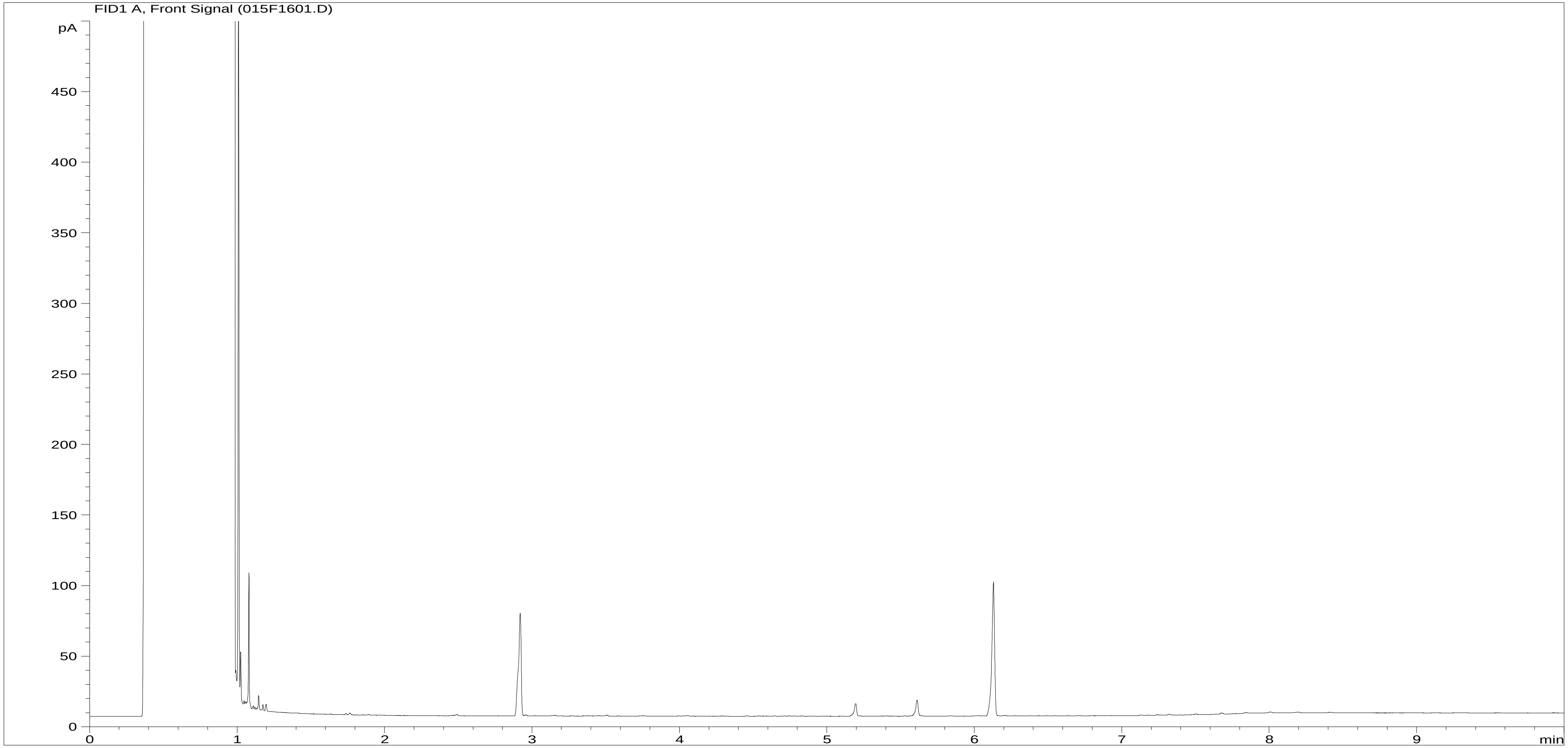
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	EX1014323ARO	**Job Number:**	W10_6156
Multiplier:	0.015	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	WS203 ES 1 0.50
Acquisition Date/Time:	17-May-10, 14:38:10		
Datafile:	D:\TES\DATA\Y2010\0517TPH_GC16\051710 2010-05-17 09-53-38\063B1501.D		

Where individual results are flagged see report notes for status.

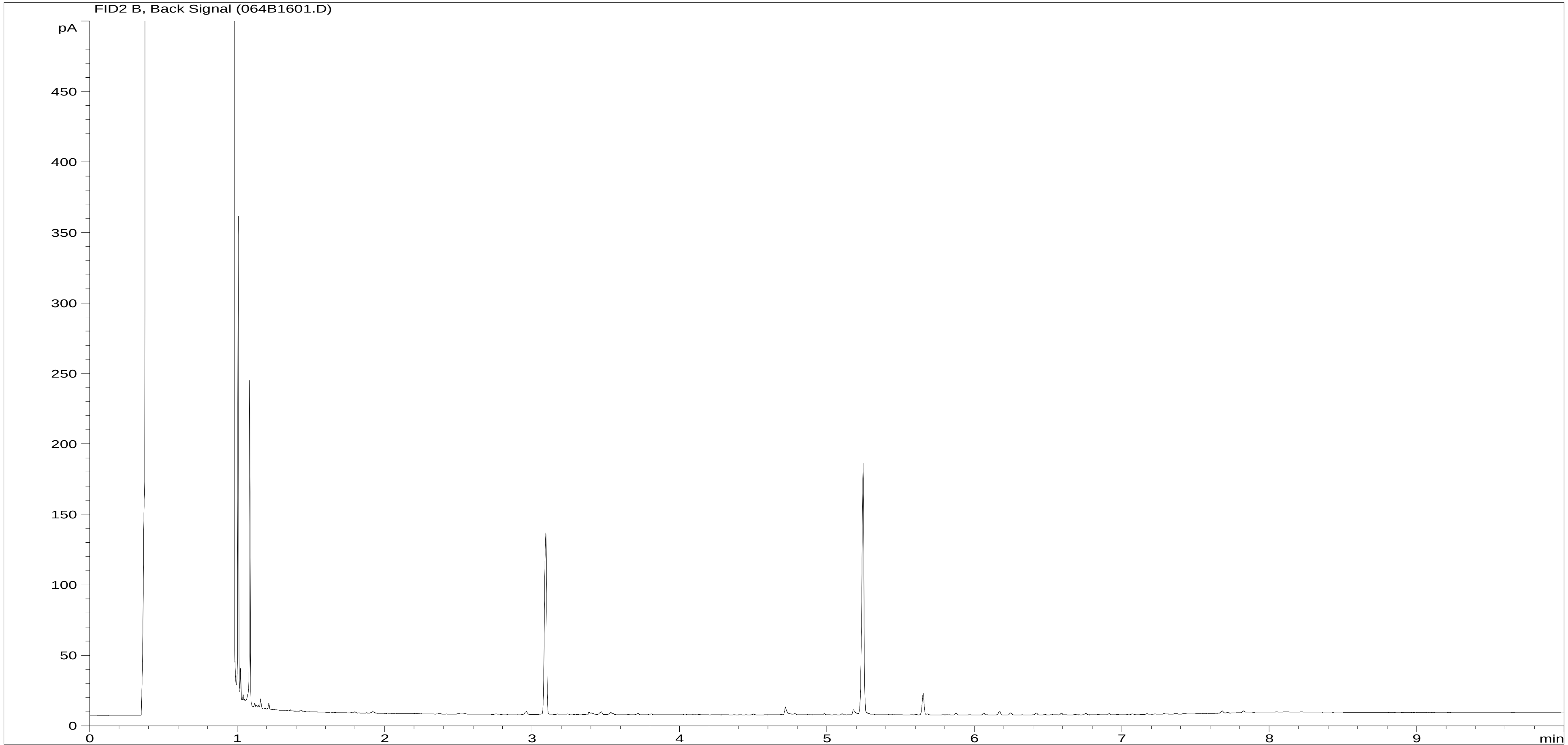
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	EX1014324ALI	**Job Number:**	W10_6156
Multiplier:	0.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	WS204 ES 3 1.30
Acquisition Date/Time:	17-May-10, 14:55:20		
Datafile:	D:\TES\DATA\Y2010\0517TPH_GC16\051710 2010-05-17 09-53-38\015F1601.D		

Where individual results are flagged see report notes for status.

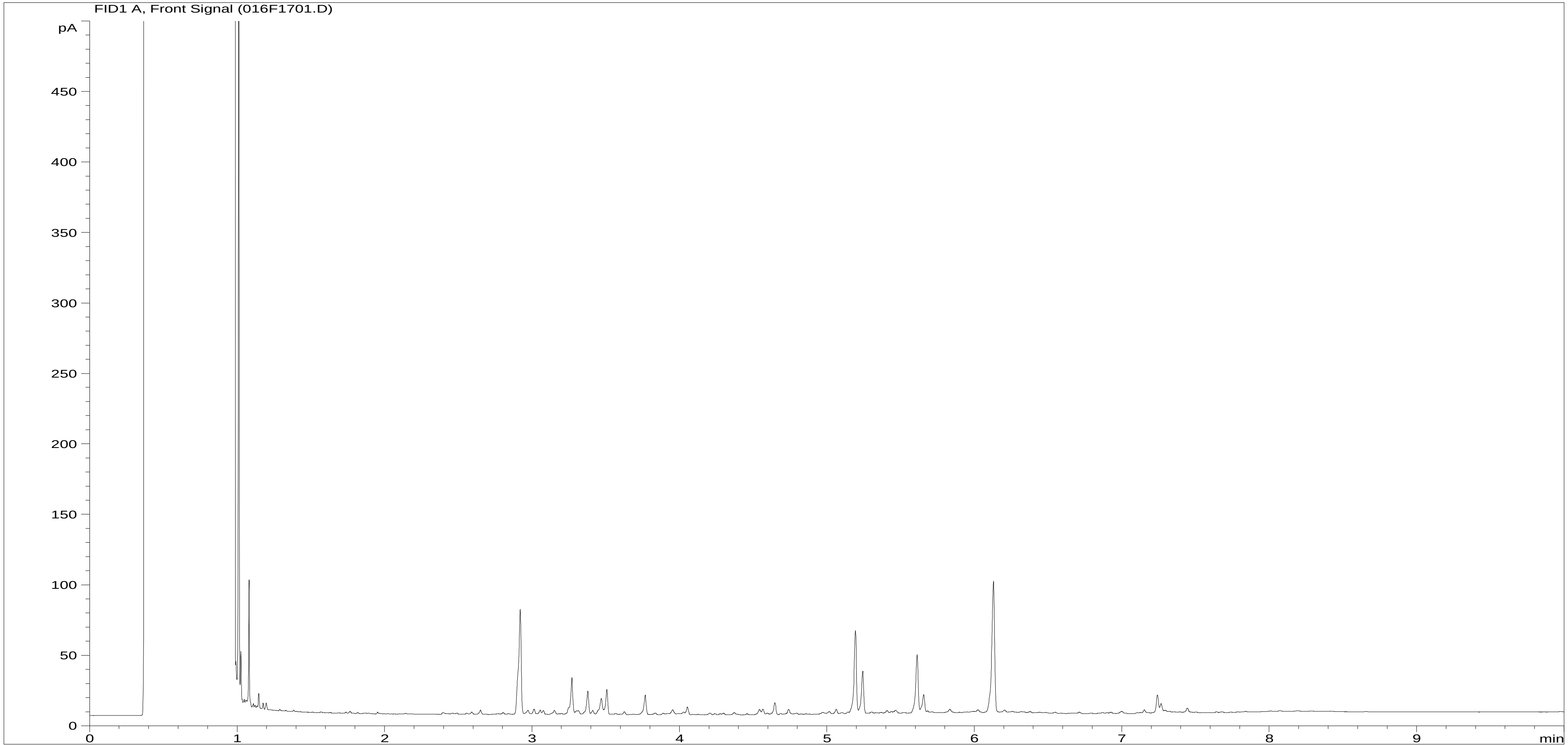
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	EX1014324ARO	**Job Number:**	W10_6156
Multiplier:	0.016	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	WS204 ES 3 1.30
Acquisition Date/Time:	17-May-10, 14:55:20		
Datafile:	D:\TES\DATA\Y2010\0517TPH_GC16\051710 2010-05-17 09-53-38\064B1601.D		

Where individual results are flagged see report notes for status.

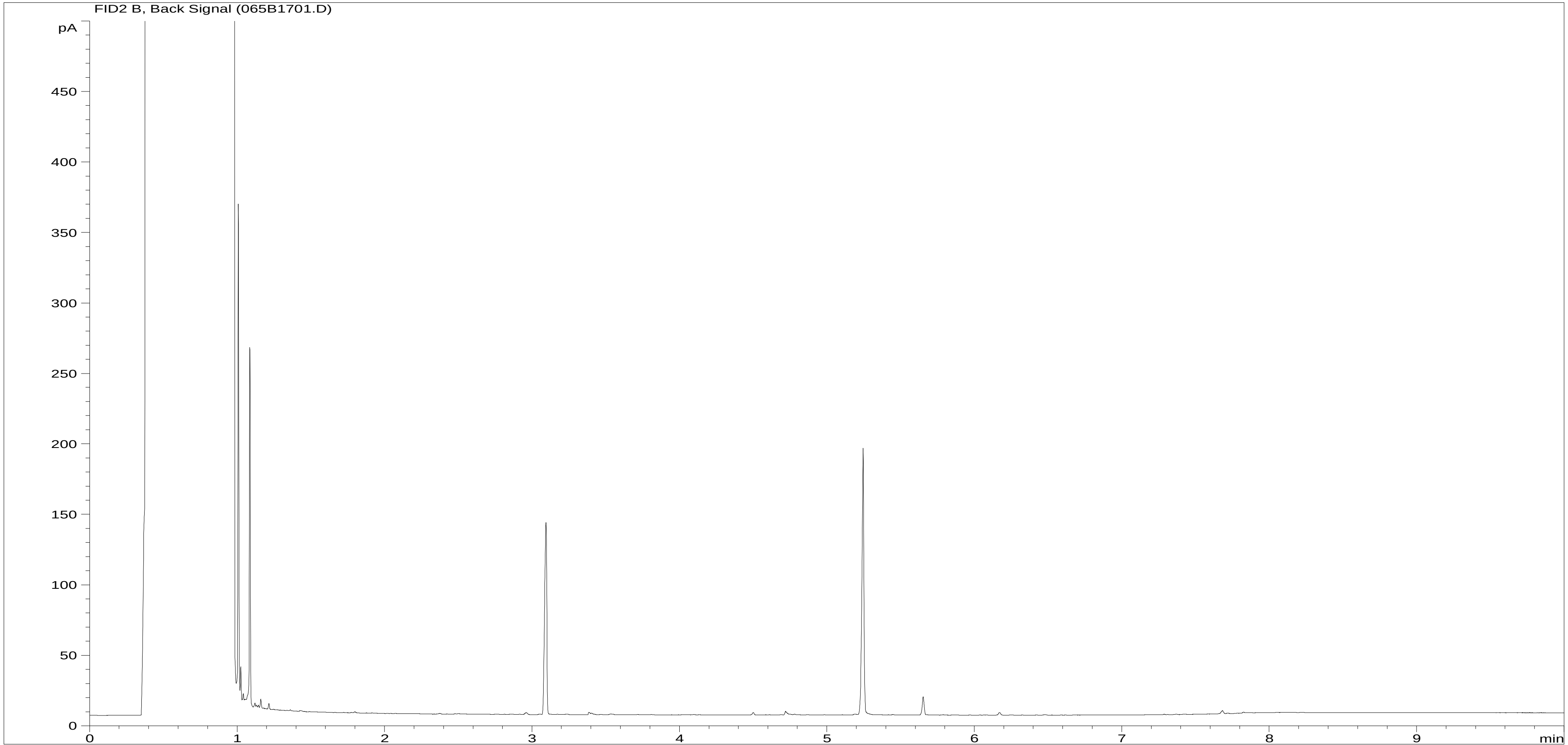
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	EX1014325ALI	**Job Number:**	W10_6156
Multiplier:	0.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	WS205A ES 1 1.50
Acquisition Date/Time:	17-May-10, 15:12:30		
Datafile:	D:\TES\DATA\Y2010\0517TPH_GC16\051710 2010-05-17 09-53-38\016F1701.D		

Where individual results are flagged see report notes for status.

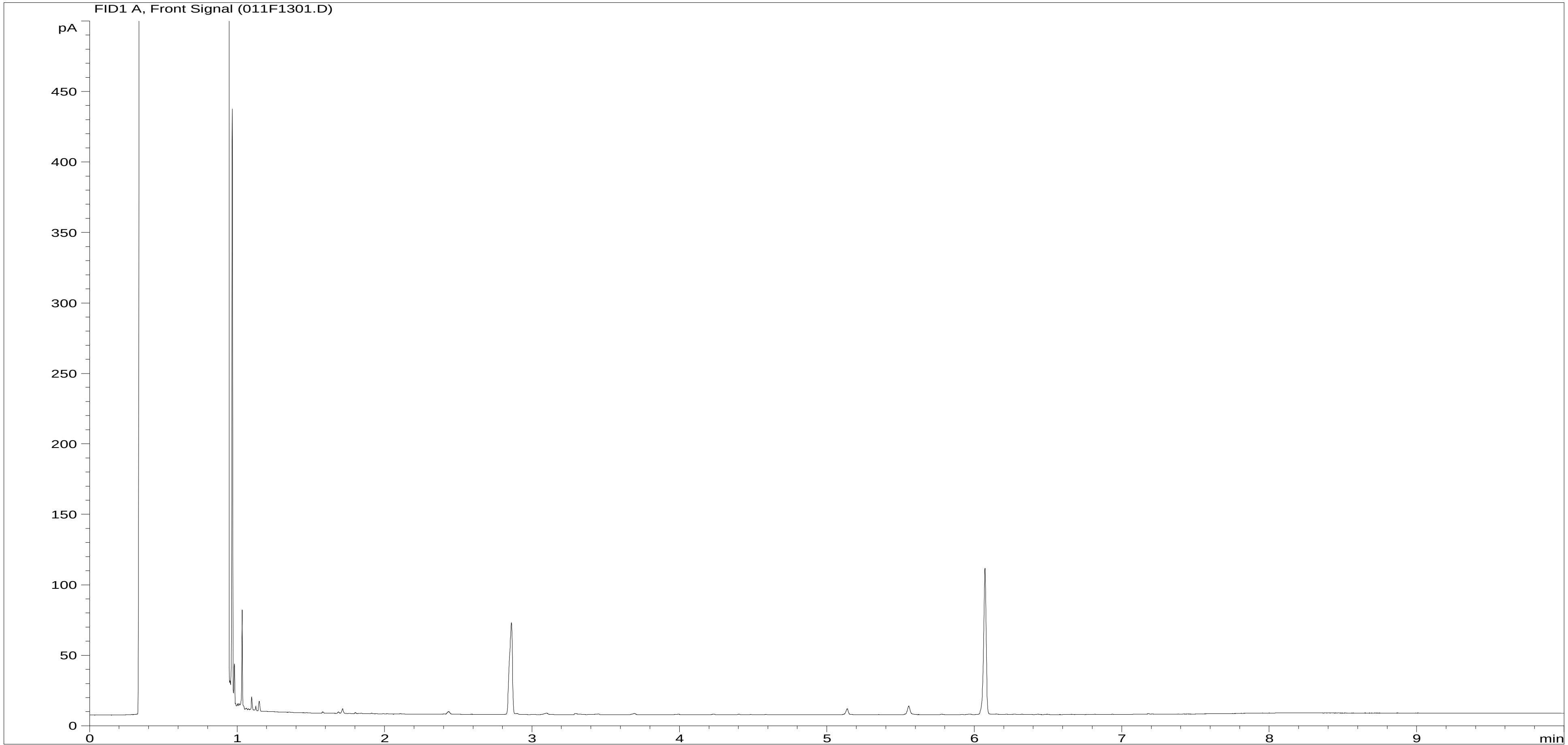
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	EX1014325ARO	**Job Number:**	W10_6156
Multiplier:	0.015	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	WS205A ES 1 1.50
Acquisition Date/Time:	17-May-10, 15:12:30		
Datafile:	D:\TES\DATA\Y2010\0517TPH_GC16\051710 2010-05-17 09-53-38\065B1701.D		

Where individual results are flagged see report notes for status.

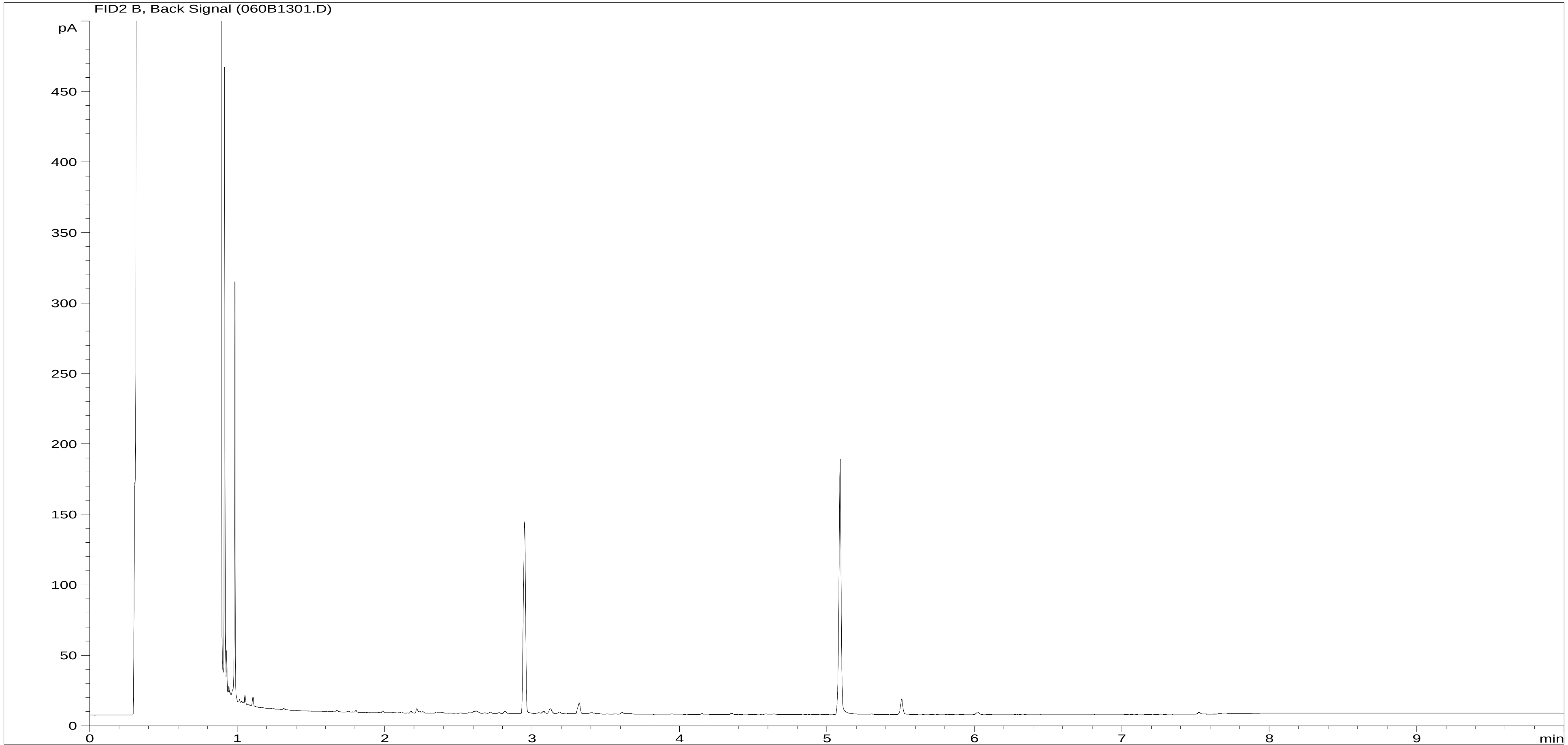
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	EX1014326ALI	**Job Number:**	W10_6156
Multiplier:	0.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	WS206 ES 1 0.30
Acquisition Date/Time:	17-May-10, 13:40:34		
Datafile:	D:\TES\DATA\Y2010\0517TPH_GC15\051710 2010-05-17 09-55-24\011F1301.D		

Where individual results are flagged see report notes for status.

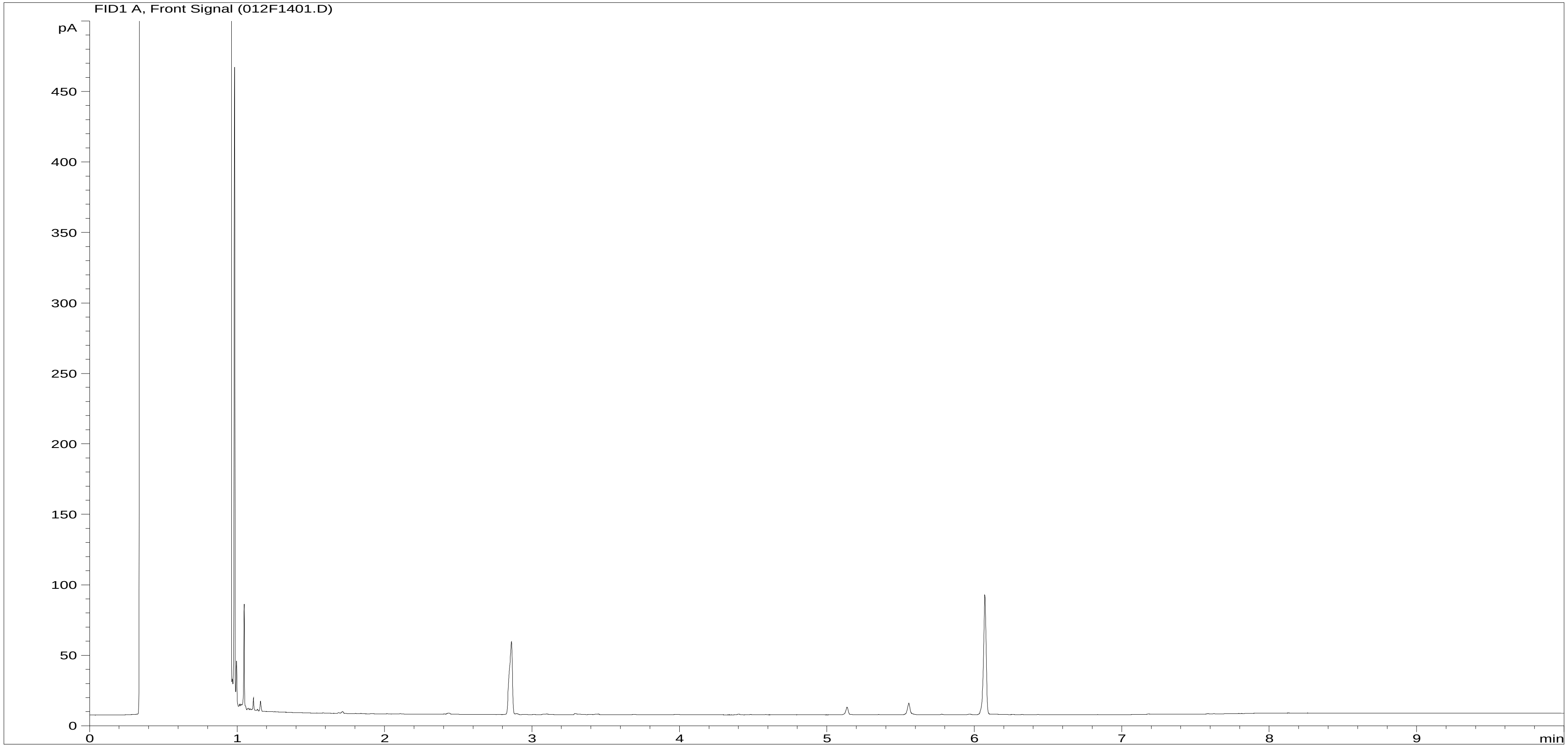
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	EX1014326ARO	**Job Number:**	W10_6156
Multiplier:	0.015	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	WS206 ES 1 0.30
Acquisition Date/Time:	17-May-10, 13:40:34		
Datafile:	D:\TES\DATA\Y2010\0517TPH_GC15\051710 2010-05-17 09-55-24\060B1301.D		

Where individual results are flagged see report notes for status.

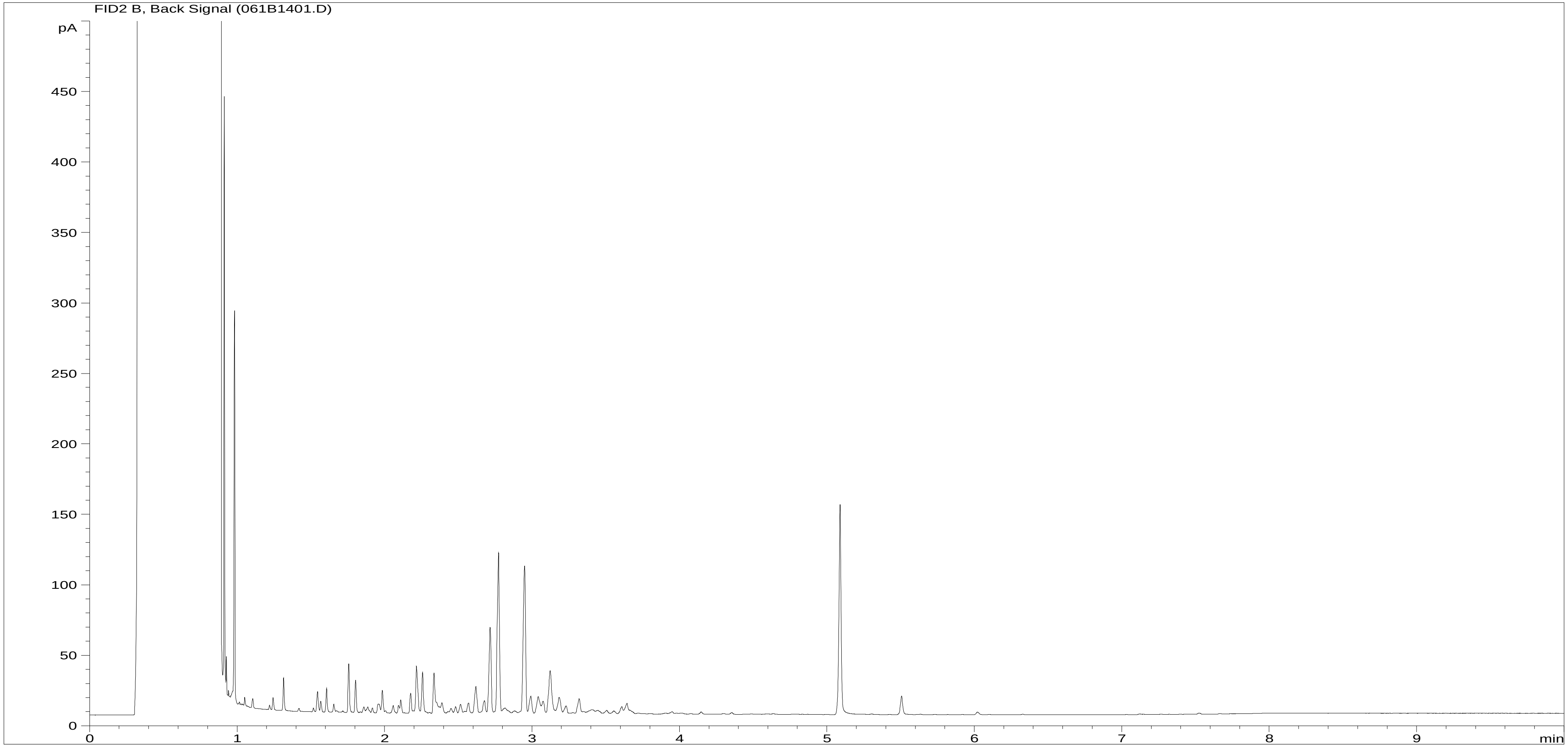
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	EX1014327ALI	**Job Number:**	W10_6156
Multiplier:	0.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	WS207 ES 1 0.75
Acquisition Date/Time:	17-May-10, 13:57:39		
Datafile:	D:\TES\DATA\Y2010\0517TPH_GC15\051710 2010-05-17 09-55-24\012F1401.D		

Where individual results are flagged see report notes for status.

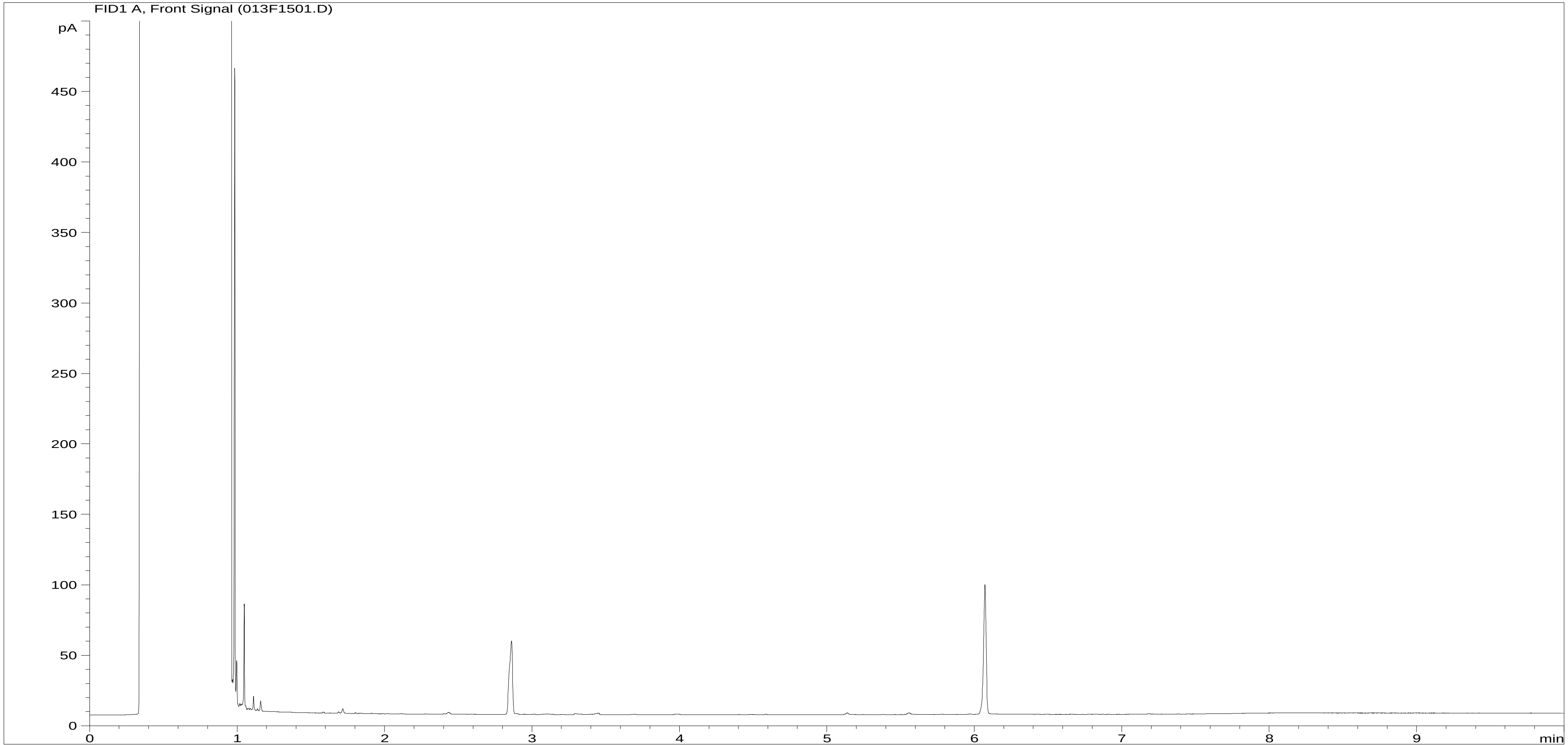
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	EX1014327ARO	**Job Number:**	W10_6156
Multiplier:	0.015	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	WS207 ES 1 0.75
Acquisition Date/Time:	17-May-10, 13:57:39		
Datafile:	D:\TES\DATA\Y2010\0517TPH_GC15\051710 2010-05-17 09-55-24\061B1401.D		

Where individual results are flagged see report notes for status.

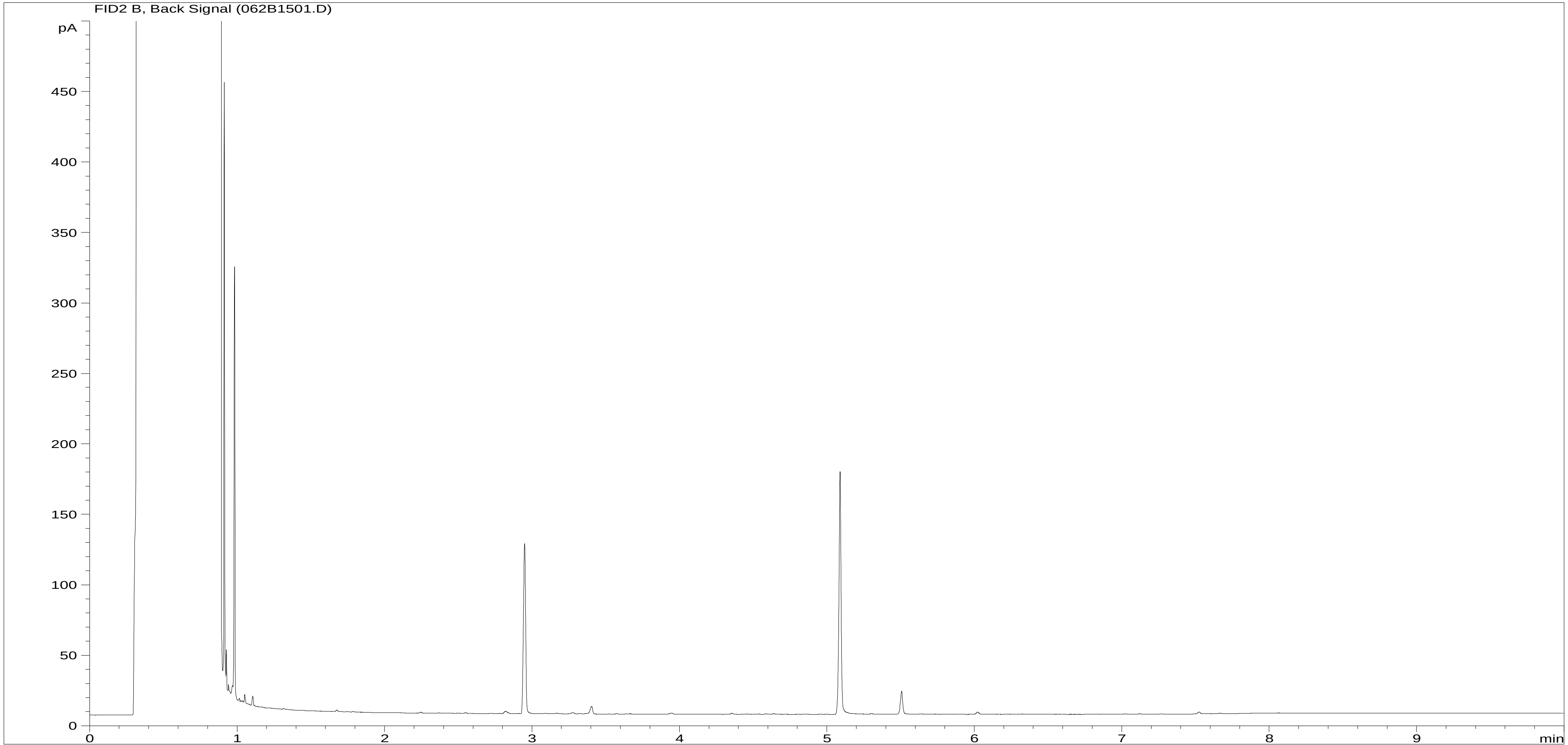
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	EX1014328ALI	**Job Number:**	W10_6156
Multiplier:	0.019	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	WS210 ES 1 0.40
Acquisition Date/Time:	17-May-10, 14:14:59		
Datafile:	D:\TES\DATA\Y2010\0517TPH_GC15\051710 2010-05-17 09-55-24\013F1501.D		

Where individual results are flagged see report notes for status.

Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	EX1014328ARO	**Job Number:**	W10_6156
Multiplier:	0.015	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	WS210 ES 1 0.40
Acquisition Date/Time:	17-May-10, 14:14:59		
Datafile:	D:\TES\DATA\Y2010\0517TPH_GC15\051710 2010-05-17 09-55-24\062B1501.D		

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	513VOC.MS11\ Initial Calibration	**Matrix:**	Leachate
Sample Details:	WS203 ES 1 0.50	**Date Booked in:**	11-May-10	**Method:**	Headspace
LIMS ID Number:	EX1014323	**Date Analysed:**	13-May-10	**Multiplier:**	1
Job Number:	W10_6156	**Operator:**	PR	**Position:**	6

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8 *	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9 *	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7 *	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 5	-
1,2,4-Trichlorobenzene	120-82-1	-	< 5	-
Hexachlorobutadiene	87-68-3	-	< 5	-
Naphthalene	91-20-3	-	< 5	-
1,2,3-Trichlorobenzene	87-61-6	-	< 5	-

Compounds marked * are not UKAS accredited
"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.65	107	Dibromofluoromethane	108
1,4-Difluorobenzene	4.00	107	Toluene-d8	101
Chlorobenzene-d5	5.12	109	Bromofluorobenzene	89
1,4-Dichlorobenzene-d4	5.91	98		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	513VOC.MS11\ Initial Calibration	**Matrix:**	Leachate
Sample Details:	WS204 ES 3 1.30	**Date Booked in:**	11-May-10	**Method:**	Headspace
LIMS ID Number:	EX1014324	**Date Analysed:**	13-May-10	**Multiplier:**	1
Job Number:	W10_6156	**Operator:**	PR	**Position:**	7

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8 *	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9 *	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7 *	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 5	-
1,2,4-Trichlorobenzene	120-82-1	-	< 5	-
Hexachlorobutadiene	87-68-3	-	< 5	-
Naphthalene	91-20-3	-	< 5	-
1,2,3-Trichlorobenzene	87-61-6	-	< 5	-

Compounds marked * are not UKAS accredited
"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.65	102	Dibromofluoromethane	109
1,4-Difluorobenzene	4.00	101	Toluene-d8	100
Chlorobenzene-d5	5.12	102	Bromofluorobenzene	89
1,4-Dichlorobenzene-d4	5.92	91		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	513VOC.MS11\ Initial Calibration	**Matrix:**	Leachate
Sample Details:	WS206 ES 1 0.30	**Date Booked in:**	11-May-10	**Method:**	Headspace
LIMS ID Number:	EX1014326	**Date Analysed:**	13-May-10	**Multiplier:**	1
Job Number:	W10_6156	**Operator:**	PR	**Position:**	8

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8 *	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9 *	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7 *	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 5	-
1,2,4-Trichlorobenzene	120-82-1	-	< 5	-
Hexachlorobutadiene	87-68-3	-	< 5	-
Naphthalene	91-20-3	-	< 5	-
1,2,3-Trichlorobenzene	87-61-6	-	< 5	-

Compounds marked * are not UKAS accredited
"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.65	84	Dibromofluoromethane	114
1,4-Difluorobenzene	4.00	84	Toluene-d8	99
Chlorobenzene-d5	5.12	88	Bromofluorobenzene	90
1,4-Dichlorobenzene-d4	5.91	79		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	513VOC.MS11\	Initial Calibration	**Matrix:**	Leachate
Sample Details:	WS207 ES 1 0.75	**Date Booked in:**	11-May-10		**Method:**	Headspace
LIMS ID Number:	EX1014327	**Date Analysed:**	13-May-10		**Multiplier:**	1
Job Number:	W10_6156	**Operator:**	PR		**Position:**	9

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8 *	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9 *	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7 *	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	5.16	7	94
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	5.20	71	98
o-Xylene	95-47-6	5.34	59	96

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	5.46	7	97
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	5.60	7	93
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	5.65	31	98
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	5.78	117	98
sec-Butylbenzene	135-98-8	5.84	10	92
p-Isopropyltoluene	99-87-6	5.88	8	96
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 5	-
1,2,4-Trichlorobenzene	120-82-1	-	< 5	-
Hexachlorobutadiene	87-68-3	-	< 5	-
Naphthalene	91-20-3	6.69	11	99
1,2,3-Trichlorobenzene	87-61-6	-	< 5	-

Compounds marked * are not UKAS accredited
"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.65	101	Dibromofluoromethane	111
1,4-Difluorobenzene	4.00	102	Toluene-d8	100
Chlorobenzene-d5	5.12	107	Bromofluorobenzene	99
1,4-Dichlorobenzene-d4	5.91	98		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,
- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

Waters Analysis

Unless stated otherwise results are expressed as mg/l

Oil analysis specific

Unless stated otherwise,
- Results are expressed as mg/kg
- SG is expressed as g/cm^3@ 15^{o}C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile
CR Denotes Crocidolite
AM Denotes Amosite
NADIS Denotes No Asbestos Detected In Sample
NBFO Denotes No Bulk Fibres Observed

Symbol Reference

^ Sub-contracted analysis
$$ Unable to analyse due to the nature of the sample
¶ Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.
This may have resulted in deterioration of the sample(s) during transit to the laboratory.
Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling
¥ Results for guidance only due to possible interference
& Blank corrected result
I.S Insufficient sample to complete requested analysis
I.S(g) Insufficient sample to re-analyse, results for guidance only
Intf Unable to analyse due to interferences
N.D Not determined
N.Det Not detected
Req Analysis requested, see attached sheets for results
Þ Raised detection limit due to nature of the sample
***** All accreditation has been removed by the laboratory for this result
‡ MCERTS accreditation has been removed for this result

Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

END OF REPORT

TEST REPORT
LEACHATE SAMPLE ANALYSIS

1252

Report No. EXR/106172 (Ver. 2)

Soil Mechanics
Fox Pitt
Shinglebarn Lane
West Farleigh
Maidstone
Kent
ME15 0PN

Site: Isles Quarry

The 5 samples described in this report were logged for analysis by Scientifics on 11-May-2010.
The analysis was completed by: 19-May-2010

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS accredited
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

On behalf of
Scientifics :
John Elstub

Project Co-ordinator

Date of Issue: 19-May-2010

Tests marked '^' have been subcontracted to another laboratory.

Scientifics accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Laboratory ID Number EX/	Client Sample Description	pH units	Volatile Organic Compounds	Nickel as Ni (Dissolved)	Chromium as Cr (Dissolved)	Cadmium as Cd (Dissolved)	PAH MS-SIM (16)	Copper as Cu (Dissolved)	Lead as Pb (Dissolved)	Zinc as Zn (Dissolved)	Arsenic as As (Dissolved)	Boron as B (Dissolved) a	Mercury as Hg (Dissolved)	Selenium as Se (Dissolved)	Cyanide (Total) as CN	Phenol Index as C6H5OH	SVOC + TICS
	Units :		ug/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	Method Codes :	WSLM3	VOCHSAW	ICPMSW	ICPMSW	ICPMSW	PAHMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPWATVAR	ICPMSW	ICPMSW	SFAPI	SFAPI	SVOCSW
	Method Reporting Limits :		1	0.001	0.001	0.0001	0.01	0.001	0.001	0.002	0.001	0.01	0.0001	0.001	0.02	0.05	0.002
	UKAS Accredited :	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
1014355	WS213 ES 4 1.40	7.1	Req	<0.001	<0.001	<0.0001		0.001	<0.001	0.017	0.001	0.16	<0.0001	<0.001	<0.02		Req
1014356	BH101 ES 27 13.00	7.3		<0.001	<0.001	<0.0001	Req	0.005	0.001	0.021	0.005	0.19	<0.0001	<0.001	<0.02	<0.05	
1014357	BH102 ES 9 3.00	7.1		<0.001	<0.001	<0.0001	Req	<0.001	<0.001	0.06	0.001	0.22	<0.0001	<0.001	<0.02	<0.05	
1014358	BH103 ES 24 11.00	7.5		<0.001	<0.001	<0.0001		0.003	0.003	0.011	0.002	0.2	<0.0001	<0.001	<0.02	<0.05	Req
1014359	BH106 ES 14 5.00	7.3	Req	<0.001	<0.001	<0.0001		0.003	0.003	0.164	<0.001	0.31	<0.0001	<0.001	<0.02		Req

scientifics

Bretby Business Park, Ashby Road

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Client Name	**Soil Mechanics**
Contact	Mr M Ratcliffe

Isles Quarry

Leachate Sample Analysis

Date Printed	19-May-10
Report Number	**EXR/106172**
Table Number	**1**

Where individual results are flagged see report notes for status.

	Units :	ug/l	mg/l	mg/l
	Method Codes :	PCBCONEC	GROHSA	TPHFID-Si
	Method Reporting Limits :	0.05	0.1	0.01
	UKAS Accredited :	no	no	no
Laboratory ID Number EX/	**Client Sample Description**	**PCB - 7 Congeners**	**GRO-HSA (AA)**	**TPH GC (AA)**
1014355	WS213 ES 4 1.40	Req	Req	Req
1014356	BH101 ES 27 13.00		Req	Req
1014357	BH102 ES 9 3.00		Req	Req
1014358	BH103 ES 24 11.00		Req	Req
1014359	BH106 ES 14 5.00		Req	Req

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Client Name **Soil Mechanics**

Contact Mr M Ratcliffe

Leachate Sample Analysis

Isles Quarry

Date Printed	19-May-10
Report Number	**EXR/106172**
Table Number	**1**

Where individual results are flagged see report notes for status.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH101 ES 27 13.00	**Job Number:**	W10_6172
LIMS ID Number:	EX1014356	**Date Booked in:**	11-May-10
QC Batch Number:	0840	**Date Extracted:**	18-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	18-May-10
Directory:	17.PAH.MS17\	**Matrix:**	Leachate
Dilution:	1.0	**Ext Method:**	Sep. Funnel

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration ug/l	% Fit
Naphthalene	91-20-3	3.18	0.020	90
Acenaphthylene	208-96-8	4.23	0.012	96
Acenaphthene	83-32-9	-	< 0.010	-
Fluorene	86-73-7	4.72	0.012	80
Phenanthrene	85-01-8	5.54	0.119	98
Anthracene	120-12-7	5.59	0.051	95
Fluoranthene	206-44-0	6.85	0.212	98
Pyrene	129-00-0	7.13	0.185	97
Benzo[a]anthracene	56-55-3	8.79	0.076	98
Chrysene	218-01-9	8.84	0.074	99
Benzo[b]fluoranthene	205-99-2	10.30	0.087	96
Benzo[k]fluoranthene	207-08-9	10.34	0.030	97
Benzo[a]pyrene	50-32-8	10.73	0.068	98
Indeno[1,2,3-cd]pyrene	193-39-5	12.09	0.050	92
Dibenzo[a,h]anthracene	53-70-3	12.12	0.011	85
Benzo[g,h,i]perylene	191-24-2	12.38	0.057	98
Total (USEPA16) PAHs	-	-	< 1.074	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	108
Acenaphthene-d10	108
Phenanthrene-d10	108
Chrysene-d12	107
Perylene-d12	111

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	71
Terphenyl-d14	86

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Where individual results are flagged see report notes for status.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH102 ES 9 3.00	**Job Number:**	W10_6172
LIMS ID Number:	EX1014357	**Date Booked in:**	11-May-10
QC Batch Number:	0840	**Date Extracted:**	18-May-10
Quantitation File:	Initial Calibration	**Date Analysed:**	18-May-10
Directory:	17.PAH.MS17\	**Matrix:**	Leachate
Dilution:	1.0	**Ext Method:**	Sep. Funnel

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration ug/l	% Fit
Naphthalene	91-20-3	3.18	0.013	94
Acenaphthylene	208-96-8	-	< 0.010	-
Acenaphthene	83-32-9	-	< 0.010	-
Fluorene	86-73-7	-	< 0.010	-
Phenanthrene	85-01-8	5.54	0.011	95
Anthracene	120-12-7	-	< 0.010	-
Fluoranthene	206-44-0	-	< 0.010	-
Pyrene	129-00-0	-	< 0.010	-
Benzo[a]anthracene	56-55-3	-	< 0.010	-
Chrysene	218-01-9	-	< 0.010	-
Benzo[b]fluoranthene	205-99-2	-	< 0.010	-
Benzo[k]fluoranthene	207-08-9	-	< 0.010	-
Benzo[a]pyrene	50-32-8	-	< 0.010	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.010	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.010	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.010	-
Total (USEPA16) PAHs	-	-	< 0.164	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	105
Acenaphthene-d10	103
Phenanthrene-d10	101
Chrysene-d12	100
Perylene-d12	103

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	69
Terphenyl-d14	81

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Where individual results are flagged see report notes for status.

Polychlorinated Biphenyls (congeners)

Customer and Site Details: Soil Mechanics: Isles Quarry
Job Number: W10_6172
QC Batch Number: 101120
Directory: 0512PCB.GC8
Method: Separating Funnel

Matrix: Leachate
Date Booked in: 11-May-10
Date Extracted: 12-May-10
Date Analysed: 13-May-10

*** This sample data is not UKAS accredited.**

		Concentration, (µg/l)						
Sample ID	**Customer ID**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB153**	**PCB138**	**PCB180**
* EX1014355	WS213 ES 4 1.40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Leachate	**QC Batch Number:**	1135
Sample Details:	WS213 ES 4 1.40	**Date Booked in:**	11-May-10	**Ext Method:**	Sep. Funnel	**Multiplier:**	0.005
LIMS ID Number:	EX1014355	**Date Extracted:**	12-May-10	**Operator:**	AB	**Dilution Factor:**	2.5
Job Number:	W10_6172	**Date Analysed:**	12-May-10	**Directory/Quant File:**	12SVOC.GC11\ 0512_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/l	% Fit
Phenol	108-95-2	-	< 0.020	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.005	-
2-Chlorophenol	95-57-8	-	< 0.020	-
1,3-Dichlorobenzene	541-73-1	-	< 0.005	-
1,4-Dichlorobenzene	106-46-7	-	< 0.005	-
Benzyl alcohol	100-51-6	-	< 0.005	-
1,2-Dichlorobenzene	95-50-1	-	< 0.005	-
2-Methylphenol	95-48-7	-	< 0.005	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.005	-
Hexachloroethane	67-72-1	-	< 0.005	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.005	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.020	-
Nitrobenzene	98-95-3	-	< 0.005	-
Isophorone	78-59-1	-	< 0.005	-
2-Nitrophenol	88-75-5	-	< 0.020	-
2,4-Dimethylphenol	105-67-9	-	< 0.020	-
Benzoic Acid	65-85-0 *	-	< 0.100	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.005	-
2,4-Dichlorophenol	120-83-2	-	< 0.020	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.005	-
Naphthalene	91-20-3	-	< 0.002	-
4-Chlorophenol	106-48-9	-	< 0.020	-
4-Chloroaniline	106-47-8 *	-	< 0.005	-
Hexachlorobutadiene	87-68-3	-	< 0.005	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.005	-
2-Methylnaphthalene	91-57-6	-	< 0.002	-
1-Methylnaphthalene	90-12-0	-	< 0.002	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.005	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.020	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.020	-
2-Chloronaphthalene	91-58-7	-	< 0.002	-
Biphenyl	92-52-4	-	< 0.002	-
Diphenyl ether	101-84-8	-	< 0.002	-
2-Nitroaniline	88-74-4	-	< 0.005	-
Acenaphthylene	208-96-8	-	< 0.002	-
Dimethylphthalate	131-11-3	-	< 0.005	-
2,6-Dinitrotoluene	606-20-2	-	< 0.005	-
Acenaphthene	83-32-9	-	< 0.002	-
3-Nitroaniline	99-09-2	-	< 0.005	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/l	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 0.010	-
Dibenzofuran	132-64-9	-	< 0.005	-
4-Nitrophenol	100-02-7	-	< 0.050	-
2,4-Dinitrotoluene	121-14-2	-	< 0.005	-
Fluorene	86-73-7	-	< 0.002	-
Diethylphthalate	84-66-2	-	< 0.005	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.005	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 0.050	-
4-Nitroaniline	100-01-6	-	< 0.005	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.005	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.005	-
Hexachlorobenzene	118-74-1	-	< 0.005	-
Pentachlorophenol	87-86-5	-	< 0.050	-
Phenanthrene	85-01-8	-	< 0.002	-
Anthracene	120-12-7	-	< 0.002	-
Di-n-butylphthalate	84-74-2	-	< 0.005	-
Fluoranthene	206-44-0	-	< 0.002	-
Pyrene	129-00-0	-	< 0.002	-
Butylbenzylphthalate	85-68-7	-	< 0.005	-
Benzo[a]anthracene	56-55-3	-	< 0.002	-
Chrysene	218-01-9	-	< 0.002	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.020	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.005	-
Di-n-octylphthalate	117-84-0	-	< 0.002	-
Benzo[b]fluoranthene	205-99-2	-	< 0.002	-
Benzo[k]fluoranthene	207-08-9	-	< 0.002	-
Benzo[a]pyrene	50-32-8	-	< 0.002	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.002	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.002	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.002	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	80
Naphthalene-d8	79
Acenaphthene-d10	80
Phenanthrene-d10	78
Chrysene-d12	76
Perylene-d12	75

Surrogates	% Rec
2-Fluorophenol	53
Phenol-d5	32
Nitrobenzene-d5	95
2-Fluorobiphenyl	97
2,4,6-Tribromophenol	96
Terphenyl-d14	104

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Leachate	**QC Batch Number:**	1135
Sample Details:	BH103 ES 24 11.00	**Date Booked in:**	11-May-10	**Ext Method:**	Sep. Funnel	**Multiplier:**	0.005
LIMS ID Number:	EX1014358	**Date Extracted:**	12-May-10	**Operator:**	AB	**Dilution Factor:**	2.5
Job Number:	W10_6172	**Date Analysed:**	12-May-10	**Directory/Quant File:**	12SVOC.GC11\ 0512_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/l	% Fit
Phenol	108-95-2	-	< 0.020	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.005	-
2-Chlorophenol	95-57-8	-	< 0.020	-
1,3-Dichlorobenzene	541-73-1	-	< 0.005	-
1,4-Dichlorobenzene	106-46-7	-	< 0.005	-
Benzyl alcohol	100-51-6	-	< 0.005	-
1,2-Dichlorobenzene	95-50-1	-	< 0.005	-
2-Methylphenol	95-48-7	-	< 0.005	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.005	-
Hexachloroethane	67-72-1	-	< 0.005	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.005	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.020	-
Nitrobenzene	98-95-3	-	< 0.005	-
Isophorone	78-59-1	-	< 0.005	-
2-Nitrophenol	88-75-5	-	< 0.020	-
2,4-Dimethylphenol	105-67-9	-	< 0.020	-
Benzoic Acid	65-85-0 *	-	< 0.100	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.005	-
2,4-Dichlorophenol	120-83-2	-	< 0.020	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.005	-
Naphthalene	91-20-3	-	< 0.002	-
4-Chlorophenol	106-48-9	-	< 0.020	-
4-Chloroaniline	106-47-8 *	-	< 0.005	-
Hexachlorobutadiene	87-68-3	-	< 0.005	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.005	-
2-Methylnaphthalene	91-57-6	-	< 0.002	-
1-Methylnaphthalene	90-12-0	-	< 0.002	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.005	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.020	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.020	-
2-Chloronaphthalene	91-58-7	-	< 0.002	-
Biphenyl	92-52-4	-	< 0.002	-
Diphenyl ether	101-84-8	-	< 0.002	-
2-Nitroaniline	88-74-4	-	< 0.005	-
Acenaphthylene	208-96-8	-	< 0.002	-
Dimethylphthalate	131-11-3	-	< 0.005	-
2,6-Dinitrotoluene	606-20-2	-	< 0.005	-
Acenaphthene	83-32-9	-	< 0.002	-
3-Nitroaniline	99-09-2	-	< 0.005	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/l	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 0.010	-
Dibenzofuran	132-64-9	-	< 0.005	-
4-Nitrophenol	100-02-7	-	< 0.050	-
2,4-Dinitrotoluene	121-14-2	-	< 0.005	-
Fluorene	86-73-7	-	< 0.002	-
Diethylphthalate	84-66-2	-	< 0.005	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.005	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 0.050	-
4-Nitroaniline	100-01-6	-	< 0.005	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.005	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.005	-
Hexachlorobenzene	118-74-1	-	< 0.005	-
Pentachlorophenol	87-86-5	-	< 0.050	-
Phenanthrene	85-01-8	-	< 0.002	-
Anthracene	120-12-7	-	< 0.002	-
Di-n-butylphthalate	84-74-2	-	< 0.005	-
Fluoranthene	206-44-0	-	< 0.002	-
Pyrene	129-00-0	-	< 0.002	-
Butylbenzylphthalate	85-68-7	-	< 0.005	-
Benzo[a]anthracene	56-55-3	-	< 0.002	-
Chrysene	218-01-9	-	< 0.002	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.020	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.005	-
Di-n-octylphthalate	117-84-0	-	< 0.002	-
Benzo[b]fluoranthene	205-99-2	-	< 0.002	-
Benzo[k]fluoranthene	207-08-9	-	< 0.002	-
Benzo[a]pyrene	50-32-8	-	< 0.002	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.002	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.002	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.002	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	90
Naphthalene-d8	88
Acenaphthene-d10	88
Phenanthrene-d10	86
Chrysene-d12	85
Perylene-d12	84

Surrogates	% Rec
2-Fluorophenol	51
Phenol-d5	32
Nitrobenzene-d5	94
2-Fluorobiphenyl	97
2,4,6-Tribromophenol	93
Terphenyl-d14	102

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry			**Matrix:**	Leachate	**QC Batch Number:**	1135
Sample Details:	BH106 ES 14 5.00	**Date Booked in:**	11-May-10	**Ext Method:**	Sep. Funnel	**Multiplier:**	0.005
LIMS ID Number:	EX1014359	**Date Extracted:**	12-May-10	**Operator:**	AB	**Dilution Factor:**	2.5
Job Number:	W10_6172	**Date Analysed:**	12-May-10	**Directory/Quant File:**	12SVOC.GC11\ 0512_CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/l	% Fit
Phenol	108-95-2	-	< 0.020	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.005	-
2-Chlorophenol	95-57-8	-	< 0.020	-
1,3-Dichlorobenzene	541-73-1	-	< 0.005	-
1,4-Dichlorobenzene	106-46-7	-	< 0.005	-
Benzyl alcohol	100-51-6	-	< 0.005	-
1,2-Dichlorobenzene	95-50-1	-	< 0.005	-
2-Methylphenol	95-48-7	-	< 0.005	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.005	-
Hexachloroethane	67-72-1	-	< 0.005	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.005	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.020	-
Nitrobenzene	98-95-3	-	< 0.005	-
Isophorone	78-59-1	-	< 0.005	-
2-Nitrophenol	88-75-5	-	< 0.020	-
2,4-Dimethylphenol	105-67-9	-	< 0.020	-
Benzoic Acid	65-85-0 *	-	< 0.100	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.005	-
2,4-Dichlorophenol	120-83-2	-	< 0.020	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.005	-
Naphthalene	91-20-3	-	< 0.002	-
4-Chlorophenol	106-48-9	-	< 0.020	-
4-Chloroaniline	106-47-8 *	-	< 0.005	-
Hexachlorobutadiene	87-68-3	-	< 0.005	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.005	-
2-Methylnaphthalene	91-57-6	-	< 0.002	-
1-Methylnaphthalene	90-12-0	-	< 0.002	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.005	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.020	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.020	-
2-Chloronaphthalene	91-58-7	-	< 0.002	-
Biphenyl	92-52-4	-	< 0.002	-
Diphenyl ether	101-84-8	-	< 0.002	-
2-Nitroaniline	88-74-4	-	< 0.005	-
Acenaphthylene	208-96-8	-	< 0.002	-
Dimethylphthalate	131-11-3	-	< 0.005	-
2,6-Dinitrotoluene	606-20-2	-	< 0.005	-
Acenaphthene	83-32-9	-	< 0.002	-
3-Nitroaniline	99-09-2	-	< 0.005	-

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/l	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 0.010	-
Dibenzofuran	132-64-9	-	< 0.005	-
4-Nitrophenol	100-02-7	-	< 0.050	-
2,4-Dinitrotoluene	121-14-2	-	< 0.005	-
Fluorene	86-73-7	-	< 0.002	-
Diethylphthalate	84-66-2	-	< 0.005	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.005	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 0.050	-
4-Nitroaniline	100-01-6	-	< 0.005	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.005	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.005	-
Hexachlorobenzene	118-74-1	-	< 0.005	-
Pentachlorophenol	87-86-5	-	< 0.050	-
Phenanthrene	85-01-8	-	< 0.002	-
Anthracene	120-12-7	-	< 0.002	-
Di-n-butylphthalate	84-74-2	-	< 0.005	-
Fluoranthene	206-44-0	-	< 0.002	-
Pyrene	129-00-0	-	< 0.002	-
Butylbenzylphthalate	85-68-7	-	< 0.005	-
Benzo[a]anthracene	56-55-3	-	< 0.002	-
Chrysene	218-01-9	-	< 0.002	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.020	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.005	-
Di-n-octylphthalate	117-84-0	-	< 0.002	-
Benzo[b]fluoranthene	205-99-2	-	< 0.002	-
Benzo[k]fluoranthene	207-08-9	-	< 0.002	-
Benzo[a]pyrene	50-32-8	-	< 0.002	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.002	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.002	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.002	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	87
Naphthalene-d8	86
Acenaphthene-d10	85
Phenanthrene-d10	83
Chrysene-d12	82
Perylene-d12	80

Surrogates	% Rec
2-Fluorophenol	57
Phenol-d5	35
Nitrobenzene-d5	95
2-Fluorobiphenyl	98
2,4,6-Tribromophenol	87
Terphenyl-d14	103

SVOC (TICs)

UKAS accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	WS213 ES 4 1.40	**Job Number:**	W10_6172
LIMS ID Number:	EX1014355		
		Multiplier:	0.005
Date Booked in:	11-May-10	**Dilution Factor:**	2.5
Date Extracted:	12-May-10	**GPC (Y/N):**	N
Date Analysed:	12-May-10	**Matrix:**	Leachate
QC Batch Number:	1135	**Method:**	Sep. Funnel
Directory/Quant File:	12SVOC.GC11\ 0512_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/l	% Fit
Phthalic acid, isobutyl nonyl ester	1000309-04-4	11.13	0.021	83

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.

SVOC (TICs)

UKAS accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH103 ES 24 11.00	**Job Number:**	W10_6172
LIMS ID Number:	EX1014358		
		Multiplier:	0.005
Date Booked in:	11-May-10	**Dilution Factor:**	2.5
Date Extracted:	12-May-10	**GPC (Y/N):**	N
Date Analysed:	12-May-10	**Matrix:**	Leachate
QC Batch Number:	1135	**Method:**	Sep. Funnel
Directory/Quant File:	12SVOC.GC11\ 0512_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/l	% Fit
None detected			<0.05	

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.

SVOC (TICs)

UKAS accredited?:No

Customer and Site Details:	Soil Mechanics: Isles Quarry		
Sample Details:	BH106 ES 14 5.00	**Job Number:**	W10_6172
LIMS ID Number:	EX1014359		
		Multiplier:	0.005
Date Booked in:	11-May-10	**Dilution Factor:**	2.5
Date Extracted:	12-May-10	**GPC (Y/N):**	N
Date Analysed:	12-May-10	**Matrix:**	Leachate
QC Batch Number:	1135	**Method:**	Sep. Funnel
Directory/Quant File:	12SVOC.GC11\ 0512_CCC1.D	**Operator:**	AB

Tentatively Identified Compounds	CAS #	R.T.	mg/l	% Fit
None detected			<0.05	

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.

Gasoline Range Organics

(BTEX and Aliphatic Carbon Ranges)

Customer and Site Details:	Soil Mechanics : Isles Quarry	**Matrix:**	LEACHATE
Job Number:	W10_6172	**Date Booked in:**	11-May-10
Directory:	D:\TES\DATA\Y2010\0514HSA_GC12\051410A 2010-05-15 05-27-36\064F0801.D	**Date extracted:**	14-May-10
Method:	Headspace GCFID	**Date Analysed:**	15-May-10, 07:5

*** Sample data with an asterisk are not UKAS accredited.**

			Concentration, (mg/l)					Aliphatics				
	Sample ID	**Client ID**	**Benzene**	**Toluene**	**Ethyl benzene**	**m/p-Xylene**	**o-Xylene**	**C5 - C6**	**>C6 - C7**	**>C7 - C8**	**>C8 - C10**	**Total GRO**
*	EX1014355	WS213 ES 4 1.40	<0.005	<0.005	<0.005	<0.005	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
*	EX1014356	BH101 ES 27 13.00	<0.005	<0.005	<0.005	<0.005	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
*	EX1014357	BH102 ES 9 3.00	<0.005	<0.005	<0.005	<0.005	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
*	EX1014358	BH103 ES 24 11.00	<0.005	<0.005	<0.005	<0.005	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
*	EX1014359	BH106 ES 14 5.00	<0.005	<0.005	<0.005	<0.005	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1

Note: Benzene elutes between C6 and C7, toluene elutes between C7 and C8, ethyl benzene and the xylenes elute between C8 and C9.

Xylenes have been deducted from the C8-C10 band to give the aliphatic fraction, however aromatic compounds may still be contributing to this fraction.

Where individual results are flagged see report notes for status.

ALIPHATIC / AROMATIC FRACTION BY GC/FID

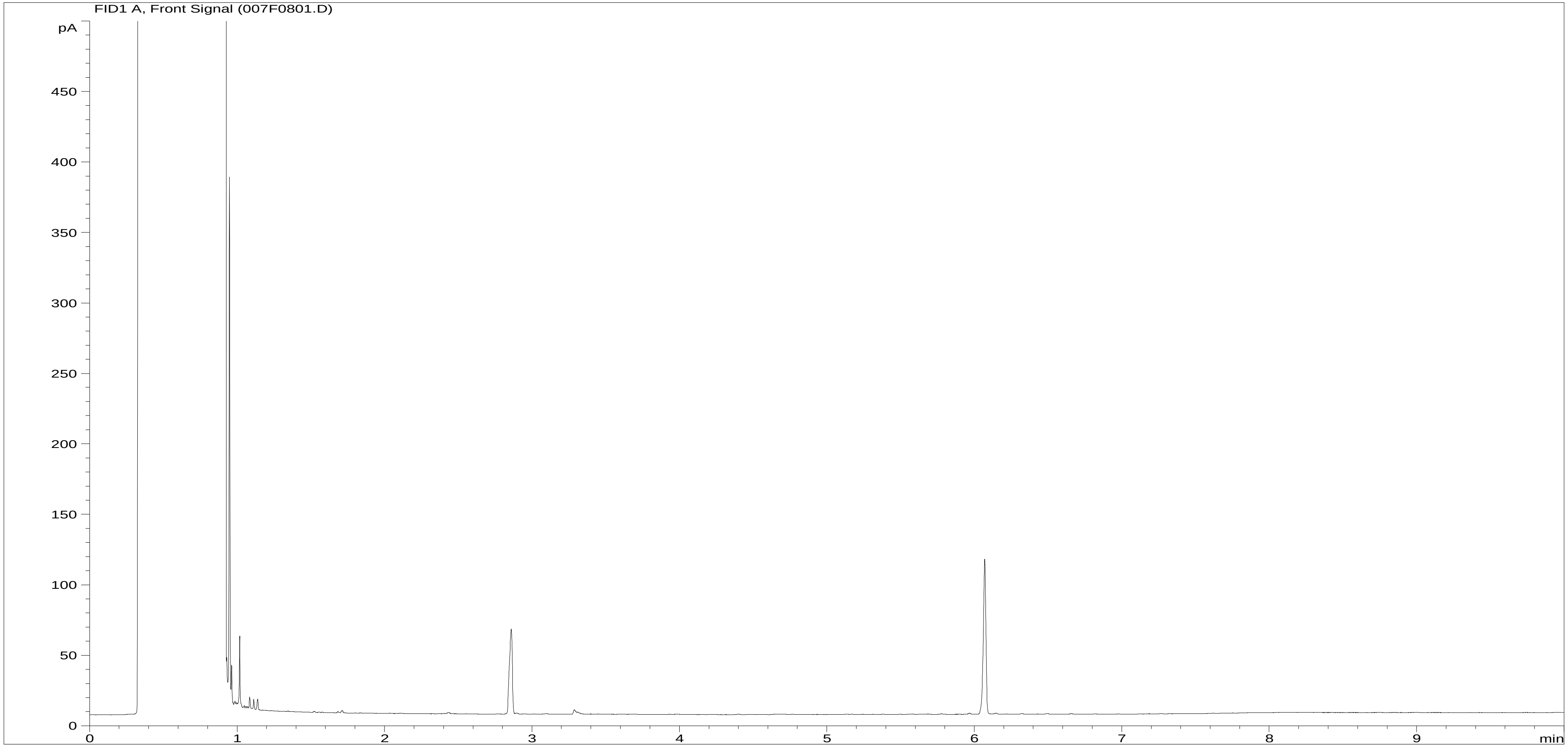
Customer and Site Details: Soil Mechanics : Isles Quarry
Job Number: W10_6172 **Separation:** Silica gel
QC Batch Number: 100840 **Eluents:** Hexane, DCM
Directory: D:\TES\DATA\Y2010\0519TPH_GC15\051910 2010-05-19 08-44-21\060B1201.D
Method: Separating Funnel

Matrix: Leachate
Date Booked ir 11-May-10
Date Extracted 18-May-10
Date Analysed 19-May-10, 11:54:13

		Concentration, (mg/l)											
*** This sample data is not UKAS accredited.**		**>C8 - C10**		**>C10 - C12**		**>C12 - C16**		**>C16 - C21**		**>C21 - C35**		**>C8 - C40**	
Sample ID	**Client ID**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**	**Aliphatics**	**Aromatics**
EX1014355	WS213 ES 4 1.40	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
EX1014356	BH101 ES 27 13.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
EX1014357	BH102 ES 9 3.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
EX1014358	BH103 ES 24 11.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
EX1014359	BH106 ES 14 5.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Where individual results are flagged see report notes for status.

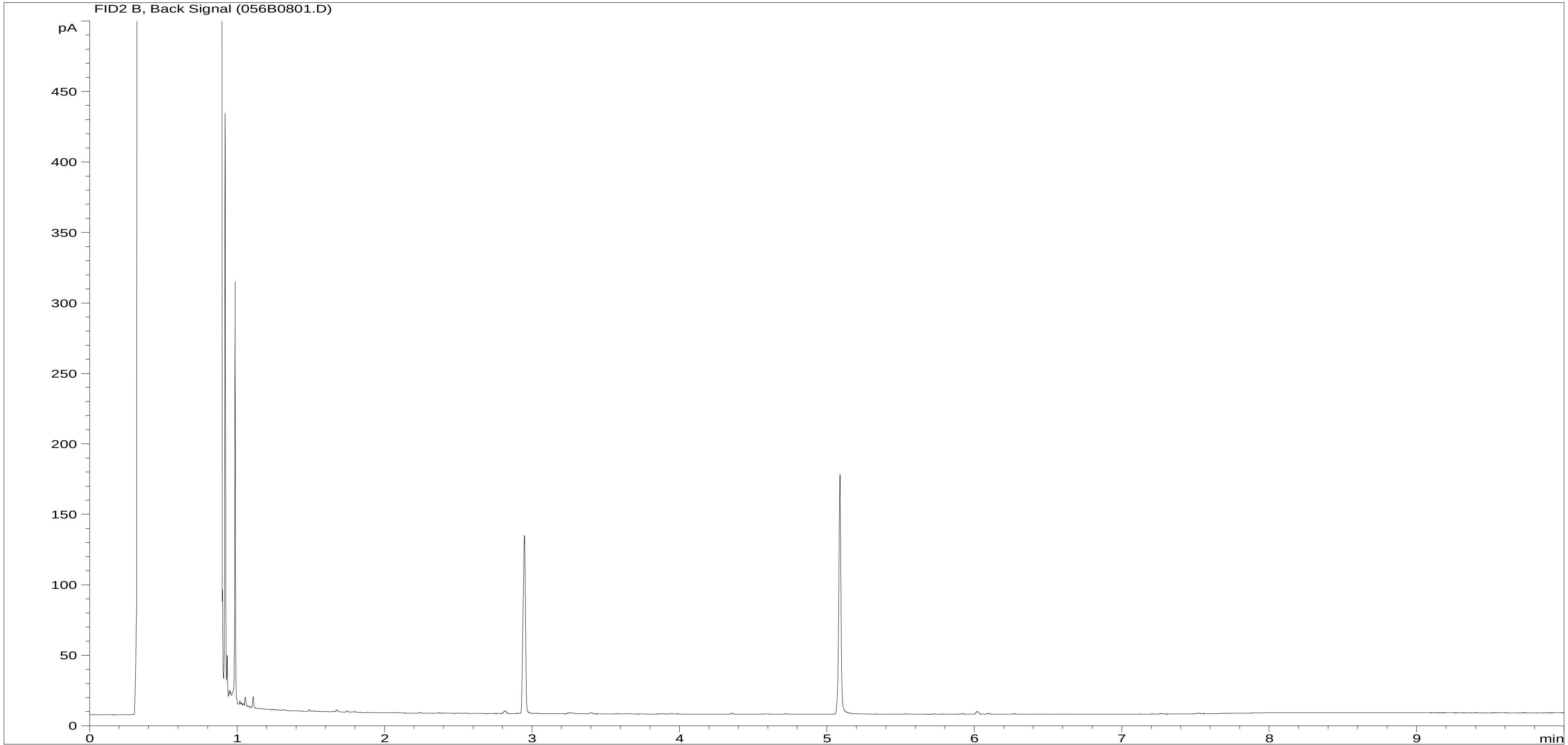
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	EX1014355ALI	**Job Number:**	W10_6172
Multiplier:	0.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	WS213 ES 4 1.40
Acquisition Date/Time:	19-May-10, 10:45:58		
Datafile:	D:\TES\DATA\Y2010\0519TPH_GC15\051910 2010-05-19 08-44-21\007F0801.D		

Where individual results are flagged see report notes for status.

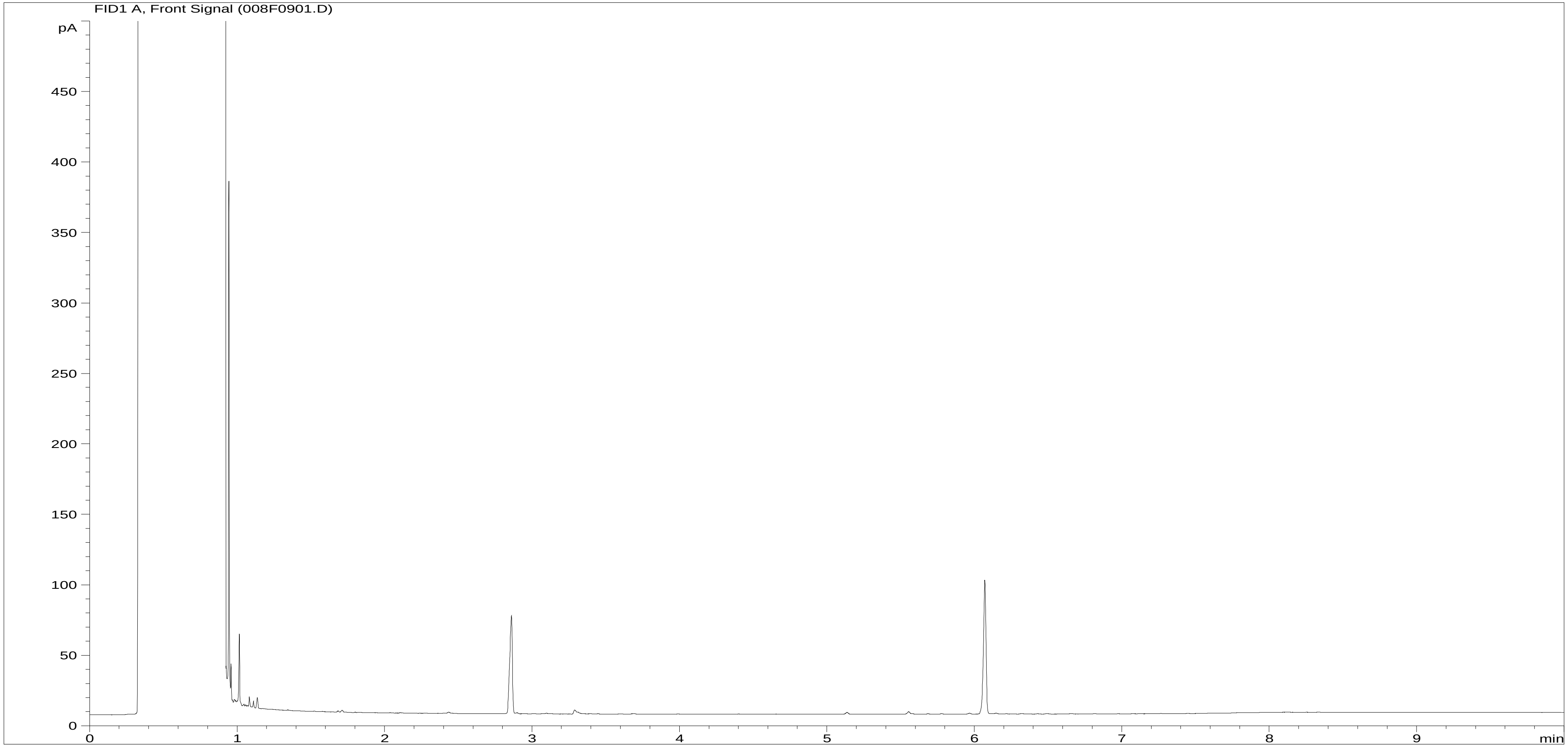
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	EX1014355ARO	**Job Number:**	W10_6172
Multiplier:	0.015	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	WS213 ES 4 1.40
Acquisition Date/Time:	19-May-10, 10:45:58		
Datafile:	D:\TES\DATA\Y2010\0519TPH_GC15\051910 2010-05-19 08-44-21\056B0801.D		

Where individual results are flagged see report notes for status.

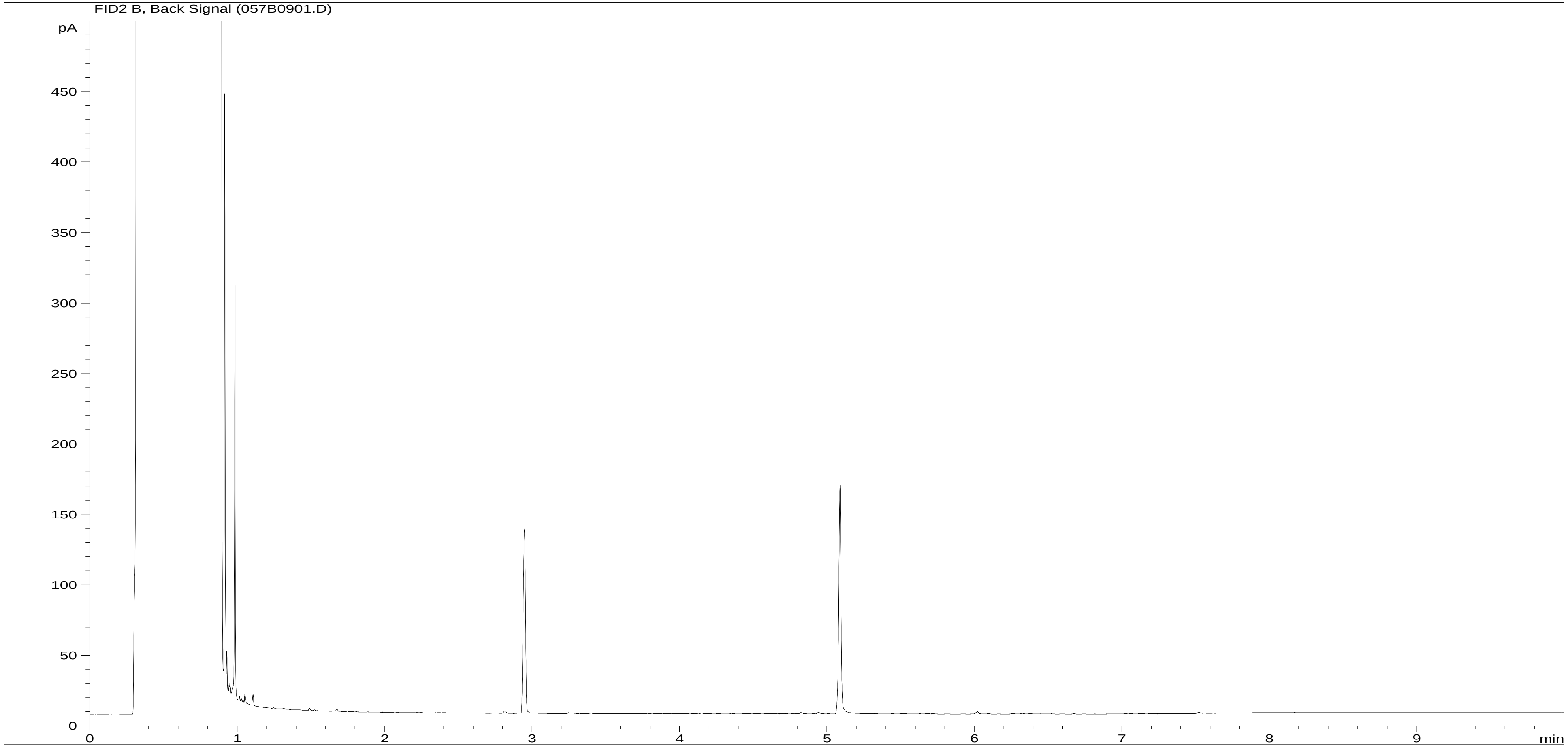
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	EX1014356ALI	**Job Number:**	W10_6172
Multiplier:	0.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	BH101 ES 27 13.00
Acquisition Date/Time:	19-May-10, 11:03:08		
Datafile:	D:\TES\DATA\Y2010\0519TPH_GC15\051910 2010-05-19 08-44-21\008F0901.D		

Where individual results are flagged see report notes for status.

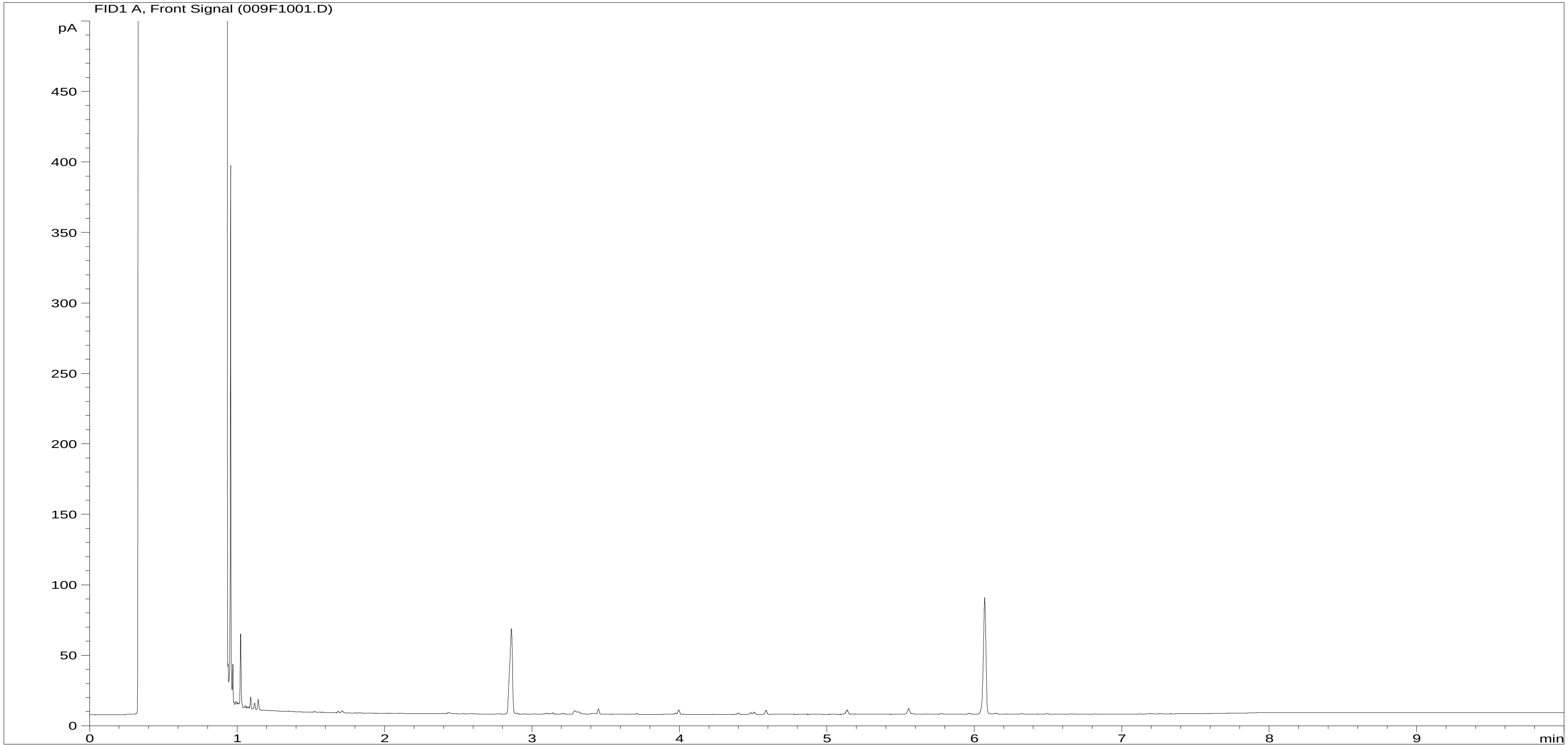
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	EX1014356ARO	**Job Number:**	W10_6172
Multiplier:	0.016	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	BH101 ES 27 13.00
Acquisition Date/Time:	19-May-10, 11:03:08		
Datafile:	D:\TES\DATA\Y2010\0519TPH_GC15\051910 2010-05-19 08-44-21\057B0901.D		

Where individual results are flagged see report notes for status.

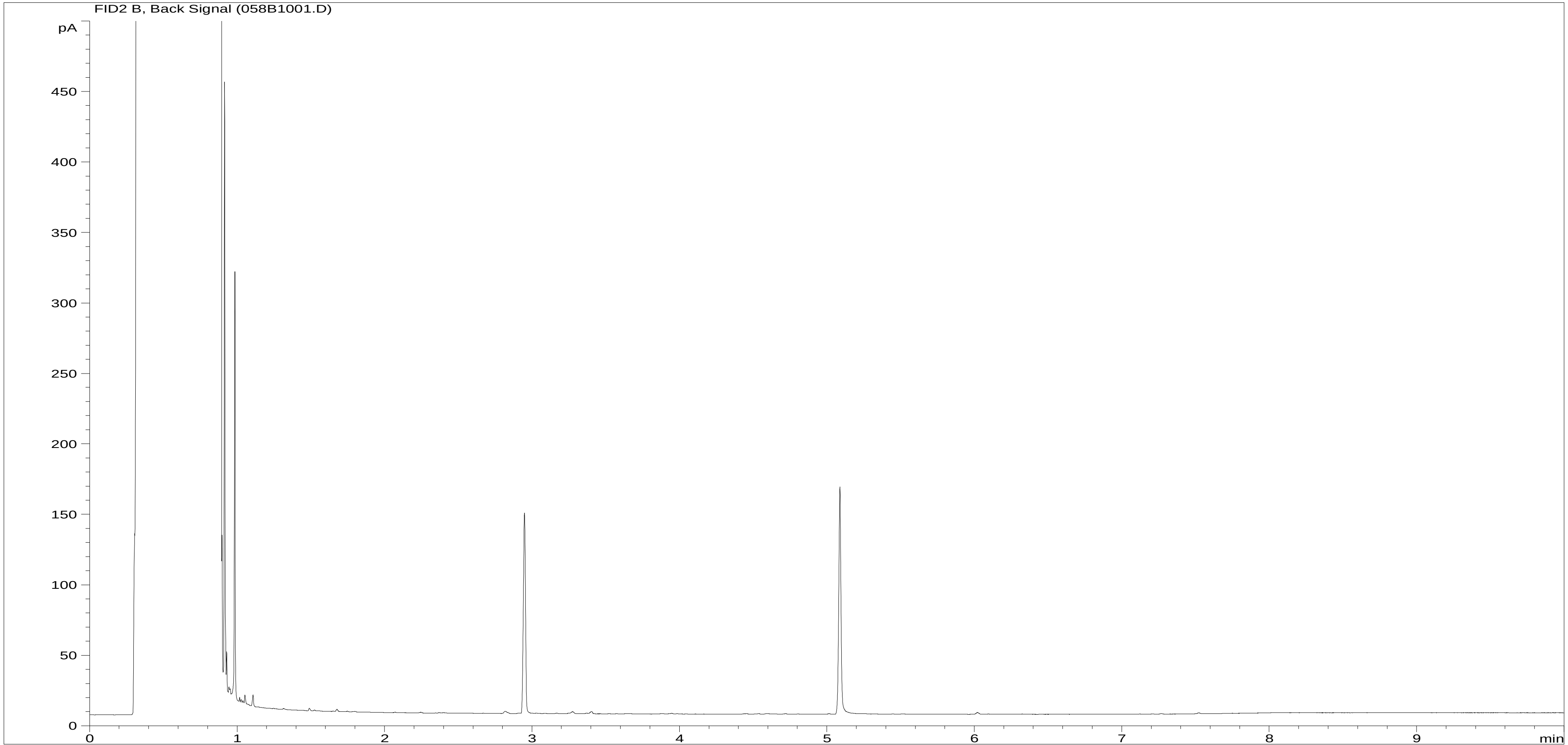
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	EX1014357ALI	**Job Number:**	W10_6172
Multiplier:	0.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	BH102 ES 9 3.00
Acquisition Date/Time:	19-May-10, 11:20:09		
Datafile:	D:\TES\DATA\Y2010\0519TPH_GC15\051910 2010-05-19 08-44-21\009F1001.D		

Where individual results are flagged see report notes for status.

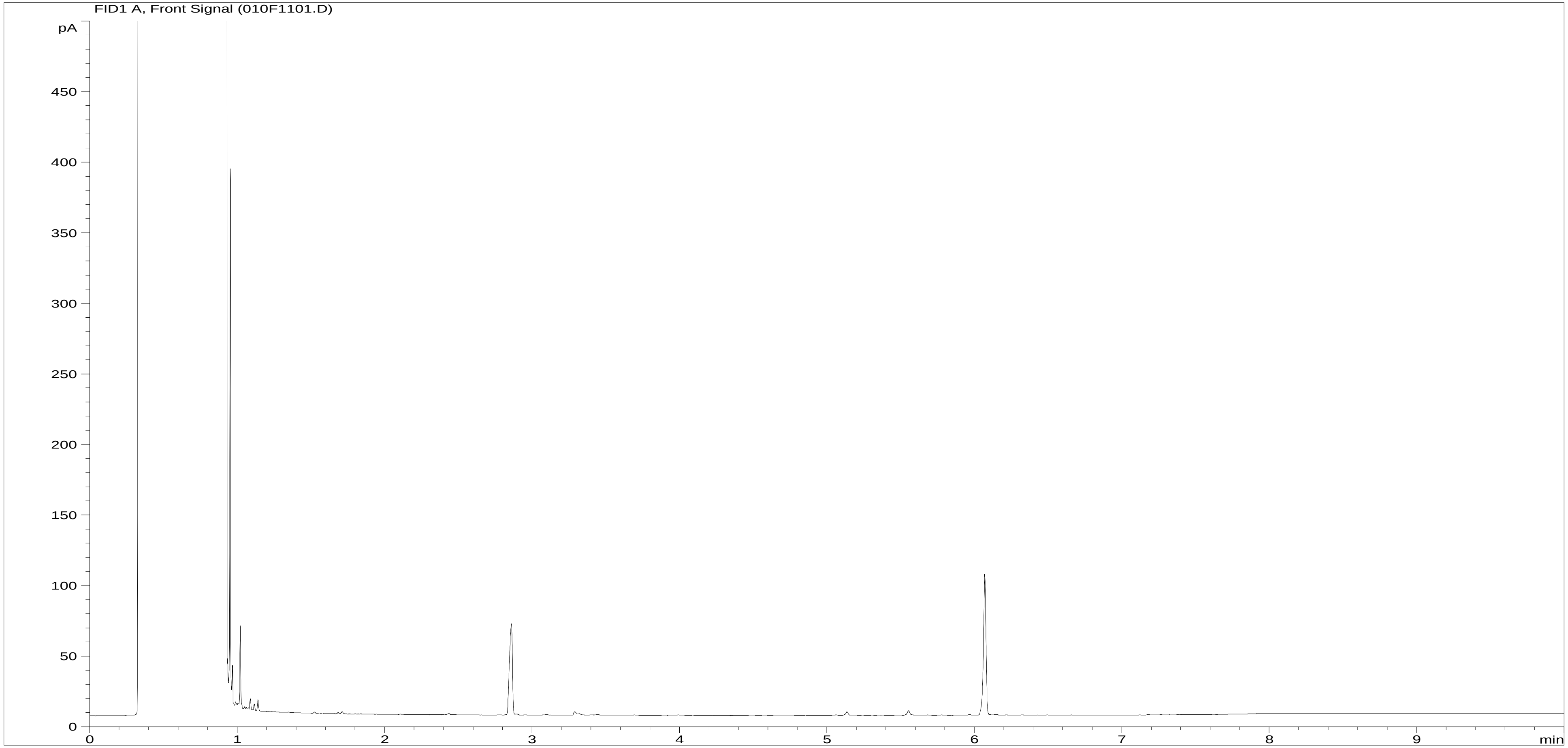
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	EX1014357ARO	**Job Number:**	W10_6172
Multiplier:	0.015	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	BH102 ES 9 3.00
Acquisition Date/Time:	19-May-10, 11:20:09		
Datafile:	D:\TES\DATA\Y2010\0519TPH_GC15\051910 2010-05-19 08-44-21\058B1001.D		

Where individual results are flagged see report notes for status.

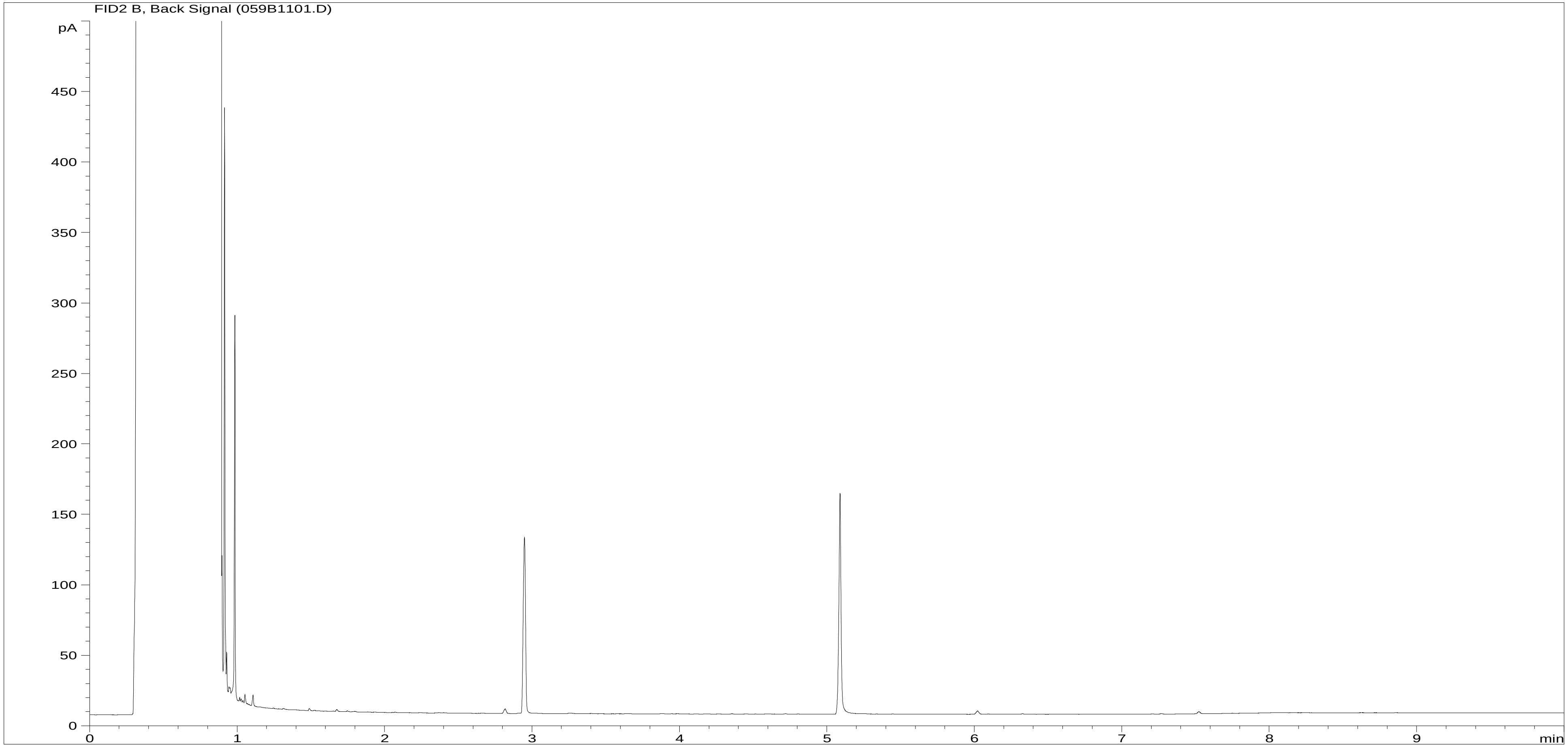
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	EX1014358ALI	**Job Number:**	W10_6172
Multiplier:	0.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	BH103 ES 24 11.00
Acquisition Date/Time:	19-May-10, 11:37:06		
Datafile:	D:\TES\DATA\Y2010\0519TPH_GC15\051910 2010-05-19 08-44-21\010F1101.D		

Where individual results are flagged see report notes for status.

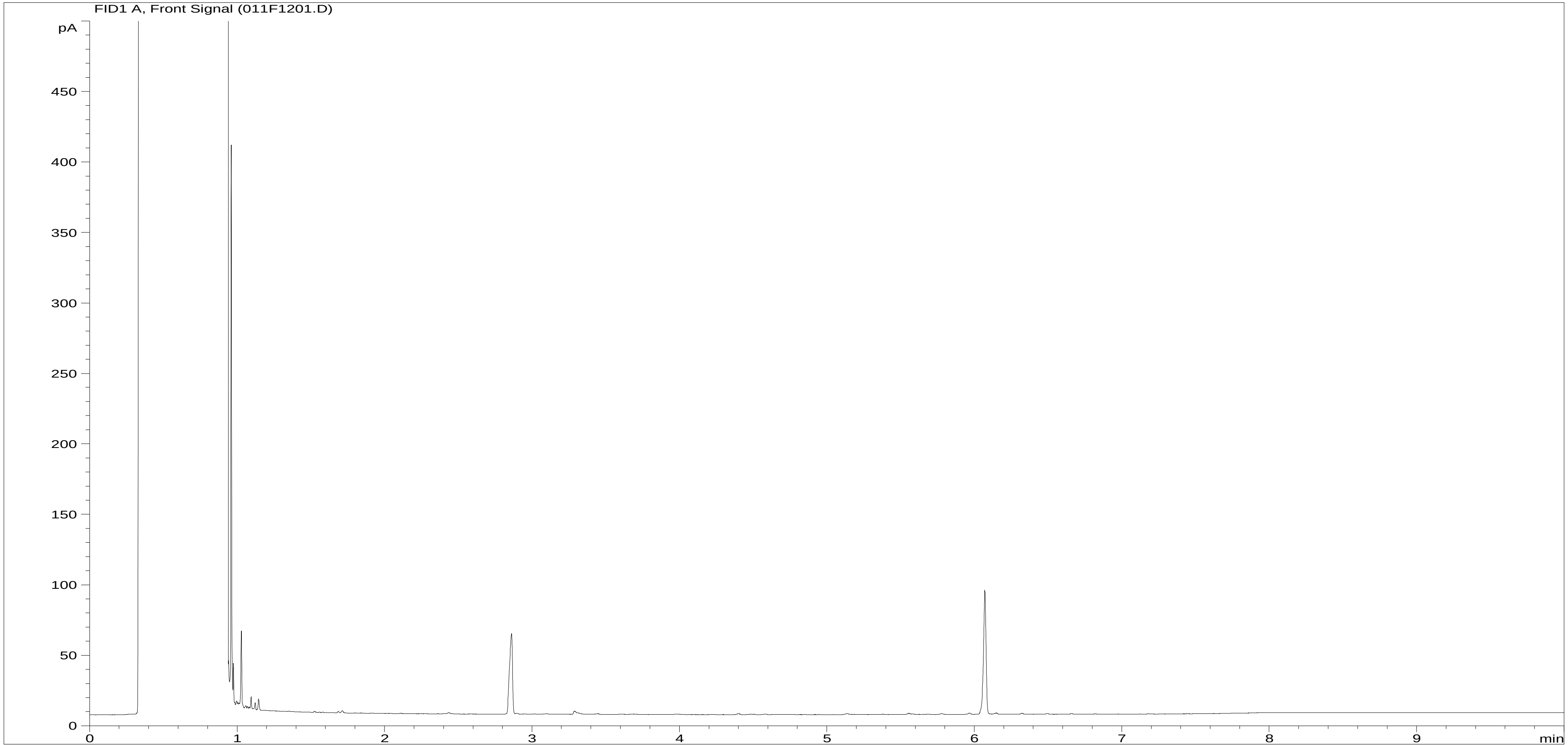
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	EX1014358ARO	**Job Number:**	W10_6172
Multiplier:	0.015	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	BH103 ES 24 11.00
Acquisition Date/Time:	19-May-10, 11:37:06		
Datafile:	D:\TES\DATA\Y2010\0519TPH_GC15\051910 2010-05-19 08-44-21\059B1101.D		

Where individual results are flagged see report notes for status.

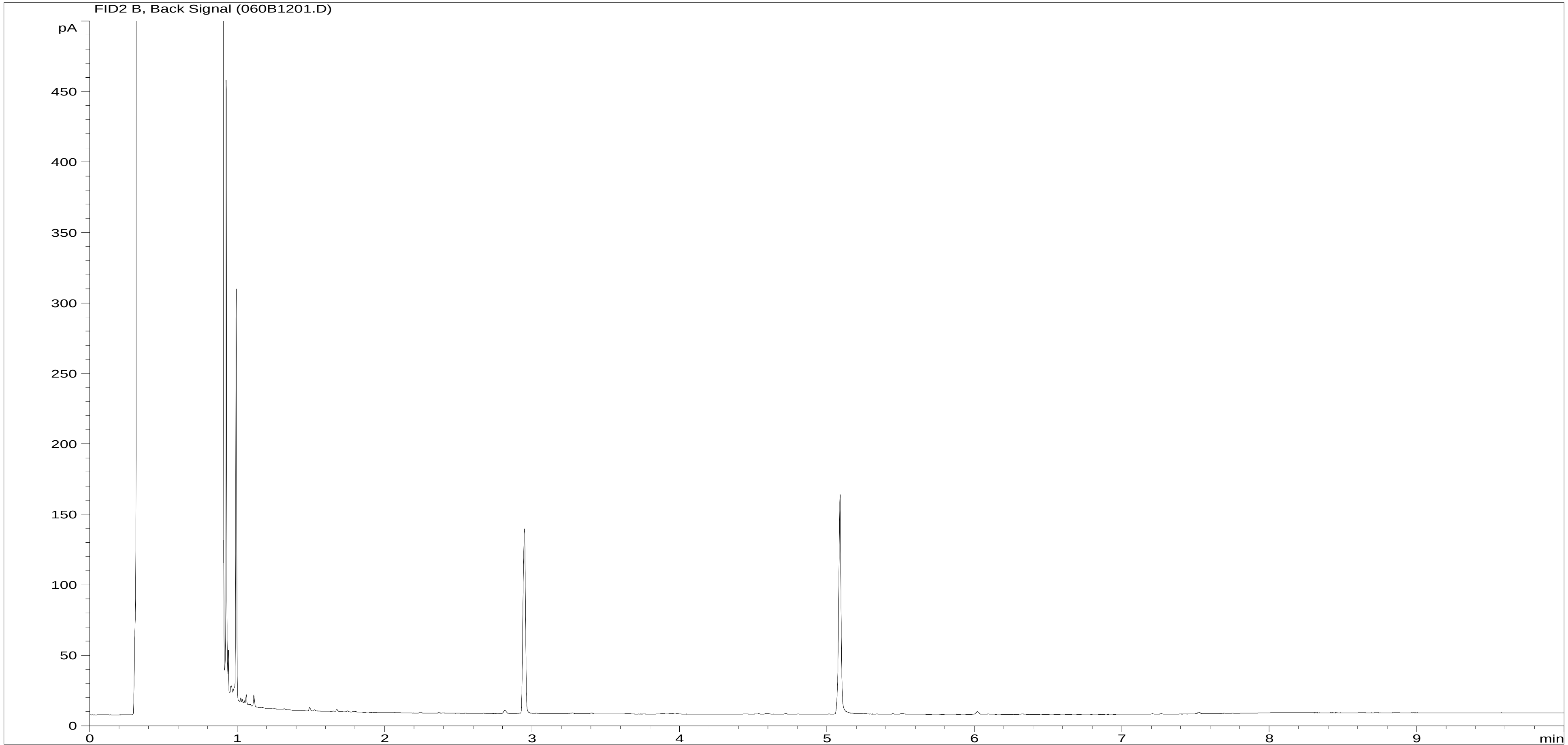
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



Sample ID:	EX1014359ALI	**Job Number:**	W10_6172
Multiplier:	0.02	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	BH106 ES 14 5.00
Acquisition Date/Time:	19-May-10, 11:54:13		
Datafile:	D:\TES\DATA\Y2010\0519TPH_GC15\051910 2010-05-19 08-44-21\011F1201.D		

Where individual results are flagged see report notes for status.

Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



Sample ID:	EX1014359ARO	**Job Number:**	W10_6172
Multiplier:	0.016	**Client:**	Soil Mechanics
Dilution:	1	**Site:**	Isles Quarry
Acquisition Method:	TPH_RUNF.M	**Client Sample Ref:**	BH106 ES 14 5.00
Acquisition Date/Time:	19-May-10, 11:54:13		
Datafile:	D:\TES\DATA\Y2010\0519TPH_GC15\051910 2010-05-19 08-44-21\060B1201.D		

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	517VOC.MS11\	Initial Calibration	**Matrix:**	Leachate
Sample Details:	WS213 ES 4 1.40	**Date Booked in:**	11-May-10		**Method:**	Headspace
LIMS ID Number:	EX1014355	**Date Analysed:**	17-May-10		**Multiplier:**	1
Job Number:	W10_6172	**Operator:**	PR		**Position:**	3

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8 *	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9 *	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7 *	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 5	-
1,2,4-Trichlorobenzene	120-82-1	-	< 5	-
Hexachlorobutadiene	87-68-3	-	< 5	-
Naphthalene	91-20-3	-	< 5	-
1,2,3-Trichlorobenzene	87-61-6	-	< 5	-

Compounds marked * are not UKAS accredited
"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.65	87	Dibromofluoromethane	108
1,4-Difluorobenzene	4.00	87	Toluene-d8	100
Chlorobenzene-d5	5.12	89	Bromofluorobenzene	90
1,4-Dichlorobenzene-d4	5.91	82		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: No

Customer and Site Details:	Soil Mechanics: Isles Quarry	**Directory/Quant file:**	517VOC.MS11\ Initial Calibration	**Matrix:**	Leachate
Sample Details:	BH106 ES 14 5.00	**Date Booked in:**	11-May-10	**Method:**	Headspace
LIMS ID Number:	EX1014359	**Date Analysed:**	17-May-10	**Multiplier:**	1
Job Number:	W10_6172	**Operator:**	PR	**Position:**	4

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8 *	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9 *	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7 *	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 5	-
1,2,4-Trichlorobenzene	120-82-1	-	< 5	-
Hexachlorobutadiene	87-68-3	-	< 5	-
Naphthalene	91-20-3	-	< 5	-
1,2,3-Trichlorobenzene	87-61-6	-	< 5	-

Compounds marked * are not UKAS accredited
"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.65	84	Dibromofluoromethane	111
1,4-Difluorobenzene	4.00	84	Toluene-d8	100
Chlorobenzene-d5	5.12	88	Bromofluorobenzene	89
1,4-Dichlorobenzene-d4	5.92	79		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,
- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

Waters Analysis

Unless stated otherwise results are expressed as mg/l

Oil analysis specific

Unless stated otherwise,
- Results are expressed as mg/kg
- SG is expressed as g/cm^3@ 15^{o}C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile
CR Denotes Crocidolite
AM Denotes Amosite
NADIS Denotes No Asbestos Detected In Sample
NBFO Denotes No Bulk Fibres Observed

Symbol Reference

^ Sub-contracted analysis
$$ Unable to analyse due to the nature of the sample
¶ Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.
This may have resulted in deterioration of the sample(s) during transit to the laboratory.
Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling
¥ Results for guidance only due to possible interference
& Blank corrected result
I.S Insufficient sample to complete requested analysis
I.S(g) Insufficient sample to re-analyse, results for guidance only
Intf Unable to analyse due to interferences
N.D Not determined
N.Det Not detected
Req Analysis requested, see attached sheets for results
Þ Raised detection limit due to nature of the sample
***** All accreditation has been removed by the laboratory for this result
‡ MCERTS accreditation has been removed for this result

Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

END OF REPORT

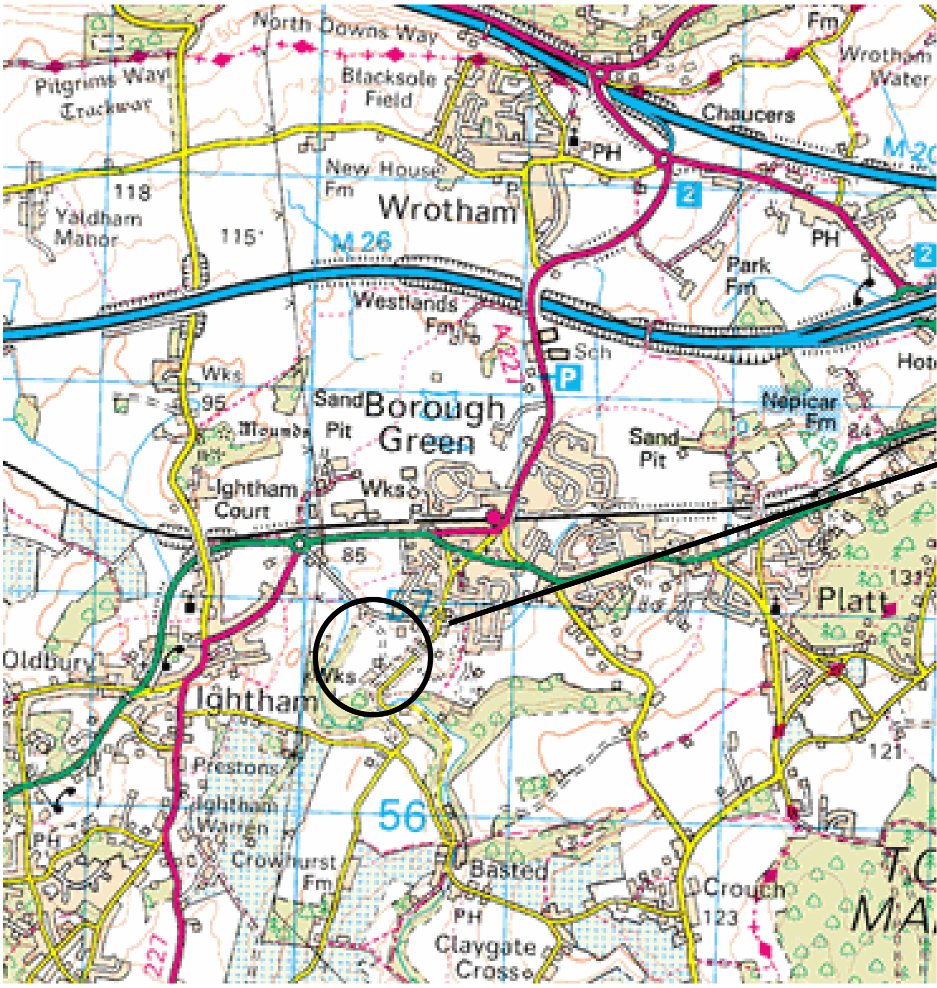
Where individual results are flagged see report notes for status.

ENCLOSURE F

DRAWINGS

Site Location Plan

N



THE SITE

Reproduced from the 2003 Ordnance Survey 1:50 000 scale Landranger map No 188 by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office, © Crown copyright, Environmental Services Group Limited. All rights reserved. Licence Number 100006060

Notes: Scale 1:50 000	**Project** Isles Quarry Ground Investigation **Project No.** G0028-10 **Carried out for** Crest Nicholson (Eastern) Ltd	**Figure** **F1** Sheet 1 of 1

GENERAL NOTES

1. Reproduced from Grafik Architecture's Drawing No. 06-1548-012 Rev No. 0.
2. Hole Locations to National Grid Co-ordinate Reference System.

LEGEND TO SYMBOLS

- Borehole Location
- Window Sample Location
- Trial Pit Location

Rev	Drawn	Date	Approv.	Date	Modification Details
1	MW	24/05/10	MR	24/05/10	Holes WS202, WS212, SS7, SS8 moved Renamed SS6 & added SS6-2 & SS6-3

AMENDMENTS

Title

SITE PLAN

Project

ISLE QUARRY
GROUND INVESTIGATION

Client

CREST NICHOLSON
(EASTERN) LIMITED

Soil Mechanics

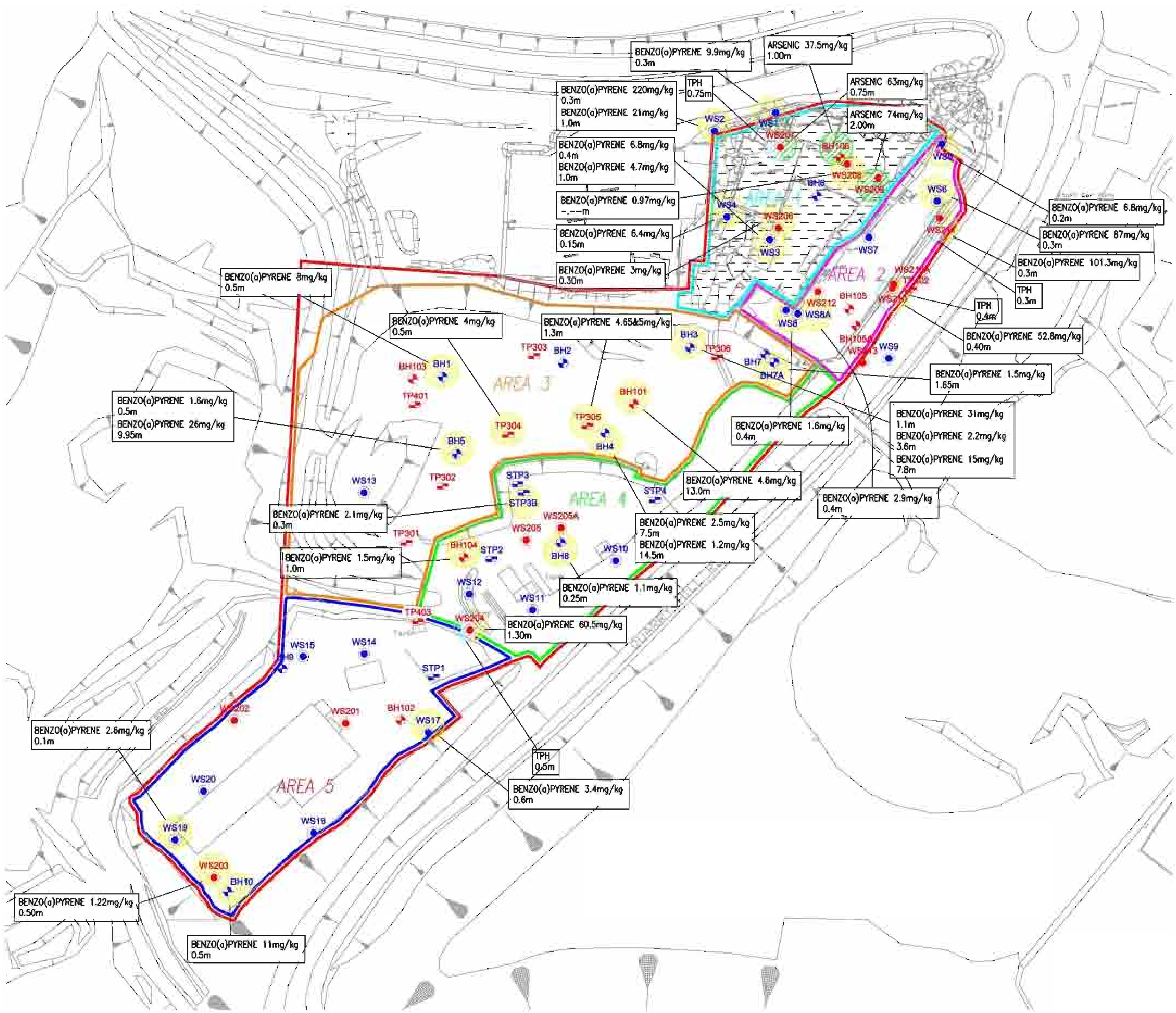
Date	Drawn By	Approv. By
12/05/10	MW	MR

Sheet Size	Scale	Project No
A3	1:1250	G0028-10

Drawing No	Rev
F2	1

Appendix D

Summary of Exceedances in soil from GI 2009 and 2010 (Drawing)



NOTE:

1. DO NOT SCALE, IF IN DOUBT ASK.

- WINDOW SAMPLE (2010 GROUND INVESTIGATION)
- TRIAL PIT (2010 GROUND INVESTIGATION)
- BOREHOLE (2010 GROUND INVESTIGATION)
- WINDOW SAMPLE (2008 GROUND INVESTIGATION)
- SOAKAGE TRIAL PIT (2008 GROUND INVESTIGATION)
- BOREHOLE (2008 GROUND INVESTIGATION)

Revision Details	By / Check	Date	Suffix
Drawing Status			

Client

ISLES QUARRY
BOROUGH GREEN
KENT

Drawing Title

EXCEEDENCES OF CLEA
HUMAN HEALTH GUIDANCE VALUES
(RESIDENTIAL WITH GARDENS)
IN MADE GROUND

Scale at A2			
1:1250			
Drawn		Approved	
MG		CC	
Stage 1 check	Stage 2 check	Originated	Date

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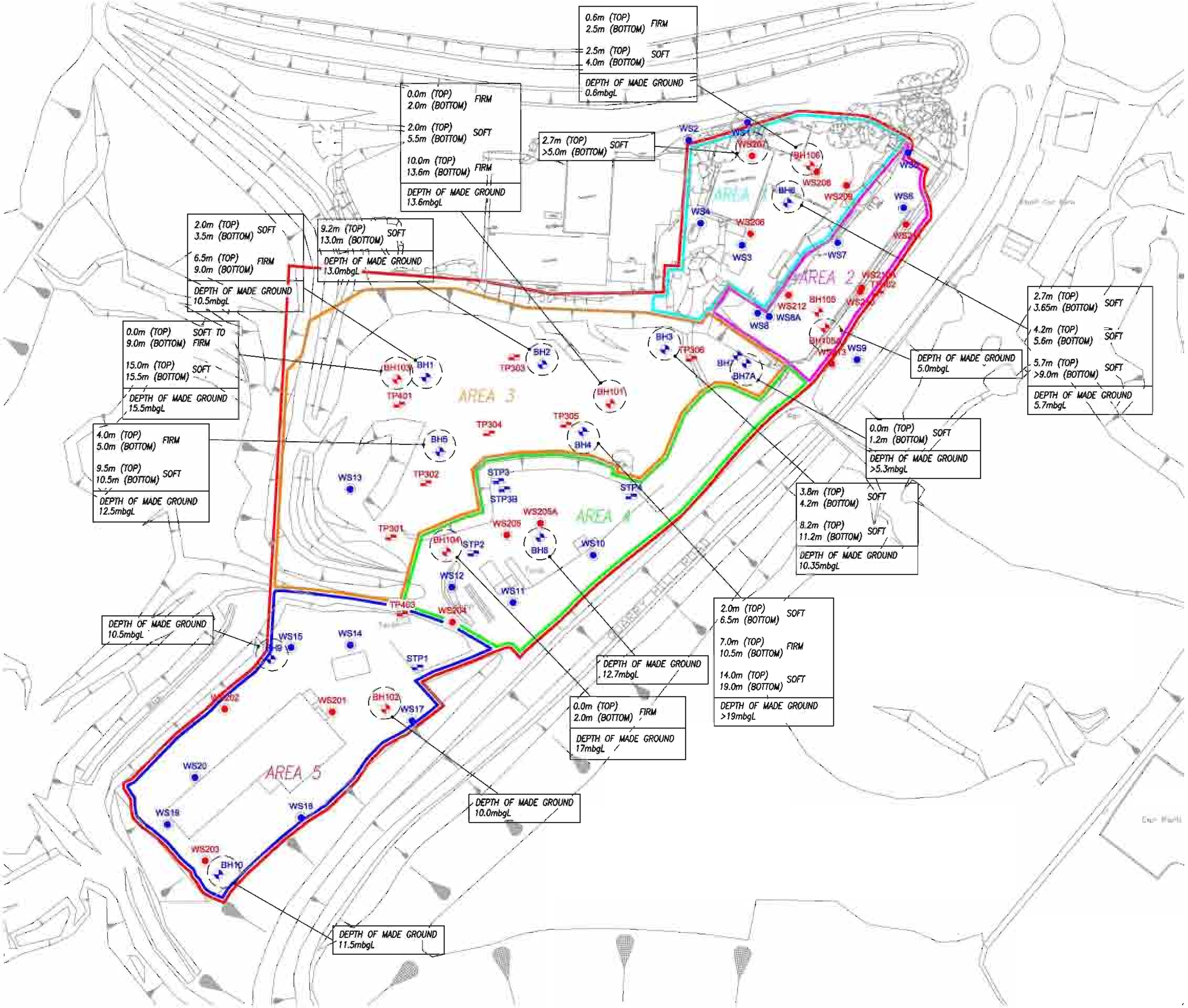
Drawing Number: D129371-001

Rev: A

Appendix E

Summary of Depth of cohesive materials and thickness of Made Ground (Drawing)



NOTE:

1. DO NOT SCALE, IF IN DOUBT ASK.

- WINDOW SAMPLE (2010 GROUND INVESTIGATION)
- TRIAL PIT (2010 GROUND INVESTIGATION)
- BOREHOLE (2010 GROUND INVESTIGATION)
- WINDOW SAMPLE (2008 GROUND INVESTIGATION)
- SOAKAGE TRIAL PIT (2008 GROUND INVESTIGATION)
- BOREHOLE (2008 GROUND INVESTIGATION)

Revision Details	By / Check	Date	Suffix
Drawing Status			

Client

ISLES QUARRY
BOROUGH GREEN
KENT

Drawing Title

SETTLEMENT PROFILE SUMMARIZING DEPTH OF MADE GROUND AND COHESIVE FILL MATERIAL

Scale at A2 1:1250			
Drawn MG		Approved	
Stage 1 check	Stage 2 check	Originated	Date

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Drawing Number D129371-002 Rev A

Appendix F

Statistical Data Sheets

Planning Scenario: Source Data and Summary Statistics

Project Name	Isle Quarry Area 1 deeper	Project Number	D129371
Client	CREST Nicholson	Date	01/06/2010

PLANNING SITUATION: DATA INPUT

ID	Depth (m)	B[a]P	B[a]A	Chrysene	B[b]F	D[a,h]A	I[1,2,3-cd]P					Easting	Northing	Soil Type
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg							
WS3	5	6.4	5.6	6.4	6.8	1.2	5.5							
WS206	1.2	0.09	0.09	0.1	0.09	0.09	0.09							
WS207	2.7	0.1	0.1	0.1	0.1	0.1	0.1							
WS208	3	0.1	0.1	0.1	0.1	0.1	0.1							
WS209	2	0.1	0.1	0.1	0.1	0.1	0.1							

PLANNING SITUATION: SUMMARY STATISTICS

Project Name	Isle Quarry Area 1 deeper	Project Number	D129371
Client	CREST Nicholson	Date	01/06/2010

Contaminant		B[a]P	B[a]A	Chrysene	B[b]F	D[a,h]A	I[1,2,3-cd]P				
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg				
MIN		0.09	0.09	0.09	0.09	0.09	0.09				
MAX		6.40	5.60	6.40	6.80	1.20	5.50				
Mean (If Lead this is the Geometric Mean)		1.36	1.20	1.36	1.44	0.32	1.18				
St Deviation		2.82	2.46	2.82	3.00	0.49	2.42				
Insert Critical Conc		**8.30E-01**	**3.10E+00**	**6.00E+00**	**5.60E+00**	**7.60E-01**	**3.20E+00**				
H_o = Is the Mean ≥ Cc ?		**YES**									
H_1 = Is the Mean ≤ Cc ?			**YES**	**YES**	**YES**	**YES**	**YES**				
Is the data Normal ? (Insert Signifcance - 0.05 Default + Run Test)	**0.05**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**				
N (Sample Number)		**5**	**5**	**5**	**5**	**5**	**5**				
Is the highest value an OUTLIER? (0.1 Default Significance. Refer to Sheet "2. OUTLIER TEST to manually select change)		**YES**	**YES**	**YES**	**YES**	**YES**	**YES**				
Where not normal is converted data Normal ? (Log is default - options below)	**0.05**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**				
Select Outlier Test Normality Conversion		**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	
One Sample T - Test											
Chebychev			**REQUIRED**	**REQUIRED**	**REQUIRED**	**REQUIRED**	**REQUIRED**				
Further Sampling/ Mitigation		**MAYBE REQUIRED**									

ONE SAMPLE T TEST

t_o										
$-t_o$										
$t_{(n-1,0.95)}$										
$-t_{(n-1,0.95)}$										
$UCL_{0.95}$										
Can we reject H_o? **(Yes if $t_o<-t_{(n-1,0.95)}$)**										
t_p										
p_1 (Evidence Level)										
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

ONE-SIDED CHEBYCHEV THEOREM

k_o		-1.72830264	-3.68266126	-3.1048084	-2.00445785	-1.87135285				
$-k_o$		1.72830264	3.682661263	3.104808398	2.004457849	1.871352848				
$k_{0.05}$		4.36	4.36	4.36	4.36	4.36				
k_{crit}		-4.36	-4.36	-4.36	-4.36	-4.36				
$UCL_{0.95}$		5.996187428	6.853786486	7.282586098	1.279417074	5.888987566				
Can we reject Ho? **(Yes If $k_o<k_{crit}$)**		**NO**	**NO**	**NO**	**NO**	**NO**				
k_1		1.73	3.64	3.18	2	1.88				
α_1		0.25	0.07	0.09	0.2	0.22				
p_1 (1 - α_1) (Evidence Level)		0.75	0.93	0.91	0.8	0.78				
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

Statistical Assessment

Planning Scenario: Source Data and Summary Statistics

Project Name	Isle Quarry Area 1 shallow	Project Number	D129371
Client	CREST Nicholson	Date	01/06/2010

PLANNING SITUATION: DATA INPUT

ID	Depth (m)	B[a]P	Arom C10-C12	Arom C12-C16	Arom C16-C21	Sum TPHs	Naphthalene	Phenanthrene	B[a]A	Chrysene	B[b]F	Easting	Northing	Soil Type
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
2001-TP1	0.3	0.1	0.0	0.1	1300	14000	0.1	0.1	0.1	0.1	0.1			
2001-TP2	0.5	0.28	-	-	-	-	0.1	0.1	0.23	0.16	0.34			
2001-TP3A	0.15	-	4.6	380	1300	14000	-	-	-	-	-			
2001-TP3B	0.3	2.1	3.7	150	1100	4700	1.9	9.1	2.2	1.8	2.4			
2001-TP5	0.1	0.64	-	-	-	-	0.1	0.13	0.25	0.21	0.63			
2001-TP6	0.5	13	-	-	-	-	1	37	15	13	15			
BH6	0.3	0.6	4.1	32	42	230	1.4	12	4.5	5.9	0.2			
BH6	0.8	0.9	0.1	2.9	10	37	0.4	3.4	0.9	0.9	0.60			
WS1	0.3	9.9	0.1	11	32	220	0.7	5.4	7.8	9.3	10.00			
WS1	0.5	0.1	0.1	0.1	0.1	0.1	0.4	0.2	0.1	0.1	0.10			
WS2	0.3	220	170	1100	2600	8200	54	570	220	230	210.00			
WS2	1	21	0.1	12	53	220	29	63	16	17	13.00			
WS3	0.4	6.8	0.1	5.6	16	110	14	26	7.1	8.2	5.60			
WS3	1	4.7	0.1	0.9	4.5	330	4.3	9.4	3.2	3.5	3.10			
WS4	0.15	6.4	0.1	110	110	460	0.6	16	5.6	6.4	6.80			
WS4	0.3	10	0.1	81	81	260	1.6	17	11	11	8.90			
WS208	0.3	0.97	4.0	4	9.81	-	0.09	0.8	0.84	0.69	1.15			
WS209	0.4	0.68	-	-	-	-	0.09	0.27	0.4	0.4	0.84			
WS206	0.3	3	5.00	5.00	32.50	-	2.0	2	2	2	3.40			
WS207	0.75	0.2	45.40	252.00	2320.00	-	0.2	0.2	0.2	0.2	0.40			

PLANNING SITUATION: SUMMARY STATISTICS

Project Name	Isle Quarry Area 1 shallow	Project Number	D129371
Client	CREST Nicholson	Date	01/06/2010

Contaminant		B[a]P	Arom C10-C12	Arom C12-C16	Arom C16-C21	Sum TPHs	Naphthalene	Phenanthrene	B[a]A	Chrysene	B[b]F
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MIN		0.10	0.01	0.10	0.10	0.10	0.09	0.10	0.10	0.10	0.10
MAX		220.00	170.00	1100.00	2600.00	14000.00	54.00	570.00	220.00	230.00	210.00
Mean (If Lead this is the Geometric Mean)		15.86	14.85	134.16	563.18	3289.78	5.89	40.64	15.65	16.36	14.87
St Deviation		49.75	42.84	279.58	882.55	5332.19	13.59	129.19	49.74	51.98	47.48
Insert Critical Conc		**8.30E-01**	**6.90E+01**	**1.38E+02**	**2.47E+02**	**5.00E+02**	**1.50E+00**	**9.20E+01**	**3.10E+00**	**6.00E+00**	**5.60E+00**
H_o = Is the Mean ≥ Cc ?		YES			YES	YES	YES		YES	YES	YES
H_1 = Is the Mean ≤ Cc ?			YES	YES				YES			
Is the data Normal ? (Insert Signifcance - 0.05 Default + Run Test)	0.05	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
N (Sample Number)		19	16	16	16	13	19	19	19	19	19
Is the highest value an OUTLIER? (0.1 Default Significance. Refer to Sheet "2. OUTLIER TEST to manually select change)		NO	NO	NO	NO	NO	NO	NO	NO	NO	YES
Where not normal is converted data Normal ? (Log is default - options below)	0.05	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Select Outlier Test Normality Conversion		log x	log x	log x	log x	log x	log x	log x	log x	log x	log x
One Sample T - Test											
Chebychev			REQUIRED	REQUIRED				REQUIRED			
Further Sampling/ Mitigation		MAYBE REQUIRED			MAYBE REQUIRED	MAYBE REQUIRED	MAYBE REQUIRED		MAYBE REQUIRED	MAYBE REQUIRED	MAYBE REQUIRED

ONE SAMPLE T TEST

	B[a]P	Arom C10-C12	Arom C12-C16	Arom C16-C21	Sum TPHs	Naphthalene	Phenanthrene	B[a]A	Chrysene	B[b]F
t_o										
$-t_o$										
$t_{(n-1,0.95)}$										
$-t_{(n-1,0.95)}$										
$UCL_{0.95}$										
Can we reject H_o? **(Yes if $t_o<-t_{(n-1,0.95)}$)**										
t_p										
p_1 (Evidence Level)										
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

ONE-SIDED CHEBYCHEV THEOREM

	B[a]P	Arom C10-C12	Arom C12-C16	Arom C16-C21	Sum TPHs	Naphthalene	Phenanthrene	B[a]A	Chrysene	B[b]F
k_o		-5.05630761	-0.05490454				-1.73293787			
$-k_o$		5.056307614	0.05490454				1.732937869			
$k_{0.05}$		4.36	4.36				4.36			
k_{crit}		-4.36	-4.36				-4.36			
$UCL_{0.95}$		61.54305217	438.9005065				169.8644229			
Can we reject Ho? **(Yes If $k_o<k_{crit}$)**		YES	NO				NO			
k_1		4.9	1.02				1.73			
α_1		0.04	0.49				0.25			
p_1 (1 - α_1) (Evidence Level)		0.96	0.51				0.75			
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**		YES								

Statistical Assessment

Planning Scenario: Source Data and Summary Statistics

Project Name	Isle Quarry Area 1 shallow	**Project Number**	D129371
Client	CREST Nicholson	**Date**	01/06/2010

PLANNING SITUATION: DATA INPUT

ID	Depth (m)	B[k]F	D[a,h]A	I[1,2,3-cd)P	B[g,h,i]P	Easting	Northing	Soil Type
		mg/kg	mg/kg	mg/kg	mg/kg			
2001-TP1	0.3	0.1	0.1	0.1	0.1			
2001-TP2	0.5	0.15	0.1	0.2	0.28			
2001-TP3B	0.3	1.2	3.6	1.4	1.7			
2001-TP5	0.1	0.22	0.17	0.63	0.86			
2001-TP6	0.5	6.8	2.5	9	10			
BH6	0.3	0.1	0.2	0.2	0.2			
BH6	0.8	0.2	0.9	1.2	0.7			
WS1	0.3	7	10	9	110			
WS1	0.5	0.1	0.1	0.1	2			
WS2	0.3	130	31	140	130			
WS2	1	11	0.9	11	6.2			
WS3	0.4	5.1	1.1	6.7	5.5			
WS3	1	3	0.3	1.8	2			
WS4	0.15	4.1	1.2	5.5	5.2			
WS4	0.3	7.1	1.4	7.5	7.2			
WS208	0.3	0.52	0.1	0.8	0.8			
WS209	0.4	0.3	0.09	0.7	0.76			
WS206	0.3	2	2.00	2.70	2.80			
WS207	0.75	0.2	0.20	0.20	0.20			

PLANNING SITUATION: SUMMARY STATISTICS

Project Name	**Isle Quarry Area 1 shallow**	**Project Number**	D129371
Client	**CREST Nicholson**	**Date**	01/06/2010

Contaminant		B[k]F	D[a,h]A	I[1,2,3-cd)P	B[g,h,i]P						
		mg/kg	mg/kg	mg/kg	mg/kg						
MIN		0.10	0.09	0.10	0.10						
MAX		130.00	31.00	140.00	130.00						
Mean (If Lead this is the Geometric Mean)		9.43	2.95	10.46	15.08						
St Deviation		29.38	7.17	31.58	37.23						
Insert Critical Conc		**8.50E+00**	**7.60E-01**	**3.20E+00**	**4.40E+01**						
H_o = Is the Mean ≥ Cc ?		**YES**	**YES**	**YES**							
H_1 = Is the Mean ≤ Cc ?					**YES**						
Is the data Normal ? (Insert Signifcance - 0.05 Default + Run Test)	0.05	**NO**	**NO**	**NO**	**NO**						
N (Sample Number)		**19**	**19**	**19**	**19**						
Is the highest value an OUTLIER? (0.1 Default Significance. Refer to Sheet "2. OUTLIER TEST to manually select change)		**NO**	**NO**	**NO**	**NO**						
Where not normal is converted data Normal ? (Log is default - options below)	0.05	**YES**	**NO**	**YES**	**NO**						
Select Outlier Test Normality Conversion		**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	
One Sample T - Test											
Chebychev					**REQUIRED**						
Further Sampling/ Mitigation		**MAYBE REQUIRED**	**MAYBE REQUIRED**	**MAYBE REQUIRED**							

ONE SAMPLE T TEST

t_o				
$-t_o$				
$t_{(n-1,0.95)}$				
$-t_{(n-1,0.95)}$				
$UCL_{0.95}$				
Can we reject H_o? (Yes **If t_o<-$t_{(n-1,0.95)}$)**				
t_p				
p_1 (Evidence Level)				
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**				

ONE-SIDED CHEBYCHEV THEOREM

	B[k]F	D[a,h]A	I[1,2,3-cd)P	B[g,h,i]P
k_o				-3.38611998
$-k_o$				3.386119982
$k_{0.05}$				4.36
k_{crit}				-4.36
$UCL_{0.95}$				52.31796729
Can we reject Ho? (Yes **If k_o<k_{crit})**				NO
k_1				3.39
α_1				0.08
p_1 (1 - α_1) (Evidence Level)				0.92
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**				

Statistical Assessment

Planning Scenario: Source Data and Summary Statistics

Project Name	Isle Quarry Area 1 deeper	**Project Number**	D129371
Client	CREST Nicholson	**Date**	17/05/2010

PLANNING SITUATION: DATA INPUT

ID	Depth (m)	Arsenic										Easting	Northing	Soil Type
		mg/kg	mg/kg	mg/kg	mg/kg									
WS3	5	13												
WS206	1.2	9.8												
WS207	2.7	25												
WS208	3	31.6												
WS209	2	74												

PLANNING SITUATION: SUMMARY STATISTICS

Project Name	Isle Quarry Area 1 deeper	**Project Number**	D129371
Client	CREST Nicholson	**Date**	17/05/2010

Contaminant	Arsenic									
	mg/kg	mg/kg	mg/kg	mg/kg						
MIN	9.80									
MAX	74.00									
Mean (If Lead this is the Geometric Mean)	30.68									
St Deviation	25.78									
Insert Critical Conc	**3.20E+01**									
H_o = Is the Mean ≥ Cc ?										
H_1 = Is the Mean ≤ Cc ?	**YES**									
Is the data Normal ? (Insert Signifcance - 0.05 Default + Run Test) 0.05	**YES**									
N (Sample Number)	**5**									
Is the highest value an OUTLIER? (0.1 Default Significance. Refer to Sheet "2. OUTLIER TEST to manually select change)	**YES**									
Where not normal is converted data Normal ? (Log is default - options below) 0.05										
Select Outlier Test Normality Conversion	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	
One Sample T - Test	**REQUIRED**									
Chebychev										
Further Sampling/ Mitigation										

ONE SAMPLE T TEST

t_o	-0.11449537									
$-t_o$	0.114495367									
$t_{(n-1,0.95)}$	2.132									
$-t_{(n-1,0.95)}$	-2.132									
$UCL_{0.95}$	55.25950983									
Can we reject H_o? **(Yes if $t_o<-t_{(n-1,0.95)}$)**	**NO**									
t_p	0.027									
p_1 (Evidence Level)	0.51									
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

ONE-SIDED CHEBYCHEV THEOREM

k_o										
$-k_o$										
$k_{0.05}$										
k_{crit}										
$UCL_{0.95}$										
Can we reject Ho? **(Yes if $k_o<k_{crit}$)**										
k_1										
α_1										
p_1 (1 - α_1) (Evidence Level)										
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

Statistical Assessment

Planning Scenario: Source Data and Summary Statistics

Project Name	Isle Quarry Area 1 shallow	**Project Number**	D129371
Client	CREST Nicholson	**Date**	17/05/2010

PLANNING SITUATION: DATA INPUT

ID	Depth (m)	Arsenic mg/kg	mg/kg	mg/kg	mg/kg							Easting	Northing	Soil Type
2001-TP1	0.3	7												
2001-TP2	0.5	5												
2001-TP3B	0.3	5												
2001-TP6	0.1	3												
2001-TP8	0.6	44												
2001-TP10	0.2	4												
BH6	0.3	12												
BH6	0.8	21												
WS1	0.3	8.1												
WS1	0.5	20												
WS2	0.3	13												
WS2	1	23												
WS3	0.4	16												
WS3	1	13												
WS4	0.15	6.9												
WS4	0.3	13												
WS208	0.3	15.8												
WS209	0.4	8.2												
WS206	0.3	5.7												
WS207	0.75	63												

PLANNING SITUATION: SUMMARY STATISTICS

Project Name	Isle Quarry Area 1 shallow	**Project Number**	D129371
Client	CREST Nicholson	**Date**	17/05/2010

Contaminant		Arsenic mg/kg	mg/kg	mg/kg	mg/kg						
MIN		3.00									
MAX		63.00									
Mean (If Lead this is the Geometric Mean)		15.34									
St Deviation		14.63									
Insert Critical Conc		**3.20E+01**									
H_o = Is the Mean ≥ Cc ?											
H_1 = Is the Mean ≤ Cc ?		**YES**									
Is the data Normal ? (Insert Signifcance - 0.05 Default + Run Test)	0.05	**NO**									
N (Sample Number)		**20**									
Is the highest value an OUTLIER? (0.1 Default Significance. Refer to Sheet "2. OUTLIER TEST to manually select change)		**NO**									
Where not normal is converted data Normal ? (Log is default - options below)	0.05	**YES**									
Select Outlier Test Normality Conversion		log x	log x	log x	log x	log x	log x	log x	log x	log x	
One Sample T - Test											
Chebychev		**REQUIRED**									
Further Sampling/ Mitigation											

ONE SAMPLE T TEST

t_o										
$-t_o$										
$t_{(n-1,0.95)}$										
$-t_{(n-1,0.95)}$										
$UCL_{0.95}$										
Can we reject H_o? **(Yes If t_o<-$t_{(n-1,0.95)}$)**										
t_p										
p_1 (Evidence Level)										
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

ONE-SIDED CHEBYCHEV THEOREM

k_o	-5.09504925									
$-k_o$	5.095049245									
$k_{0.05}$	4.36									
k_{crit}	-4.36									
$UCL_{0.95}$	29.59578464									
Can we reject Ho? **(Yes If k_o<k_{crit})**	**YES**									
k_1	4.9									
α_1	0.04									
p_1 (1 - α_1) (Evidence Level)	0.96									
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**	**YES**									

Planning Scenario: Source Data and Summary Statistics

Project Name	**Isle Quarry Area 2 deeper**	**Project Number**	**D129371**
Client	**CREST Nicholson**	**Date**	**17/05/2010**

PLANNING SITUATION: DATA INPUT

ID	Depth (m)	B[a]P										Easting	Northing	Soil Type
		mg/kg	mg/kg	mg/kg	mg/kg									
WS9	2	0.1												
WS210A	1.4	0.09												
WS213	1.4	0.6												

PLANNING SITUATION: SUMMARY STATISTICS

Project Name	**Isle Quarry Area 2 deeper**	**Project Number**	**D129371**
Client	**CREST Nicholson**	**Date**	**17/05/2010**

Contaminant		**B[a]P**									
		mg/kg	**mg/kg**	**mg/kg**	**mg/kg**						
MIN		0.09									
MAX		0.60									
Mean (If Lead this is the Geometric Mean)		0.26									
St Deviation		0.29									
Insert Critical Conc		**8.30E-01**									
H_o = Is the Mean ≥ Cc ?											
H_1 = Is the Mean ≤ Cc ?		**YES**									
Is the data Normal ? (Insert Signifcance - 0.05 Default + Run Test)	0.05	**NO**									
N (Sample Number)		**3**									
Is the highest value an OUTLIER? (0.1 Default Significance. Refer to Sheet "2. OUTLIER TEST to manually select change)		**YES**									
Where not normal is converted data Normal ? (Log is default - options below)	0.05	**YES**									
Select Outlier Test Normality Conversion		**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	
One Sample T - Test											
Chebychev		**REQUIRED**									
Further Sampling/ Mitigation											

ONE SAMPLE T TEST

t_o										
$-t_o$										
$t_{(n-1,0.95)}$										
$-t_{(n-1,0.95)}$										
$UCL_{0.95}$										
Can we reject H_o? **(Yes if t_o<-$t_{(n-1,0.95)}$)**										
t_p										
p_1 (Evidence Level)										
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

ONE-SIDED CHEBYCHEV THEOREM

k_o	-3.36584174									
$-k_o$	3.365841742									
$k_{0.05}$	4.36									
k_{crit}	-4.36									
$UCL_{0.95}$	0.99737458									
Can we reject Ho? **(Yes If k_o<k_{crit})**	**NO**									
k_1	3.39									
α_1	0.08									
p_1 (1 - α_1) (Evidence Level)	0.92									
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

Planning Scenario: Source Data and Summary Statistics

Project Name	Isle Quarry Area 2 shallow	**Project Number**	D129371
Client	CREST Nicholson	**Date**	01/06/2010

PLANNING SITUATION: DATA INPUT

ID	Depth (m)	B[a]P	Arom C16-C21	Arom C21-C35	Sum TPHs	Naphthalene	Phenanthrene	B[a]A	Chrysene	B[b]F	B[k]F	Easting	Northing	Soil Type
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
WS5	0.2	6.8	110.0	240	390	2	11	4.9	7.5	6.7	6.2			
WS6	0.3	87	490	1300.0	1900	5.6	120	83	87	71	62			
WS6	1	2.1	1.4	6	10	0.4	2.7	2.1	2	2.1	1.6			
WS7	0.8	0.4	72	48	2200	0.2	0.3	0.6	0.4	0.3	0.3			
WS9	0.6	0.1	1.6	0.3	38	0.1	0.1	0.2	0.3	0.1	0.1			
WS8	0.4	1.6	9.2	31	43	0.1	1.9	1.8	2.1	2.1	1.1			
WS8A	0.4	2.9	15	41	60	0.1	2.3	2.8	3	3.3	1.8			
WS211	0.3	101.3	1390	3330	-	6.09	211	118	94	116	44.90			
WS210	0.4	52.8	384.0	1970	-	22	45	43.9	41	57.7	22.00			

PLANNING SITUATION: SUMMARY STATISTICS

Project Name	Isle Quarry Area 2 shallow	**Project Number**	D129371
Client	CREST Nicholson	**Date**	01/06/2010

Contaminant		B[a]P	Arom C16-C21	Arom C21-C35	Sum TPHs	Naphthalene	Phenanthrene	B[a]A	Chrysene	B[b]F	B[k]F
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MIN		0.10	1.40	0.30	10.00	0.10	0.10	0.20	0.30	0.10	0.10
MAX		101.30	1390.00	3330.00	2200.00	22.00	211.00	118.00	94.00	116.00	62.00
Mean (If Lead this is the Geometric Mean)		28.33	274.80	774.03	663.00	4.07	43.81	28.59	26.37	28.81	15.56
St Deviation		41.01	455.19	1190.08	960.22	7.14	74.00	43.91	38.57	42.46	22.94
Insert Critical Conc		**8.30E-01**	**2.47E+02**	**8.88E+02**	**5.00E+02**	**1.50E+00**	**9.20E+01**	**3.10E+00**	**6.00E+00**	**5.60E+00**	**8.50E+00**
H_o = Is the Mean ≥ Cc ?		**YES**	**YES**		**YES**	**YES**		**YES**	**YES**	**YES**	**YES**
H_1 = Is the Mean ≤ Cc ?				**YES**			**YES**				
Is the data Normal ? (Insert Signifcance - 0.05 Default + Run Test)	0.05	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
N (Sample Number)		**9**	**9**	**9**	**7**	**9**	**9**	**9**	**9**	**9**	**9**
Is the highest value an OUTLIER? (0.1 Default Significance. Refer to Sheet "2. OUTLIER TEST to manually select change)		**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
Where not normal is converted data Normal ? (Log is default - options below)	0.05	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**
Select Outlier Test Normality Conversion		**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**
One Sample T - Test											
Chebychev				**REQUIRED**			**REQUIRED**				
Further Sampling/ Mitigation		**MAYBE REQUIRED**	**MAYBE REQUIRED**		**MAYBE REQUIRED**	**MAYBE REQUIRED**		**MAYBE REQUIRED**	**MAYBE REQUIRED**	**MAYBE REQUIRED**	**MAYBE REQUIRED**

ONE SAMPLE T TEST

	B[a]P	Arom C16-C21	Arom C21-C35	Sum TPHs	Naphthalene	Phenanthrene	B[a]A	Chrysene	B[b]F	B[k]F
t_o										
$-t_o$										
$t_{(n-1,0.95)}$										
$-t_{(n-1,0.95)}$										
$UCL_{0.95}$										
Can we reject H_o? **(Yes if t_o<-$t_{(n-1,0.95)}$)**										
t_p										
p_1 (Evidence Level)										
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

ONE-SIDED CHEBYCHEV THEOREM

	B[a]P	Arom C16-C21	Arom C21-C35	Sum TPHs	Naphthalene	Phenanthrene	B[a]A	Chrysene	B[b]F	B[k]F
k_o			-0.28729275			-1.95359092				
$-k_o$			0.287292746			1.953590919				
$k_{0.05}$			4.36			4.36				
k_{crit}			-4.36			-4.36				
$UCL_{0.95}$			2503.60943			151.3584761				
Can we reject Ho? **(Yes If k_o<k_{crit})**			**NO**			**NO**				
k_1			1.02			1.94				
α_1			0.49			0.21				
p_1 (1 - α_1) (Evidence Level)			0.51			0.79				
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

Planning Scenario: Source Data and Summary Statistics

Project Name	Isle Quarry Area 2 shallow	Project Number	D129371
Client	CREST Nicholson	Date	01/06/2010

PLANNING SITUATION: DATA INPUT

ID	Depth (m)	D[a,h]A	I[1,2,3-cd]P	B[g,h,i]P	Fluoranthene							Easting	Northing	Soil Type
		mg/kg	mg/kg	mg/kg	mg/kg									
WS5	0.2	0.4	2.8	0.1	16									
WS6	0.3	17	70	64.0	180									
WS6	1	0.1	1.3	0.9	4.5									
WS7	0.8	0.8	1.1	0.8	0.8									
WS9	0.6	0.1	0.1	0.1	0.9									
WS8	0.4	0.1	1	1	4									
WS8A	0.4	0.4	2.3	1.8	5.1									
WS211	0.3	11.9	62.6	56.1	280									
WS210	0.4	22	40.0	40.2	108									

PLANNING SITUATION: SUMMARY STATISTICS

Project Name	Isle Quarry Area 2 shallow	Project Number	D129371
Client	CREST Nicholson	Date	01/06/2010

Contaminant		D[a,h]A	I[1,2,3-cd]P	B[g,h,i]P	Fluoranthene						
		mg/kg	mg/kg	mg/kg	mg/kg						
MIN		0.10	0.10	0.10	0.80						
MAX		22.00	70.00	64.00	280.00						
Mean (If Lead this is the Geometric Mean)		5.87	20.13	18.33	66.59						
St Deviation		8.70	29.13	27.02	101.78						
Insert Critical Conc		7.60E-01	3.20E+00	4.40E+01	2.57E+02						
H_o = Is the Mean ≥ Cc ?		YES	YES								
H_1 = Is the Mean ≤ Cc ?				YES	YES						
Is the data Normal ? (Insert Signifcance - 0.05 Default + Run Test)	0.05	NO	NO	NO	NO						
N (Sample Number)		9	9	9	9						
Is the highest value an OUTLIER? (0.1 Default Significance. Refer to Sheet "2. OUTLIER TEST to manually select change)		NO	NO	NO	NO						
Where not normal is converted data Normal ? (Log is default - options below)	0.05	YES	YES	YES	YES						
Select Outlier Test Normality Conversion		log x	log x	log x	log x	log x	log x	log x	log x	log x	
One Sample T - Test											
Chebychev				REQUIRED	REQUIRED						
Further Sampling/ Mitigation		MAYBE REQUIRED	MAYBE REQUIRED								

ONE SAMPLE T TEST

t_o										
$-t_o$										
$t_{(n-1,0.95)}$										
$-t_{(n-1,0.95)}$										
$UCL_{0.95}$										
Can we reject H_o? (Yes **if t_o<-$t_{(n-1,0.95)}$**)										
t_p										
p_1 (Evidence Level)										
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

ONE-SIDED CHEBYCHEV THEOREM

k_o			-2.84990762	-5.61230873						
$-k_o$			2.849907619	5.612308734						
$k_{0.05}$			4.36	4.36						
k_{crit}			-4.36	-4.36						
$UCL_{0.95}$			57.60010321	214.5124055						
Can we reject Ho? (Yes **If k_o<k_{crit}**)			NO	YES						
k_1			2.84	5.69						
α_1			0.11	0.03						
p_1 (1 - α_1) (Evidence Level)			0.89	0.97						
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**				YES						

Planning Scenario: Source Data and Summary Statistics

Project Name	Isle Quarry Area 3 deeper	**Project Number**	D129371
Client	CREST Nicholson	**Date**	01/06/2010

PLANNING SITUATION: DATA INPUT

ID	Depth (m)	B[a]P (mg/kg)	Arom C12-C16 (mg/kg)	Arom C16-C21 (mg/kg)	Arom C21-C35 (mg/kg)	Sum TPHs	Naphthalene	Phenanthrene	B[a]A	Chrysene	B[b]F	Easting	Northing	Soil Type
BH1	4.5	0.1	0.1	0.1	0.1	10	0.3	0.3	0.2	0.1	0.1			
BH1	8.5	0.1	0.1	0.1	0.1	10	0..1	0.2	0.1	0.1	0.1			
BH1	12.5	0.1	0.1	0.1	0.1	10	0..1	0.2	0.1	0.1	0.1			
BH2	5.7	0.1	0.1	0.1	0.1	10	0.2	0.2	0.1	0.1	0.1			
BH3	1.1	31	190	440	770	1400	7.3	210	55	61	48			
BH3	3.6	2.2	3.9	38	160	200	0.3	2.3	1.7	15	14			
BH3	7.8	15	29	210	550	790	1	16	14	15	14			
BH4	7.5	2.5	1.4	3.7	23	28	0.2	7.1	2.9	3	2.80			
BH4	14.5	1.2	84.0	58	7.8	660	0.5	1.8	1	1	1.30			
BH5	5.5	1.1	1.3	5.21	8.8	15	0.1	0.8	1	0.8	0.90			
BH5	9.95	26	200	210	250	3000	0.8	12	12	13	14.00			
BH7A	1.65	1.5	2.2	3	37	42	0.1	2.6	2.1	2.5	0.10			
TP302	3	0.1	5.0	5	10.47	-	0.1	0.1	0.1	0.1	0.10			
TP305	1.3	4.65	17.2	93.8	397	-	0.09	14.6	5.6	4.43	5.50			

PLANNING SITUATION: SUMMARY STATISTICS

Project Name	Isle Quarry Area 3 deeper	**Project Number**	D129371
Client	CREST Nicholson	**Date**	01/06/2010

Contaminant		B[a]P	Arom C12-C16	Arom C16-C21	Arom C21-C35	Sum TPHs	Naphthalene	Phenanthrene	B[a]A	Chrysene	B[b]F
		mg/kg	mg/kg	mg/kg	mg/kg						
MIN		0.10	0.10	0.10	0.10	10.00	0.09	0.10	0.10	0.10	0.10
MAX		31.00	200.00	440.00	770.00	3000.00	7.30	210.00	55.00	61.00	48.00
Mean (If Lead this is the Geometric Mean)		6.12	38.17	76.22	158.18	514.58	0.92	19.16	6.85	8.30	7.22
St Deviation		10.29	70.13	128.35	246.98	898.75	2.03	55.22	14.56	16.20	13.02
Insert Critical Conc		8.30E-01	1.38E+02	2.47E+02	8.88E+02	5.00E+02	1.50E+00	9.20E+01	3.10E+00	6.00E+00	5.60E+00
H_o = Is the Mean ≥ Cc ?		YES				YES			YES	YES	YES
H_1 = Is the Mean ≤ Cc ?			YES	YES	YES		YES	YES			
Is the data Normal ? (Insert Signifcance - 0.05 Default + Run Test)	0.05	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
N (Sample Number)		14	14	14	14	12	12	14	14	14	14
Is the highest value an OUTLIER? (0.1 Default Significance. Refer to Sheet "2. OUTLIER TEST to manually select change)		NO	NO	NO	NO	NO	YES	NO	NO	NO	#DIV/0!
Where not normal is converted data Normal ? (Log is default - options below)	0.05	YES	YES	YES	NO	NO	NO	YES	YES	NO	NO
Select Outlier Test Normality Conversion		log x	log x	log x	log x	log x	log x	log x	log x	log x	
One Sample T - Test											
Chebychev			REQUIRED	REQUIRED	REQUIRED		REQUIRED	REQUIRED			
Further Sampling/ Mitigation		MAYBE REQUIRED				MAYBE REQUIRED			MAYBE REQUIRED	MAYBE REQUIRED	MAYBE REQUIRED

ONE SAMPLE T TEST

t_o										
$-t_o$										
$t_{(n-1,0.95)}$										
$-t_{(n-1,0.95)}$										
$UCL_{0.95}$										
Can we reject H_o? **(Yes if t_o<-$t_{(n-1,0.95)}$)**										
t_p										
p_1 (Evidence Level)										
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

ONE-SIDED CHEBYCHEV THEOREM

	B[a]P	Arom C12-C16	Arom C16-C21	Arom C21-C35	Sum TPHs	Naphthalene	Phenanthrene	B[a]A	Chrysene	B[b]F
k_o		-5.32592237	-4.9786821	-11.0566361		-0.99594006	-4.9356701			
$-k_o$		5.325922373	4.978682102	11.05663606		0.995940063	4.9356701			
$k_{0.05}$		4.36	4.36	4.36		4.36	4.36			
k_{crit}		-4.36	-4.36	-4.36		-4.36	-4.36			
$UCL_{0.95}$		119.8948449	225.7780779	445.9701801		3.473182676	83.50399966			
Can we reject Ho? **(Yes If k_o<k_{crit})**		YES	YES	YES		NO	YES			
k_1		5.69	4.9	9.95		1.02	4.9			
α_1		0.03	0.04	0.01		0.49	0.04			
p_1 (1 - α_1) (Evidence Level)		0.97	0.96	0.99		0.51	0.96			
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**		YES	YES	YES			YES			

Statistical Assessment

Planning Scenario: Source Data and Summary Statistics

Project Name	Isle Quarry Area 3 deeper	Project Number	D129371
Client	CREST Nicholson	Date	01/06/2010

PLANNING SITUATION: DATA INPUT

ID	Depth (m)	B[k]F	D[a,h]A	I[1,2,3-cd]P	B[g,h,i]P	Easting	Northing	Soil Type
		mg/kg	mg/kg	mg/kg	mg/kg			
BH1	4.5	0.1	0.1	0.1	0.1			
BH1	8.5	0.1	0.1	0.1	0.1			
BH1	12.5	0.1	0.1	0.1	0.1			
BH2	5.7	0.1	0.1	0.1	0.1			
BH3	1.1	31	7.4	35	30			
BH3	3.6	1.4	0.3	1.5	1			
BH3	7.8	11	2.9	13	11			
BH4	7.5	1.8	0.4	2.1	1.7			
BH4	14.5	0.6	0.5	2.1	1.7			
BH5	5.5	0.7	0.4	1.3	0.7			
BH5	9.95	12	7.8	19	11			
BH7A	1.65	0.20	0.10	1.1	0.9			
TP302	3	0.1	0.1	0.1	0.1			
TP305	1.3	2.01	0.6	3.15	2.86			

PLANNING SITUATION: SUMMARY STATISTICS

Project Name	Isle Quarry Area 3 deeper	Project Number	D129371
Client	CREST Nicholson	Date	01/06/2010

Contaminant	B[k]F	D[a,h]A	I[1,2,3-cd]P	B[g,h,i]P						
	mg/kg	mg/kg	mg/kg	mg/kg						
MIN	0.10	0.10	0.10	0.10						
MAX	31.00	7.80	35.00	30.00						
Mean (If Lead this is the Geometric Mean)	4.37	1.49	5.63	4.38						
St Deviation	8.63	2.69	10.14	8.27						
Insert Critical Conc	**8.50E+00**	**7.60E-01**	**3.20E+00**	**4.40E+01**						
H_o = Is the Mean ≥ Cc ?		YES	YES							
H_1 = Is the Mean ≤ Cc ?	YES			YES						
Is the data Normal ? (Insert Signifcance - 0.05 Default + Run Test) 0.05	NO	NO	NO	NO						
N (Sample Number)	14	14	14	14						
Is the highest value an OUTLIER? (0.1 Default Significance. Refer to Sheet "2. OUTLIER TEST to manually select change)	NO	NO	NO	NO						
Where not normal is converted data Normal ? (Log is default - options below) 0.05	YES	NO	YES	NO						
Select Outlier Test Normality Conversion	log x	log x	log x	log x	log x	log x	log x	log x	log x	
One Sample T - Test										
Chebychev	REQUIRED			REQUIRED						
Further Sampling/ Mitigation		MAYBE REQUIRED	MAYBE REQUIRED							

ONE SAMPLE T TEST

t_o										
$-t_o$										
$t_{(n-1,0.95)}$										
$-t_{(n-1,0.95)}$										
$UCL_{0.95}$										
Can we reject H_o? **(Yes If t_o<-$t_{(n-1,0.95)}$)**										
t_p										
p_1 (Evidence Level)										
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

ONE-SIDED CHEBYCHEV THEOREM

k_o	-1.78935624			-17.9215587						
$-k_o$	1.789356235			17.92155873						
$k_{0.05}$	4.36			4.36						
k_{crit}	-4.36			-4.36						
$UCL_{0.95}$	14.43020552			14.02101113						
Can we reject Ho? **(Yes If k_o<k_{crit})**	NO			YES						
k_1	1.78			9.95						
α_1	0.24			0.01						
p_1 (1 - α_1) (Evidence Level)	0.76			0.99						
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**				YES						

Statistical Assessment

Planning Scenario: Source Data and Summary Statistics

Project Name	Isle Quarry Area 3 shallow	**Project Number**	D129371
Client	CREST Nicholson	**Date**	01/06/2010

PLANNING SITUATION: DATA INPUT

ID	Depth (m)	B[a]P	Sum TPHs	Naphthalene	B[a]A	Chrysene	B[b]F	B[k]F	D[a,h]A	I[1,2,3-cd]P	Aliph C10-C12	Easting	Northing	Soil Type
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
BH1	0.5	8	97.0	1.6	8.4	9.1	7.5	5.3	1.4	5.7	0.1			
BH2	0.3	0.4	10	0.1	0.4	0.4	0.5	0.4	0.1	0.5	0.1			
BH2	0.8	0.6	11	0.3	0.7	0.9	1	0.6	0.1	0.3	0.1			
BH4	0.5	0.7	12	0.2	0.4	0.5	0.8	0.6	0.1	0.9	0.1			
BH5	0.5	1.6	10	0.1	0.7	0.5	0.4	0.3	0.3	0.6	0.1			
BH6	0.4	0.6	230	1.4	4.5	5.9	0.2	0.1	0.2	0.2	0.1			
BH6	0.9	0.9	37	0.4	0.9	0.9	0.6	0.2	0.9	1.2	0.1			
BH7A	0.35	0.6	990	0.1	0.4	0.3	0.1	0.1	0.1	0.1	0.10			
TP303	1	0.45	-	0.9	0.4	0.38	0.61	0.23	0.09	0.39	5.00			
TP301	1	0.5	-	0.2	0.6	0.6	0.6	0.2	0.2	0.4	4.00			
WS13	0.2	0.1	1300	0.1	0.1	0.1	0.2	0.3	0.2	0.1	100.00			
WS13	0.7	0.1	10.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.10			

PLANNING SITUATION: SUMMARY STATISTICS

Project Name	Isle Quarry Area 3 shallow	**Project Number**	D129371
Client	CREST Nicholson	**Date**	01/06/2010

Contaminant		B[a]P	Sum TPHs	Naphthalene	B[a]A	Chrysene	B[b]F	B[k]F	D[a,h]A	I[1,2,3-cd]P	Aliph C10-C12
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MIN		0.10	10.00	0.10	0.10	0.10	0.10	0.10	0.09	0.10	0.10
MAX		8.00	1300.00	1.60	8.40	9.10	7.50	5.30	1.40	5.70	100.00
Mean (If Lead this is the Geometric Mean)		1.21	270.70	0.46	1.47	1.64	1.05	0.70	0.32	0.87	9.16
St Deviation		2.17	471.59	0.54	2.48	2.83	2.05	1.46	0.41	1.56	28.66
Insert Critical Conc		8.30E-01	5.00E+02	1.50E+00	3.10E+00	6.00E+00	5.60E+00	8.50E+00	7.60E-01	3.20E+00	9.30E+01
H_o = Is the Mean ≥ Cc ?		YES									
H_1 = Is the Mean ≤ Cc ?			YES	YES	YES	YES	YES	YES	YES	YES	YES
Is the data Normal ? (Insert Signifcance - 0.05 Default + Run Test)	0.05	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
N (Sample Number)		12	10	12	12	12	12	12	12	12	12
Is the highest value an OUTLIER? (0.1 Default Significance. Refer to Sheet "2. OUTLIER TEST to manually select change)		YES	NO	NO	NO	NO	YES	YES	YES	YES	YES
Where not normal is converted data Normal ? (Log is default - options below)	0.05	YES	YES	YES	YES	YES	YES	YES	NO	YES	NO
Select Outlier Test Normality Conversion		log x	log x	log x	log x	log x	log x	log x	log x	log x	log x
One Sample T - Test											
Chebychev			REQUIRED	REQUIRED	REQUIRED	REQUIRED	REQUIRED	REQUIRED	REQUIRED	REQUIRED	REQUIRED
Further Sampling/ Mitigation		MAYBE REQUIRED									

ONE SAMPLE T TEST

	B[a]P	Sum TPHs	Naphthalene	B[a]A	Chrysene	B[b]F	B[k]F	D[a,h]A	I[1,2,3-cd]P	Aliph C10-C12
t_o										
$-t_o$										
$t_{(n-1,0.95)}$										
$-t_{(n-1,0.95)}$										
$UCL_{0.95}$										
Can we reject H_o? (Yes **if t_o<-$t_{(n-1,0.95)}$)**										
t_p										
p_1 (Evidence Level)										
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

ONE-SIDED CHEBYCHEV THEOREM

	B[a]P	Sum TPHs	Naphthalene	B[a]A	Chrysene	B[b]F	B[k]F	D[a,h]A	I[1,2,3-cd]P	Aliph C10-C12
k_o		-1.53759235	-6.70157874	-2.2789017	-5.33264501	-7.68607777	-18.523352	-3.76092976	-5.17606721	-10.1342745
$-k_o$		1.537592348	6.701578737	2.278901705	5.332645008	7.686077773	18.52335198	3.760929759	5.17606721	10.13427452
$k_{0.05}$		4.36	4.36	4.36	4.36	4.36	4.36	4.36	4.36	4.36
k_{crit}		-4.36	-4.36	-4.36	-4.36	-4.36	-4.36	-4.36	-4.36	-4.36
$UCL_{0.95}$		920.9035481	1.136034342	4.591563769	5.204760071	3.631390966	2.537864358	0.830750333	2.833305318	45.22896336
Can we reject Ho? (Yes **If k_o<k_{crit})**		NO		NO				NO		
			YES		YES	YES	YES		YES	YES
k_1		1.53	7	2.29	5.69	7	9.95	3.64	4.9	9.95
α_1		0.3	0.02	0.16	0.03	0.02	0.01	0.07	0.04	0.01
p_1 (1 - α_1) (Evidence Level)		0.7	0.98	0.84	0.97	0.98	0.99	0.93	0.96	0.99
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**			YES		YES	YES	YES		YES	YES

Planning Scenario: Source Data and Summary Statistics

Project Name	Isle Quarry Area 4 deeper	**Project Number**	D129371
Client	CREST Nicholson	**Date**	01/062010

PLANNING SITUATION: DATA INPUT

ID	Depth (m)	B[a]P										Easting	Northing	Soil Type
		mg/kg	mg/kg	mg/kg	mg/kg									
BH8	1.65	0.3												
BH8	6.3	0.1												
WS205A	1.5	0.39												
TP302	3	0.1												
TP305	1.3	4.65												
TP303*	1.3	5												
WS204	1.3	60.5												

PLANNING SITUATION: SUMMARY STATISTICS

Project Name	Isle Quarry Area 4 deeper	**Project Number**	D129371
Client	CREST Nicholson	**Date**	01/062010

Contaminant		B[a]P									
		mg/kg	mg/kg	mg/kg	mg/kg						
MIN		0.10									
MAX		60.50									
Mean (If Lead this is the Geometric Mean)		10.15									
St Deviation		22.31									
Insert Critical Conc		**8.30E-01**									
H_o = Is the Mean ≥ Cc ?		**YES**									
H_1 = Is the Mean ≤ Cc ?											
Is the data Normal ? (Insert Signifcance - 0.05 Default + Run Test)	0.05	**NO**									
N (Sample Number)		**7**									
Is the highest value an OUTLIER? (0.1 Default Significance. Refer to Sheet "2. OUTLIER TEST to manually select change)		**NO**									
Where not normal is converted data Normal ? (Log is default - options below)	0.05	**NO**									
Select Outlier Test Normality Conversion		**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	
One Sample T - Test											
Chebychev											
Further Sampling/ Mitigation		**MAYBE REQUIRED**									

ONE SAMPLE T TEST

t_o										
$-t_o$										
$t_{(n-1,0.95)}$										
$-t_{(n-1,0.95)}$										
$UCL_{0.95}$										
Can we reject H_o? **(Yes If t_o<-$t_{(n-1,0.95)}$)**										
t_p										
p_1 (Evidence Level)										
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

ONE-SIDED CHEBYCHEV THEOREM

k_o										
$-k_o$										
$k_{0.05}$										
k_{crit}										
$UCL_{0.95}$										
Can we reject Ho? **(Yes If k_o<k_{crit})**										
k_1										
α_1										
p_1 (1 - α_1) (Evidence Level)										
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

Statistical Assessment

Planning Scenario: Source Data and Summary Statistics

Project Name	Isle Quarry Area 4 shallow	Project Number	D129371
Client	CREST Nicholson	Date	01/06/2010

PLANNING SITUATION: DATA INPUT

ID	Depth (m)	B[a]P	Sum TPHs	D[a,h]A		Easting	Northing	Soil Type
		mg/kg	mg/kg	mg/kg	mg/kg			
BH8	0.25	1.1	11.0	0.1				
WS10	0.5	0.1	10	0.1				
WS10	1	0.1	10	0.1				
WS11	0.6	0.1	10	0.8				
WS12	0.2	0.1	1400	0.1				
WS12	1	0.1	300	0.2				
WS10	0.5	0.5	10	0.1				
WS204	0.5	0.09	-	0.09				
W205	0.4	0.21	1270.0	0.09				
TP303	1	0.45	-	0.09				
TP301	1	0.5	-	0.2				
TP304*	0.5	4	-	4				

PLANNING SITUATION: SUMMARY STATISTICS

Project Name	Isle Quarry Area 4 shallow	Project Number	D129371
Client	CREST Nicholson	Date	01/06/2010

Contaminant	B[a]P	Sum TPHs	D[a,h]A							
	mg/kg	mg/kg	mg/kg	mg/kg						
MIN	0.09	10.00	0.09							
MAX	4.00	1400.00	4.00							
Mean (If Lead this is the Geometric Mean)	0.61	377.63	0.50							
St Deviation	1.11	600.31	1.12							
Insert Critical Conc	**8.30E-01**	**5.00E+02**	**7.60E-01**							
H_o = Is the Mean ≥ Cc ?										
H_1 = Is the Mean ≤ Cc ?	**YES**	**YES**	**YES**							
Is the data Normal ? (Insert Signifcance - 0.05 Default + Run Test) 0.05	**NO**	**NO**	**NO**							
N (Sample Number)	**12**	**8**	**12**							
Is the highest value an OUTLIER? (0.1 Default Significance. Refer to Sheet "2. OUTLIER TEST to manually select change)	**YES**	**NO**	**YES**							
Where not normal is converted data Normal ? (Log is default - options below) 0.05	**YES**	**NO**	**NO**							
Select Outlier Test Normality Conversion	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	
One Sample T - Test										
Chebychev	**REQUIRED**	**REQUIRED**	**REQUIRED**							
Further Sampling/ Mitigation										
ONE SAMPLE T TEST										
t_o										
$-t_o$										
$t_{(n-1,0.95)}$										
$-t_{(n-1,0.95)}$										
$UCL_{0.95}$										
Can we reject H_o? (Yes **if $t_o<-t_{(n-1,0.95)}$)**										
t_p										
p_1 (Evidence Level)										
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										
ONE-SIDED CHEBYCHEV THEOREM										
k_o	-0.67978746	-0.5765821	-0.81114011							
$-k_o$	0.679787463	0.576582101	0.811140108							
$k_{0.05}$	4.36	4.36	4.36							
k_{crit}	-4.36	-4.36	-4.36							
$UCL_{0.95}$	2.007494836	1303.000587	1.908476955							
Can we reject Ho? (Yes **If $k_o<k_{crit}$)**	**NO**	**NO**	**NO**							
k_1	1.02	1.02	1.02							
α_1	0.49	0.49	0.49							
p_1 (1 - α_1) (Evidence Level)	0.51	0.51	0.51							
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

Statistical Assessment

Planning Scenario: Source Data and Summary Statistics

Project Name	Isle Quarry Area 5 deeper	Project Number	D129371
Client	CREST Nicholson	Date	17/05/2010

PLANNING SITUATION: DATA INPUT

ID	Depth (m)	B[a]P										Easting	Northing	Soil Type
		mg/kg	mg/kg	mg/kg	mg/kg									
BH9	2.5	0.1												
BH9	7.5	0.1												
BH10	1.5	0.1												
BH10	10.5	0.1												
WS15	1.9	0.2												
WS201	1.5	0.1												
WS202	2.5	0.09												
WS201	2.5	0.2												
WS203	1.5	60.5												

PLANNING SITUATION: SUMMARY STATISTICS

Project Name	Isle Quarry Area 5 deeper	Project Number	D129371
Client	CREST Nicholson	Date	17/05/2010

Contaminant		B[a]P									
		mg/kg	mg/kg	mg/kg	mg/kg						
MIN		0.09									
MAX		60.50									
Mean (If Lead this is the Geometric Mean)		6.83									
St Deviation		20.13									
Insert Critical Conc		**8.30E-01**									
H_o = Is the Mean ≥ Cc ?		**YES**									
H_1 = Is the Mean ≤ Cc ?											
Is the data Normal ? (Insert Signifcance - 0.05 Default + Run Test)	0.05	**NO**									
N (Sample Number)		**9**									
Is the highest value an OUTLIER? (0.1 Default Significance. Refer to Sheet "2. OUTLIER TEST to manually select change)		**YES**									
Where not normal is converted data Normal ? (Log is default - options below)	0.05	**NO**									
Select Outlier Test Normality Conversion		**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	**log x**	
One Sample T - Test											
Chebychev											
Further Sampling/ Mitigation		**MAYBE REQUIRED**									
ONE SAMPLE T TEST											
t_o											
$-t_o$											
$t_{(n-1,0.95)}$											
$-t_{(n-1,0.95)}$											
$UCL_{0.95}$											
Can we reject H_o? **(Yes if $t_o<-t_{(n-1,0.95)}$)**											
t_p											
p_1 (Evidence Level)											
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**											
ONE-SIDED CHEBYCHEV THEOREM											
k_o											
$-k_o$											
$k_{0.05}$											
k_{crit}											
$UCL_{0.95}$											
Can we reject Ho? **(Yes if $k_o<k_{crit}$)**											
k_1											
α_1											
p_1 (1 - α_1) (Evidence Level)											
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**											

Planning Scenario: Source Data and Summary Statistics

Project Name	Isle Quarry Area 5 shallow	Project Number	D129371
Client	CREST Nicholson	Date	01/06/2010

PLANNING SITUATION: DATA INPUT

ID	Depth (m)	B[a]P	Arom C21-C35	Sum TPHs	B[a]A	Chrysene	B[b]F	B[k]F	D[a,h]A			Easting	Northing	Soil Type
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
BH9	0.5	0.1	0.1	10	0.1	0.1	0.1	0.1	0.2					
BH10	0.5	11	1100	8800.0	42	38	20	28	3.6					
WS14	0.1	0.9	23	790	0.1	0.4	0.5	0.3	0.1					
WS14	0.9	0.1	0.1	10	0.1	0.1	0.1	0.1	0.1					
WS16	0.4	0.1	20	1800	0.5	0.4	0.6	0.6	0.1					
WS16	0.9	0.5	1.4	2.9	0.5	0.5	0.9	0.4	0.1					
WS17	0.1	0.5	3.2	10	0.6	0.7	0.5	0.4	0.4					
WS17	0.6	3.4	18	25	2.2	3	4.6	1.5	0.2					
WS18	0.5	0.1	0.1	10	0.1	0.1	0.1	0.1	0.1					
WS19	0.1	2.6	13	20	1.9	2.3	2.3	1.5	0.1					
WS19	0.7	0.4	15	640	0.7	1.4	0.1	0.1	0.1					
WS20	0.4	0.2	12.0	860	0.9	0.9	0.2	0.1	0.1					
WS20	1	0.1	16.0	1400	0.2	0.1	0.1	0.1	0.1					
WS203	0.5	1.22	169.0	-	0.66	0.79	1.7	0.65	0.16					

PLANNING SITUATION: SUMMARY STATISTICS

Project Name	Isle Quarry Area 5 shallow	Project Number	D129371
Client	CREST Nicholson	Date	01/06/2010

Contaminant		B[a]P	Arom C21-C35	Sum TPHs	B[a]A	Chrysene	B[b]F	B[k]F	D[a,h]A		
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
MIN		0.10	0.10	2.90	0.10	0.10	0.10	0.10	0.10		
MAX		11.00	1100.00	8800.00	42.00	38.00	20.00	28.00	3.60		
Mean (If Lead this is the Geometric Mean)		1.52	99.35	1105.99	3.61	3.49	2.27	2.43	0.39		
St Deviation		2.91	291.21	2389.44	11.07	9.97	5.25	7.38	0.93		
Insert Critical Conc		**8.30E-01**	**8.88E+02**	**5.00E+02**	**3.10E+00**	**6.00E+00**	**5.60E+00**	**8.50E+00**	**7.60E-01**		
H_o = Is the Mean ≥ Cc ?		YES		YES	YES						
H_1 = Is the Mean ≤ Cc ?			YES			YES	YES	YES	YES		
Is the data Normal ? (Insert Signifcance - 0.05 Default + Run Test)	0.05	NO	NO	NO	NO	NO	NO	NO	NO		
N (Sample Number)		14	14	13	14	14	14	14	14		
Is the highest value an OUTLIER? (0.1 Default Significance. Refer to Sheet "2. OUTLIER TEST to manually select change)		NO	NO	NO	YES	YES	NO	YES	YES		
Where not normal is converted data Normal ? (Log is default - options below)	0.05	YES	YES	YES	YES	YES	YES	NO	NO		
Select Outlier Test Normality Conversion		log x	log x	log x	log x	log x	log x	log x	log x	log x	
One Sample T - Test											
Chebychev			REQUIRED			REQUIRED	REQUIRED	REQUIRED	REQUIRED		
Further Sampling/ Mitigation		MAYBE REQUIRED		MAYBE REQUIRED	MAYBE REQUIRED						

ONE SAMPLE T TEST

t_o										
$-t_o$										
$t_{(n-1,0.95)}$										
$-t_{(n-1,0.95)}$										
$UCL_{0.95}$										
Can we reject H_o? **(Yes if t_o<-$t_{(n-1,0.95)}$)**										
t_p										
p_1 (Evidence Level)										
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**										

ONE-SIDED CHEBYCHEV THEOREM

k_o		-10.1331306			-0.94366153	-2.37042305	-3.081358	-1.49243741		
$-k_o$		10.1331306			0.94366153	2.370423053	3.081357997	1.492437415		
$k_{0.05}$		4.36			4.36	4.36	4.36	4.36		
k_{crit}		-4.36			-4.36	-4.36	-4.36	-4.36		
$UCL_{0.95}$		438.6838283			15.10505619	8.393783571	11.02088533	1.470916348		
Can we reject Ho? **(Yes If k_o<k_{crit})**		YES			NO	NO	NO	NO		
k_1		9.95			1.02	2.38	3	1.49		
α_1		0.01			0.49	0.15	0.1	0.31		
p_1 (1 - α_1) (Evidence Level)		0.99			0.51	0.85	0.9	0.69		
Is Evidence Level ≥0.95 (p_1≥0.95)? **(If 'NO' H_o cannot be rejected)**		YES								

Statistical Assessment