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heyford park

FURTHER INFORMATION TO
ENVIRONMENTAL STATEMENT

VOLUME 3a
September 2008

NORTH OXFORDSHIRE
CONSORTIUM LTD

heyford park

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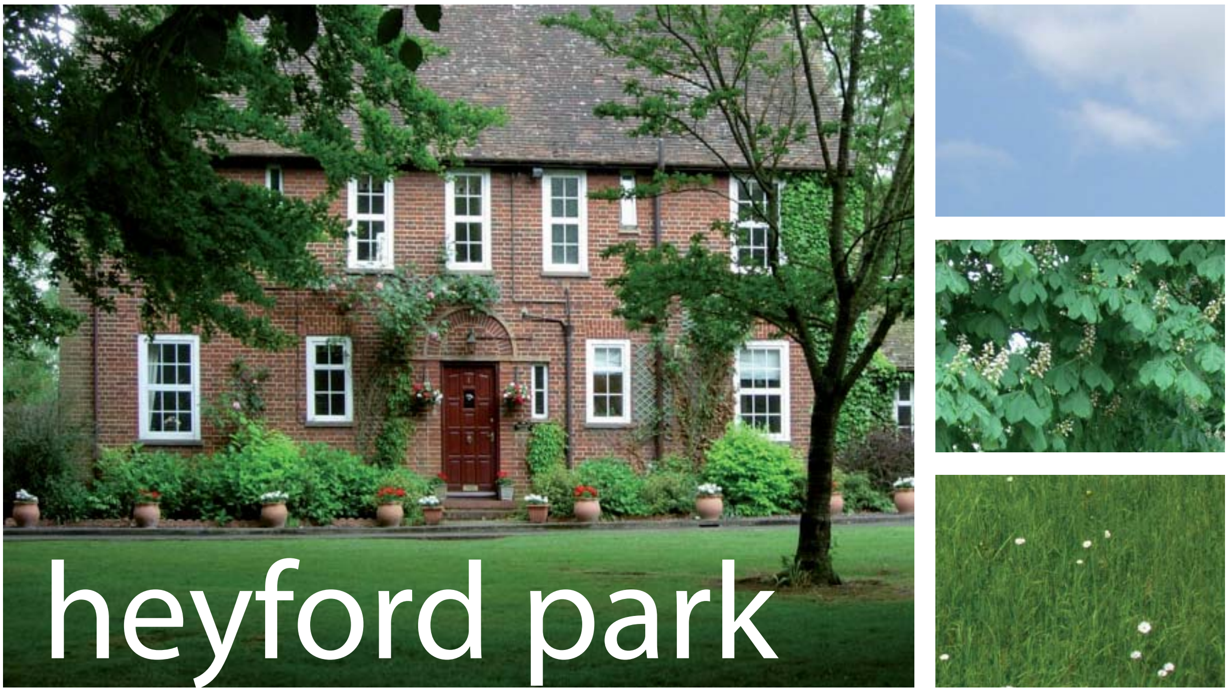

heyford park

FURTHER INFORMATION TO ENVIRONMENTAL STATEMENT

VOLUME 3a
September 2008

NORTH OXFORDSHIRE CONSORTIUM LTD

PROJECT DIRECTORY

For Further Information to Environmental Statement prepared on behalf of:-

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CONTENTS

A Preamble

B Supplementary Information

A. PREAMBLE

A. Submission of Further Information

A.1 An Environmental Statement was originally submitted to Cherwell District Council in respect of the planning application (Application No: 08/00716/OUT) made on 03 March 2008. Addendum information was submitted to the Environmental Statement document on 26 June 2008. This application is now the subject of an appeal to Secretary of State (Appeal Reference: APP/C3105/A/08/2080594).

A.2 Correspondence was received from the Secretary of State dated 21st August 2008 (Appendix A.1) pursuant to Regulation 19 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations requesting the provision of Further Information specifically relating to matters of geotechnical, soils and contamination at the site.

A.3 In response to the issues raised by the Secretary of State, this document provides Further Information to the Environmental Statement, in the form of a Supplementary Report to address the geotechnical and contamination matters. This report provides a comprehensive and appropriate response to the various issues raised, together with appendices as necessary.

A.4 In addition to the requested information, a revised Non Technical Summary has also been produced and is included in the front of this folder. This has been updated to reflect minor amendments to development proposals from previous submissions and overall text as appropriate.

Appendix A.1

Correspondence from Secretary of State

21st August 2008

The Planning Inspectorate

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Temple Quay House
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Bristol BS1 6PN

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Your Ref: NG/MED/CIR.N.0111

Our Ref: APP/C3105/A/08/2080594

Date: 21 August 2008

Dear Mr Dobson

THE TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT)(ENGLAND AND WALES) REGULATIONS 1999
APPEALS BY NORTH OXFORDSHIRE
SITE AT HEYFORD PARK, CAMP ROAD, UPPER HEYFORD, BICESTER

1. I have considered the content of the Environmental Statement (ES) accompanying the planning application that is the subject of the above appeal, having regard to Regulation 2(1) and Schedule 4 of The Town and Country Planning (Environmental Impact Assessment)(England and Wales) Regulations 1999.

2. The development proposed is an outline application for a new settlement of 1075 dwellings, together with associated works and facilities including employment uses, community uses, a school, playing fields and other physical and social infrastructure.

3. By virtue of Regulation 4(2)(a) the development proposed is EIA development.

4. Following examination of the Statement, the Secretary of State hereby notifies you by this letter, pursuant to Regulation 19 of the 1999 Regulations, that, to comply with Schedule 4 of the Regulations (Information for Inclusion in Environmental Statements) she requires the appellant to supply the following 'further information' for the purposes of a public inquiry to be held in accordance with The Town and Country Planning Appeals (Inquiries Procedure) (England) Rules 2000:

5. The Geology Soils and Contamination section relies heavily on a ground investigation carried out 10 years ago. Although details of the locations of the boreholes, trial pits and soil vapour survey points have been given, together with a brief summary of the results, the actual logs and results obtained are not provided as part of the Environmental Statement. It is considered that contamination of soils and the water environment has the potential to be one of the most significant impacts on the environment at

this site. Although such contamination would have arisen as a result of previous use of the site, the method of dealing with any such contamination is critical to limiting any further impact on the soil and water environment. It is noted that part of the petrol, oil and lubrication (POL) system of the former RAF site passes through critical parts of the appeal site. Bearing in mind the high potential for contamination to travel along the route of buried services, the presence of a major aquifer, and the potential links between contaminated soil and the water regime this is a topic which needs to be more closely assessed than merely referring to the results of a 10 year old survey and stating that the risk can be reduced to a low potential if current best practice is adopted.

6. It is considered that the proposed development in itself would not cause contamination. But the actual construction of such development could aggravate contamination problems at this site and it has not been clearly shown that the implementation of the development could be undertaken without causing further harm to the environment. Therefore details of the original survey should be provided, and these details supplemented by an updated survey, at least in the vicinity of areas where high levels of contamination were noted previously, which may then allow the appellant to show that the development could be undertaken without causing unacceptable harm to the soil and water environment of the area.

7. May I draw your attention to court cases which have stressed the need for all the relevant environmental information in an ES to be comprehensive and easily accessible. I also refer to paragraph 82 of Circular 02/99 (Environmental Impact Assessment), which states that whilst every ES should provide a full factual description of the development, the emphasis of Schedule 4 is on the main or significant environmental effects.

8. The appellant is respectfully requested to publicise the availability of the further information in accordance with Regulations 19(3) to (9) inclusive of the Regulations.

9. I would be grateful if you could let me know, within 2 weeks of the date of this letter, how long you anticipate it will take to prepare this further information, so that we can identify an expected submission date.

10. A copy of this Direction has been sent to Cherwell District Council.

Yours sincerely

Wendy Burden
Assistant Director Environment and Special Casework

(Signed with the authority of the Secretary of State)

A Preamble

B Supplementary Information

A REPORT BY ENVIROS CONSULTING LTD

NORTH OXFORDSHIRE CONSORTIUM

SUPPLEMENTARY INFORMATION TO ENVIRONMENTAL STATEMENT, HEYFORD PARK

QUALITY CONTROL SHEET

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APPENDICES

NON TECHNICAL SUMMARY

1. Introduction

The following Supplementary Information relates to the Environmental Statement prepared to accompany an outline planning application for the development of a new settlement at Heyford Park, Camp Road, Upper Heyford, Bicester. The report provides information on the risk of pollution at the site requested by both the Planning Inspectorate and the Environment Agency.

2. Soil and Groundwater Contamination

The report provides supplementary information to the Environmental Statement relating to soil and water contamination. The Planning Inspectorate requested factual data from a ground investigation completed in 1997 and this data is provided. The data includes trial pit and borehole logs and chemical data for soil and water samples collected. In addition, new chemical data for water samples collected from boreholes, springs, streams and outfalls in May 2008, is provided. The significance of this factual data in relation to the development is discussed and proposals for further investigation are presented. A minimum of 75 trial pits and 30 boreholes will be required to further investigate soil and water at the site as part of detailed design work. This work is to commence within one year of Planning Consent being approved.

Following the completion of the additional ground investigation, all data will be assessed in line with current UK guidance and proposals for remediation will be developed where assessment of the data indicates that remediation is necessary. The remediation proposals will take full account of the development and will ensure that construction activities do not spread contamination or cause pollution to the soil or water environments. Preliminary proposals for soil and water contamination include removal off site to licensed disposal or treatment facilities or treatment on site using specialist mobile plant. Testing will be carried out to confirm that the remediation has been carried out satisfactorily.

3. Petrol, Oil and Lubrication (POL) System

The report provides supplementary information to the Environmental Statement and the POL Statement relating to the POL System. The POL system, comprising a network of pipes and tanks, currently poses a potential risk to the environment as the system remains in place and is water filled with some residual fuel contamination. There is a concern that the system could have leaked resulting in pollution that has not been identified, or that the system could leak at some point in the future, thereby causing pollution. Proposals are presented to reduce and manage this risk in accordance with current UK guidance.

Following a recent assessment of the POL System, a detailed inventory of the system is provided. Using the information from this assessment, proposals to further investigate the POL system are presented. The first two stages, to be completed within one year of gaining Planning Consent, involve; the sampling and testing of water in all tanks and pipes, the location of underground pipes, the inspection of valves and the development of a preliminary decommissioning strategy. Based on the findings of this work, ground investigations are proposed around the POL where pollution may have occurred. Areas for investigation include identified spill or leak points. The POL ground investigation will be carried out within 2 years of receipt of outline Planning Consent.

The results of these investigations will be used to develop a detailed remediation strategy for the decommissioning of the POL System. The Environment Agency will be consulted throughout this design process. Current proposals include draining down, cleaning and backfilling (where necessary) the system by various methods. Although it is not proposed to remove any of the POL infrastructure, if sections are identified that still pose an unacceptable risk of polluting the environment, these will be removed in consultation with English Heritage where it involves features of heritage conservation.

1. INTRODUCTION

The following Supplementary Information relates to the Environmental Statement prepared to accompany an outline planning application for the development of a new settlement at Heyford Park, Camp Road, Upper Heyford, Bicester. On the 21st August 2008 (in correspondence issued by the Planning Inspectorate), the Secretary of State requested 'further information' under Regulation 19 of the 1999 Environmental Impact Assessment Regulations. In correspondence dated 18th July, 12th August and 4th September 2008, the Environment Agency also requested further information relating to the potential risks to controlled waters. This report provides the information requested by both the Secretary of State and the Environment Agency.

Previous environmental information submitted in support of the outline planning application includes the 2007 Environmental Statement (Ref. 1) and the 2008 POL Statement (Ref. 2). The following Supplementary Information to the Environmental Statement will provide additional factual information and will clarify and expand on environmental issues outlined in the previous statements. The 'site' referred to in this report includes all areas with the 'red line boundary' as shown on Figure 1 of the Environmental Statement (Settlement Areas and the Flying Field).

The statement includes the following:

Clarification of risks and proposals to mitigate risks

- Clarification of risks posed to human health and the environment associated with soil and groundwater contamination and the proposed approach to mitigate these risks is detailed in Chapter 2;
- Clarification of risks posed by the POL System and proposals to mitigate these risks are detailed in Chapter 3; and
- Conclusions are included in Chapter 4.

Factual information

The further information requested by the Planning Inspectorate included the following factual information which is appended to this Supplementary Statement:

- Trial pit and borehole logs from Aspinwall 1997 investigation (Appendix 1);
- Soil chemical analytical results from Aspinwall 1997 investigation (Appendix 2);
- Recent groundwater and surface water monitoring results, Enviros (Appendix 3);
- Correspondence with the Environment Agency (Appendix 4); and
- Further assessment of the POL System (Appendix 5).

2. CLARIFICATION OF RISKS POSED TO HUMAN HEALTH AND THE ENVIRONMENT AND PROPOSED APPROACH TO MITIGATE RISKS

2.1 Introduction

Various potential contaminant sources were described in the 2007 Environmental Statement (ES) relating to both historical and current activities at the site. These included the Petrol, Oil and Lubrication (POL) System, a fuel filling station, a fire practise area, boilers, incinerators, airfield facilities, electrical substations, a laundrette, fireworks and weapon storage areas, car storage areas, workshops, sewerage works, waste disposal pits and a hospital. The ES also outlined the results of site investigation work carried out by Aspinwall in 1997, which targeted these potential contaminant sources.

This chapter expands on information previously presented in so far as soil and groundwater contamination are concerned (the POL system is discussed in Chapter 3). This chapter also considers; the sufficiency of existing site investigation data, further investigation and assessment required and proposals to mitigate risk. The work proposed will be compliant with the requirements of current UK guidance including Planning Policy Statement 23: Planning and Pollution Control (PPS 23) (Ref. 3) and Model Procedures for the Management of Land Contamination (CLR 11) (Ref. 4). The proposed further investigation, assessment and remediation will ensure that, following development, the site will not be capable of being determined as contaminated land under Part 2A of the Environmental Protection Act 1990 (i.e. no area of the site will pose an unacceptable risk to either human health or the environment).

2.2 Site Sensitivity and Use

Comprehensive information regarding the site location and setting are provided in the ES, with additional information of relevance provided here.

The site is directly underlain by a Major Aquifer (Great Oolite Group and Inferior Oolite Group) which provides baseflow to high quality surrounding streams and is also used locally for private water abstractions and riparian use. The site is therefore considered to be of high sensitivity with respect to controlled waters, and, as indicated in Paragraph 5 of the Planning Inspectorate letter of 21st August 2008, soil and water contamination has the potential to be one of the most significant impacts on the environment. The proposed development includes residential housing with gardens, the most sensitive land use with respect to risk to human health. A detailed assessment of potential contamination of soils and water at the site is therefore required to identify unacceptable risks to human health and the environment.

There have been very few substantive changes to site use since the investigation completed in 1997 by Aspinwall and Company, data from which formed the basis on which the 2007 Environmental Impact Assessment was carried out. The site remains undeveloped with all of the former MOD buildings in tact, albeit with many of them currently unused. The majority of the former MOD infrastructure remains in place and the most significant of the temporary site uses, such as car processing, are still in place.

No new potential contaminant sources have been identified that were not present in 1997 during the Aspinwall investigation. At that time a site conceptual model was presented which concluded that the risk posed to human health and controlled waters would be low provided appropriate measures were taken in accordance with current best practice. There is no change to this assessment.

2.3 Identified Contamination

The Secretary of State has raised concerns (Paragraph 5 of the Planning Inspectorate letter of 21st August 2008) that, given the high sensitivity of the site, the current Planning Application should not rely on data from the 1997 investigation and that supplementary data should be collected in areas where high levels of contamination were previously noted. These issues have been reviewed and information is provided below to explain and justify the validity and appropriateness of the 1997 data at this stage in the assessment process.

The 1997 Aspinwall Investigation targeted potential sources of contamination identified from the history of the site. The investigation included a soil vapour survey (355 No. soil vapour survey holes), trial pitting (149 No. locations) and the installation of groundwater monitoring boreholes (9 No. at 7 locations). Trial pit and borehole logs not previously supplied to the Secretary of State are included in Appendix 1. Soil samples were collected from the trial pits and water samples were collected from boreholes and surface water springs for chemical analysis. The chemical analysis results were summarised in the ES, but the full soil results, not previously supplied, are included in Appendix 2. Groundwater and surface water monitoring has been completed on a twice annual basis since 1999, and data from the most recent monitoring (May 2008) is included in Appendix 3. The implications are summarised in Section 2.3.2 below. This data set provides a comprehensive statement on land and water quality at the site, as it was in 1997 and as recently as May 2008.

2.3.1 Soils

The investigation recorded elevated concentrations of arsenic in approximately one third of soil samples, while elevated concentrations of other inorganic substances (copper, lead, zinc) in soil were restricted to only a small number of locations, the only significant location being TP113 on the northern side of the site. In the majority of locations, the elevated arsenic concentrations were considered to reflect naturally high levels in the soils rather than a man made source. Localised hydrocarbon contamination was also recorded in soils (maximum concentration 8,482 mg/kg) with the following locations identified as being of concern:

- TP14 and 16 in POL 21;
- TP124 in the former weapons storage area where the highest total petroleum hydrocarbon concentrations were measured;
- TP93 in POL 20; and
- TP142 and TP149 in the fire practise area.

The presence of a hydrocarbon odour / elevated soil concentrations at these locations suggests a fuel source, related to storage or other uses such as on the fire practise area.

Based on knowledge of site use since 1997, discussions with NOC and site visits, it is clear that there are no new potentially contaminative site uses that would result in substantive new contaminant sources. The soil contamination recorded in 1997 is therefore considered to be representative of the current concentrations on site, albeit that there may have been some degradation of organic contamination since 1997. It is therefore concluded that at this stage additional testing of soil quality would not significantly alter the conclusions made to date. Further investigation of previously identified areas of contamination will however be required at the detailed design stage to finalise appropriate strategies for mitigation and proposals for this work are outlined in Section 2.4 below.

2.3.2 Groundwater and surface water monitoring

Groundwater and surface water monitoring has been completed twice every year since 1999 at nine groundwater monitoring points and eleven springs, streams or outfalls. This data demonstrates that there have been no significant pollutant releases to the underlying aquifer which in turn indicates a lack of gross site wide contamination. In addition, the data has not demonstrated that there has been any substantive change in either the hydrogeological or hydrochemical regime at the site. This supports our assertion that the soil quality data collected as part of the 1997 site investigation is appropriate for the outline Planning Application. Since that Planning Application was made Enviros has completed another round of water monitoring, the findings of which are summarised below.

In the May 2008 monitoring, organic contaminants were not detected in the six boreholes located around the site boundary (BH1-6) nor was any contamination identified that could be attributed to the development site in the eleven springs, streams and outfalls present around the site.

Very slightly elevated concentrations of hydrocarbons were recorded in the groundwater in the centre of the site in May 2008 in boreholes 7, 8 and 10 where 120, 87 and 16µg/l (respectively) of petroleum hydrocarbons were present. Boreholes 8, 9, 10 and 11 were drilled and installed in the centre of the site in the early 2000s in response to the identification of slightly elevated concentrations of petroleum hydrocarbons in BH7. Initially it was assumed that the contamination arose from car processing along the runway as there were no records of an aircraft crash in this area, no nearby POL facilities and the borehole is up hydraulic gradient of the main site. However, no source of contamination could be identified and no consistent occurrence of the pollution has been recorded. On some occasions it is present, on others it is not. It is however only ever present in one or more of the boreholes immediately adjacent to BH7 and only ever at low concentrations.

2.4 Proposals to identify any further environmental risks

This section outlines the mitigation proposals which would further investigate and assess previously identified contamination and to undertake more detailed investigation in areas of the site at risk such that the risk posed to human health and controlled waters post development would be acceptably low.

2.4.1 Further Investigation

As part of the detailed design stage, a review will be undertaken of all potential contamination sources and previously identified areas of soil and groundwater contamination. In accordance with current guidance (CLR 11 – Ref. 4, BS 10175:2001 – Ref. 5 and R & D Publication 66: 2008 – Ref. 6), further specific targeted investigation, comprising trial pits and boreholes, will be carried out as part of the mitigation proposals. The purpose of the investigation will be to supplement existing data to enable a detailed assessment of risk to human health and the environment from specific parts of the site. In addition to soil and groundwater testing, ground gas monitoring will be carried out in accordance with current guidance (Ref. 7).

This investigation will fully delineate the extent of previously identified contamination, provide data for areas requiring further detailed investigation and provide data suitable for generic and detailed quantitative risk assessment. The investigation will be designed on the basis of the proposed site layout (site specific use). The investigation will include a minimum of 75 No. trial pits and 30 No. boreholes located to target potential contamination sources (particularly the POL System, discussed in more detailed in the following chapter). The boreholes will all be completed to provide groundwater monitoring points.

2.4.2 Further Assessment

In accordance with current guidance (Refs. 4, 5 and 6), generic and detailed quantitative risk assessments will be completed using site specific data collected from all phases of investigation (chemical analytical, physical and hydrogeological). Assessments will be conducted to assess the risk posed to human health and the environment, based on the site specific site layout. Site Specific Assessment Criteria (SSAC), comprising acceptable concentrations of contaminants, will be derived for soil, surface water and groundwater. Soil and groundwater with contaminant concentrations at or below the SSAC will not therefore pose an unacceptable risk to human health or controlled waters. The SSAC may vary across the site depending on site use, water sensitivity and distance from key receptors.

Initial discussions with the Environment Agency indicate that 500 µg/l is an acceptable compliance point target concentration for hydrocarbons (Total Petroleum Hydrocarbons – TPH) in groundwater. The Environment Agency has indicated that they consider the site boundary a suitable compliance point. It is considered that 500 µg/l TPH is an acceptable target concentration at the site boundary where water is discharged to surface water but a more stringent target may be appropriate where groundwater is flowing towards a local potable water abstraction. The target concentration in such an instance would be risk assessment derived and would largely depend on the distance from the abstraction. Justification for these proposed target concentrations will be provided in the assessment report.

2.5 Potential Impact of Development

The Secretary of State has raised a concern (Paragraph 6 of the letter of 21st August 2008) that although the proposed development would not cause contamination, the construction process could aggravate any existing contamination problems. The potential impact of development on mobilisation and migration of contamination will be considered further at the detailed design stage as part of the mitigation proposals and an in depth methodology will be presented to ensure that the development does not cause pollution. This methodology will be varied according to the area being developed and in particular its history of land use. An outline management strategy is provided in Box 1; this will ensure that previously identified and unforeseen contamination is addressed in accordance with the remediation strategy. The watching brief will normally be a member of the construction team who will notify the environmental consultants in the event that unforeseen visual / odorous contamination is encountered.

An outline management strategy is provided in Box 1 and the following aspects will be considered and carefully assessed at the detailed design stage in order to minimise the environmental risks from the construction process:

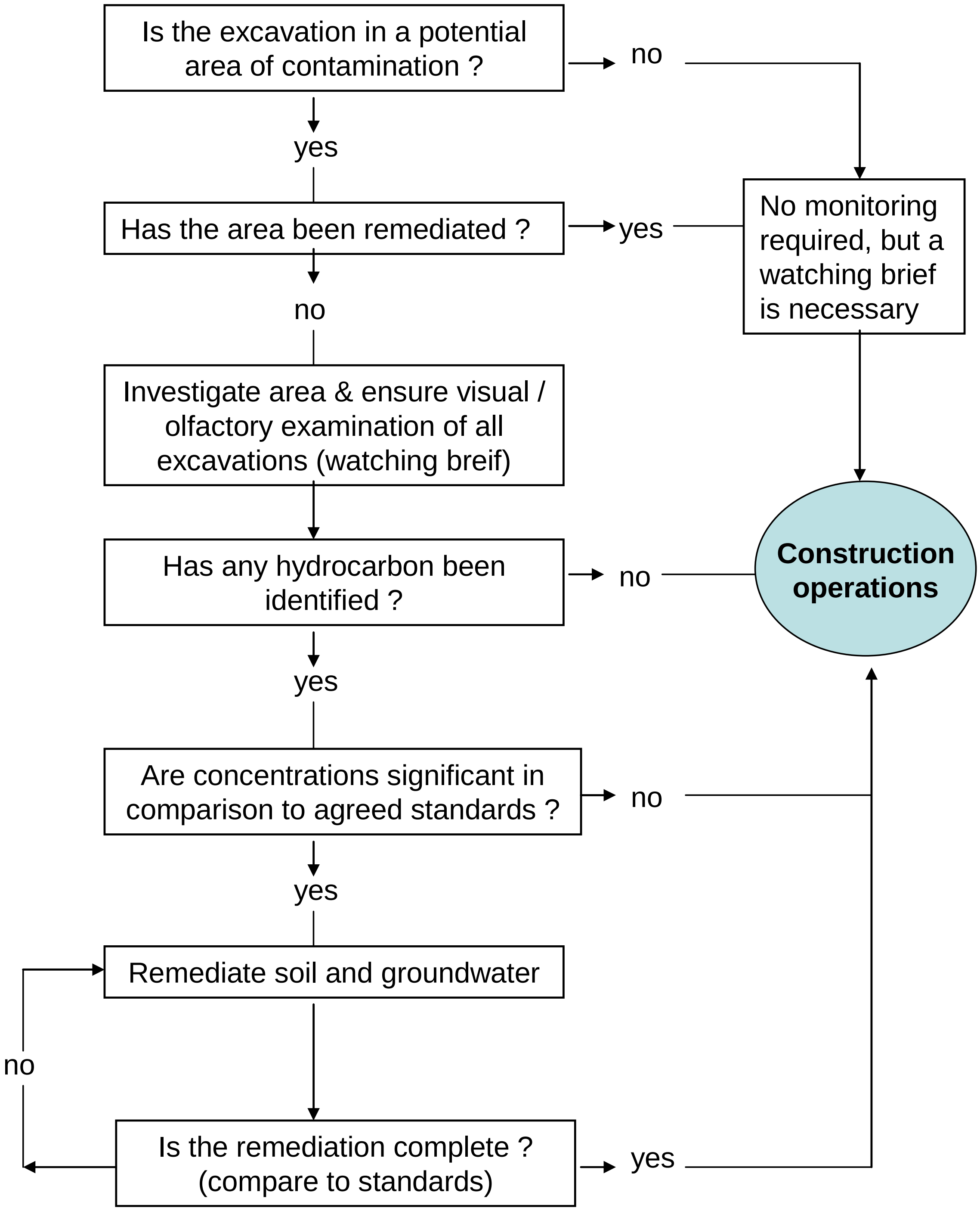
- Exposure of site workers and neighbouring residents to contamination. Detailed method statements and risk assessments will be developed and controls will be put in place such as the wearing of appropriate personal protective equipment by workers and preventing mobilisation of dust by covering and / or damping down of contaminated soil;

- The spreading of contamination via machinery. Adherence to method statements will ensure that all plant and machinery is cleaned regularly to prevent the spread of contaminated soil and water from one area of the site to another;

- The spread of contamination from earthworks. Excavated material will be managed such that the spread of contamination is minimised. Excavated material will be stockpiled on impermeable surfaces and excavations will be dewatered where necessary and any water will be treated to appropriate standards;

- The release of contaminated water to the underlying aquifer. The site directly overlies a Major Aquifer and therefore method statements will include methods of working to prevent this occurring. This will be divided into two components, the first associated with managing the risks from the remaining POL system (these are detailed in Chapter 3 of this report) and the second associated with any residual ground contamination. All necessary soil and / or groundwater remediation in development areas will be carried out prior to construction. The Environment Agency will be consulted with regards to proposed foundation types for the site and any piling designs will consider the potential release of contamination to the aquifer (designs will consider Environment Agency guidance, Ref. 8); and

- Waste management. A site waste management plan will be developed as required for a development of this size. This plan will include method statements for the management of all wastes including contaminated soil and water at the site which will ensure that waste and other relevant legislation is complied with.



Box1: Outline Management Plan for Construction Operations

2.6 Remedial Design and Remediation of Soil and Groundwater

Following the completion of further investigation and risk assessment as part of the mitigation proposals, the preliminary remedial strategy (outlined below) will be developed into a detailed remedial strategy (in accordance with current guidance including CLR 11). The detailed remedial strategy will consider all pollutant linkages present during and after the development and will cover all areas of the site. Remediation Criteria (RC) will be defined and these will comprise the SSAC and engineering based criteria such as appropriate clean up standards and cover thickness to be protective of human health.

The preliminary remedial strategy is as follows (the remedial strategy for the POL System is discussed in detail in the following chapter):

- Define Remediation Criteria – acceptable soil and groundwater concentrations (SSAC) and engineering based criteria (e.g. cover systems). The RC will vary across the site depending on the specific layout of the site, local receptors and nature and extent of any contamination. The location of buried services and their potential to act as contamination pathways will also be considered when deriving the RC;

- Identify areas of the site requiring remediation (based on site specific layout plan):

    1. Soils with contaminant concentrations >SSAC (and where the critical pathway is not broken by the development e.g. hardstanding). Soils containing 'free phase' will also be identified for remediation;

    2. TPH concentrations in groundwater will be compared to a preliminary remedial target (500 µg/l TPH for surface water) at the site boundary, i.e. groundwater targets will be derived across the site through QRA such that the target concentration of 500 µg/l TPH is achieved at the compliance points;

- Remediation of soils by; on site treatment methodologies, excavation, haulage and disposal to licensed treatment / disposal facilities and / or the use of clean soil cover systems. Treatment methods to be considered include bioremediation and stabilisation. The thickness of clean cover will be defined using current guidance (BRE / AGS guidance, Ref. 9);

- Remediation of groundwater by; direct disposal to foul sewer if contaminant concentrations are within the limits set by the local water company, via an on site treatment system (comprising oil water interceptor, air stripping tower and activated carbon filtration unit), and / or by tanker to an off site licensed treatment facility;

- Passive ground gas protection measures may be required in residential houses subject to the results of ground gas monitoring and assessment;

- The remedial strategy will consider fully the potential impacts of the development on contamination and appropriate methodologies will be employed to mitigate the spread or release of contamination;

- Verification testing and reporting will be carried out to confirm that the remedial objectives have been met; and

- Long term monitoring of groundwater will be discussed with the Environment Agency and depending on the remediation required at the site, may be required for a period post development.

3. CLARIFICATION OF RISKS POSED BY THE POL SYSTEM AND PROPOSED APPROACH TO MITIGATE RISKS

3.1 Introduction

The purpose of this chapter is to expand on information presented in the ES (Ref. 1) and the POL Statement submitted to Cherwell District Council on 3rd March 2008 (Ref. 2) relating to the investigation, assessment and remediation of the POL System. The chapter will also provide an update on recent consultation with the Environment Agency.

The POL System currently poses a potential risk to the environment as the system remains in place and is water filled with some residual hydrocarbon contamination. There is a concern that the system could have leaked resulting in pollution that has not been identified, or that the system could leak at some point in the future, thereby causing pollution. This chapter presents proposals to reduce and manage that risk in accordance with the requirements of current guidance (Refs. 3 & 4).

It should be noted that although the POL system is to remain in place at Heyford Park, it is to be drained in its entirety of all water and details of the programme of work proposed prior to this are presented below. In addition, although it is not proposed to remove any of the POL system, if elements are identified that represent an unacceptable risk to the environment, these will be removed in consultation with English Heritage where it involves features of heritage conservation.

3.2 Consultation with the Environment Agency

The following consultation has recently taken place with the EA:

- 18th July 2008 Environment Agency letter to Cherwell District Council – stated that the EA ‘object to the application as submitted because the applicant has not supplied adequate information to demonstrate that the risks posed to groundwater can be safely managed’;
- 12th August 2008 EA letter to Pegasus Planning Group requesting further information, particularly in relation to POL 19;
- 28th August 2008 Enviros Consulting (Enviros) letter to the EA providing the requested information;
- 4th September 2008 EA letter to Enviros with additional queries;
- 12th September 2008 Enviros letter to EA with answers to queries;
- 15th September 2008 meeting between Enviros and the EA to further discuss EA queries and to agree a method of resolving these queries. The latter included provision of the information that is included in this Supplementary Statement.

The correspondence detailed above is included in Appendix 4. The EA will continue to be consulted throughout the design stage. English Heritage will also be consulted with respect to the POL System and remedial proposals, in particular to resolve conflicts between the two sets of legislation.

3.3 Assessment of the POL System

An inventory of the POL System was provided in the POL Statement (Ref. 2. Following a recent desk based review (including extensive walkover survey) and limited additional tank sampling, a more detailed assessment has been completed and the inventory presented in the POL Statement has been developed (included in Appendix 5). The inventory will be further revised and updated as investigations and assessments proceed.

The recent assessment included a review of plans and drawings of the POL system, additional inspection with limited sampling and completing a visit to an operational POL system. The latter allowed us to gain a better understanding of how the POL system would have been operated, and critically what parts of the system would have been isolated, during is operation.

3.4 Potential risk posed by the POL System to Controlled Waters

Records indicate that the POL System (tanks and associated pipework) was cleaned and water filled in the early 1990s. The method of cleaning is unknown and it is clear from recent analysis of some of the tanks that the water is impacted with hydrocarbon contamination to varying degrees. The contents of the POL System therefore pose a potential risk to the underlying aquifer, particularly as the system ages and the risk of a leak increases.

The recent review of the POL System confirmed that the system is no longer connected to an external supply pipe (from Islip) and individual POLs appear to have been disconnected from the POL rings and other tanks. Subject to confirmation that individual POLs are disconnected from the wider system, it will be possible to consider each POL separately with regards to remediation.

3.5 Further Investigation and Remedial Design

The following further investigation and remedial design work will be carried out in relation to the POL System as part of the mitigation measures. The proposed work has been divided into four stages as follows:

Stage 1 – Detailed Assessment

1. Measurement of water levels and presence of any free phase in tanks via dip hatches at three monthly intervals to establish whether the tanks are leaking, and to assess if leaks have already occurred (i.e. if any tanks have low water levels);

2. Collection of water samples from all tanks via dip hatches for chemical analysis;

3. Gain access to valve pits and confirm our assertion that individual POLs are isolated from the main ring (i.e. valves closed are closed or cut off). Where not isolated, investigate to establish whether valves can still be closed;

4. Gain access to above ground and below ground pipework and collect water samples for chemical analysis (a specialist contractor will be used to safely break into pipework to obtain samples). Where above ground pipe junctions are empty, the use of CCTV will be assessed to determine if some below ground sections of pipe contains liquid; and

5. The location of complete runs of underground pipes will be mapped, including branch pipes (unless it is demonstrated that pipework is free of contamination). The location of underground pipework will be completed by specialist contractor using electromagnetic and / or ground radar methods.

All information will be assessed and detailed in a standalone report that will also include recommendations for further work. Some of these are already anticipated (outlined below), but cannot be designed until Stage 1 is complete.

Stage 2 – Additional Assessment and Remediation Strategy

Stage 2 will include further investigation work to gain data not collected during Stage 1 or to address queries / concerns raised by Stage 1. The scope of works is likely to include:

1. Prepare comprehensive health and safety plans to allow access to be gained to manholes (which are classified as confined space) where access for sampling and dipping via the tank dip hatch is not possible. Water samples will then be collected for chemical analysis;

2. Complete asbestos survey at each POL (particularly within pump control points and manhole access points) prior to further inspection work and / or remediation;

3. If Stage 1 demonstrates significant variability in the nature of the pipeline and its contents across the site then further assessment and water sampling of the pipework will be undertaken;

4. Pressure testing of tanks that are not water filled, or where dipping indicates a reducing water level to determine if these tanks have / are leaking;

5. Installation of groundwater monitoring boreholes at locations where leaks are identified and initiate groundwater monitoring; and

6. Develop the preliminary POL system remedial strategy (shown in Box 2) based on investigation results and considering the following:

- Method of draining down;

- Water quantity and quality in tanks and pipework;

- The presence of any sludge, its quality and possible quantity;

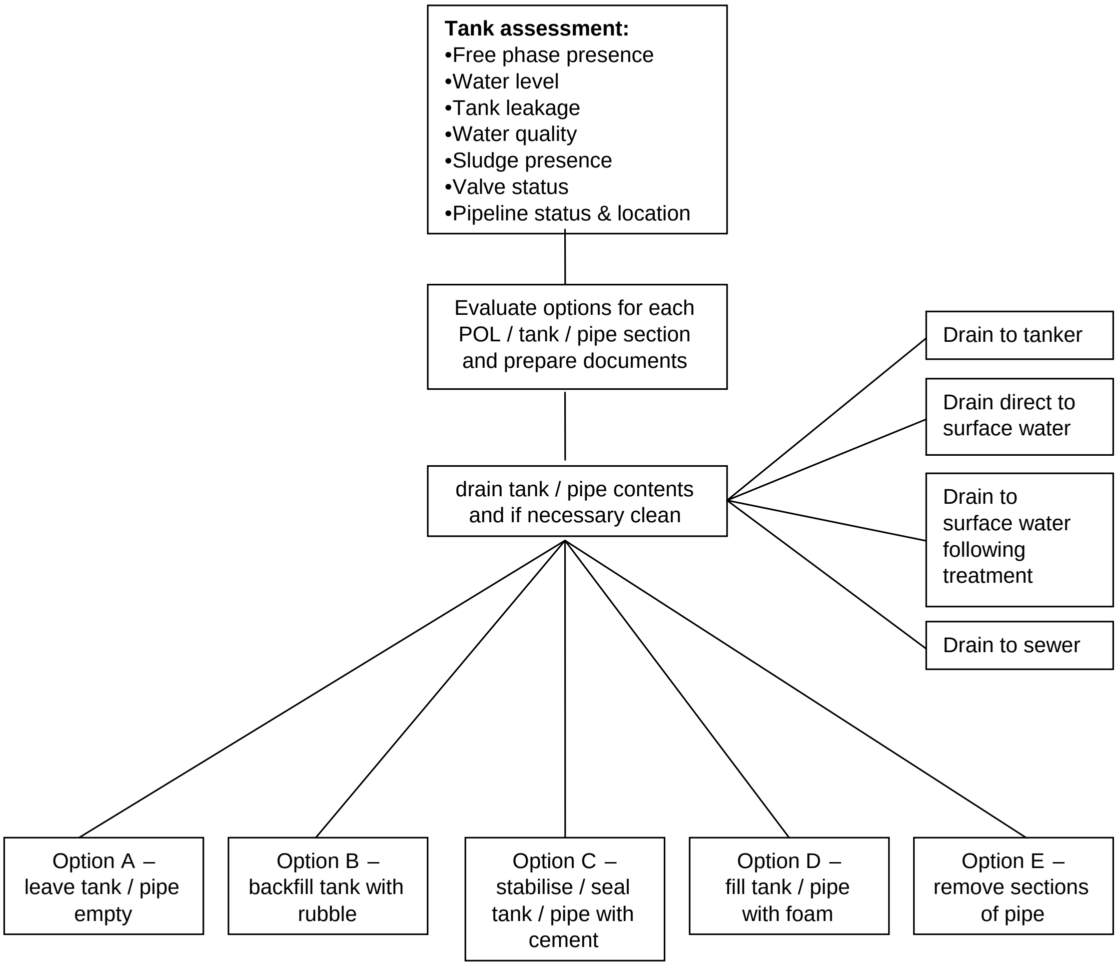
- The water discharge location and any necessary treatment prior to discharge;

- Whether tanks and pipework are to be cleaned, left empty or filled with grout, foam or demolition rubble;

- Access points to the tanks and pipework; and

- Health and safety aspects.

The findings of Stage 2 will be detailed in a comprehensive report.



Box 2 Heyford Park POL System Preliminary Management Strategy

Stage 3 – Ground Investigations

Based on the findings of Stage 1 and 2, a comprehensive ground investigation will be completed to target identified areas of concern. A preliminary ground investigation design has been prepared and includes:

1. Investigation of ground and groundwater in vicinity of POL System and in particular previously or recently identified spill or leak points;

2. Excavation of minimum of 75 No. trial pits (for the whole site) and the collection of soil samples for chemical analysis to supplement the 1997 Aspinwall investigation;

3. Installation of a minimum of 30 No. groundwater monitoring boreholes (for the whole site), the majority of which will target the POL System. Completion of three groundwater monitoring rounds at monthly intervals; and

4. Data assessment and reporting.

This outline site investigation design will be reviewed following completion of Stages 1 and 2 and a detailed design will be prepared, including the location of all monitoring points, the depth of these and the completion and monitoring details.

Stage 4 – Remediation Strategy

This stage will involve the development of a detailed remedial strategy for the POL System. The Environment Agency and English Heritage will be consulted for final approval of the detailed remedial strategy. On the basis of available information, the strategy currently envisaged is summarised as follows:

1. Methodologies for the drain down of the entire POL System. Each POL (tanks and associated pipework) will be considered individually, and the most appropriate methodology for each will be identified based on water quality and various physical / engineering considerations;

2. Different discharge solutions may be applied to individual POLs dependent on water quality and quantity. Where the currently preferred option of discharge to streams is appropriate, consents will be applied for to allow discharge of POL water to surface watercourses, after passing through on site treatment systems if necessary;

3. Cleaning, leaving empty or filling (grout, foam or rubble) of tanks and pipework in accordance with current guidance (Ref. 10) in order to stabilise the features. As outlined in the POL Statement (Ref. 2), it is currently envisaged that the POL system, in particular the major tanks, will be filled with appropriately graded demolition material. It may be appropriate to fill remaining small voids and some of the smaller POL structures with foam, grout or similar. It is also currently envisaged that the POL infrastructure will remain in place, but this will be subject to detailed risk assessment to determine if an unacceptable risk to controlled waters remains. It is anticipated that each POL is, or can be isolated and therefore different remedial solutions may be applied across the site. It is possible that some sections of the POL pipework may require removal, either because they are considered to pose an unacceptable risk to controlled waters or due to construction;

4. Soil and groundwater remediation will be carried out in the vicinity of the POL System where SSAC are exceeded (see previous chapter);

5. Verification testing and reporting will be carried out to confirm that the remedial objectives have been met and specifically that the remaining POL infrastructure does not and will not in the future pose an unacceptable risk to controlled waters; and

6. Long term monitoring of surface water and groundwater will be discussed with the Environment Agency and depending on the remediation required at the site, may be required for a period post development.

The detailed remediation strategy will also consider the impact of the development (as discussed in previous chapter) and the potential for remaining POL pipework to provide a pathway for contamination.

Timescales

Further investigation and assessment of the POL system and the development of the preliminary POL system remedial strategy (Stages 1 and 2) will be completed within 1 year of receipt of outline Planning Consent. The ground investigation work (Stage 3) will be completed within 2 years of receipt of outline Planning Consent after which the detailed remediation strategy will be finalised and agreed with regulators (Stage 4) All necessary remediation (site wide including flying field) will be carried out prior to the completion of the development.

4. CONCLUSIONS

This report demonstrates that, as part of the overall mitigation proposals and detailed design of the scheme, the site will be further investigated, assessed and remediated in accordance with current guidance – this will all be completed as part of detailed design work. Contamination posing an unacceptable risk to either human health or the environment will be remediated. The following commitments are made:

- All potential contaminant sources and previously identified contamination will be further assessed and investigated where appropriate (including all of the POL System);
- Further investigation will comprise a minimum of 75 No. trial pits and 30 No. groundwater monitoring boreholes;
- A detailed investigation will be conducted on the POL System including the sampling and analysis of water in all tanks and pipework. This work will be completed within 1 year of receipt of outline Planning Consent;
- Generic and detailed quantitative risk assessment will be completed on soil and groundwater data and SSAC will be developed;
- The POL system will be fully drained and the drained water treated appropriately prior to disposal. Whilst it is not proposed to remove any of the POL system, if elements are identified that represent an unacceptable risk to the environment and removal of this risk via remediation is not technically or otherwise feasible, these will be removed in consultation with the Environment Agency and English Heritage;
- A detailed remedial strategy will be developed for the site (including the POL System) and all necessary remediation (site wide including flying field) will be carried out prior to the completion of the development; and
- The Environment Agency will be consulted throughout the detailed design process and English Heritage will be consulted with respect to remediation of the POL System.

5. REFERENCES

1. Heyford Park Environmental Statement, 2007.

2. Heyford Park: POL Statement, Arup, 2008.

3. Planning Policy Statement 23: Planning and Pollution Control, Office of the Deputy Prime Minister, 2004.

4. Department for Environment, Food & Rural Affairs / Environment Agency Model Procedures for the Management of Land Contamination (CLR11), 2003.

5. Investigation of Potentially Contaminated Sites – Code of Practice, BS 10175:2001, BSi.

6. Guidance for the Safe Development of Housing on Land Affected by Contamination, R & D Publication 66:2008, Environment Agency, NHBC, Chartered Institute Environmental Health.

7. Assessing Risks Posed by Hazardous Ground Gases to Buildings, CIRIA, 2007.

8. Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention, National Groundwater and Contaminated Land Centre report NC/99/73, Environment Agency, 2001.

9. Cover Systems for Land Regeneration, Thickness Design of Cover Systems for Contaminated Land, BRE, AGS, 2004.

10. Groundwater Protection Code – Petrol Stations and Other Fuel Dispensing Facilities Involving Underground Storage Tanks, Defra, 2002.

APPENDICES

1 TRIAL PIT AND BOREHOLE LOGS (ASPINWALL 1997)

Appendix

3

Trial Pit Logs

Soil Vapour Survey -Miscellaneous Locations

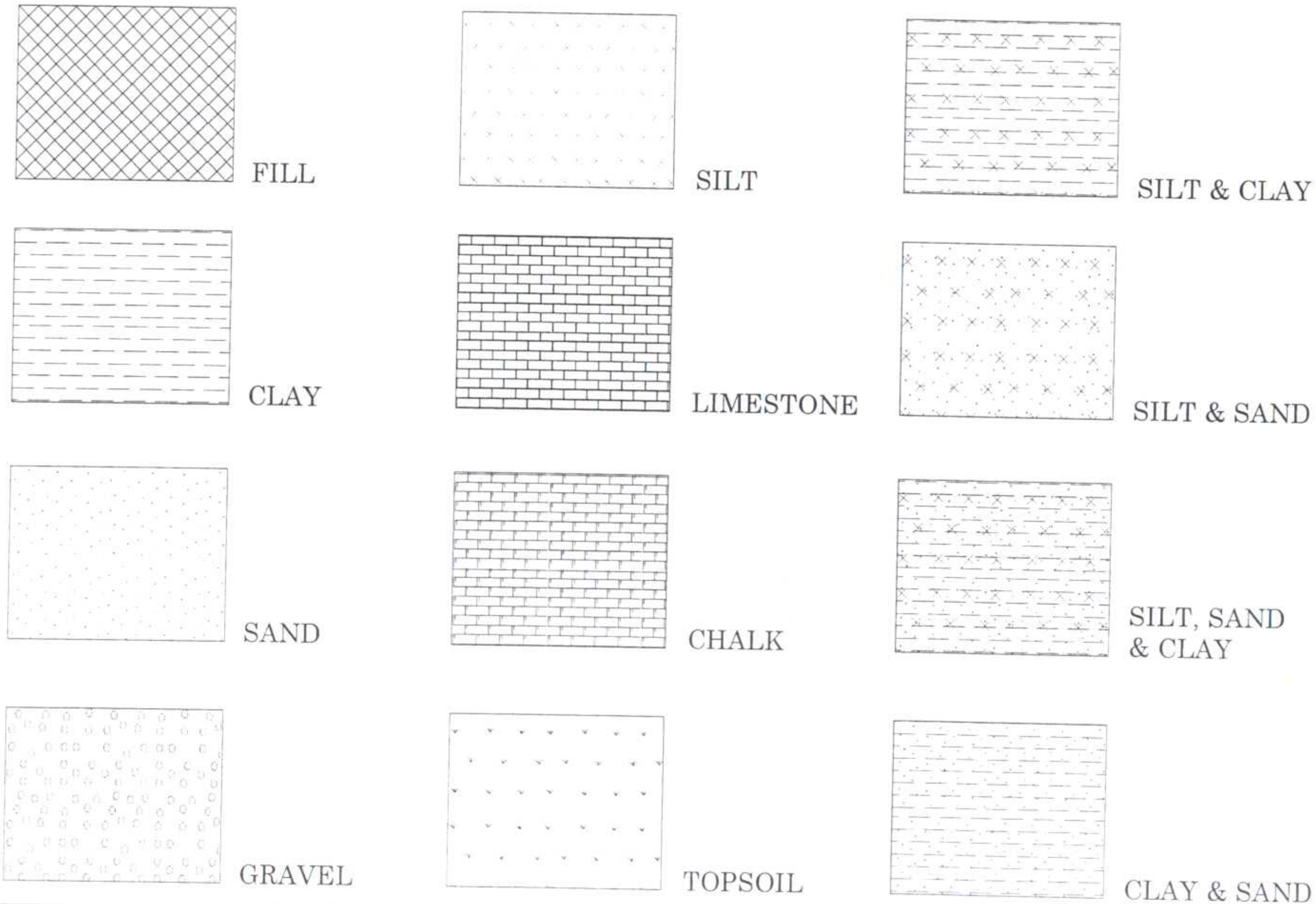
SVS Point Number	Depth (m)	Gas Concentration (ppm)	Area
Building 320 AST's			
114	0.3	<1.0	A
115	1	<1.0	A
116	0.9	<1.0	A
117	1	<1.0	A
118	0.7	<1.0	A
119	0.6	<1.0	A
Building 345 AST			
120	0.8	<1.0	A
De-Icing Fluid Storage Tanks			
127	0.4	<1.0	A
128	0.6	<1.0	A
Trial Pit Replacements			
121	0.8	<1.0	A, replaces TP37
122	1	<1.0	A, replaces TP115
123	1	<1.0	A, replaces TP48
124	1	<1.0	A, replaces TP33
125	0.5	<1.0	A, replaces TP114
126	1.1	1	A, replaces TP30
Building 221/255			
110	0.8	<1.0	C
111	1	<1.0	C

Soil Vapour Survey - Fire Practice Area

SVS Point Number	Depth (m)	Gas Concentration (ppm)	Area
1	0.4	< 1.0	FPA
2	0.5	< 1.0	FPA
3	0.4	< 1.0	FPA
4	0.4	< 1.0	FPA
5	0.3	< 1.0	FPA
6	0.4	>10,000	FPA
7	0.5	>10,000	FPA
8	0.4	>10,000	FPA

TRIAL PIT LOGS - Notation

Legend



Notes:

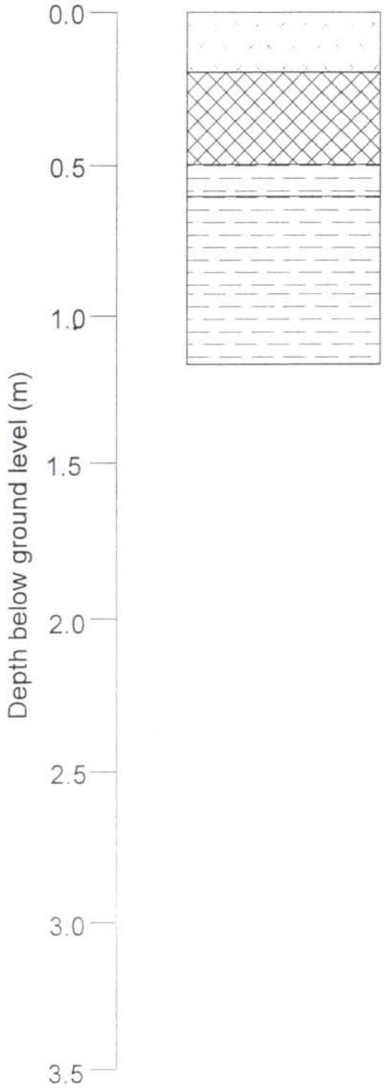
Where material encountered was obviously fill it has been labelled as such. In many areas the ground has been re-worked and it is not always possible to distinguish this from natural ground. In these instances the legend used represents the dominant soil material present.

National grid references are quoted to 4 figures, taken from the OS 1:25,000 scale map of the area. Locations are shown on the site plans. All grid references are prefixed by SP.

Aspinwall&company	**TRIAL PIT LOG**	**TP149**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5105, 2650

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Sunny, dry

Legend



Depth (m)	DESCRIPTION
0.2 m	Dry compact silt with much gravel surface over dry loose brown sandy silt with much fine to coarse gravel of limestone
0.5 m	Soft brown and black sandy clay with much fine gravel to cobbles sized limestone and clinker, some roots also present
0.6 m	Moist black sandy clay and fine gravel to cobbles of limestone
1.15 m	Dark brown and orange sandy clay with much fine gravel to subangular boulders of limestone

END OF TRIAL PIT 1.15 m

Scale: **1:25**

Remarks: Strong hydrocarbon odour.

Water: None

Stability: Moderate

Time trench open: 30 mins

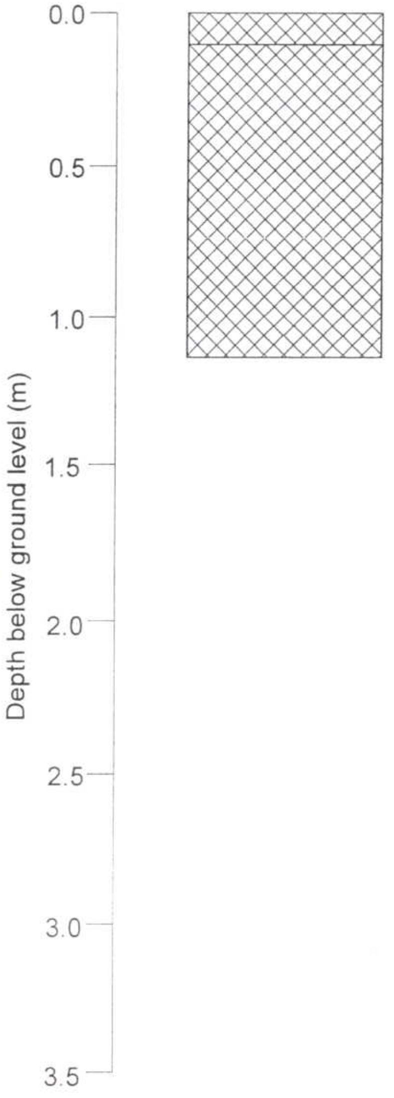
Sample	TP149	TP149	TP149
Depth	0.3 m	0.5 m	1.15 m
Type	SOIL	SOIL	SOIL
Test			

Logged by: ERM

Date: 01.05.97

Aspinwall&company	**TRIAL PIT LOG**	**TP148**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5110, 2650

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, sunny



Depth (m)	DESCRIPTION
0.1 m	Soft light brown sandy silt with much fine gravel to cobble sized subangular limestone and occasional fine to coarse gravel sized ash and clinker
1.1 m	**South West Side of Trial Pit** Soft red/brown silty sandy clay with much fine gravel to cobbles sized ash and clinker, some black staining **North East Side of Trial Pit** Soft red/brown sandy silt and fine gravel to cobbles of subangular limestone

END OF TRIAL PIT 1.1 m

Scale: **1:25**

Remarks: Slight petroleum odour from 0.7 m on south west side.

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP148	TP148					
Depth	0.2 m	0.8 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 01.05.97

Aspinwall&company	**TRIAL PIT LOG**	**TP147**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5103, 2641

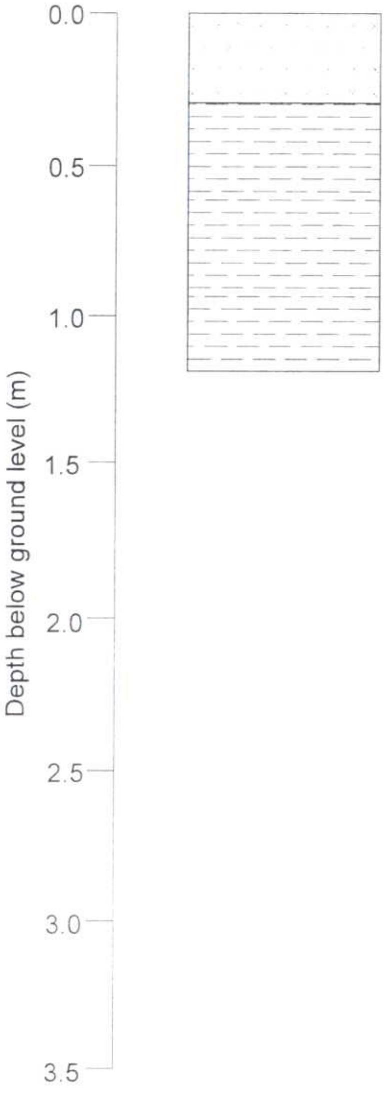
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Sunny, dry

Legend	**Depth (m)**	**DESCRIPTION**
	0.3 m	Dry compact silt with much medium gravel surface over dry loose pale brown sandy silt and fine to coarse gravel of limestone
	1.2 m	Soft red/brown sandy clay and fine gravel to cobbles of limestone. Piece of plastic (bag) at 0.6 m



END OF TRIAL PIT 1.2 m

Scale: **1:25**

Remarks:

Water: None

Stability: Moderate - Poor

Time trench open: 30 mins

Sample	TP147	TP147						**Logged by:** ERM
Depth	0.35 m	1.2 m						
Type	SOIL	SOIL						**Date:** 01.05.97
Test								

Aspinwall&company

TRIAL PIT LOG

TP146

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

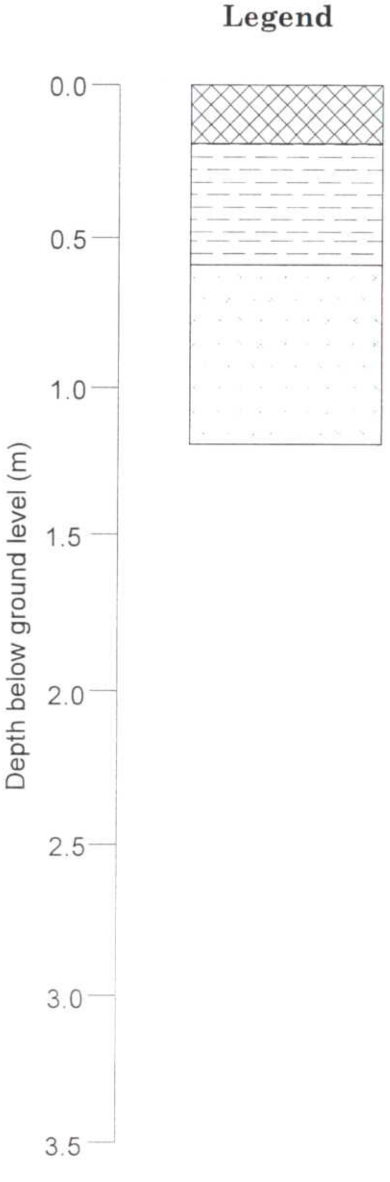
Grid Ref.: 5103, 2645

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Sunny, dry



Depth (m)	DESCRIPTION
0.2 m	Dry compact silt and medium gravel surface over soft dark brown sandy silt with some fine to coarse gravel of limestone. A little gravel sized black ash and clinker present at 0.2 m
0.6 m	Soft medium brown sandy clay with much fine gravel to cobbles of limestone
1.2 m	Light brown clayey sandy silt with fine gravel to sub-angular boulders of limestone

END OF TRIAL PIT 1.2 m

Scale: **1:25**

Remarks: Strong odour of hydrocarbons.

Water: None

Stability: Moderate

Time trench open: 30 mins

Sample	TP146	TP146					
Depth	0.3 m	1.2 m					
Type	SOIL	SOIL					
Test							

Logged by: ERM

Date: 01.05.97

Aspinwall&company

Client: Defence Estate Organisation

TRIAL PIT LOG

CAN No: MD3333A

Ground Level - m A.O.D. approx.

TP145

Sheet 1 of 1

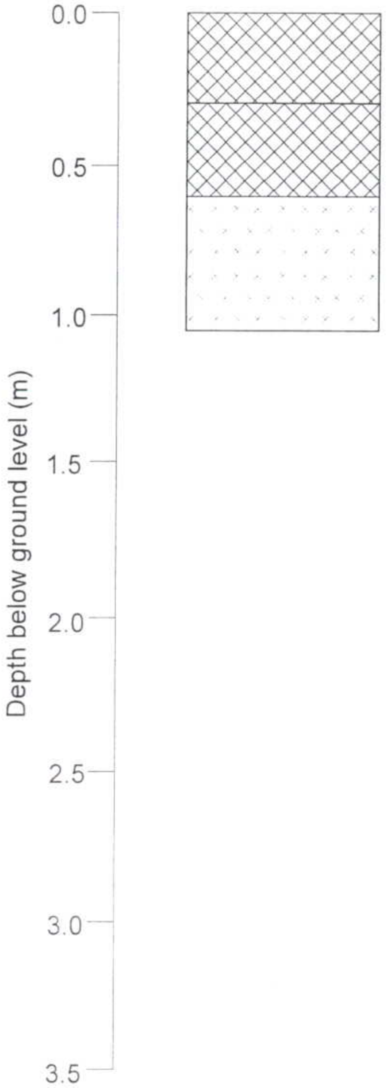
Grid Ref.: 5109, 2640

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny



Depth (m)	DESCRIPTION
0.3 m	Soft light brown sandy silt with much fine gravel to cobbles sized subangular limestone and a little loose sand and gravel sized ash and clinker
0.6 m	Soft to firm red/brown sandy and clayey silt with a little fine gravel sized limestone and ash
1.05 m	Soft orange brown sandy clayey silt with fine gravel to cobbles sized subangular limestone

END OF TRIAL PIT 1.05 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP145	TP145	TP145				
Depth	0-0.3 m	0.45 m	1.0 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: HHU

Date: 01.05.97

Aspinwall&company

TRIAL PIT LOG

TP144

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - **m A.O.D.** approx.

Grid Ref.: 5106, 2640

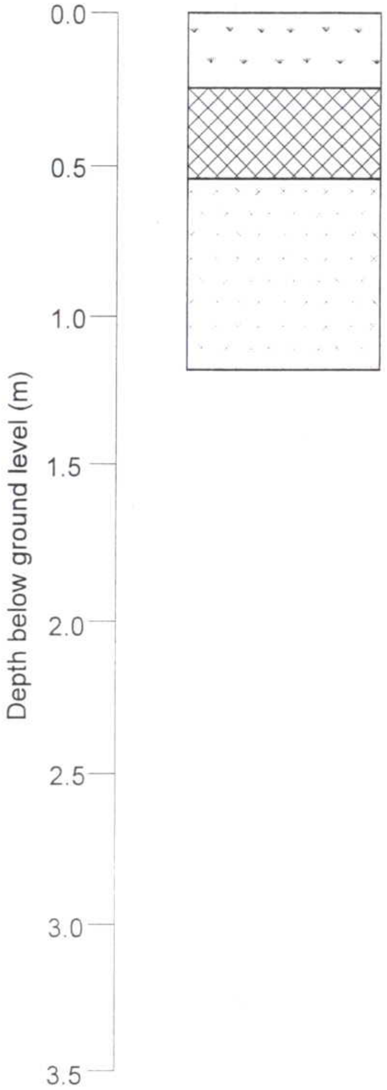
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.25 m	Soft light brown sandy silt with much fine gravel to cobbles of subangular limestone
0.55 m	Loose black sand to gravel sized ash and clinker
1.2 m	Soft red/brown sandy and clayey silt and fine gravel to cobbles sized subangular limestone

END OF TRIAL PIT 1.2 m

Scale: **1:25**

Remarks: Slight petroleum odour from 0.55 m.

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP144	TP144	TP144				
Depth	0.4 m	0.5 m	1.1 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: HHU

Date: 01.05.97

Aspinwall&company	**TRIAL PIT LOG**	**TP143**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5105, 2645

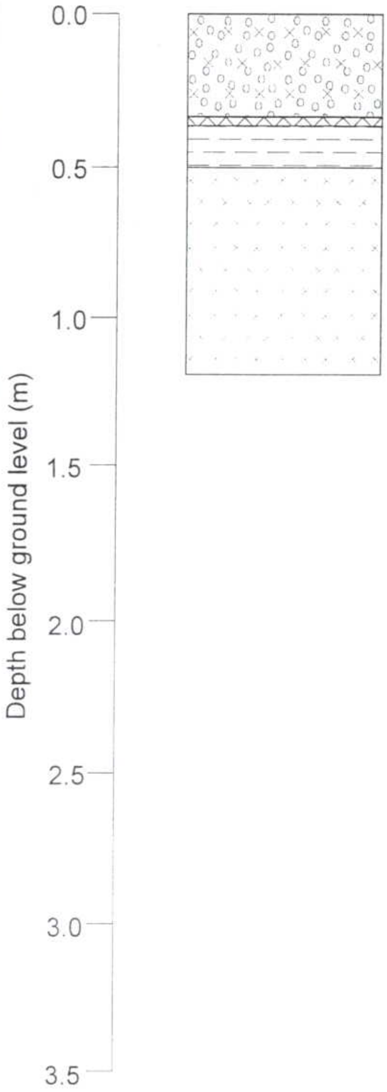
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Sunny, dry

Legend



Depth (m)	**DESCRIPTION**
0.3 m	Dry compact silt and fine to medium gravel surface over soft light brown silty sand with many pockets of loose orange sand and with some fine to coarse gravel of limestone
0.35 m	Layer of medium gravel sized black ash, clinker
0.5 m	Soft dark brown sandy clay with much fine to coarse gravel of limestone
1.2 m	Clayey sandy silt with fine gravel to subangular boulders of limestone

END OF TRIAL PIT 1.2 m

Scale: **1:25**

Remarks:

Water: None

Stability: Moderate

Time trench open: 30 mins

Sample	TP143	TP143	TP143				
Depth	0.3 m	0.45 m	1.2 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: ERM

Date: 01.05.97

Aspinwall&company

TRIAL PIT LOG

TP142

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

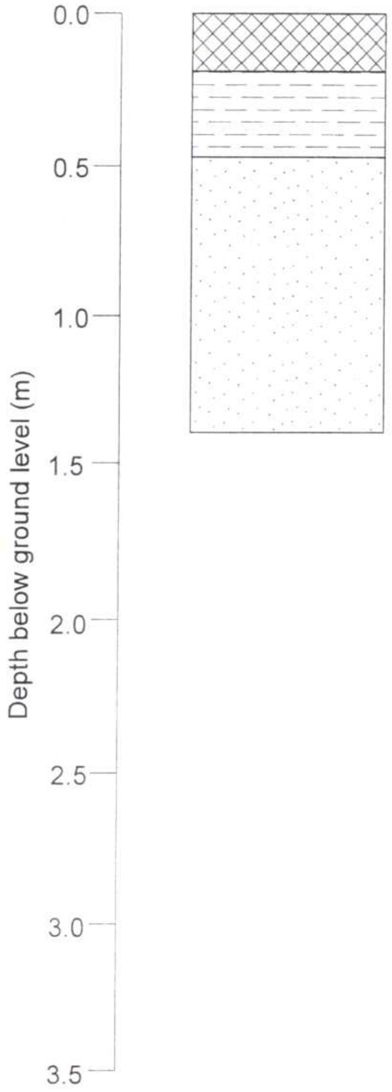
Grid Ref.: 5108, 2645

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Sunny, dry



Depth (m)	DESCRIPTION
0.2 m	Dry compact silt and fine to medium gravel surface over soft brown sandy, clayey silt with much fine to coarse gravel with a little fine to medium gravel sized ash and clinker. Layer of medium gravel sized clinker and ash at 0.2 m
0.45 m	Soft brown sandy silty clay with much fine gravel to cobbles of limestone
1.4 m	Orange brown clayey sand and cobbles to subangular boulders of limestone

END OF TRIAL PIT 1.4 m

Scale: **1:25**

Remarks: Slight odour of hydrocarbons.

Water: None

Stability: Moderate

Time trench open: 30 mins

Sample	TP142	TP142					
Depth	0.2 m	1.4 m					
Type	SOIL	SOIL					
Test							

Logged by: ERM

Date: 01.05.97

Aspinwall&company

TRIAL PIT LOG

TP141

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

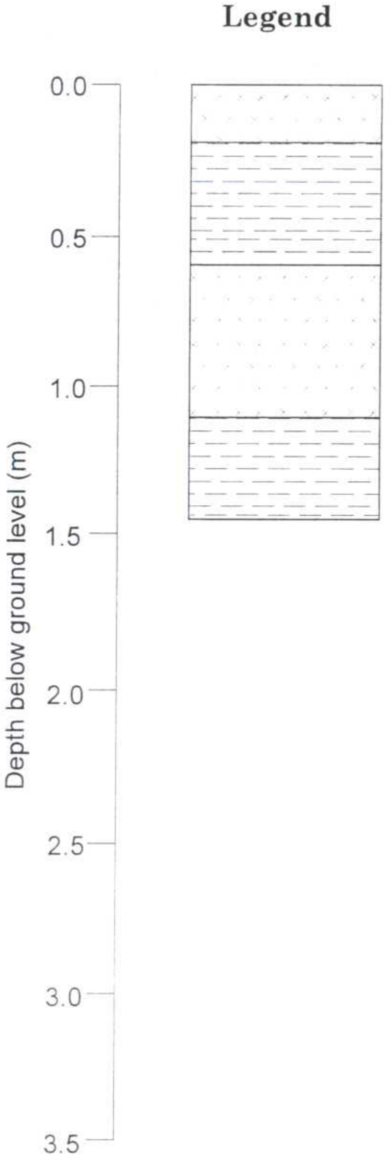
Grid Ref.: 5134, 2608

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Sunny, dry



Depth (m)	DESCRIPTION
0.2 m	Grass over soft brown slightly sandy silt with some fine to coarse gravel of limestone. Fine roots present
0.6 m	Soft brown silty sandy clay with a little fine to coarse gravel of limestone
1.1 m	Soft pale brown sandy silt with many cobbles of limestone
1.45 m	Soft grey and brown sandy clay with much fine gravel to boulders of limestone

END OF TRIAL PIT 1.45 m

Scale: **1:25**

Remarks: Bedrock at 1.45 m.

Water: None

Stability: Good

Time trench open: 30 mins

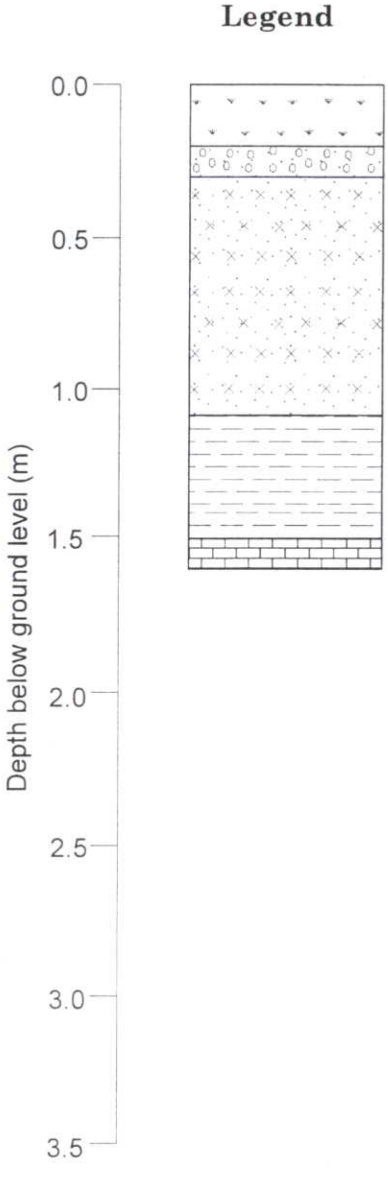
Sample	TP141	TP141					
Depth	0.4 m	1.45 m					
Type	SOIL	SOIL					
Test							

Logged by: ERM

Date: 30.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP140**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5114, 2607

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Raining



Depth (m)	DESCRIPTION
0.2 m	Dark brown sandy silty clay with occasional fine to coarse, subrounded gravel
0.3 m	Light brown, fine to coarse sand and fine to coarse gravel
1.1 m	White light brown angular to subrounded cobbles of weathered limestone in a light brown sandy, silty clay matrix
1.5 m	Light brown and occasionally dark brown slightly sandy firm clay with cobbles of angular weathered limestone
1.6 m	White and light brown angular cobbles of weathered limestone with light and dark brown sandy, silty clay matrix

END OF TRIAL PIT 1.6 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 15 mins

Sample	TP140	TP140						**Logged by:** SLH
Depth	0.3 m	1.3 m						
Type	SOIL	SOIL						**Date:** 25.04.97
Test								

Aspinwall&company

TRIAL PIT LOG

TP139

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5009, 2651

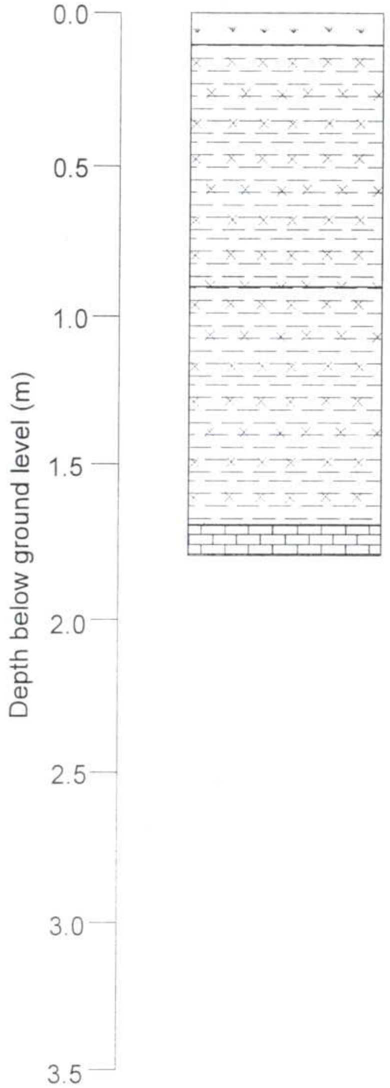
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast

Legend



Depth (m)	DESCRIPTION
0.1 m	Loose light grey gravelly sandy silt
0.9 m	Loose beige-orange-brown matrix of silty clay with loose angular limestone of gravel to boulder size
	Firm green-dark grey mottled silty clay with some rounded limestone gravel and traces of vegetation
1.7 m	Loose beige-grey very sandy silt with some subangular limestone gravel
1.8 m	Top of weathered bedrock

END OF TRIAL PIT 1.8 m

Scale: **1:25**

Remarks:

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP139	TP139	TP139				
Depth	0.5 m	1.1 m	1.7 m				
Type	SOIL	SOIL	SOIL				
Test							

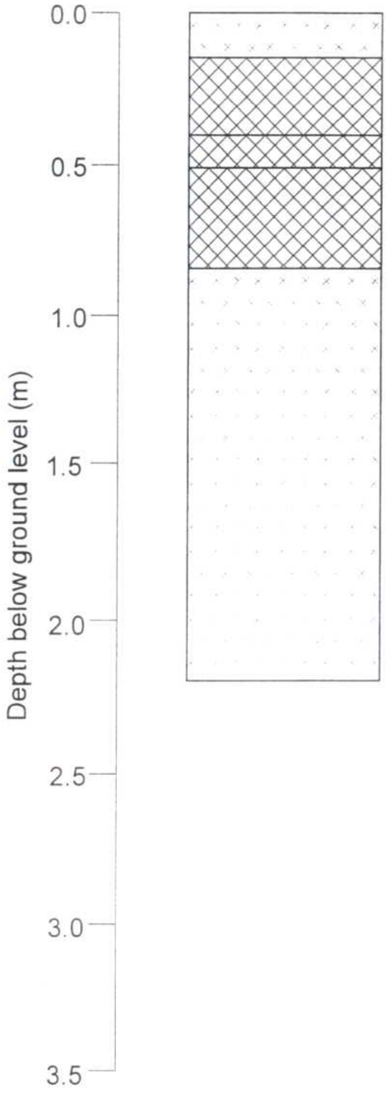
Logged by: ABW

Date: 22.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP138**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5058, 2610

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.15 m	Grass over brown sandy silt with many fine roots
0.4 m	Loose fine gravel to cobble sized white subangular limestone in a brown silty clayey sand matrix
0.5 m	Tarmac
0.85 m	Soft orange brown mottled grey sandy clay and fine gravel to cobble sized subangular limestone and occasional fine gravel sized ash, clinker and brick
2.2 m	Soft grey slightly sandy and clayey silt with occasional fine to coarse gravel of limestone

END OF TRIAL PIT 2.2 m

Scale: **1:25**

Remarks: Petroleum odour from 0.85 m.

Water: Encountered at 1.9 m

Stability: Good

Time trench open: Overnight

Sample	TP138	TP138	TP138	TP138			
Depth	0.3 m	0.7 m	1.5 m	-			
Type	SOIL	SOIL	SOIL	WATER			
Test							

Logged by: HHU

Date: 30.04.97

Aspinwall&company

TRIAL PIT LOG

TP137

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

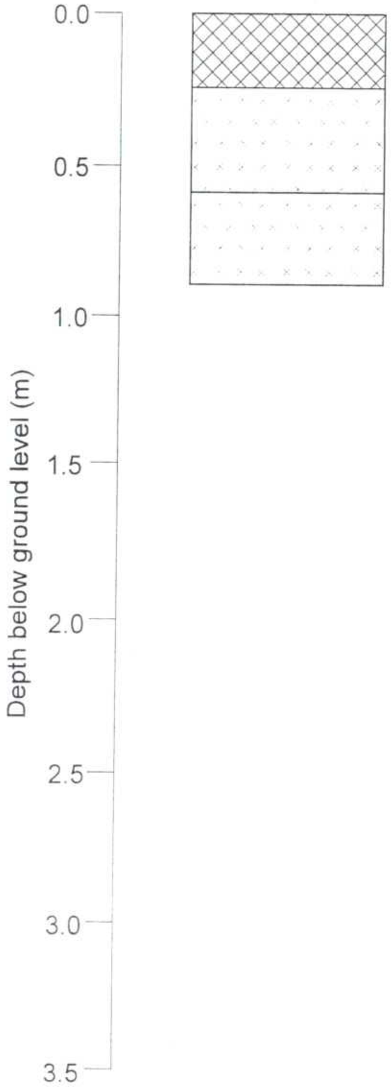
Grid Ref.: 5099, 2612

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny



Depth (m)	DESCRIPTION
0.25 m	Grass over loose medium brown silty clayey sand with much roots and a little fine to coarse gravel sized limestone and occasional fine gravel sized ash
0.6 m	Soft red/brown sandy silt and fine gravel to cobble sized subangular limestone
0.9 m	Soft light brown/orange sandy silt and fine gravel to cobbles of subangular limestone

END OF TRIAL PIT 0.9 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP137	TP137					
Depth	0.2 m	0.9 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 01.05.97

Aspinwall&company

TRIAL PIT LOG

TP136

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - **m A.O.D.** approx.

Grid Ref.: 5063, 2737

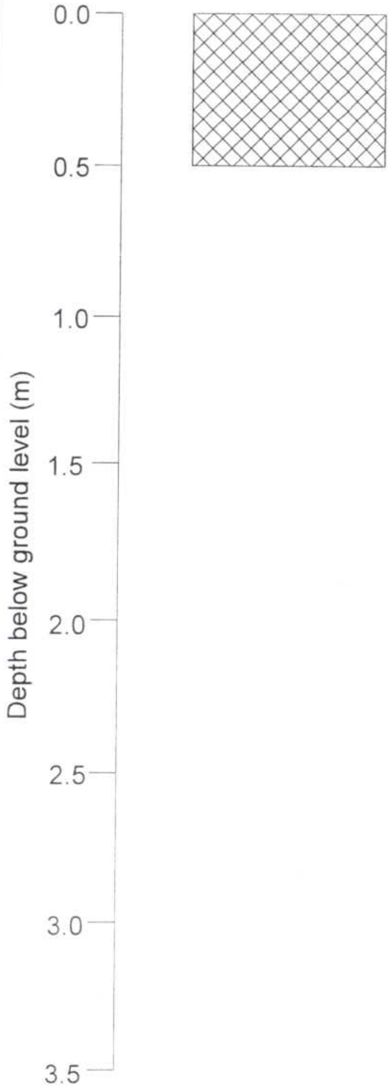
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend	Depth (m)	DESCRIPTION
▨		Grass and moss showing phytotoxic effects over brown sandy silt Tarmac and concrete road uncovered (15-20 cm thick)
	0.5 m	



END OF TRIAL PIT 0.5 m

Scale: **1:25**

Remarks: Trial pit abandoned due to presence of road.

Water:

Stability:

Time trench open:

Sample							
Depth							
Type							
Test							

Logged by: ERM

Date: 01.05.97

Aspinwall&company

TRIAL PIT LOG

TP135

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - **m A.O.D.** approx.

Grid Ref.: 5325, 2713

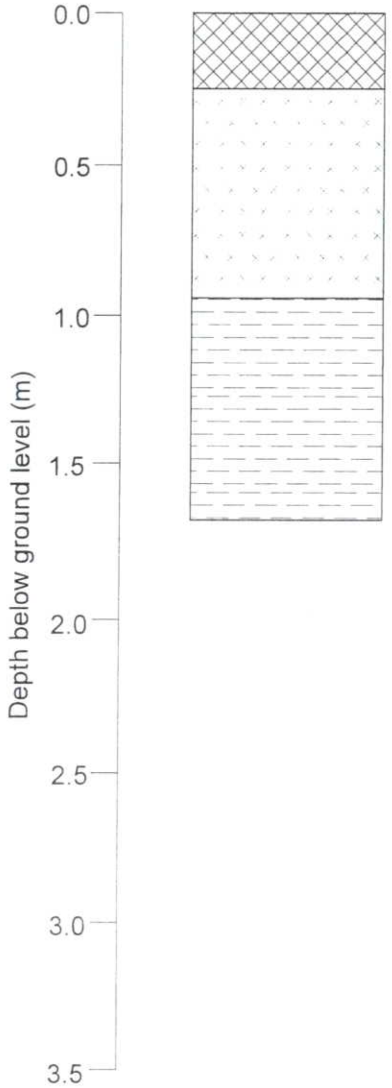
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.25 m	Thin broken weathered layer of tarmac with grass and weeds over soft pale brown sandy silt with fine to coarse gravel sized limestone and tarmac
0.95 m	Soft light brown sandy silt with much fine gravel to cobbles of limestone
1.7 m	Soft pale brown sandy clay and fine gravel to cobbles of limestone

END OF TRIAL PIT 1.7 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP135	TP135	TP135				
Depth	0.2 m	0.5 m	1.7 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: ERM

Date: 01.05.97

Aspinwall&company

TRIAL PIT LOG

TP134

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5200, 2627

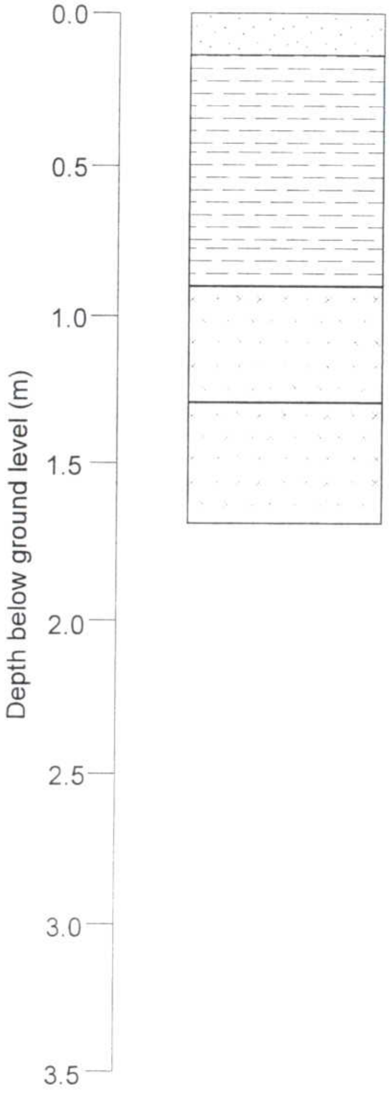
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.15 m	Grass over loose medium brown silty/clayey sand with much fine roots and a little fine to coarse gravel of flint and limestone
0.9 m	Soft to firm red/brown sandy silty clay with many fine gravel to cobble sized limestone and flint
1.3 m	Soft dark grey/brown sandy clayey silt with a little fine gravel to cobble sized limestone
1.7 m	Soft orange/grey slightly clayey silt with a little fine gravel to cobbles of limestone

END OF TRIAL PIT 1.7 m

Scale: **1:25**

Remarks: Petroleum odour from 0.9 m.

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP134	TP134	TP134				
Depth	0.5 m	1.0 m	1.6 m				
Type	SOIL	SOIL	SOIL				
Test							

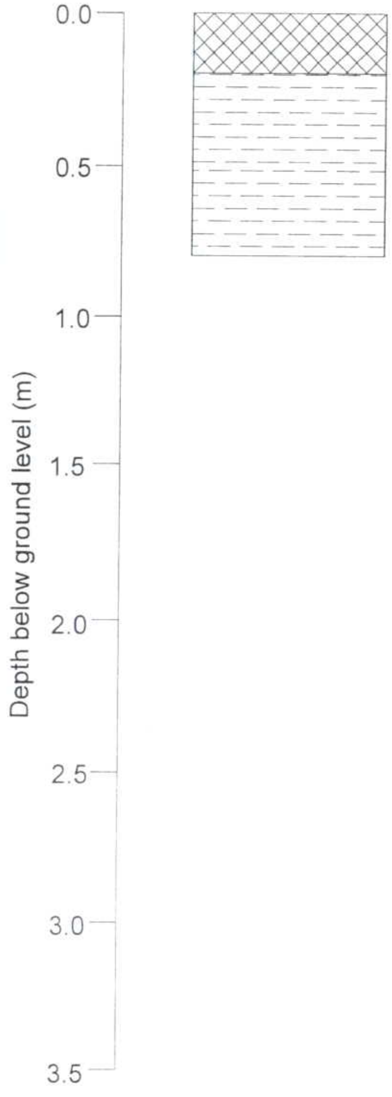
Logged by: HHU

Date: 01.05.97

Aspinwall&company	**TRIAL PIT LOG**	**TP133**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5177, 2565

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, sunny

Legend



Depth (m)	**DESCRIPTION**
0.2 m	Tarmac
0.8 m	Soft yellow/brown silty sandy clay with much subangular fine gravel to boulders sized limestone fragments

END OF TRIAL PIT 0.8 m

Scale: **1:25**

Remarks: Possible asbestos sheet cement fragments found on surface near TP133.

Water: None

Stability: Poor

Time trench open: 30 mins

Sample	TP133						
Depth	0.25 m						
Type	SOIL						
Test							

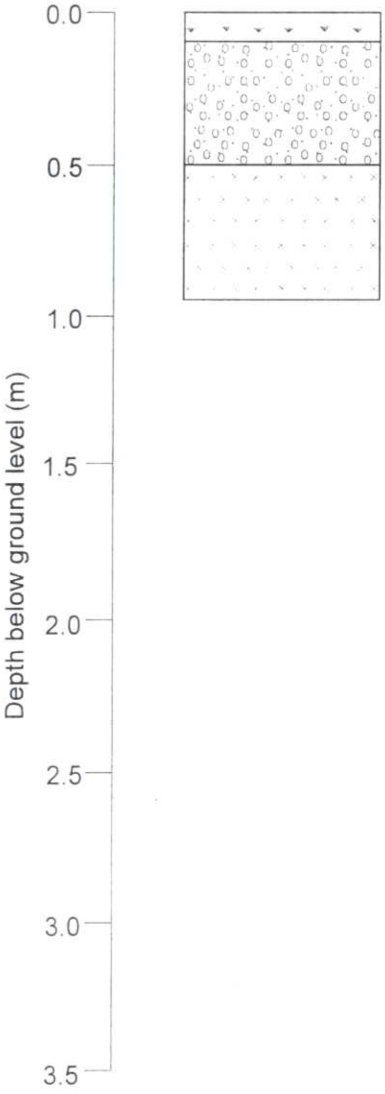
Logged by: HHU

Date: 21.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP132**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5103, 2628

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, overcast

Legend



Depth (m)	DESCRIPTION
0.1 m	Grass over loose medium silty clayey sand with much fine roots and some fine to coarse gravel of flint
0.5 m	Loose orange brown silty sand and fine gravel to cobbles of white subangular limestone
0.95 m	Soft orange brown clayey sandy silt with much fine gravel to cobbles of subangular limestone

END OF TRIAL PIT 0.95 m

Scale: **1:25**

Remarks: Severed gas connector pipe at 0.9 m.

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP132	TP132						**Logged by:** HHU
Depth	0.1 m	0.7 m						
Type	SOIL	SOIL						**Date:** 24.04.97
Test								

Aspinwall&company	**TRIAL PIT LOG**	**TP131**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5155, 2571

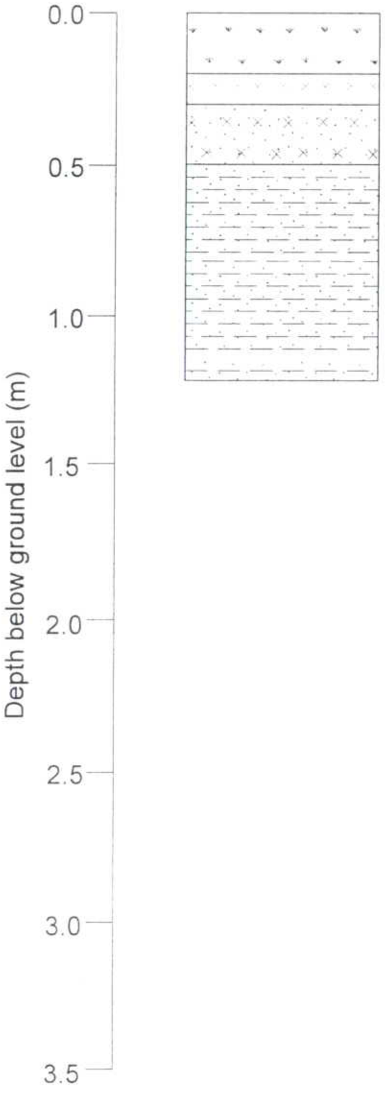
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Sunny, dry

Legend



Depth (m)	DESCRIPTION
0.2 m	Loose, mid brown - light brown silty fine sand with roots and some limestone gravel
0.3 m	Loose black silt with roots
0.5 m	Loose red-brown clayey silty sand with gravel to cobble sized limestone
1.2 m	Loose red-brown clayey sand with cobble sized limestone fragments (weathered bedrock). Boulder of limestone Weathered limestone bedrock end of trial pit

END OF TRIAL PIT 1.2 m

Scale: **1:25**

Remarks: Trial pit ended at 1.2 m with weathered top of bedrock.

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP131	TP131					
Depth	0.2 m	0.5 m					
Type	SOIL	SOIL					
Test							

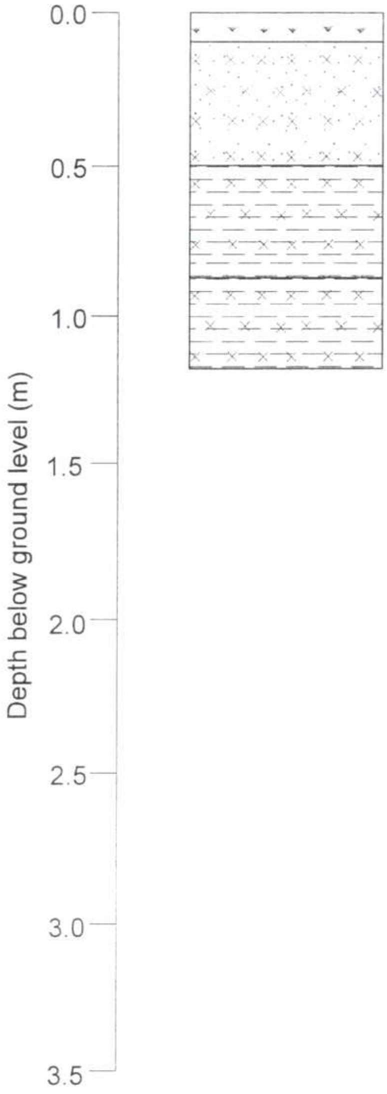
Logged by: ABW

Date: 21.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP130**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5060, 2703

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Cool, breezy

Legend



Depth (m)	DESCRIPTION
0.1 m	Loose grey-brown sandy silt with roots
0.5 m	Loose angular gravelly sandy silt with some wood fragments, and cobble to boulder size limestone, asphalt, concrete and occasional plastic and metal fragments
0.85 m	Soft-firm brown-red silty clay with some sand and gravel, occasional cobble size subangular limestone and concrete with vegetation traces
1.2 m	Soft orange-brown silty clay with gravel to cobble sized subangular to subrounded limestone
	End of trial pit at top of weathered bedrock

END OF TRIAL PIT 1.2 m

Scale: **1:25**

Remarks:

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP130	TP130						**Logged by:** ABW
Depth	0.45 m	1.1 m						
Type	SOIL	SOIL						**Date:** 24.04.97
Test								

Aspinwall&company	**TRIAL PIT LOG**	**TP129**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - **m A.O.D.** approx.	**Grid Ref.:** 5130, 2563

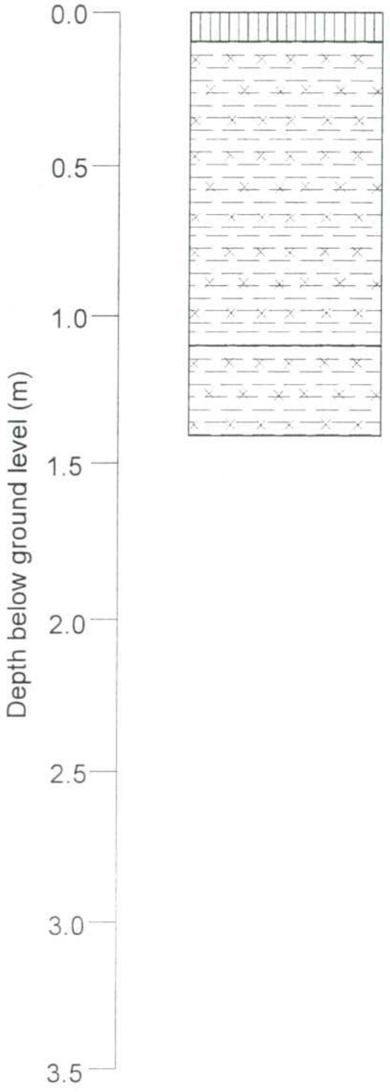
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend	Depth (m)	DESCRIPTION
	0.1 m	Reinforced concrete
	1.1 m	Soft to firm orange brown silty clay with fine gravel to cobble sized limestone
	1.4 m	Soft pale orange and grey sandy clayey silt and fine gravel to boulder sized limestone



END OF TRIAL PIT 1.4 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP129	TP129					
Depth	0.35 m	1.3 m					
Type	SOIL	SOIL					
Test							

Logged by: ERM

Date: 02.05.97

Aspinwall&company

TRIAL PIT LOG

TP128

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

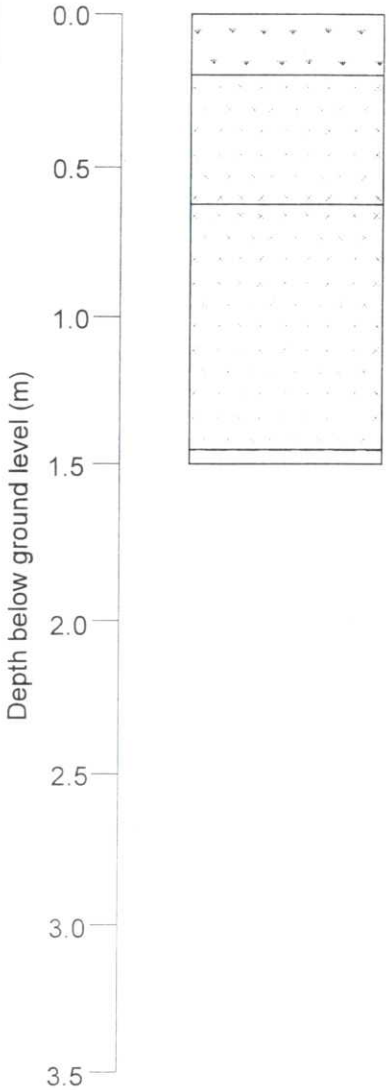
Grid Ref.: 5189, 2647

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Overcast, dry, windy



Depth (m)	DESCRIPTION
0.2 m	Grass over soft dark brown sandy silt with a little fine to coarse gravel of sandstone. Fine roots present
0.65 m	Soft red/brown sandy silt with a little fine to coarse gravel of limestone and sandstone
1.45 m	Soft pale brown clayey silt with much fine gravel to cobbles of limestone. A few pockets of orange/brown sandy silt present
1.5 m	Firm pale brown and grey clay

END OF TRIAL PIT 1.5 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP128	TP128					
Depth	0.35 m	1.5 m					
Type	SOIL	SOIL					
Test							

Logged by: ERM

Date: 29.04.97

Aspinwall&company

TRIAL PIT LOG

TP127

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5068, 2731

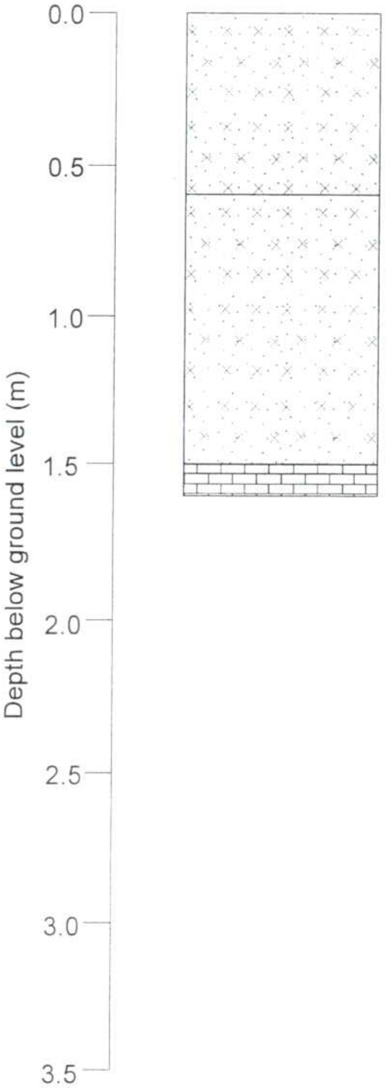
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast

Legend **Depth (m)** **DESCRIPTION**



Depth (m)	DESCRIPTION
0.6 m	Loose red-brown silty fine sand with gravel to cobble size angular to subrounded limestone
1.5 m	Loose beige fine sandy silt with much gravel to boulder size subangular to subrounded limestone Firm beige-orange mottled slightly sandy clay with some rounded limestone gravel and vegetation and shell traces
1.6 m	Weathered top of bedrock

END OF TRIAL PIT 1.6 m

Scale: **1:25**

Remarks:

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP127	TP127					
Depth	0.25 m	0.9 m					
Type	SOIL	SOIL					
Test							

Logged by: ABW

Date: 23.04.97

Aspinwall&company

TRIAL PIT LOG

TP126

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

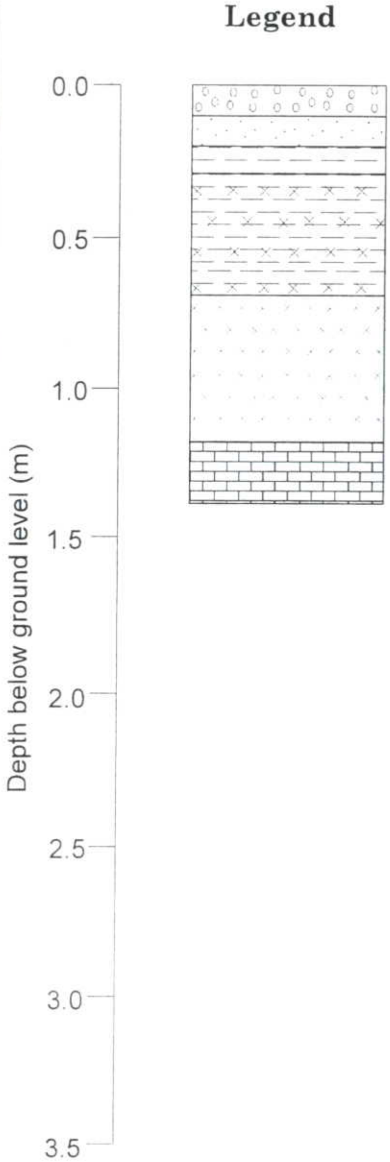
Grid Ref.: 5039, 2617

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast



Depth (m)	DESCRIPTION
0.1 m	Loose beige well rounded gravel. Polythene sheet underlay to gravel
0.2 m	Loose red-brown medium sand
0.3 m	Soft to firm dark grey very silty clay with some medium sand, 2 pieces of wood 0.75 m length, 5cm wide
0.7 m	Soft red-brown very silty clay
1.2 m	Loose beige-light brown clayey silt with occasional coarse sand and gravel of subrounded limestone
1.4 m	Loose subangular cobbles of grey limestone bedrock

END OF TRIAL PIT 1.4 m

Scale: **1:25**

Remarks: 1.4 m depth = weathered bedrock, trial pit abandoned.

Water: None

Stability: Stable

Time trench open: 30 mins

Sample	TP126	TP126				
Depth	0.25 m	1.0 m				
Type	SOIL	SOIL				
Test						

Logged by: ABW

Date: 22.04.97

Aspinwall&company

TRIAL PIT LOG

TP125

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - **m A.O.D.** approx.

Grid Ref.: 5095, 2615

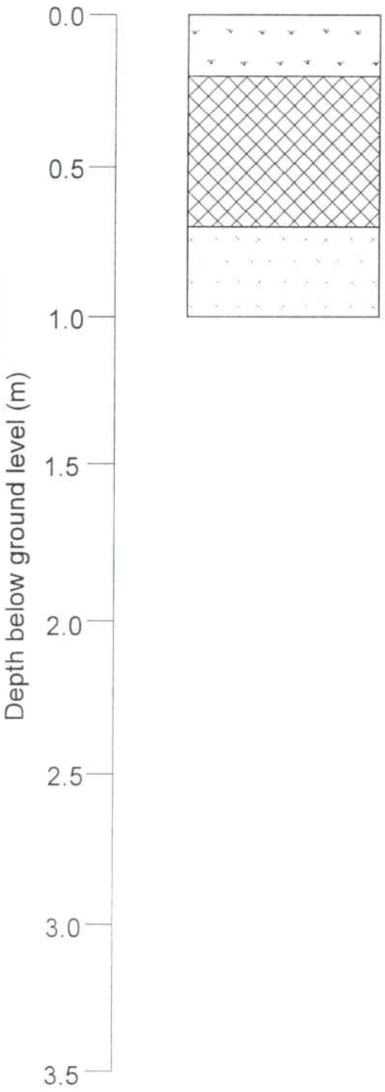
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Rain

Legend



Depth (m)	DESCRIPTION
0.2 m	Grass over loose medium brown silty sand with many roots and some fine to coarse gravel of flint and limestone
0.7 m	Soft red/brown sandy silt with much fine gravel to cobble sized fragments of limestone, concrete and occasional fine gravel sized ash and clinker fragments
1.0 m	Soft light brown/orange sandy silt and fine gravel to cobbles of subangular limestone

END OF TRIAL PIT 1.0 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP125	TP125					
Depth	0.1 m	0.6 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 25.04.97

Aspinwall&company

TRIAL PIT LOG

TP124

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5202, 2726

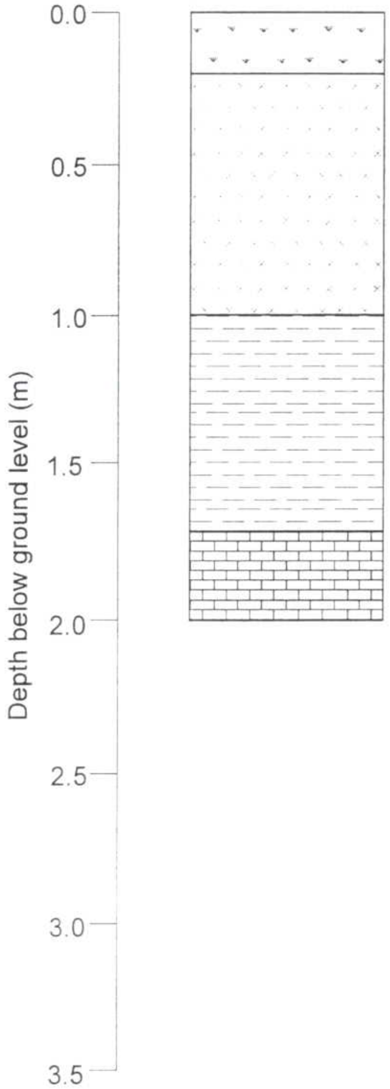
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Cool, overcast

Legend



Depth (m)	DESCRIPTION
0.2 m	Loose orange-brown sandy silt with roots
1.0 m	Loose brown-orange gravelly sandy silt with many cobbles of subangular limestone (0.4 m) piece of steel
1.7 m	Matrix of soft orange-brown silty clay with subangular gravel to cobble size subangular limestone
2.0 m	Strong hydrocarbon odour from cobble sized subangular limestone with soft black silty clay matrix End of trial pit at top of weathered bedrock

END OF TRIAL PIT 2.0 m

Scale: **1:25**

Remarks: Strong hydrocarbon odour and visible staining from 1.7 - 2.0 metres.

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP124	TP124	TP124	TP124			
Depth	0.2 m	1.2 m	1.7 m	1.9 m			
Type	SOIL	SOIL	SOIL	SOIL			
Test							

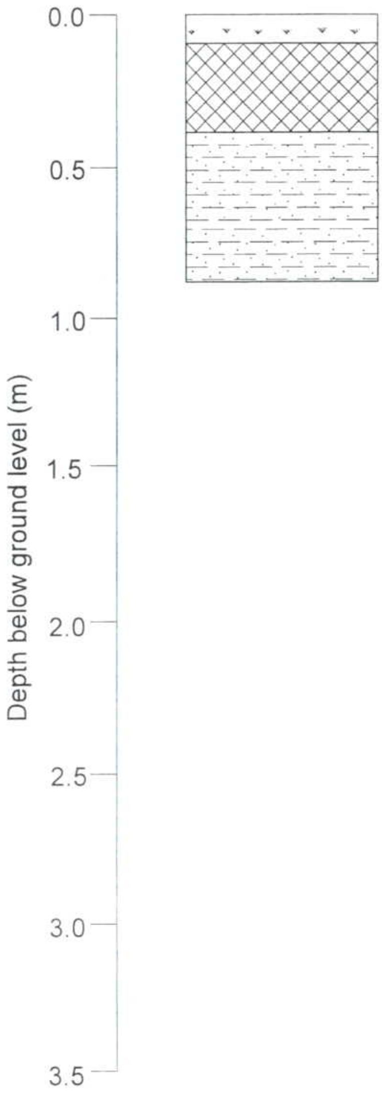
Logged by: ABW

Date: 24.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP123**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5165, 2570

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry/sunny

Legend



Depth (m)	DESCRIPTION
0.1 m	Grass over loose medium brown silty clayey sand with fine roots
0.4 m	Loose medium brown silty clayey sand with some sub-angular fine gravel to cobbles sized limestone and a little fine to coarse gravel size flint, brick, glass, plastic and concrete fragments
0.9 m	Loose red/brown silty clayey sand with much subangular fine gravel to cobbles of limestone

END OF TRIAL PIT 0.9 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

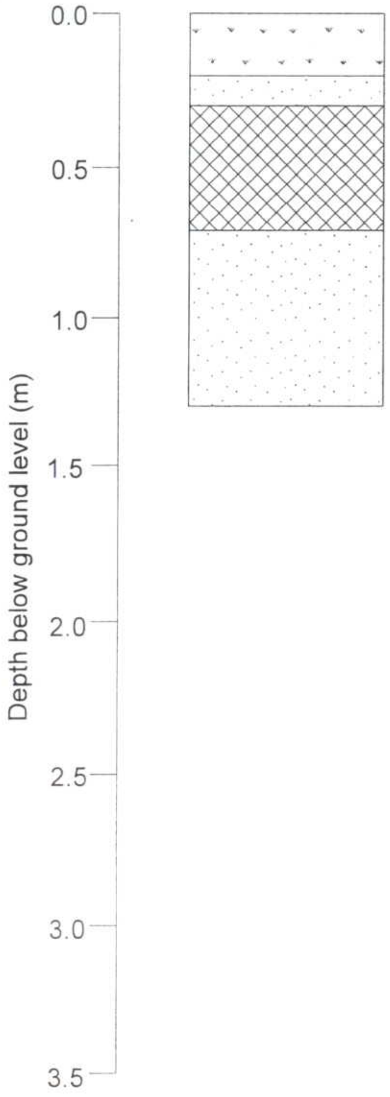
Sample	TP123	TP123					
Depth	0.1 m	0.35 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 21.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP122**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5128, 2535
Project: RAF Upper Heyford	**Excavation Method:** JCB	
Location: Upper Heyford	**Weather:** Dry, overcast	

Legend



Depth (m)	**DESCRIPTION**
0.2 m	Grass over loose medium brown silty clayey sand with much fine roots and a little fine to coarse gravel of ash, clinker , subangular limestone
0.3 m	Loose grey slightly clayey sand with some fine gravel to cobbles of subangular limestone
0.7 m	Soft to firm medium brown sandy silty clay with some subangular fine gravel to cobbles sized limestone and occasional fine to coarse gravel sized fragments ash, brick, glass, metal
1.3 m	Loose light brown clayey silty sand with much subangular fine gravel to cobbles of limestone

END OF TRIAL PIT 1.3 m

Scale: **1:25**

Remarks:

Water: None

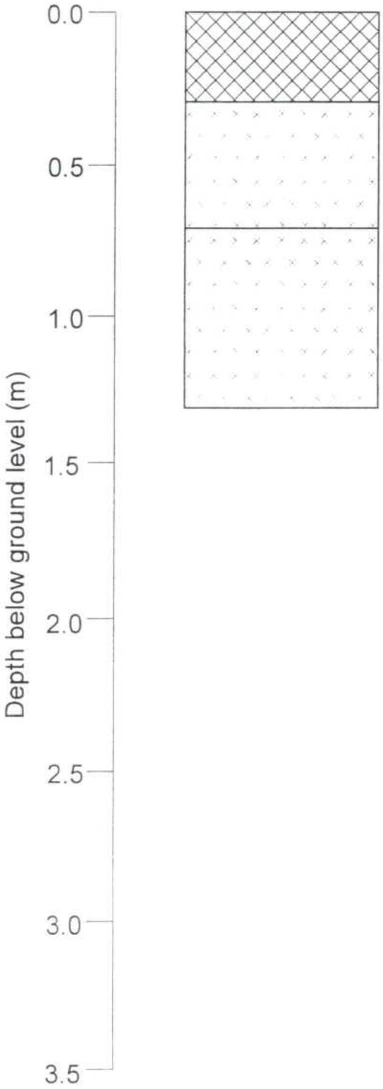
Stability: Fair

Time trench open: 30 mins

Sample	TP122	TP122						**Logged by:** HHU
Depth	0.4 m	1.0 m						
Type	SOIL	SOIL						**Date:** 22.04.97
Test								

Aspinwall&company	**TRIAL PIT LOG**	**TP121**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5125, 2640

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Rain



Depth (m)	DESCRIPTION
0.3 m	Grass over loose medium brown silty clayey sand with many fine roots and a little fine gravel of flint and occasional ash
0.7 m	Soft red/brown sandy and clayey silt with some fine gravel to cobbles of subangular limestone
1.3 m	Soft light orange/brown sandy clayey silt and cobbles of subangular limestone

END OF TRIAL PIT 1.3 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP121	TP121					
Depth	0.2 m	1.2 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 25.04.97

Aspinwall&company

TRIAL PIT LOG

TP120

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

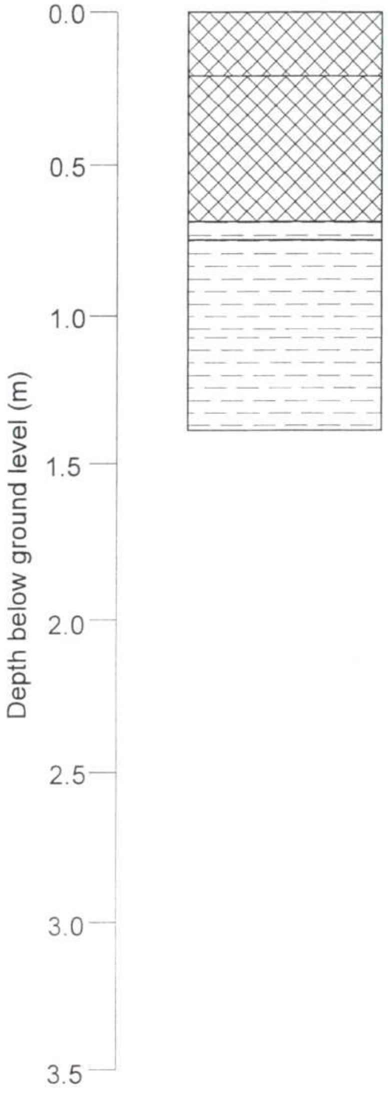
Grid Ref.: 5094, 2595

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Sunny, dry



Depth (m)	DESCRIPTION
0.2 m	Grass over soft brown sandy silt with a little fine to coarse gravel of limestone. Fine roots present
0.7 m	Loose silty sand with much fine gravel to subangular boulders of limestone. Pocket of sand present. A brick, some plastic sheeting, bits of wood, a piece of cloth and a few lumps of coal present at 0.5 m.
0.75 m	Layer of brown and grey sandy clay
1.4 m	Soft brown sandy clay with fine gravel to subangular boulders of limestone

END OF TRIAL PIT 1.4 m

Scale: **1:25**

Remarks: Base obstructed by large block of red stone - may be old foundation or cover.

Water: None

Stability: Moderate

Time trench open: 30 mins

Sample	TP120	TP120	TP120				
Depth	0.35 m	0.75 m	1.4 m				
Type	SOIL	SOIL	SOIL				
Test							

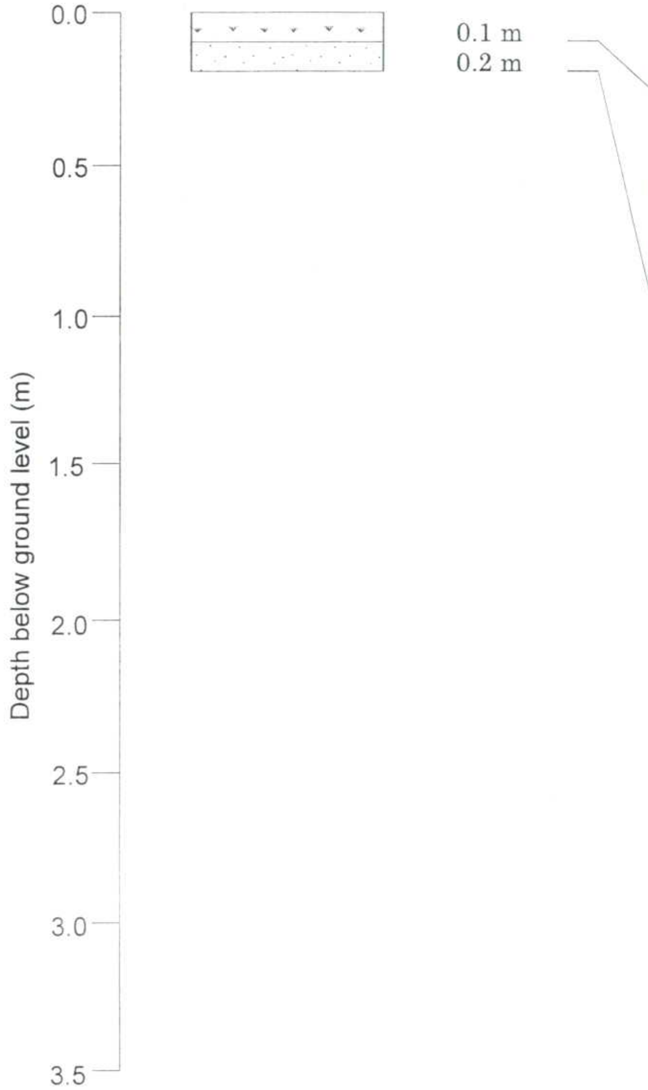
Logged by: ERM

Date: 30.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP119**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5106, 2590

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Raining

Legend **Depth (m)** **DESCRIPTION**



Dark brown sandy clay with occasional fine to medium gravel

Light brown slightly clayey fine to coarse sand and fine to coarse, subangular to subrounded gravel with occasional pieces of white limestone

Concrete pit at 0.2 m. Pit abandoned. Too many services to re-locate

END OF TRIAL PIT 0.2 m

Scale: **1:25**

Remarks:

Water: Dry

Stability: Good

Time trench open: 5 mins

Sample	TP119							**Logged by:** SLH
Depth	0.2 m							
Type	SOIL							**Date:** 25.04.97
Test								

Aspinwall&company	**TRIAL PIT LOG**	**TP118**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5041, 2601

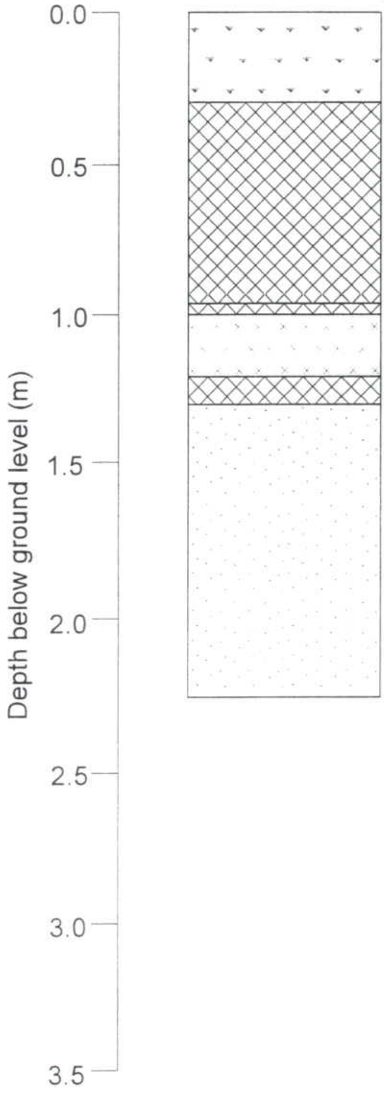
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast

Legend



Depth (m)	DESCRIPTION
0.3 m	Loose medium brown silty sand with roots
0.95 m	Loose red-brown silty fine sand with some clay lenses (1 cm dia) and occasional subangular cobble to gravel sized limestone and occasional wood and brick fragments
1.0 m	Dense black bitumenous type material with some cobble sized subangular doleritic or 'roadstone' material
1.2 m	Loose beige-brown slightly sandy clayey silt with angular limestone cobbles
1.3 m	Dense black bitumenous type material with some cobble sized subangular doleritic material
2.25 m	Loose beige-brown clayey fine sand with gravel to cobble subangular limestone

END OF TRIAL PIT 2.25 m

Scale: **1:25**

Remarks: End of trial pit 2.25 m at top of weathered bedrock.

Water: None

Stability: Stable

Time trench open: 30 mins

Sample	TP118	TP118	TP118				
Depth	0.5 m	0.95 m	1.4 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: ABW

Date: 22.04.97

Aspinwall&company | **TRIAL PIT LOG** | **TP117**

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5135, 2588

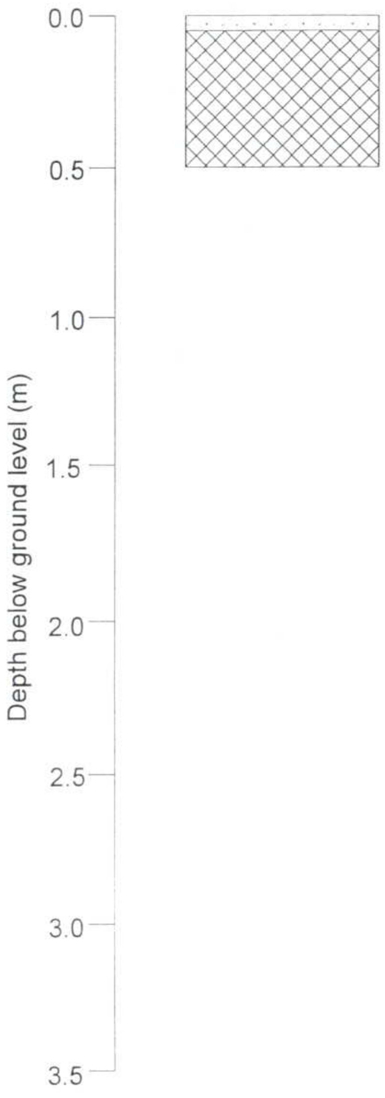
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry/sunny

Legend



Depth (m)	DESCRIPTION
0.05 m	Grass over loose medium brown silty/clayey sand with much fine roots
0.5 m	Loose red/brown silty clayey sand with some subangular fine gravel to cobbles of limestone and a little fine to coarse gravel sized metal, ash, clinker. Electricity cable 0.5 m

END OF TRIAL PIT 0.5 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: Left open

Sample	TP117						
Depth	0.1 m						
Type	SOIL						
Test							

Logged by: HHU

Date: 21.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP116**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m **A.O.D.** approx.	**Grid Ref.:** 5137, 2580

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Sunny, dry

Depth below ground level (m)	Legend	Depth (m)	DESCRIPTION
0.0			
0.5			
1.0			
1.5			
2.0			
2.5			END OF TRIAL PIT - m
3.0			
3.5			

Scale: **1:25**

Remarks: Trial pit location not accessible with JCB.

Water:

Stability:

Time trench open:

Sample								**Logged by:** ABW
Depth								
Type								**Date:** 21.04.97
Test								

Aspinwall&company	**TRIAL PIT LOG**	**TP115**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5158, 2632

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast, windy

Legend	Depth (m)	DESCRIPTION

Depth below ground level (m)

0.0

0.5

1.0

1.5

2.0

2.5

3.0

3.5

END OF TRIAL PIT - m

Scale: **1:25**

Remarks: Trial pit abandoned due to presence of services.

Water:

Stability:

Time trench open:

Sample								**Logged by:** ERM
Depth								
Type								**Date:** 29.04.97
Test								

Aspinwall&company	**TRIAL PIT LOG**	**TP114**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5127, 2607

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, sunny, windy

Legend **Depth (m)** **DESCRIPTION**

Depth below ground level (m)

0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5

END OF TRIAL PIT - m

Scale: **1:25**

Remarks: Trial pit abandoned due to presence of services. Not possible to re-locate.

Water:

Stability:

Time trench open:

Sample								**Logged by:** ABW
Depth								
Type								**Date:** 24.04.97
Test								

Aspinwall&company	**TRIAL PIT LOG**	**TP113/113A**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5171, 2759

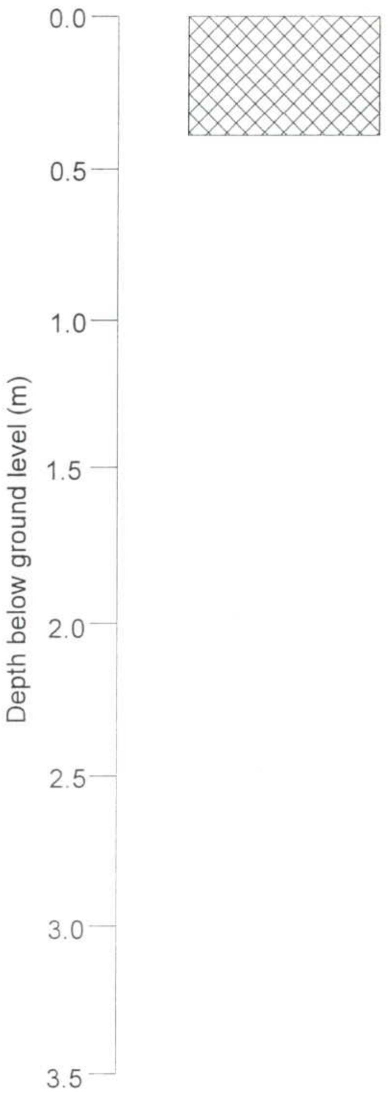
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend	**Depth (m)**	**DESCRIPTION**
▨	0.4 m	Loose brown-red sandy silt with gravel-boulder size sub-angular limestone and patches of blue-white material of a powdery, fibrous, and metaliferous texture Trial pit abandoned due to dry/airbourne nature of unknown blue/white substance



END OF TRIAL PIT 0.4 m

Scale: **1:25**

Remarks: White/blue material tested for asbestos content.

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP113	TP113A					
Depth	0.4 m	0.4 m					
Type	SOIL	SOIL					
Test							

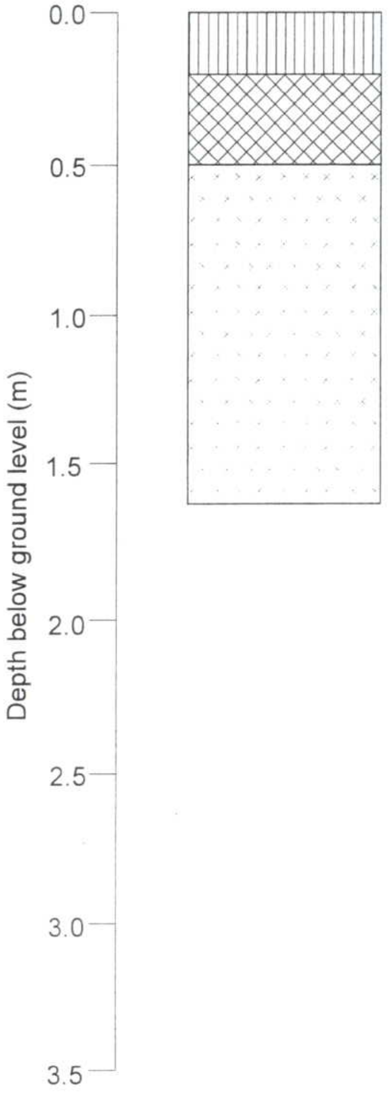
Logged by: ABW

Date: 24.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP112**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5153, 2607

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.2 m	Reinforced concrete
0.5 m	Loose fine gravel to boulders of subangular and rounded limestone in a light orange/brown sand and silty matrix with a little metal rod and wire
1.6 m	Soft orange/brown sandy clayey silt and fine gravel to cobbles of subangular limestone

END OF TRIAL PIT 1.6 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

Time trench open: 30 mins

Sample	TP112	TP112					
Depth	0.5 m	1.6 m					
Type	SOIL	SOIL					
Test							

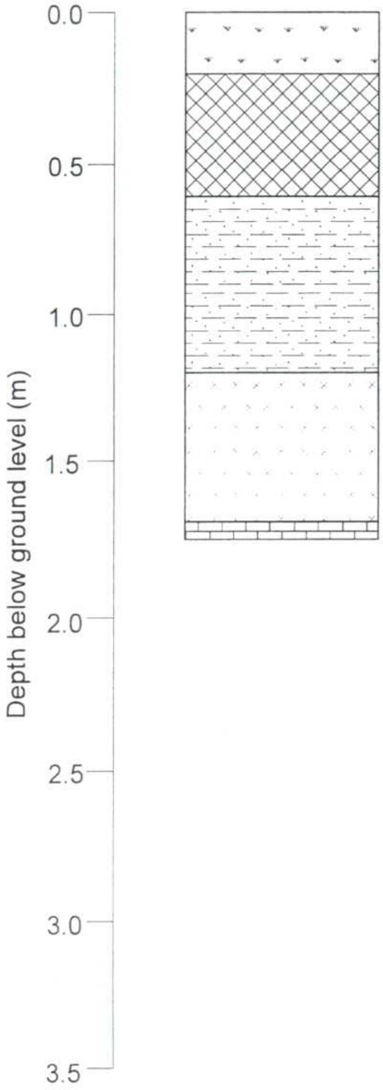
Logged by: HHU

Date: 02.05.97

Aspinwall&company	**TRIAL PIT LOG**	**TP111**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5169, 2650

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, overcast

Legend



Depth (m)	**DESCRIPTION**
0.2 m	Grass over loose medium brown silty clayey sand with many fine roots and some fine to coarse gravel of flint and limestone
0.6 m	Soft orange brown mottled grey sandy clayey silt with much fine gravel to cobble sized subangular limestone and occasional fragments of wood and fine gravel sized ash
1.2 m	Soft red brown sandy clay with some fine gravel to cobble sized subangular limestone
1.7 m	Soft orange brown mottled grey sandy silt with some fine gravel to cobble sized subangular limestone
1.75 m	White subangular cobbles to boulders sized limestone in a light brown clayey, silty sand matrix

END OF TRIAL PIT 1.75 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP111	TP111					
Depth	0.15 m	0.7 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 24.04.97

Aspinwall&company

TRIAL PIT LOG

TP110

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5159, 2649

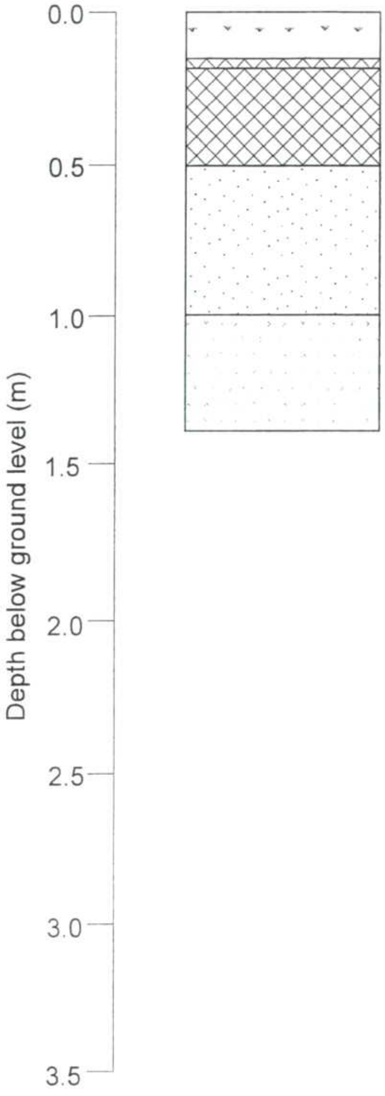
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast

Legend



Depth (m)	DESCRIPTION
0.15 m	Grass over loose medium brown silty clayey sand with many fine roots
0.2 m	Very firm light brown clayey silt with some fine to coarse subangular gravel of limestone
0.5 m	Soft red brown clayey sandy silt with much fine gravel to cobble sized subangular limestone and occasional cobble sized brick
1.0 m	Loose light brown silty sand and fine gravel to cobble sized white subangular limestone
1.4 m	Soft light brown/grey clayey sandy silt with a little fine gravel to cobble sized subangular limestone

END OF TRIAL PIT 1.4 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP110	TP110	TP110				
Depth	0.2 m	0.5 m	1.4 m				
Type	SOIL	SOIL	SOIL				
Test							

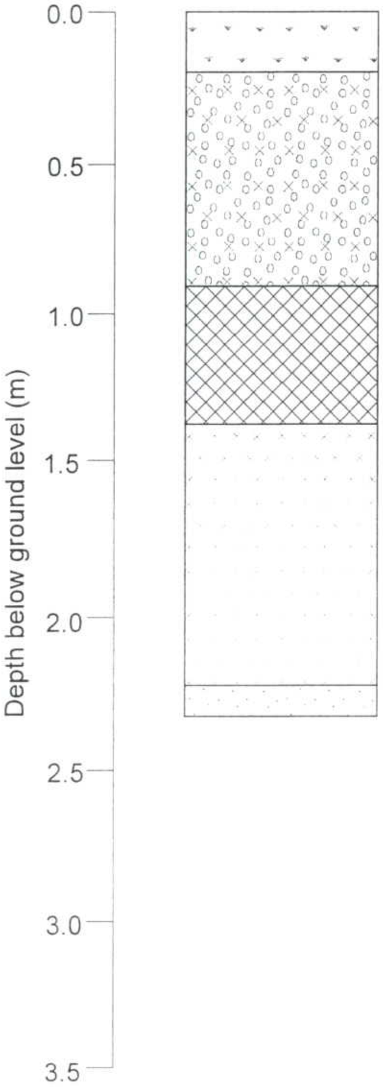
Logged by: HHU

Date: 242.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP109**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5148, 2642

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, overcast

Legend



Depth (m)	DESCRIPTION
0.2 m	Grass over loose medium brown silty clayey sand with many fine roots and much fine to coarse gravel of flint
0.9 m	Soft red brown clayey and sandy silt with some fine gravel to cobble sized subangular limestone
1.35 m	Soft light brown mottled grey clayey sandy silt with some fine to coarse gravel of subangular limestone and a little fine gravel sized ash (petroleum odour)
2.2 m	Soft dark grey/brown very sandy silt with a little fine gravel, wood and organic remains
2.3 m	Soft light brown silty sand and fine to coarse gravel of limestone

END OF TRIAL PIT 2.3 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP109	TP109	TP109				
Depth	0.4 m	1.2 m	1.65 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: HHU

Date: 24.04.97

Aspinwall&company	TRIAL PIT LOG	TP108
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5041, 2635

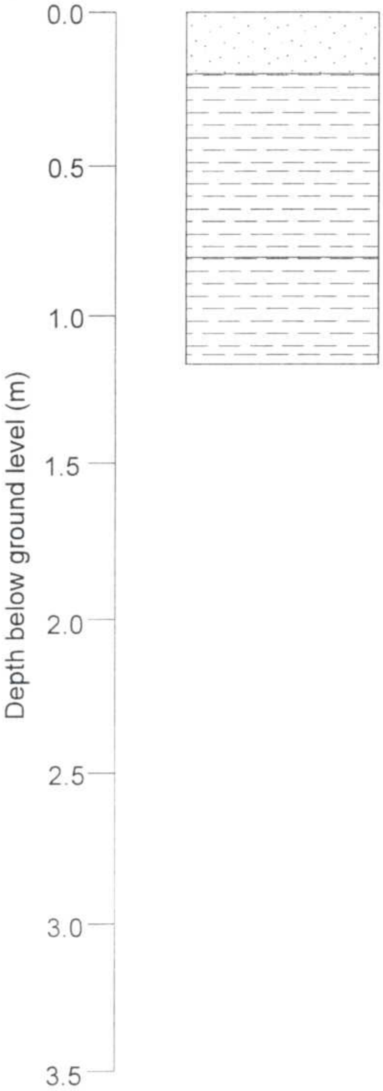
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry/overcast

Legend



Depth (m)	DESCRIPTION
0.2 m	Grass over medium brown silty clayey sand with much fine roots, a little fine to coarse gravel of flint, limestone and occasional ash
0.8 m	Firm red brown sandy and silty clay with much fine gravel to cobbles of subangular limestone and occasional fragments of brick, wood, glass
1.15 m	Soft to firm light brown mottled grey silty clay with much fine gravel to cobbles of subangular limestone cable severed by JCB at 1.0 m

END OF TRIAL PIT 1.15 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

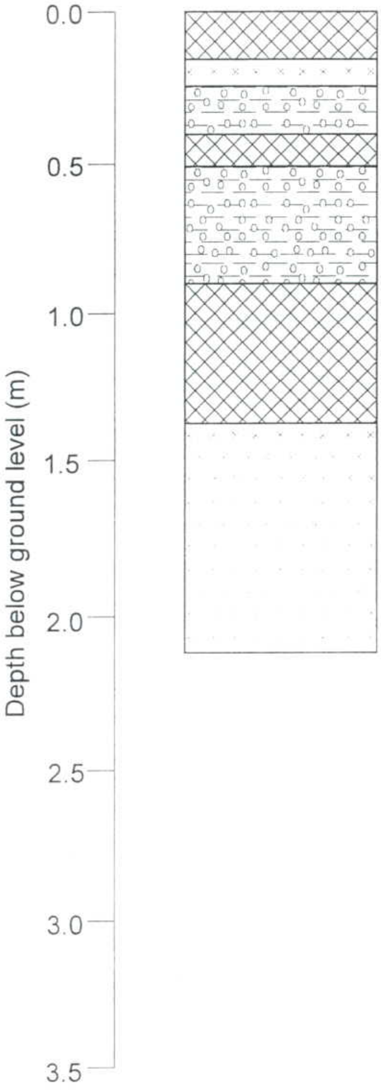
Time trench open: 30 mins

Sample	TP108	TP108						**Logged by:** HHU
Depth	0.2 m	1.1m						
Type	SOIL	SOIL						**Date:** 22.04.97
Test								

Aspinwall&company	**TRIAL PIT LOG**	**TP107A**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5256, 2646

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.15 m	Tarmac
0.25 m	Loose white fine gravel to cobbles of subangular limestone in a grey clayey sandy silt matrix
0.4 m	Soft red brown sandy clay and fine gravel to cobbles of subangular limestone
0.5 m	Soft grey sandy clay and fine gravel to cobbles of subangular limestone with a little fine to coarse gravel of ash
0.9 m	Soft red/brown sandy clay and fine gravel to cobbles of subangular limestone
1.35 m	Soft red/brown slightly sandy silt with a little fine gravel sized ash
2.1 m	Soft wet orange/brown sandy silt with much fine gravel to cobbles of limestone

END OF TRIAL PIT 2.1 m

Scale: **1:25**

Remarks:

Water: Encountered at 2.0 m

Stability: Good

Time trench open: 30 mins

Sample	TP107A	TP107A	TP107A					**Logged by:** HHU/ ERM
Depth	0.3 m	1.1 m	2.0 m					
Type	SOIL	SOIL	SOIL					**Date:** 02.05.97
Test								

Aspinwall&company

TRIAL PIT LOG

TP107

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

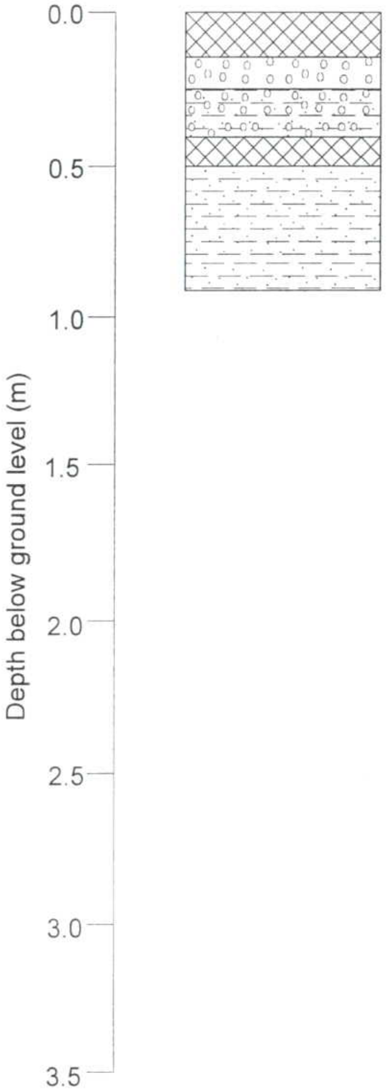
Grid Ref.: 5257, 2647

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny



Depth (m)	DESCRIPTION
0.15 m	Tarmac
0.25 m	Loose white fine gravel to cobbles sized subangular limestone in a grey clayey and sandy silt matrix
0.4 m	Soft red/brown sandy clay and fine gravel to cobbles of subangular limestone
0.5 m	Soft grey sandy clay and fine gravel to cobbles sized subangular limestone with a little fine to coarse gravel sized ash
0.9 m	Soft red/brown sandy clay and fine gravel to cobbles sized subangular limestone

END OF TRIAL PIT 0.9 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

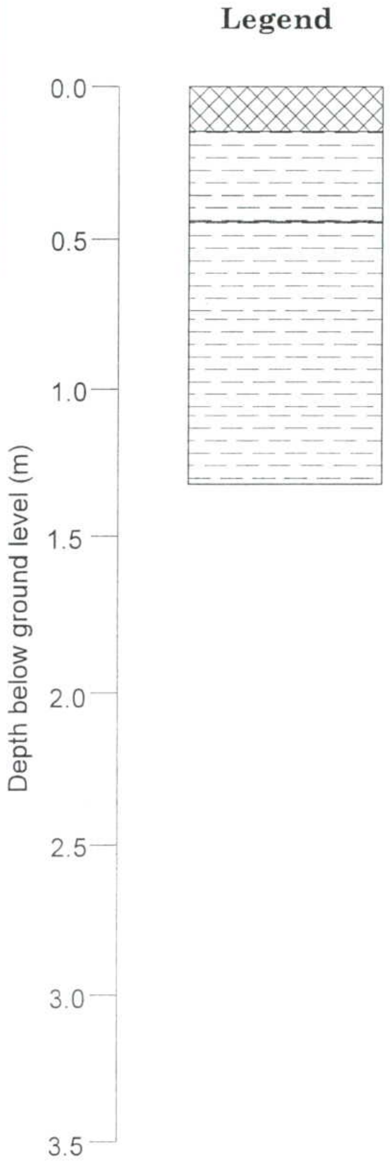
Sample							
Depth							
Type							
Test							

Logged by: HHU

Date: 02.05.97

Aspinwall&company	**TRIAL PIT LOG**	**TP106**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5252, 2647

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Sunny, dry



Depth (m)	DESCRIPTION
0.15 m	Tarmac
0.45 m	Soft grey sandy clay and fine gravel to cobbles of limestone and other rock
1.3 m	Soft pale brown silty clay with much fine to coarse gravel of limestone

END OF TRIAL PIT 1.3 m

Scale: **1:25**

Remarks: Water entering pit at base.	**Water:** (See remarks)
	Stability: Good
	Time trench open: 30 mins

Sample	TP106	TP106	TP106	TP106				**Logged by:** ERM
Depth	0.3 m	1.0 m	1.2 m					
Type	SOIL	SOIL	SOIL	WATER				**Date:** 02.05.97
Test								

Aspinwall&company	**TRIAL PIT LOG**	**TP105**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5247, 2660

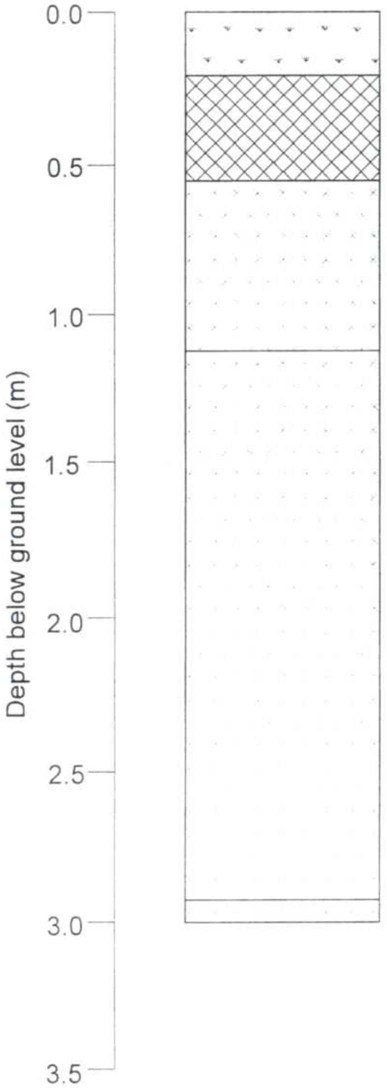
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast, windy

Legend



Depth (m)	**DESCRIPTION**
0.2 m	Grass over loose medium brown silty sand with much fine roots and a little fine to coarse gravel of flint
0.55 m	Soft red brown sandy silt with some fine gravel to cobble sized limestone and occasional fine to coarse gravel sized ash, clinker, brick and tile
1.1 m	Soft to firm red/brown slightly sandy clayey silt
2.9 m	Soft to firm grey very sandy silt
3.0 m	Soft wet dark grey sandy silt with fine to coarse gravel sized limestone

END OF TRIAL PIT 3.0 m

Scale: **1:25**

Remarks: Liquid seepage up from bottom of Trial Pit.

Petroleum odour from 1.2 m.

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP105	TP105	TP105				
Depth	0.4 m	1.2 m	3.0 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: HHU

Date: 28.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP104**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - **m A.O.D.** approx.	**Grid Ref.:** 5235, 2657

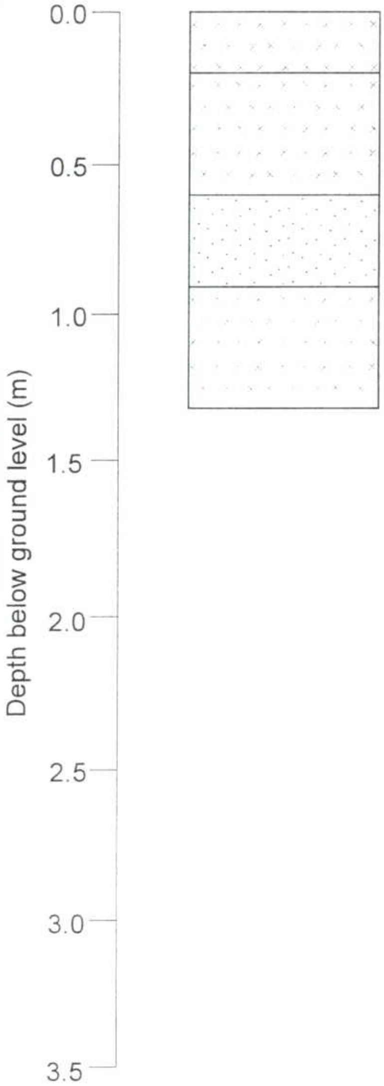
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Overcast, windy, dry

Legend



Depth (m)	**DESCRIPTION**
0.2 m	Grass over soft brown sandy silt with some fine to coarse gravel of limestone. Fine roots present
0.6 m	Soft red/brown clayey silt with some fine to coarse gravel of limestone
0.9 m	Soft orange/brown silty sand with many subangular cobbles of limestone
1.3 m	Soft orange/brown sandy silt with fine gravel to boulder sized limestone

END OF TRIAL PIT 1.3 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP104	TP104						**Logged by:** ERM
Depth	0.4 m	1.3 m						
Type	SOIL	SOIL						**Date:** 28.04.97
Test								

Aspinwall&company

TRIAL PIT LOG

TP103

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

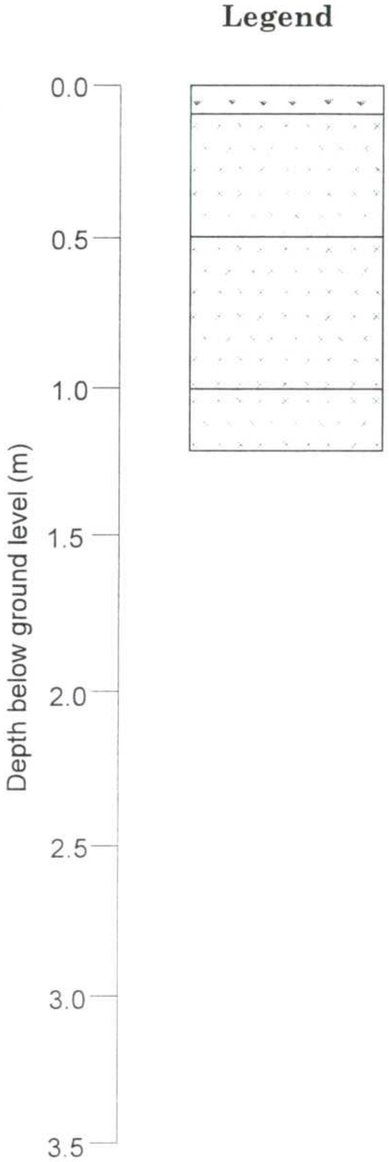
Grid Ref.: 5225, 2653

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Windy, rain



Depth (m)	DESCRIPTION
0.1 m	Grass over soft brown sandy silt with many fine roots
0.5 m	Soft to firm red/brown slightly sandy clayey silt with a little fine to coarse gravel of limestone
1.0 m	Soft red/brown slightly sandy silt and fine gravel to cobble sized subangular limestone
1.2 m	Soft light brown orange slightly sandy silt and fine gravel to cobble sized subangular limestone

END OF TRIAL PIT 1.2 m

Scale: 1:25

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP103	TP103					
Depth	0.3 m	1.2 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 28.04.97

Aspinwall&company

TRIAL PIT LOG

TP102

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5228, 2647

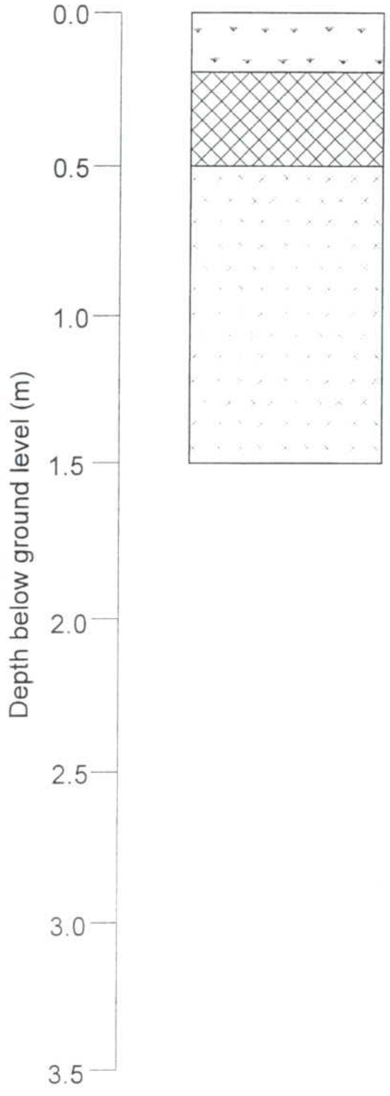
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Windy, overcast, dry

Legend



Depth (m)	DESCRIPTION
0.2 m	Grass over loose brown silty clayey sand with much fine roots and some fine to coarse gravel of limestone
0.5 m	Soft to firm red/brown sandy silt with some fine gravel to cobbles of limestone and occasional cobble sized fragments of wood, metal, brick
1.5 m	Soft light brown/orange slightly sandy silt and fine gravel to boulders of subangular limestone

END OF TRIAL PIT 1.5 m

Scale: **1:25**

Remarks: Cable severed at 0.2 m.

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP102	TP102	TP102				
Depth	0.1 m	0.5 m	1.5 m				
Type	SOIL	SOIL	SOIL				
Test							

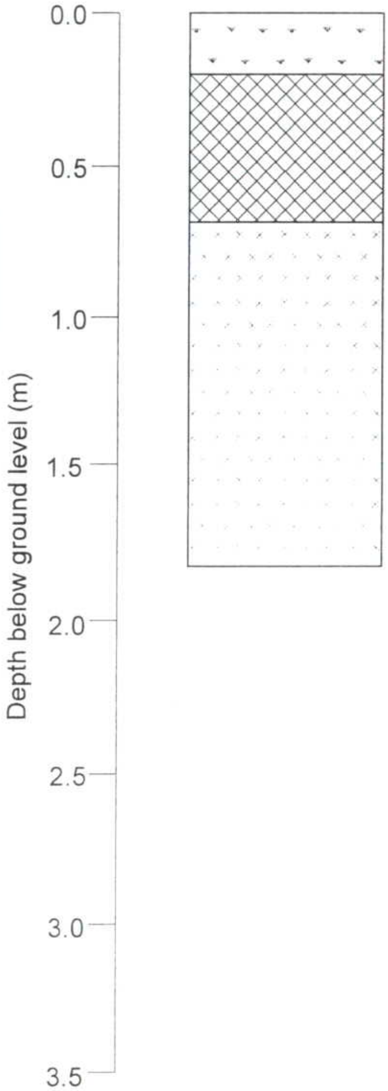
Logged by: HHU

Date: 28.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP101**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5235, 2640

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, overcast

Legend



Depth (m)	DESCRIPTION
0.2 m	Grass over loose medium brown silty sand with many fine roots and a little fine to coarse gravel sized flint and limestone
0.7 m	Soft to firm red/brown sandy silt with much fine gravel to cobble sized limestone and occasional fine to coarse gravel sized fragments of ash, clinker, wood and brick
1.8 m	Soft light brown/orange sandy silt and fine gravel to cobble sized subangular limestone

END OF TRIAL PIT 1.8 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP101	TP101					
Depth	0.5 m	1.6 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 29.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP100**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5225, 2640

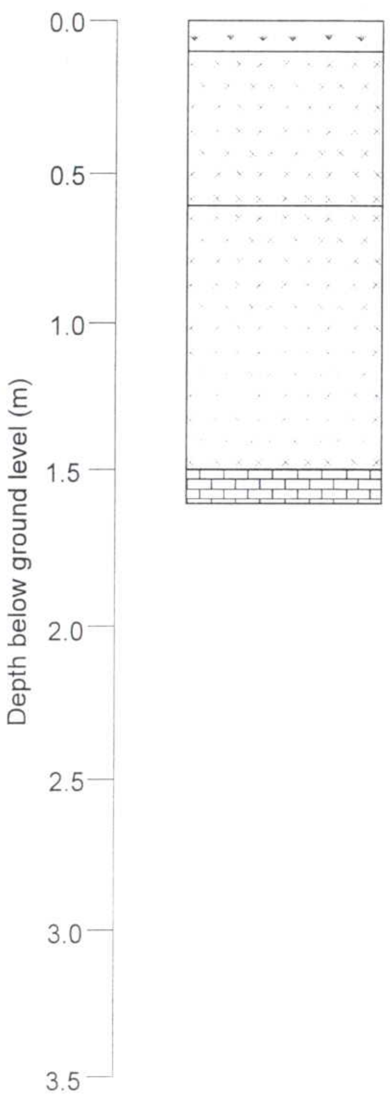
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Windy, overcast, dry

Legend



Depth (m)	DESCRIPTION
0.1 m	Grass over loose medium brown silty, clayey sand with many fine roots and some fine gravel of flint
0.6 m	Soft red/brown sandy silt with much fine gravel to boulders sized subangualr limestone and occasional small pockets of stiff grey clayey silt
1.5 m	Soft light brown/orange sandy silt and fine gravel to cobbles of subangular limestone
1.6 m	Subangular black stained limestone in a loose grey silty sand matrix

END OF TRIAL PIT 1.6 m

Scale: **1:25**

Remarks: Petroleum odour below 1.3 m.

Water: None

Stability: Good

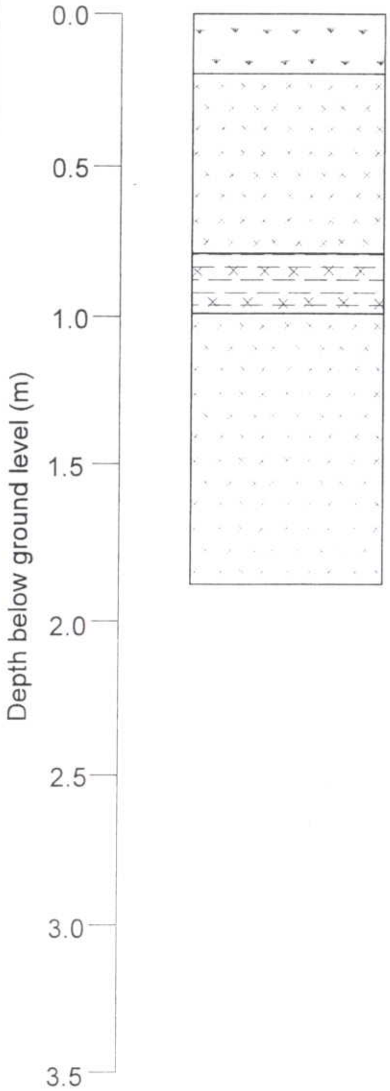
Time trench open: 30 mins

Sample	TP100	TP100	TP100				
Depth	0.4 m	1.4 m	1.6 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: HHU

Date: 28.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP99**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5235, 2635
Project: RAF Upper Heyford	**Excavation Method:** JCB	
Location: Upper Heyford	**Weather:** Dry, overcast	



Depth (m)	DESCRIPTION
0.2 m	Grass over loose medium brown very silty sand with much fine roots and a little fine to coarse gravel of limestone
0.8 m	Soft to firm red/brown slightly sandy silt with much fine gravel to cobble sized limestone and occasional fine to coarse gravel sized fragments of ash, brick, wood and glass
1.0 m	Fine gravel to cobble sized white subangular limestone in an orange brown sandy and silty matrix
1.9 m	Soft light brown slightly sandy silt and fine gravel to cobbles of white subangular limestone

END OF TRIAL PIT 1.9 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP99	TP99						**Logged by:** HHU
Depth	0.3 m	1.9 m						
Type	SOIL	SOIL						**Date:** 29.04.97
Test								

Aspinwall&company	**TRIAL PIT LOG**	**TP98**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5231, 2628

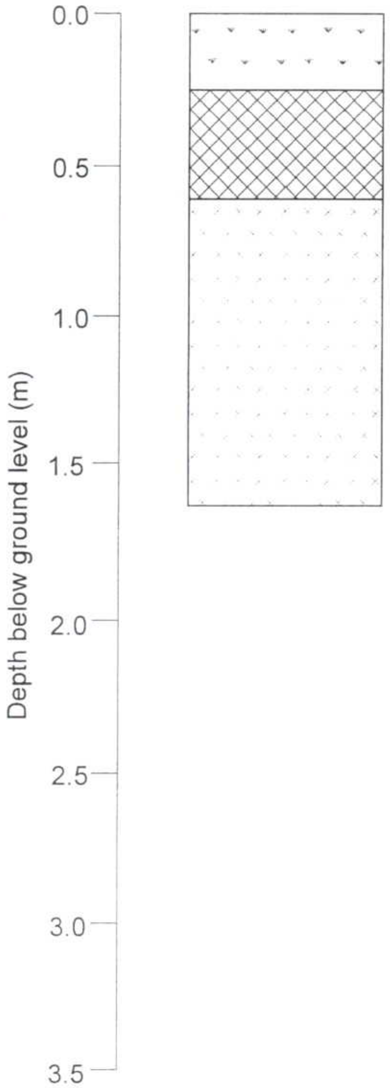
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast

Legend



Depth (m)	**DESCRIPTION**
0.25 m	Grass over soft red/brown sandy silt with many fine roots and a little fine to coarse gravel of limestone
0.6 m	Soft to firm red/brown sandy silt with a little fine to coarse gravel of limestone and occasional fine to coarse gravel sized fragments of brick, glass, metal, ash and plastic
1.6 m	Soft light brown/orange sandy silt with fine gravel to cobbles of white subangular limestone

END OF TRIAL PIT 1.6 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

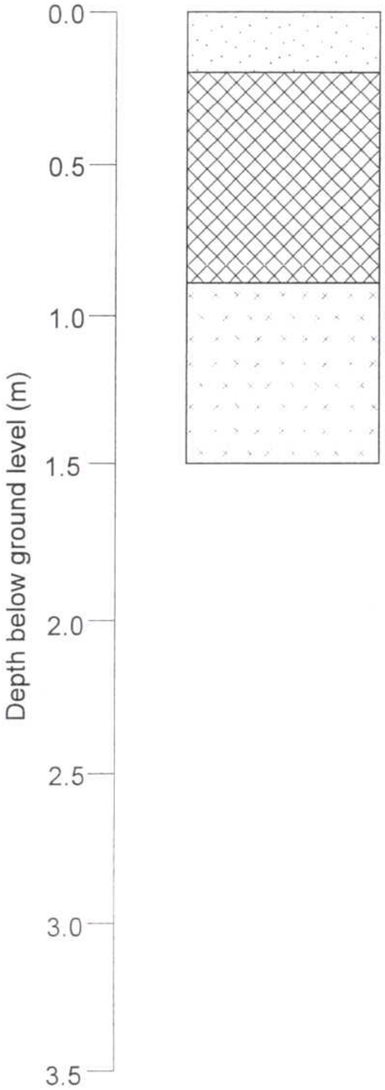
Sample	TP98	TP98					
Depth	0.4 m	1.6 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 29.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP97**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5225, 2628
Project: RAF Upper Heyford		**Excavation Method:** JCB
Location: Upper Heyford		**Weather:** Dry, overcast

Legend



Depth (m)	DESCRIPTION
0.2 m	Grass over loose medium clayey silty sand with many fine roots and a little fine to coarse gravel of flint
0.9 m	Soft red brown sandy and clayey silt with much fine gravel to cobble sized limestone, occasional fine to coarse gravel sized fragments of concrete, brick, flint, ash and clinker
1.5 m	Soft light brown orange very sandy clayey silt with fine gravel to cobbles of subangular limestone

END OF TRIAL PIT 1.5 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP97	TP97					
Depth	0.4 m	1.5 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 29.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP96**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5225, 2620

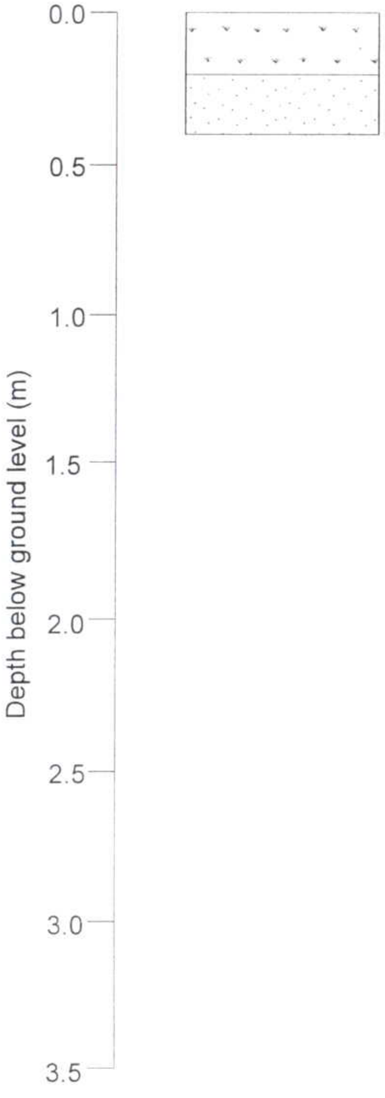
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Overcast, windy, dry

Legend



Depth (m)	**DESCRIPTION**
0.2 m	Grass over soft brown sandy silt with a little fine to coarse gravel of limestone
0.4 m	Loose light brown sand with much fine gravel to cobble sized subangular to angular limestone and sandstone

END OF TRIAL PIT 0.4 m

Scale: **1:25**

Remarks: Base obstructed at 0.4 m possibly concrete.

Water: None

Stability: Poor

Time trench open: 20 mins

Sample	TP96						
Depth	0.4 m						
Type	SOIL						
Test							

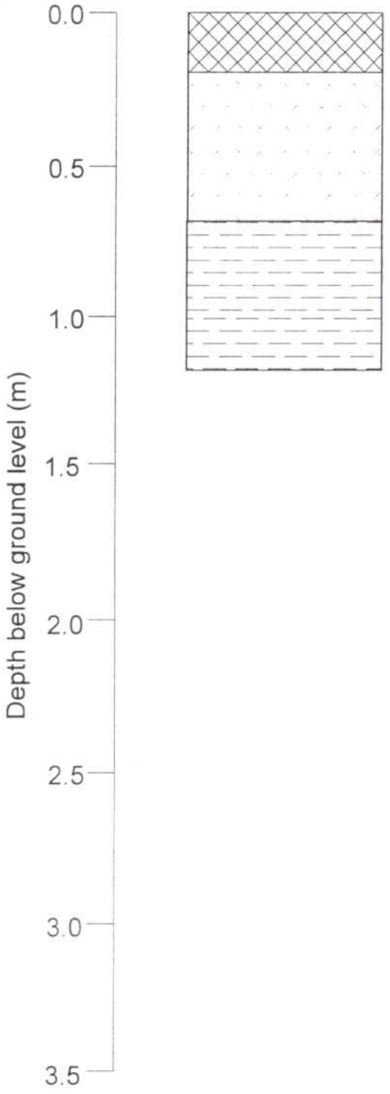
Logged by: ERM

Date: 28.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP95**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5223, 2612

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Overcast, dry, windy

Legend



Depth (m)	DESCRIPTION
	Grass over soft brown sandy silt with some fine to coarse gravel of limestone. A small pocket of orange sand, a brick and fine roots present
0.2 m	Soft pale brown sandy silt and loose subangular cobbles and boulders of limestone
0.7 m	Soft red/brown sandy clay with much fine gravel to cobbles of limestone plus occasional boulder
1.2 m	

END OF TRIAL PIT 1.2 m

Scale: **1:25**

Remarks:

Water: None

Stability: Moderate

Time trench open: 30 mins

Sample	TP95	TP95					
Depth	0.35 m	1.2 m					
Type	SOIL	SOIL					
Test							

Logged by: ERM

Date: 29.04.97

Aspinwall&company

TRIAL PIT LOG

TP94

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5222, 2615

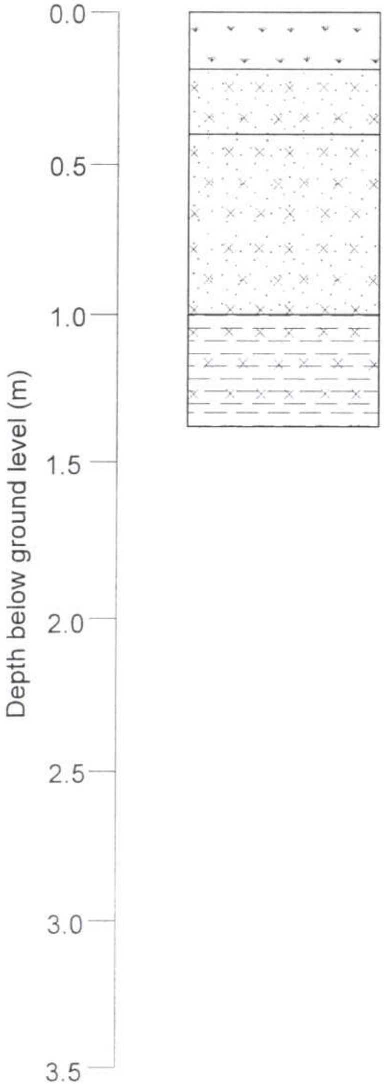
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Overcast, raining, windy

Legend



Depth (m)	DESCRIPTION
0.2 m	Grass over soft red/brown sandy silt. Fine roots present
0.4 m	Soft brown sandy silt with some fine to coarse gravel of limestone and coal
1.0 m	Soft brown sandy silt with much fine to coarse gravel of limestone and coal with some subangular boulders of limestone
1.4 m	Soft brown clayey silt with much fine to coarse gravel of limestone and coal with some subangular boulders of limestone

END OF TRIAL PIT 1.4 m

Scale: **1:25**

Remarks:

Water: None

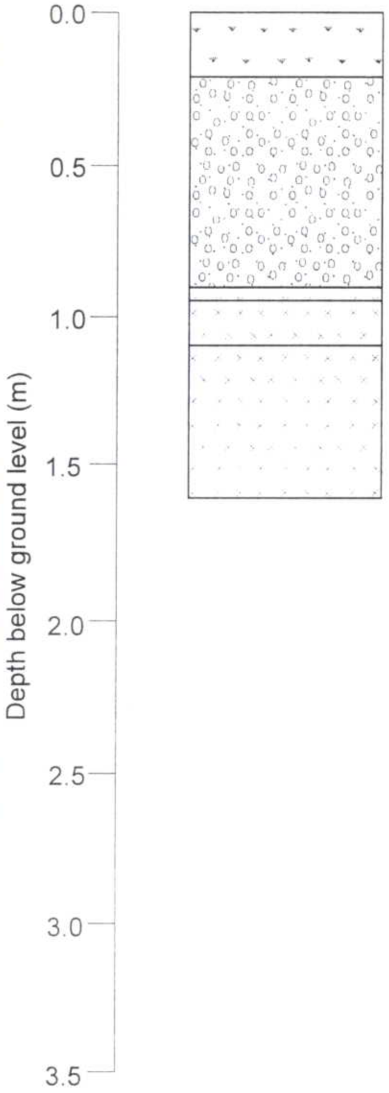
Stability: Moderate

Time trench open: 30 mins

Sample	TP94	TP94						**Logged by:** ERM
Depth	0.4 m	1.4 m						
Type	SOIL	SOIL						**Date:** 28.04.97
Test								

Aspinwall&company	**TRIAL PIT LOG**	**TP93**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5220, 2612

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Overcast, dry, windy



Depth (m)	DESCRIPTION
0.2 m	Grass over soft brown sandy silt with much fine to coarse gravel of limestone. Fine roots present
0.9 m	Loose sand and fine gravel to subangular boulders of limestone.
0.95 m	Black clayey silt with some cobbles of limestone. Strong hydrocarbon smell
1.1 m	Soft brown clayey silt with many cobbles of limestone
1.6 m	Soft brown grey clayey silt with many fine gravel to cobbles sized limestone with the few small pockets of clay

END OF TRIAL PIT 1.6 m

Scale: **1:25**

Remarks: Steel wire cable found at 0.25 m. Leached iron stains surrounding soil.

Very strong hydrocarbon odour.

Water: None

Stability: Poor

Time trench open: 30 mins

Sample	TP93	TP93	TP93			
Depth	0.35 m	0.9 m	1.6 m			
Type	SOIL	SOIL	SOIL			
Test						

Logged by: ERM

Date: 29.04.97

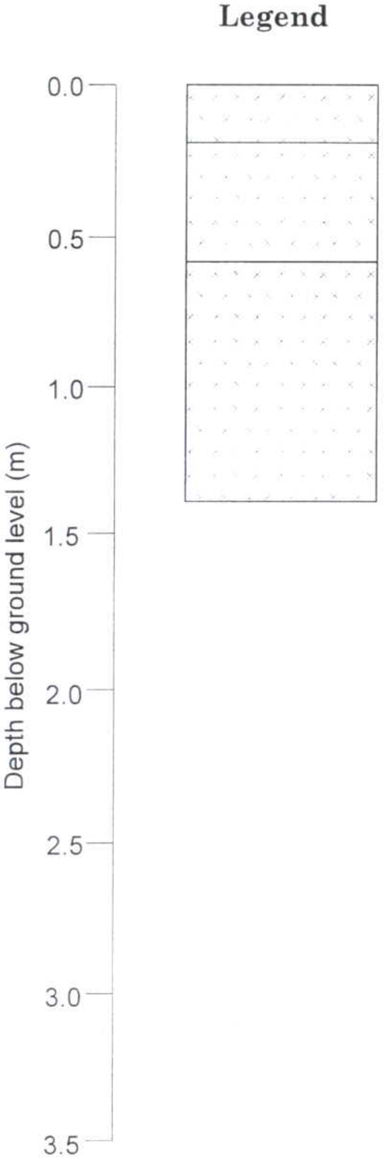
Aspinwall&company	**TRIAL PIT LOG**	**TP92**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5220, 2620

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Overcast, windy, dry



Depth (m)	DESCRIPTION
0.2 m	Grass over soft brown sandy silt with some fine to coarse gravel of limestone. Fine roots present
0.6 m	Soft brown clayey silt with some fine to coarse gravel of limestone
1.4 m	Soft brown clayey silt with many subangular cobbles of limestone

END OF TRIAL PIT 1.4 m

Scale: **1:25**

Remarks:

Water: None

Stability: Moderate

Time trench open: 30 mins

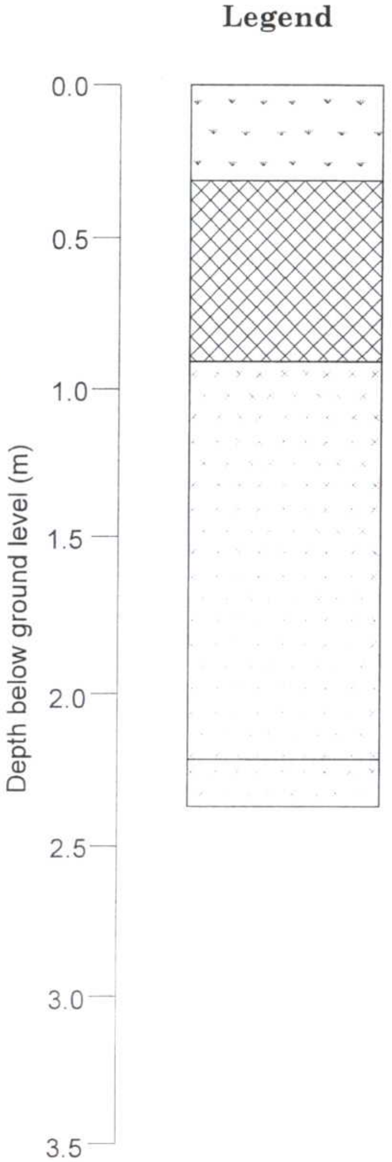
Sample	TP92	TP92
Depth	0.4 m	1.4 m
Type	SOIL	SOIL
Test		

Logged by: ERM

Date: 28.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP91**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5205, 2638

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, overcast



Depth (m)	DESCRIPTION
0.3 m	Grass over medium brown silty, clayey sand with many fine roots and some fine to coarse gravel of flint and limestone
0.9 m	Soft light brown sandy silt and fine gravel to cobble sized subangular limestone and occasional cobbles sized ash and clinker
	Soft wet dark grey/black sandy silt with some fine gravel to cobbles of subangular limestone
2.2 m	
2.35 m	Soft grey sandy silt with a little fine to coarse gravel of subangular limestone

END OF TRIAL PIT 2.35 m

Scale: **1:25**

Remarks: Cable severed at 0.1 m.

Petroleum odour from 0.6 m.

Electric cable at 2.35 m.

Water: Encountered at 1.8 m

Stability: Good

Time trench open: 30 mins

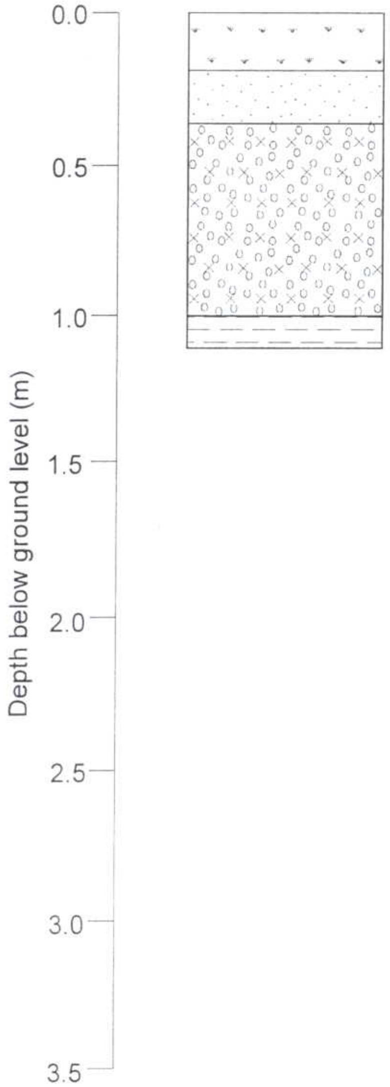
Sample	TP91	TP91	TP91	TP91	TP91W		
Depth	0.1 m	0.75 m	1.2 m	2.3 m	1.8 m		
Type	SOIL	SOIL	SOIL	SOIL	WATER		
Test							

Logged by: HHU

Date: 29.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP90**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5198, 2647
Project: RAF Upper Heyford		**Excavation Method:** JCB
Location: Upper Heyford		**Weather:** Overcast, dry, windy

Legend



Depth (m)	DESCRIPTION
0.2 m	Soft brown sandy clayey silt with a little fine to coarse gravel of limestone. Fine roots present
0.4 m	Loose light brown sand with much fine gravel to cobbles of limestone
1.0 m	Soft red/brown sandy clayey silt with some fine gravel to cobbles of limestone.
1.1 m	Soft dark brown clay with a little fine to coarse gravel of limestone

END OF TRIAL PIT 1.1 m

Scale: **1:25**

Remarks: Wire cable at 0.9 m.

Water: None

Stability: Moderate

Time trench open: 30 mins

Sample	TP90	TP90					
Depth	0.4 m	1.1 m					
Type	SOIL	SOIL					
Test							

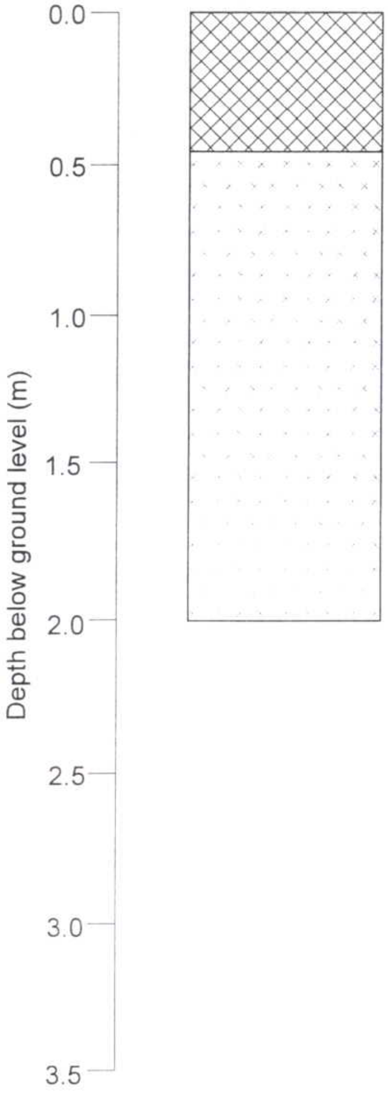
Logged by: ERM

Date: 29.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP89**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5155, 2725

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, sunny

Legend **Depth (m)** **DESCRIPTION**



Depth (m)	DESCRIPTION
0.45 m	Grass over medium brown silty clayey sand with some fine gravel to cobbles of limestone, many roots, occasional fine to coarse gravel sized ash and clinker
2.0 m	Soft light brown clayey sandy silt and fine gravel to boulders of white subangular limestone

END OF TRIAL PIT 2.0 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

Time trench open: 30 mins

Sample	TP89	TP89					
Depth	0.4 m	2.0 m					
Type	SOIL	SOIL					
Test							

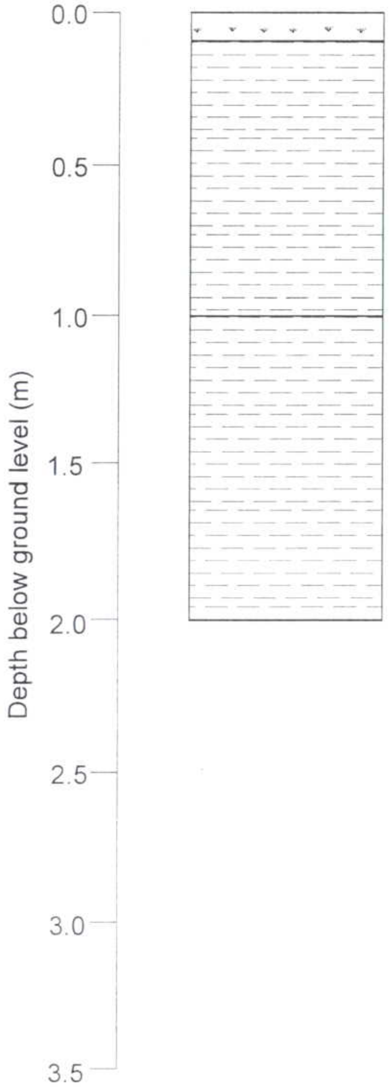
Logged by: HHU

Date: 23.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP88**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5171, 2708

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, sunny, windy

Legend



Depth (m)	DESCRIPTION
0.1 m	Loose red-brown sandy silt with roots
1.0 m	Soft-firm red-brown slightly sandy silty clay with some gravel and a few cobbles of subangular limestone
2.0 m	Soft orange-brown silty clay with some gravel sized subangular limestone becoming more beige-brown with depth, and including cobble sized subangular limestone with depth End of trial pit at top of weathered bedrock

END OF TRIAL PIT 2.0 m

Scale: **1:25**

Remarks:

Water: None

Stability: Stable

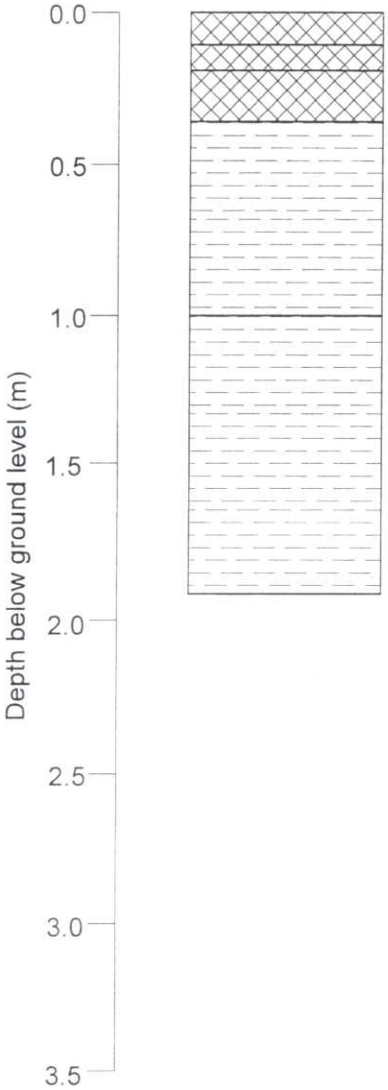
Time trench open: 20 mins

Sample	TP88	TP88							**Logged by:** ABW
Depth	0.4 m	1.4 m							
Type	SOIL	SOIL							**Date:** 24.04.97
Test									

Aspinwall&company	**TRIAL PIT LOG**	**TP87**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5187, 2755

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.1 m	Loose light brown-grey gravelly sandy silt
0.2 m	Layer of dense grey concrete
0.35 m	Loose biege gravelly cobbley sandy silt with fragments of wood and textile
1.0 m	Soft-firm dark grey-red-brown silty clay with vegetation and shell fragments and occasional flint
1.9 m	Soft orange-brown sandy silty clay with subangular cobble-gravel size limestone End of trial pit at top of weathered bedrock

END OF TRIAL PIT 1.9 m

Scale: **1:25**

Remarks:

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP87	TP87					
Depth	0.4 m	1.55 m					
Type	SOIL	SOIL					
Test							

Logged by: ABW

Date: 24.04.97

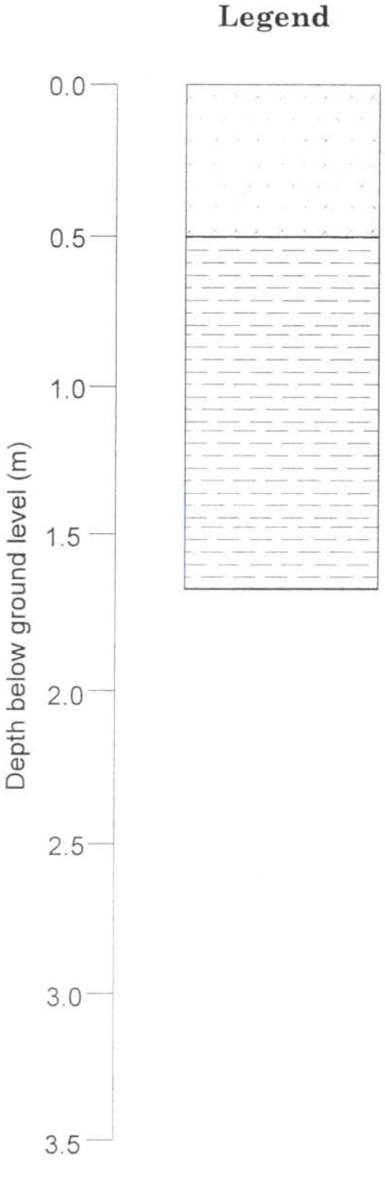
Aspinwall&company	**TRIAL PIT LOG**	**TP86**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - **m A.O.D.** approx.	**Grid Ref.:** 5160, 2759

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, windy, overcast



Depth (m)	**DESCRIPTION**
0.5 m	Loose red-brown gravelly sandy silt with roots and occasional well rounded cobbles of limestone and occasional flint
1.7 m	Soft beige-red-brown matrix of silty sandy clay with gravel to cobble sized subangular limestone End of trial pit at top of weathered bedrock

END OF TRIAL PIT 1.7 m

Scale: **1:25**

Remarks:

Water: None

Stability: Stable

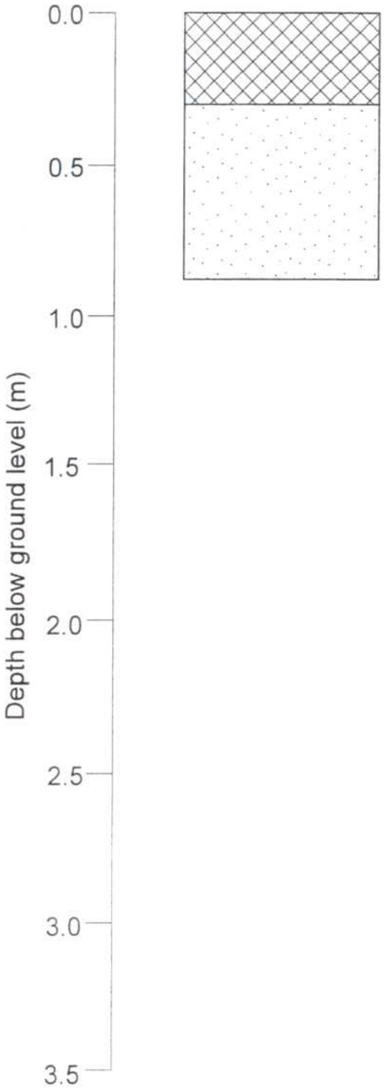
Time trench open: 20 mins

Sample	TP86	TP86					
Depth	0.45 m	1.2 m					
Type	SOIL	SOIL					
Test							

Logged by: ABW

Date: 24.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP85**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5145, 2735
Project: RAF Upper Heyford	**Excavation Method:** JCB	
Location: Upper Heyford	**Weather:** Dry, sunny	



Legend	Depth (m)	DESCRIPTION
▨	0.3 m	Grass over medium brown silty clayey sand with many roots and much fine to coarse gravel of subangular limestone and occasional fine gravel sized ash
⠂	0.9 m	Loose orange brown silty clayey sand and fine gravel to cobble sized white subangular limestone

END OF TRIAL PIT 0.9 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

Time trench open: 30 mins

Sample	TP85	TP85						**Logged by:** HHU
Depth	0.1 m	0.7 m						
Type	SOIL	SOIL						**Date:** 23.04.97
Test								

Aspinwall&company

TRIAL PIT LOG

TP84

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5143, 2732

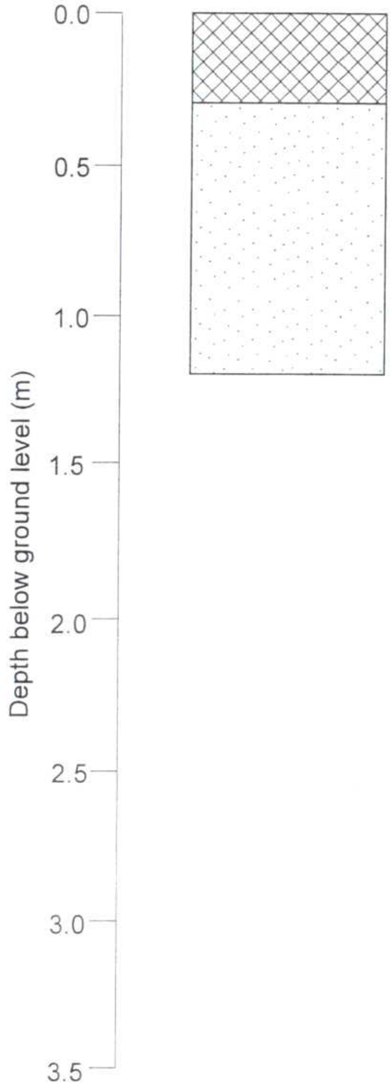
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.3 m	Grass over medium brown silty clayey sand with a little fine gravel to cobbles of subangular limestone, many roots, and occasional fine gravel sized ash and flint
1.2 m	Loose orange brown silty and clayey sand and fine gravel to cobbles of white subangular limestone

END OF TRIAL PIT 1.2 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

Time trench open: 30 mins

Sample	TP84	TP84					
Depth	0.2 m	0.8 m					
Type	SOIL	SOIL					
Test							

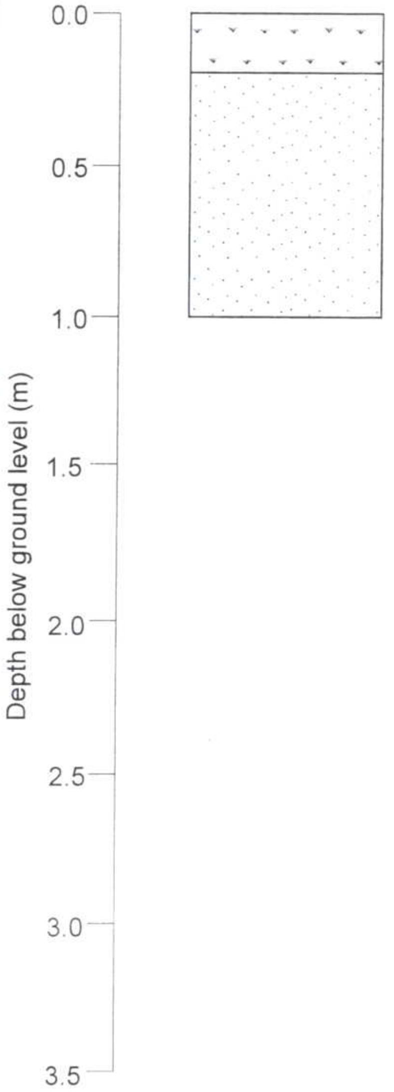
Logged by: HHU

Date: 23.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP83**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5140, 2735

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, cloudy

Legend



Depth (m)	**DESCRIPTION**
0.2 m	Grass over medium brown silty clayey sand with many fine roots and much fine to coarse gravel of subangular limestone
1.0 m	Loose orange brown silty clayey sand and fine gravel to cobbles of white subangular limestone

END OF TRIAL PIT 1.0 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

Time trench open: 30 mins

Sample	TP83	TP83						**Logged by:** HHU
Depth	0.1 m	0.9 m						
Type	SOIL	SOIL						**Date:** 23.04.97
Test								

Aspinwall&company

TRIAL PIT LOG

TP82

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5138, 2738

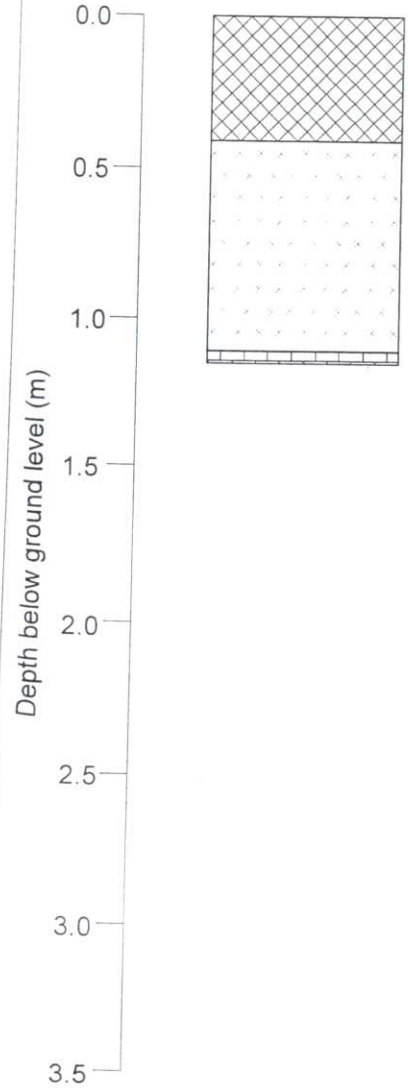
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, cloudy

Legend



Depth (m)	DESCRIPTION
0.4 m	Grass over medium brown silty clayey sand with a little fine gravel to cobble of subangular limestone and occasional fine to coarse gravel sized fragments of plastic, ash, brick
1.1 m	Soft orange/brown slightly clayey sandy silt with much fine gravel to cobbles of subangular limestone
1.15 m	White subangular cobbles to boulders of limestone in a brown clayey silty sandy matrix

END OF TRIAL PIT 1.15 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

Time trench open: 30 mins

Sample	TP82	TP82					
Depth	0.3 m	0.8 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 23.04.97

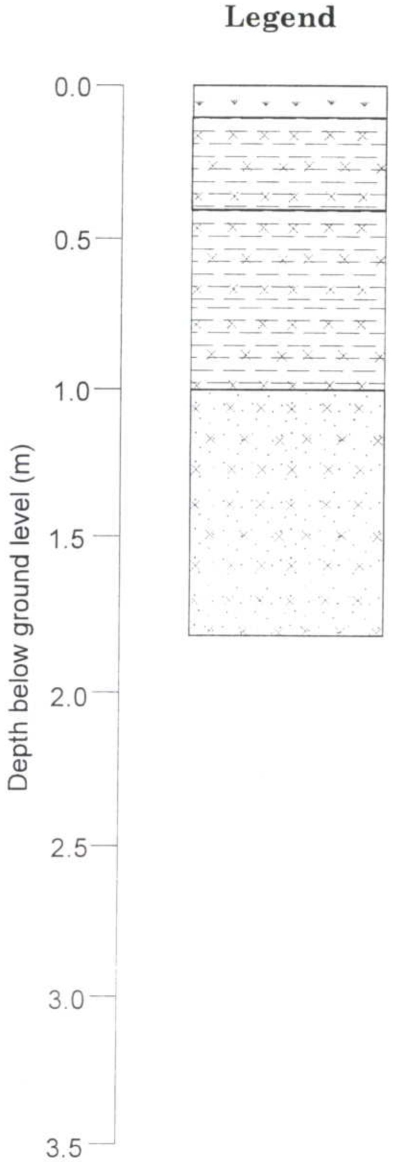
Aspinwall&company	**TRIAL PIT LOG**	**TP81A**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5121, 2730

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast



Depth (m)	**DESCRIPTION**
0.1 m	Loose brown-grey silty sand with roots
0.4 m	Firm brown-red silty clay with gravel to cobble size subrounded to subangular limestone
1.0 m	Stiff orange-brown silty clay
1.8 m	Loose beige-brown gravelly sandy silt with subangular cobbles of limestone and occasional small (1 cm diameter) clay lenses End of trial pit at top of weathered bedrock

END OF TRIAL PIT 1.8 m

Scale: **1:25**

Remarks:

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP81A	TP81A					
Depth	0.55 m	1.4 m					
Type	SOIL	SOIL					
Test							

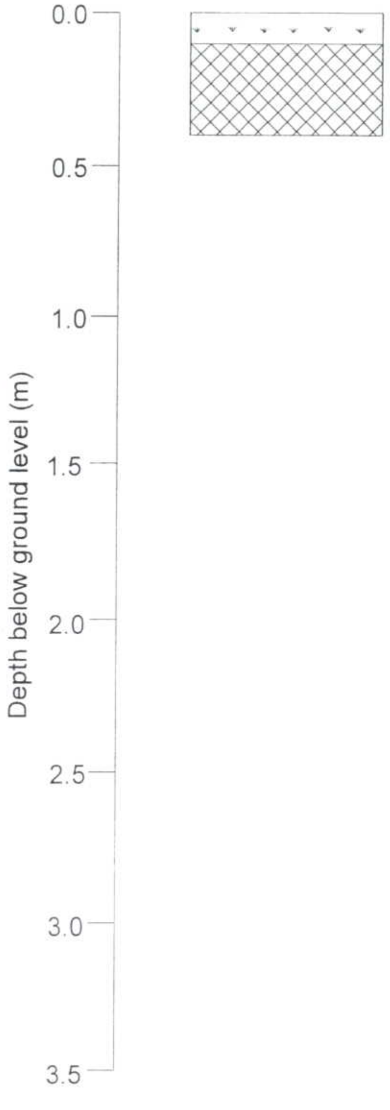
Logged by: ABW

Date: 24.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP81**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5121, 2730

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, overcast

Legend



Depth (m)	DESCRIPTION
0.1 m	Loose brown-grey silty sand with roots
0.4 m	Firm brown-red silty clay with gravel to cobble size subrounded to subangular limestone with occasional roots Trial pit abandoned at line of electric cable tiles

END OF TRIAL PIT 0.4 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 20 mins

Sample	TP81							**Logged by:** ABW
Depth	0.35 m							
Type	SOIL							**Date:** 24.04.97
Test								

Aspinwall&company

TRIAL PIT LOG

TP80

Sheet 1 of 1

Client: Defence Estate Organisation

CAN No: MD3333A

Ground Level - m A.O.D. approx.

Grid Ref.: 4993, 2650

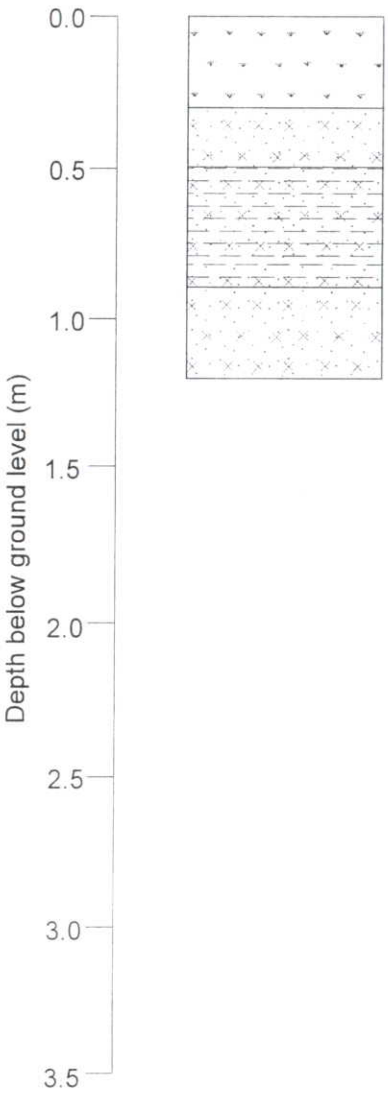
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast

Legend



Depth (m)	DESCRIPTION
0.3 m	Grass over medium brown clayey silty sand with some fine to coarse gravel of limestone and occasional fine to coarse ash/clinker
0.5 m	Soft to firm medium brown sandy silty clay with some fine to coarse gravel of limestone
0.9 m	Soft to firm brown mottled grey silty sandy clay with a little fine to coarse gravel sized shell and limestone
1.2 m	Soft grey/brown sandy silt with some fine to coarse gravel sized limestone and shell

END OF TRIAL PIT 1.2 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

Time trench open: 30 mins

Sample	TP80	TP80					
Depth	0.1 m	0.55 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 22.04.97

Aspinwall&company

TRIAL PIT LOG

TP79

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 4998, 2650

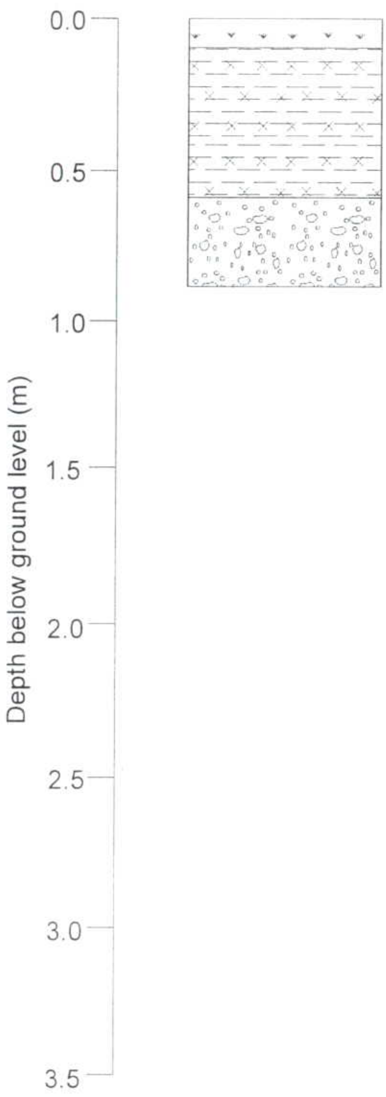
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast

Legend



Depth (m)	DESCRIPTION
0.1 m	Loose mid brown silty sand with roots
	Soft mid brown very silty clay with occasional subrounded limestone gravel
0.6 m	Loose angular cobble to boulders of limestone with a soft beige-brown silty clay matrix
0.9 m	Top of bedrock

END OF TRIAL PIT 0.9 m

Scale: **1:25**

Remarks:

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP79	TP79					
Depth	0.5 m	0.9 m					
Type	SOIL	SOIL					
Test							

Logged by: ABW

Date: 22.04.97

Aspinwall&company

TRIAL PIT LOG

TP78A

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5092, 2730

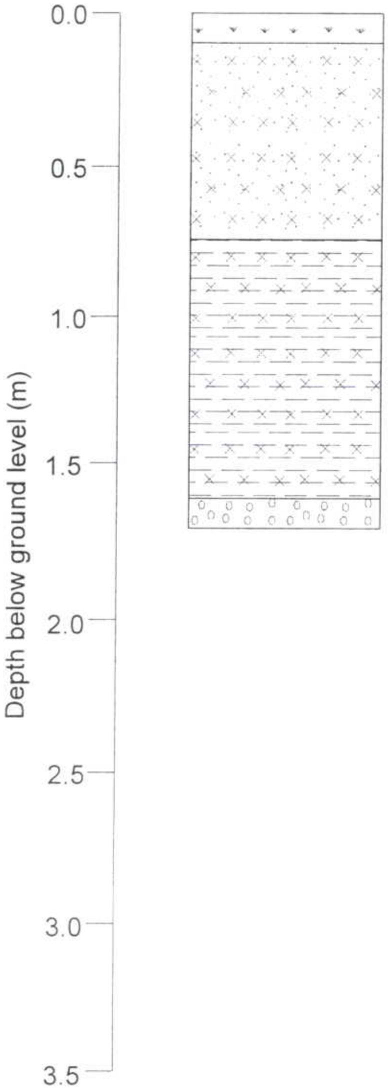
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.1 m	Loose red-brown silty fine sand with roots
0.75 m	Loose red-orange-brown silty fine sand with many gravel to cobble sized subangular limestone Loose red-orange sand with one electric cable tile at 0.6 m
	Stiff beige-orange-brown silty clay with some coarse sand, vegetation traces and with gravel to cobble size subangular limestone
1.6 m	Soft to firm mottled orange-grey-brown sandy clay with much fine gravel to cobble sized subrounded to subangular limestone
1.7 m	End of trial pit - steel pipe beginning to be undermine

END OF TRIAL PIT 1.7 m

Scale: **1:25**

Remarks: 0.95 m steel large diameter pipe runs along western edge of trial pit.

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP78A	TP78A	TP78A				
Depth	0.35 m	0.9 m	1.7 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: ABW

Date: 23.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP78**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5093, 2731

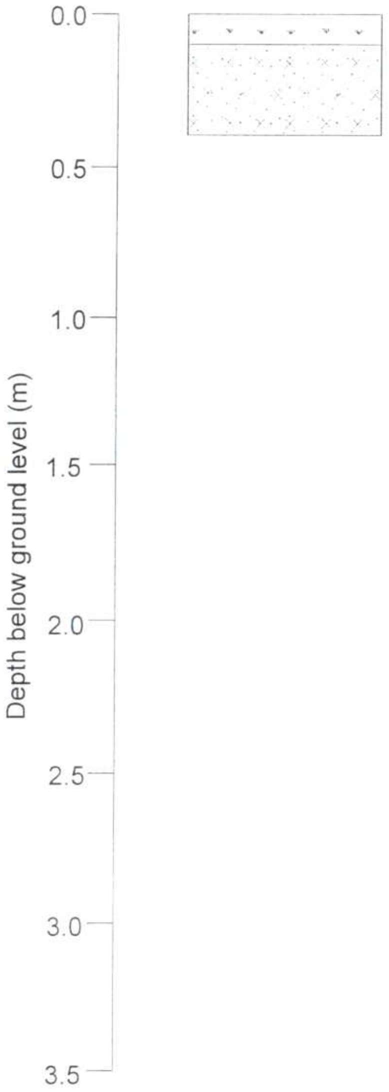
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast, breezy

Legend	**Depth (m)**	**DESCRIPTION**
	0.1 m	Loose red-brown silty fine sand with roots
		Loose red-brown silty fine sand with gravel to cobble sized subangular limestone
	0.4 m	Electric cable tile covers, abandoned trial pit.



END OF TRIAL PIT 0.4 m

Scale: **1:25**

Remarks: Trial pit 78 abandoned at 0.4 m, 78A completed directly adjacent.

Water: None

Stability: Stable

Time trench open: 10 mins

Sample	TP78						
Depth	0.2 m						
Type	SOIL						
Test							

Logged by: ABW

Date: 23.04.97

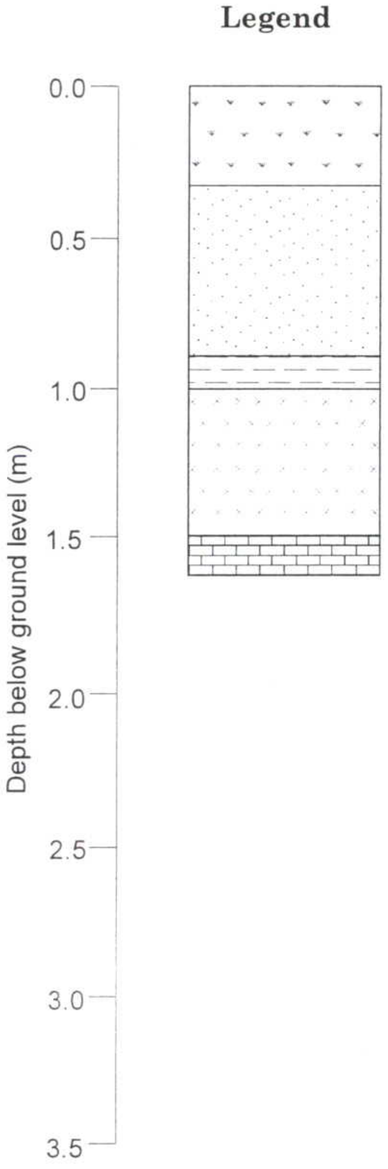
Aspinwall&company	**TRIAL PIT LOG**	**TP77**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5118, 2738

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Drizzle



Depth (m)	**DESCRIPTION**
0.3 m	Grass over medium brown silty clayey sand with many fine roots and some fine gravel to cobbles of subangular limestone
0.9 m	Loose red brown clayey and silty sand
1.0 m	Soft to firm orange brown mottled grey silty sandy clay with some fine gravel to cobbles of limestone
1.5 m	Soft light brown clayey sandy silt with a little fine gravel to cobbles of limestone
1.6 m	White subangular cobbles to boulders of limestone in a brown clayey silty sandy matrix

END OF TRIAL PIT 1.6 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP77	TP77					
Depth	0.5 m	1.5 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 23.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP76**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5081, 2708

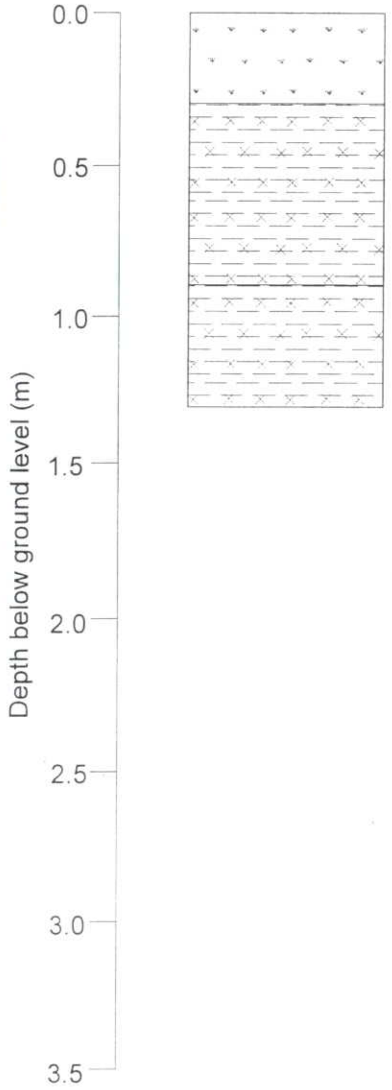
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend



Depth (m)	DESCRIPTION
	Loose brown sandy silt with roots
0.3 m	
	Soft to firm red-brown silty clay with gravel to cobble size subangular limestone
0.9 m	
	Soft to firm beige-grey-orange slightly sandy silty clay with traces of vegetation and shell and some cobble sized subrounded limestone
1.3 m	Top of weathered bedrock

END OF TRIAL PIT 1.3 m

Scale: **1:25**

Remarks:

Water: None

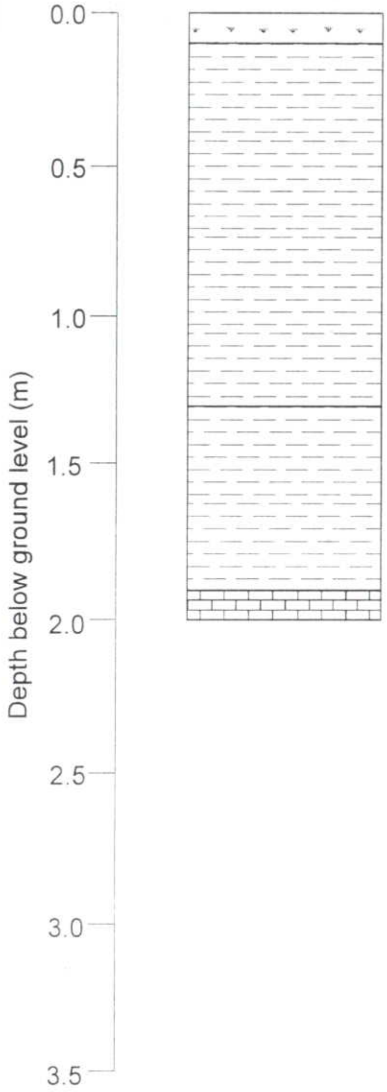
Stability: Stable

Time trench open: 20 mins

Sample	TP76	TP76						**Logged by:** ABW
Depth	0.45 m	1.25 m						
Type	SOIL	SOIL						**Date:** 23.04.97
Test								

Aspinwall&company	**TRIAL PIT LOG**	**TP75**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5084, 2710
Project: RAF Upper Heyford	**Excavation Method:** JCB	
Location: Upper Heyford	**Weather:** Dry sunny	

Legend



Depth (m)	DESCRIPTION
0.1 m	Loose brown silty sand with roots
	Loose brown-orange sandy silt with some clay and some gravel to cobble size subangular limestone
1.3 m	
	Soft orange-beige mottled silty clay with some gravel to cobble size subangular limestone. Some purple mottling and hydrocarbon odour above layer of soft blue-black silty clay with limestone cobbles as above. **Very strong hydrocarbon odour to base**
1.9 m	
2.0 m	Soft beige/grey/blue mottled silty clay matrix suporting gravel to boulder size subangular limestone with black staining Weathered top of limestone bedrock

END OF TRIAL PIT 2.0 m

Scale: **1:25**

Remarks: Strong hydrocarbon odour from 1.4 m to top of weathered bedrock and end of trial pit.

Water: None

Stability: Stable

Time trench open: 25 mins

Sample	TP75	TP75	TP75				
Depth	0.5 m	1.4 m	1.9 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: ABW

Date: 23.04.97

Aspinwall&company

TRIAL PIT LOG

TP74

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5081, 2711

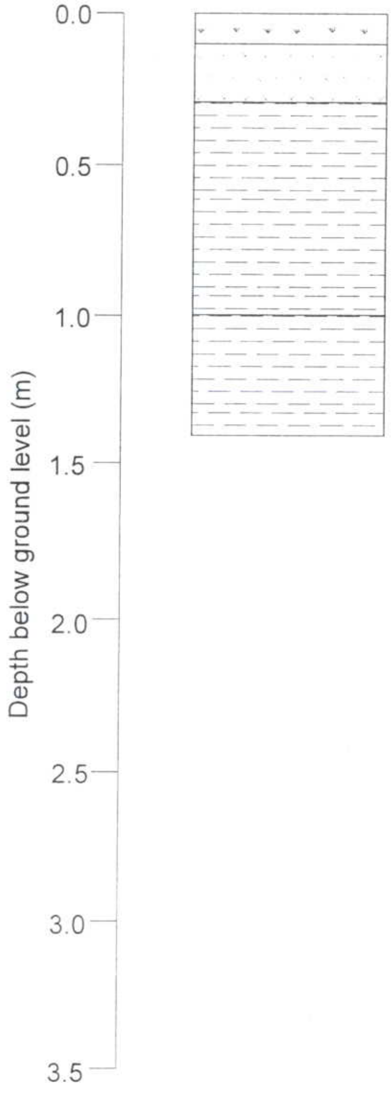
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend



Depth (m)	DESCRIPTION
	Loose brown silty sand with roots
0.1 m	Loose beige-red sandy silt with gravel to cobble size sub-angular limestone
0.3 m	Firm red-brown silty clay with some gravel to cobble size subrounded limestone and traces of vegetation
1.0 m	Stiff mottled yellow-brown silty clay with traces of weathered shell and vegetation
1.4 m	Top of weathered limestone bedrock

END OF TRIAL PIT 1.4 m

Scale: **1:25**

Remarks:

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP74	TP74					
Depth	0.5 m	1.3 m					
Type	SOIL	SOIL					
Test							

Logged by: ABW

Date: 23.04.97

Aspinwall&company

TRIAL PIT LOG

TP73

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5091, 2712

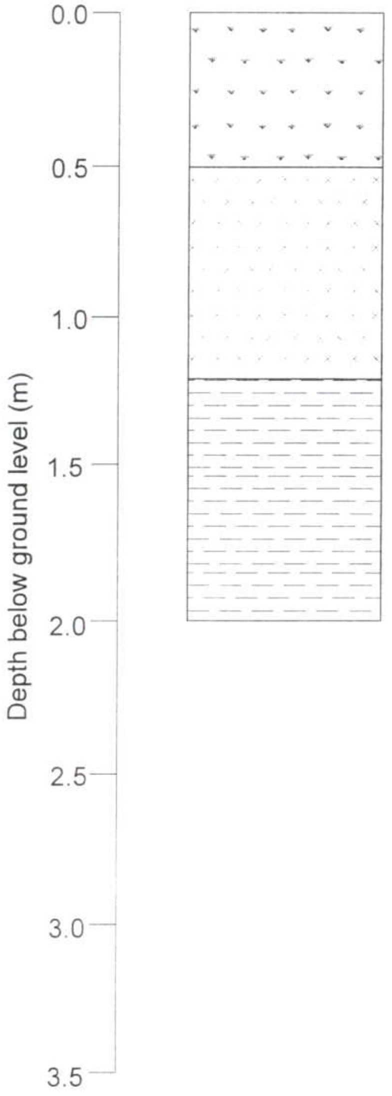
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast

Legend



Depth (m)	DESCRIPTION
0.5 m	Loose red-brown silty gravelly sand with gravel to cobble sized subrounded limestone
1.2 m	Loose red-brown slightly clayey sandy silt with some gravel to cobble sized subangular limestone and occasional bitumen covered cobbles
2.0 m	Soft beige-brown very sandy clay with gravel to cobble size subrounded limestone, and some shell fragments
	Top of weathered limestone bedrock

END OF TRIAL PIT 2.0 m

Scale: **1:25**

Remarks:

Water: None

Stability: Stable

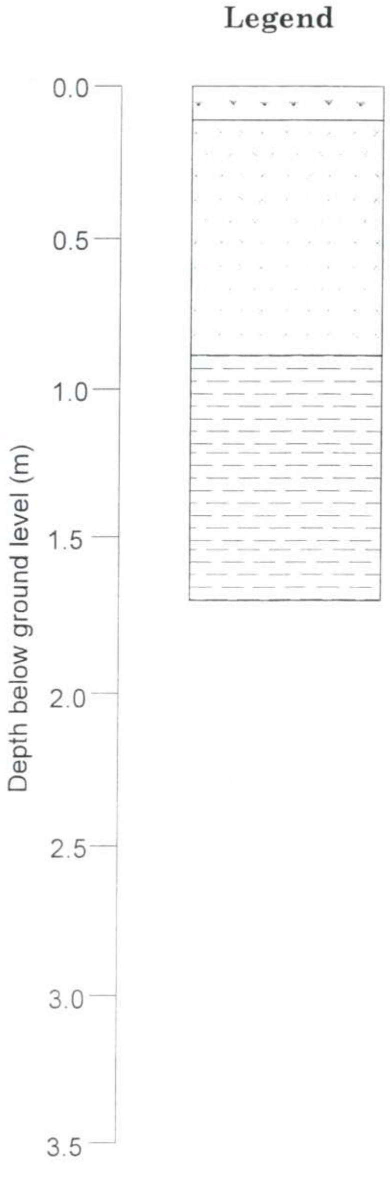
Time trench open: 20-30 mins

Sample	TP73	TP73	TP73				
Depth	0.3 m	0.6 m	1.7 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: ABW

Date: 23.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP72**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5085, 2720
Project: RAF Upper Heyford	**Excavation Method:** JCB	
Location: Upper Heyford	**Weather:** Dry, sunny	



Depth (m)	DESCRIPTION
	Loose medium brown gravelly silty sand
0.1 m	Loose brown-red clayey silt with some sand and gravel to cobble size subangular limestone
0.9 m	Soft red-brown silty clay with occasional subangular limestone cobbles
1.7 m	Top of weathered limestone bedrock

END OF TRIAL PIT 1.7 m

Scale: **1:25**

Remarks:

Water: None

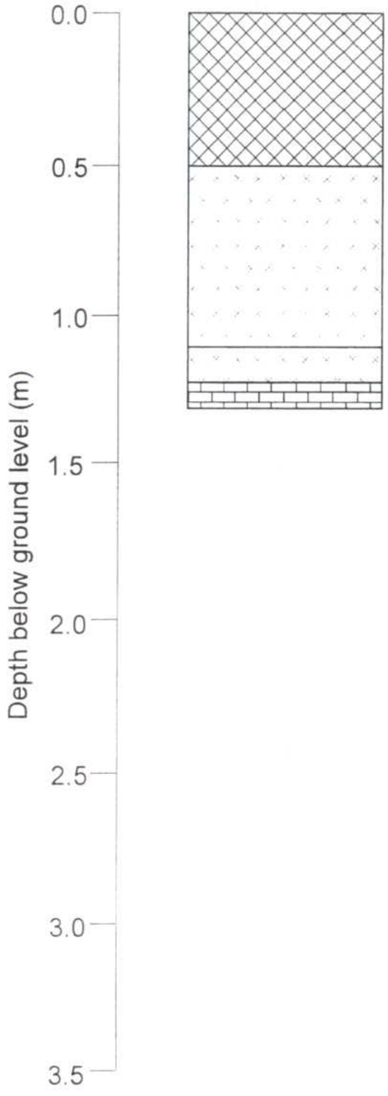
Stability: Stable

Time trench open: 20-30 mins

Sample	TP72	TP72						**Logged by:** ABW
Depth	0.35 m	1.2 m						
Type	SOIL	SOIL						**Date:** 23.04.97
Test								

Aspinwall&company	**TRIAL PIT LOG**	**TP71**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5075, 2715
Project: RAF Upper Heyford		**Excavation Method:** JCB
Location: Upper Heyford		**Weather:** Dry, cloudy

Legend



Depth (m)	DESCRIPTION
	Grass over medium brown clayey silty sand with much fine gravel to cobbles of subangular limestone, fine roots, a little fine to coarse gravel sized ash and clinker
0.5 m	Soft red/brown clayey sandy silt with a little coarse gravel of subangular limestone
	Soft light brown clayey sandy silt with much fine gravel to cobbles of subangular limestone
1.1 m	
1.2 m	White subangular cobbles to boulders of limestone in a brown clayey silty sandy matrix
1.3 m	

END OF TRIAL PIT 1.3 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP71	TP71	TP71					**Logged by:** HHU
Depth	0.1 m	0.4 m	1.1 m					
Type	SOIL	SOIL	SOIL					**Date:** 23.04.97
Test								

Aspinwall&company

TRIAL PIT LOG

TP70

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5073, 2718

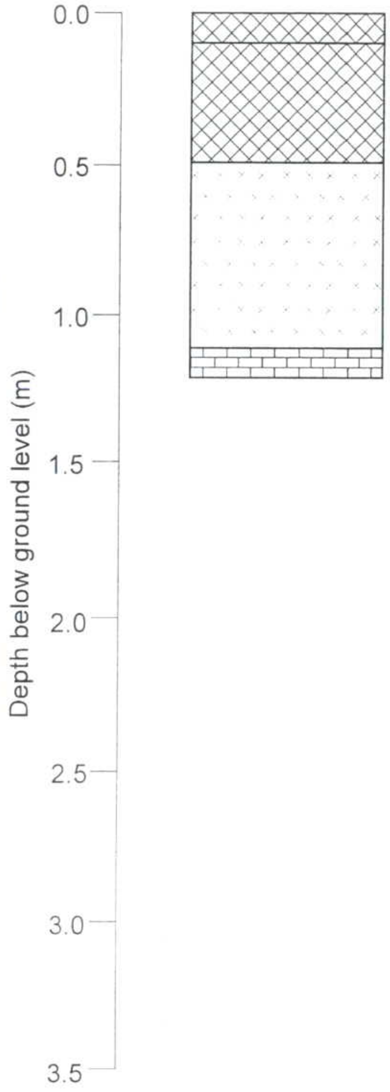
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, cloudy

Legend



Depth (m)	DESCRIPTION
0.1 m	Grass over medium brown silty clayey sand with many fine roots, some fine to coarse gravel of flint and occasional fragments of metal
0.5 m	Soft red brown clayey sandy silt with some fine gravel to cobbles of subangular limestone occasional fine to coarse gravel sized fragments of brick, flint
	Soft light brown clayey and sandy silt with much fine gravel to cobbles of subangular limestone
1.1 m 1.2 m	White subangular cobbles of boulders of limestone in a brown clayey silty sandy matrix

END OF TRIAL PIT 1.2 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

Time trench open: 30 mins

Sample	TP70	TP70					
Depth	0.2 m	1.0 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 23.04.97

Aspinwall&company

TRIAL PIT LOG

TP69

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

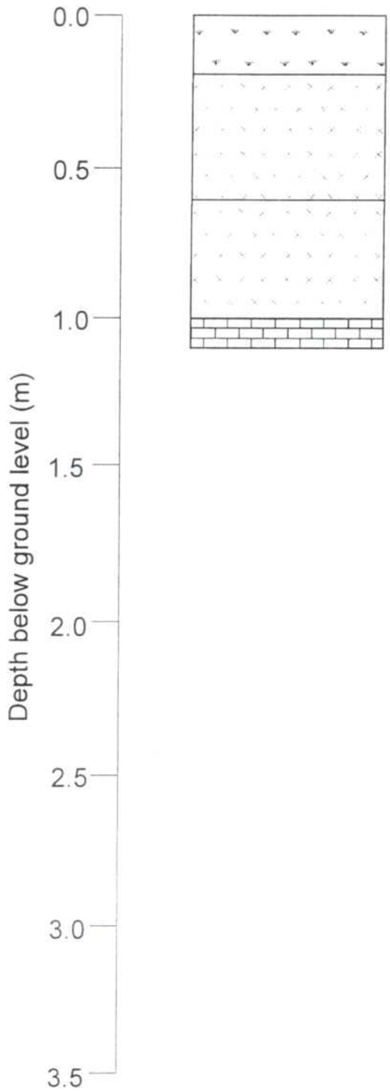
Grid Ref.: 5080, 2722

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, cloudy



Depth (m)	DESCRIPTION
0.2 m	Grass over medium brown silty, clayey sand with many fine roots
0.6 m	Soft red brown clayey sandy silt with a little fine to coarse gravel of subangular limestone
1.0 m	Soft light brown clayey and sandy silt with much fine gravel to cobbles of limestone
1.1 m	White subangular cobbles to boulders of limestone in a brown clayey silty sandy matrix

END OF TRIAL PIT 1.1 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

Time trench open: 30 mins

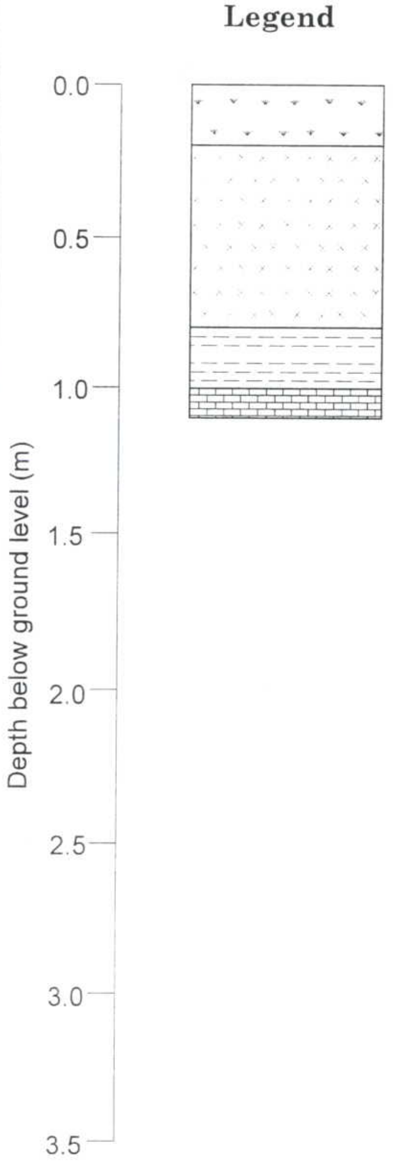
Sample	TP69	TP69					
Depth	0.4 m	0.95 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 23.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP68**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5075, 2730

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, cloudy



Depth (m)	**DESCRIPTION**
0.2 m	Grass over medium brown silty clayey sand with many fine roots and some fine gravel to cobbles of subangular limestone
0.8 m	Soft light brown clayey and sandy silt with much fine gravel to cobbles of subangular limestone
1.0 m	Soft to firm orange/brown mottled grey silty sandy clay
1.1 m	White subangular cobbles to boulders of limestone in a brown clayey silty sandy matrix

END OF TRIAL PIT 1.1 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP68	TP68						**Logged by:** HHU
Depth	0.1 m	0.8 m						
Type	SOIL	SOIL						**Date:** 23.04.97
Test								

Aspinwall&company

TRIAL PIT LOG

TP67

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5068, 2731

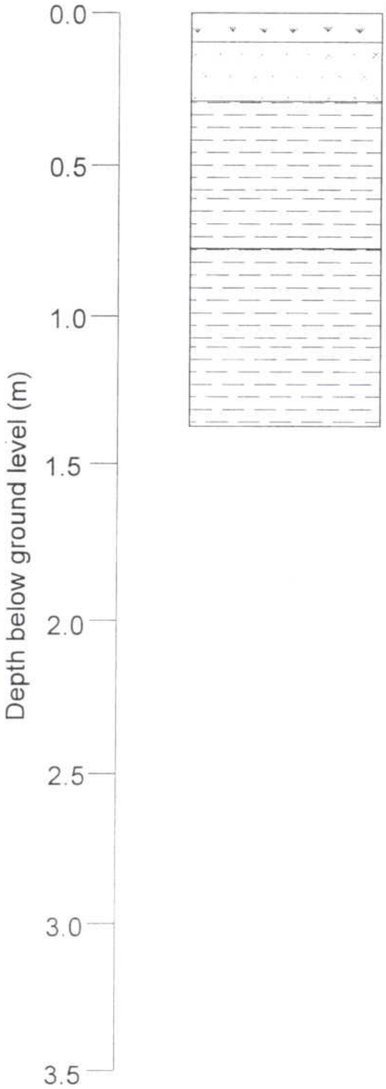
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.1 m	Loose grey-brown silty sand with roots
0.3 m	Loose beige gravelly sandy silt with cobbles of subangular limestone
0.8 m	Firm beige-brown silty clay with gravel to cobble size sub-angular limestone and some traces of vegetation
1.4 m	Firm mottled red-grey-brown sandy clay with subangular gravel to cobble size limestone, some traces of shell and vegetation
	Top of weathered limestone bedrock

END OF TRIAL PIT 1.4 m

Scale: **1:25**

Remarks:

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP67	TP67					
Depth	0.35 m	1.3 m					
Type	SOIL	SOIL					
Test							

Logged by: ABW

Date: 23.04.97

Aspinwall&company

TRIAL PIT LOG

TP66

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

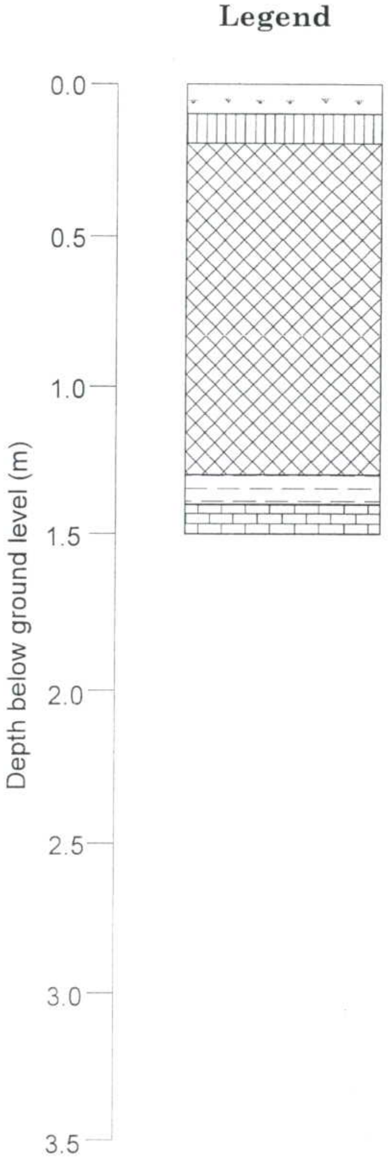
Grid Ref.: 5060, 2712

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny



Depth (m)	DESCRIPTION
0.1 m	Loose brown silty sand with roots
0.2 m	Concrete slab
1.3 m	Firm to loose mottled red-grey-brown silty sandy clay inter mixed with sandy gravel, with some gravel to cobble size subangular limestone and occasional pieces of steel, brick, breeze block, concrete, wood and asphalt
1.4 m	Firm black organic rich silty clay - much vegetation traces
1.5 m	Soft to firm beige-orange silty sandy clay with much sub-rounded limestone cobbles

Top of weathered limestone bedrock

END OF TRIAL PIT 1.5 m

Scale: **1:25**

Remarks:

Water: None

Stability: Stable

Time trench open: 20 mins

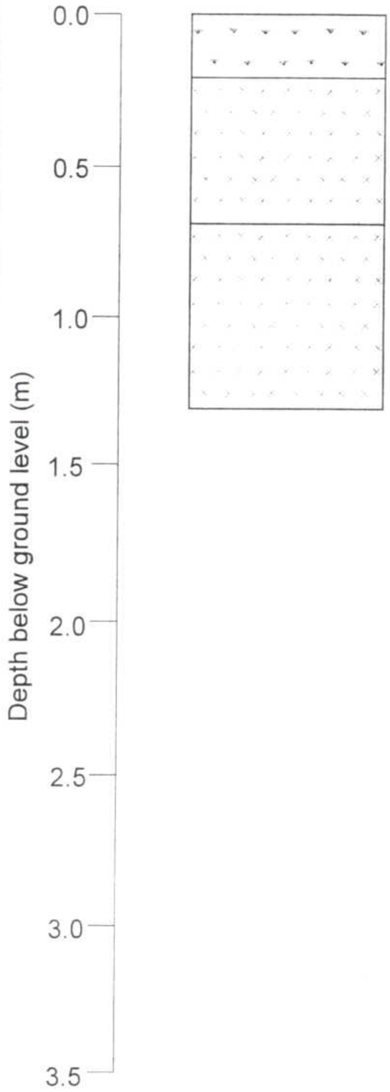
Sample	TP66	TP66	TP66				
Depth	0.6 m	1.4 m	1.45 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: ABW

Date: 23.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP65**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5090, 2760
Project: RAF Upper Heyford		**Excavation Method:** JCB
Location: Upper Heyford		**Weather:** Dry, overcast, windy

Legend



Depth (m)	DESCRIPTION
0.2 m	Grass over soft brown sandy silt with some fine roots and a little fine to coarse gravel of limestone
0.7 m	Soft red/brown clayey silt with a little fine to coarse gravel of limestone
1.3 m	Soft light brown sandy silt and cobbles of subangular limestone

END OF TRIAL PIT 1.3 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP65	TP65					
Depth	0.4 m	1.3 m					
Type	SOIL	SOIL					
Test							

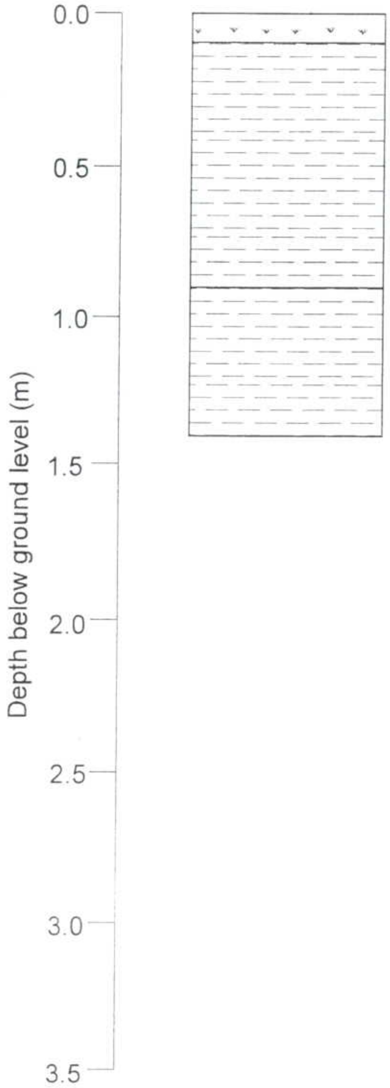
Logged by: HHU/ ERM

Date: 28.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP64**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - **m A.O.D.** approx.	**Grid Ref.:** 5089, 2771

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.1 m	Loose grey-brown silt with roots
0.9 m	Soft red-brown silty clay with some subrounded cobbles of limestone
1.4 m	Soft to firm beige-orange-brown silty clay with some shell fragments, slight laminations and gravel to cobble size subangular limestone
	End of trial pit at top of weathered limestone bedrock

END OF TRIAL PIT 1.4 m

Scale: **1:25**

Remarks:

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP64	TP64						**Logged by:** ABW
Depth	0.55 m	1.3 m						
Type	SOIL	SOIL						**Date:** 24.04.97
Test								

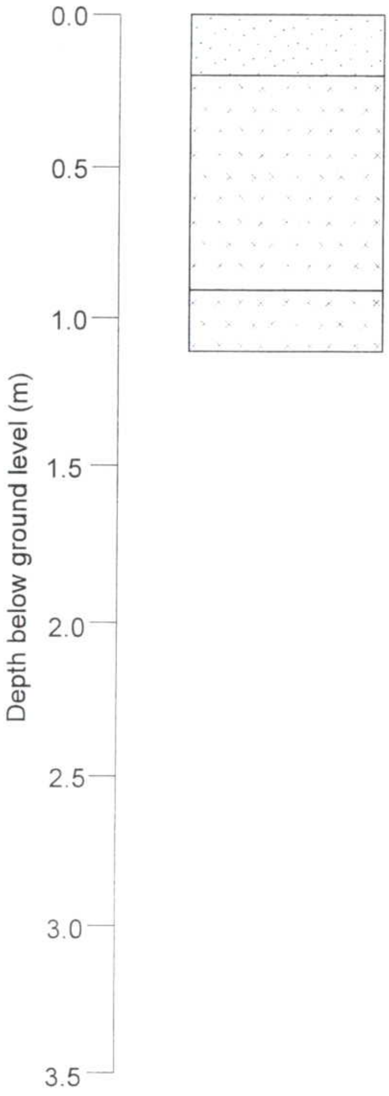
Aspinwall&company	**TRIAL PIT LOG**	**TP63**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5075, 2750

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast, windy



Depth (m)	DESCRIPTION
0.2 m	Grass over loose medium brown silty clayey sand with much fine roots and some fine to coarse gravel of limestone
0.9 m	Soft red/brown sandy silt with some fine gravel to cobble sized subangular limestone and a little fine to coarse gravel of flint
1.1 m	Soft light brown orange sandy silt with some fine gravel to cobble sized subangular limestone

END OF TRIAL PIT 1.1 m

Scale: **1:25**

Remarks:

Water: None

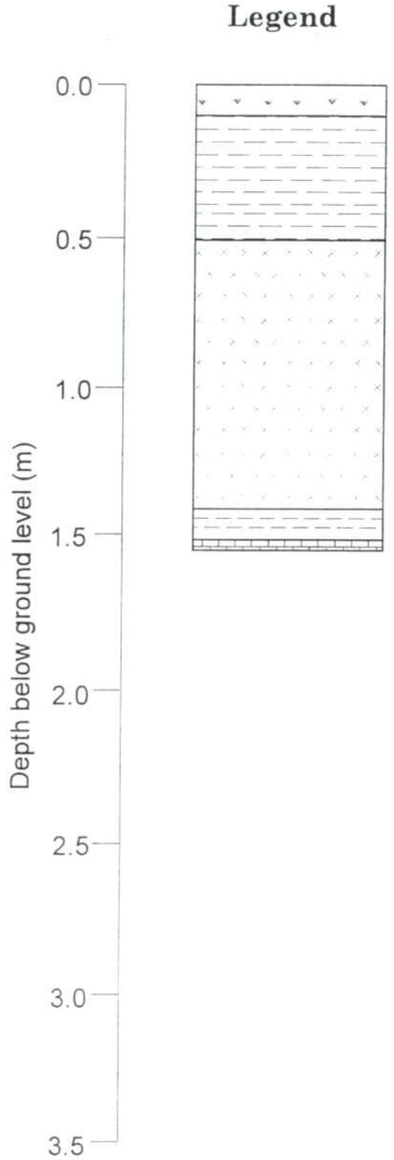
Stability: Good

Time trench open: 30 mins

Sample	TP63	TP63						**Logged by:** HHU/ ERM
Depth	0.35 m	1.1 m						
Type	SOIL	SOIL						**Date:** 28.04.97
Test								

Aspinwall&company	**TRIAL PIT LOG**	**TP62**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5053, 2738

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, cloudy



Depth (m)	DESCRIPTION
0.1 m	Grass over medium brown silty clayey sand with many fine roots and some fine gravel to cobbles of subangular limestone
0.5 m	Soft to firm brown sandy and silty clay with much fine gravel to cobbles of subangular limestone
	Soft light brown clayey sandy silt with some fine gravel to cobbles of subangular limestone
1.4 m	Firm orange/brown mottled grey silty sandy clay with much fine to coarse gravel sized shell fragments
1.5 m	White subangular cobbles to boulder sized limestone in a brown clayey silty sandy matrix
1.55 m	

END OF TRIAL PIT 1.55 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

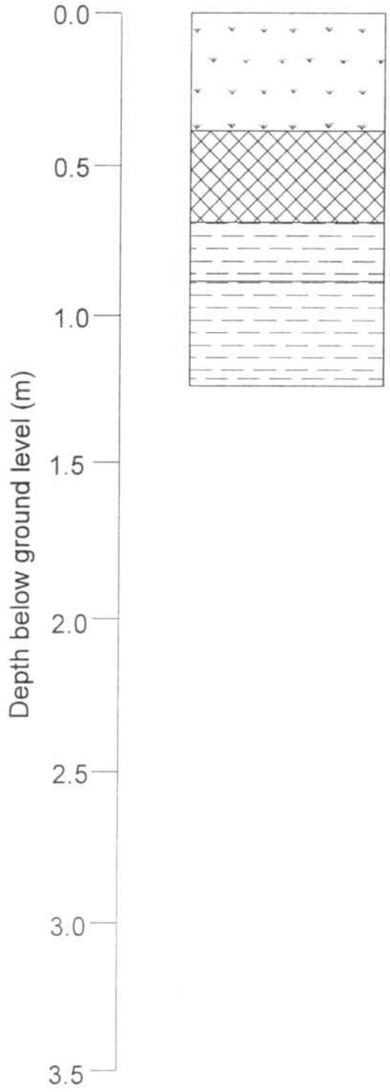
Time trench open: 30 mins

Sample	TP62	TP62	TP62					**Logged by:** HHU
Depth	0.4 m	0.8 m	1.4 m					
Type	SOIL	SOIL	SOIL					**Date:** 23.04.97
Test								

Aspinwall&company	TRIAL PIT LOG	TP61
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5051, 2754

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry/overcast

Legend



Depth (m)	**DESCRIPTION**
0.4 m	Grass over loose medium brown silty/clayey sand with much fine roots and some fine to coarse gravel to cobbles of subangular limestone
0.7 m	Loose orange brown silty sand with much fine gravel to cobbles of subangular limestone. Layer of ash/clinker at 0.4 m and 0.7 m
0.9 m	Stiff medium brown silty and sandy clay with much fine gravel to cobbles of subangular limestone
1.25 m	Soft grey brown sandy silty clay with fine to cobbles of subangular limestone. **Strong petroleum odour**

END OF TRIAL PIT 1.25 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

Time trench open: 30 mins

Sample	TP61	TP61						**Logged by:** HHU
Depth	0.7 m	1.1 m						
Type	SOIL	SOIL						**Date:** 22.04.97
Test								

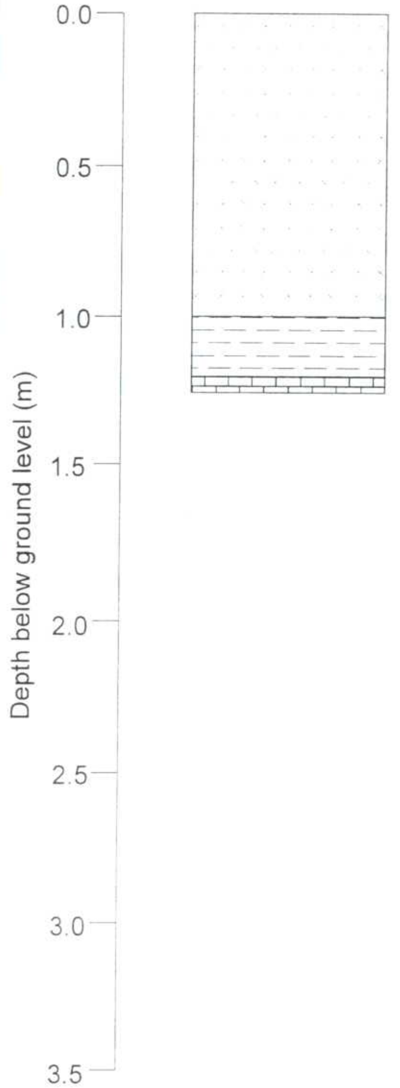
Aspinwall&company	**TRIAL PIT LOG**	**TP60**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5049, 2746

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry/overcast



Depth (m)	DESCRIPTION
	Grass over soft red brown sandy silt with a little fine gravel to cobble sized subangular limestone and occasional fine to coarse gravel sized ash and clinker. Sheet of metal
1.0 m	Soft to firm orange brown sandy silty clay with much fine to coarse gravel sized shell fragments
1.2 m	White subangular cobbles to boulder sized limestone in a brown clayey silty sand matrix
1.25 m	

END OF TRIAL PIT 1.25 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

Time trench open: 30 mins

Sample	TP60	TP60					
Depth	0.7 m	1.0 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 22.04.97

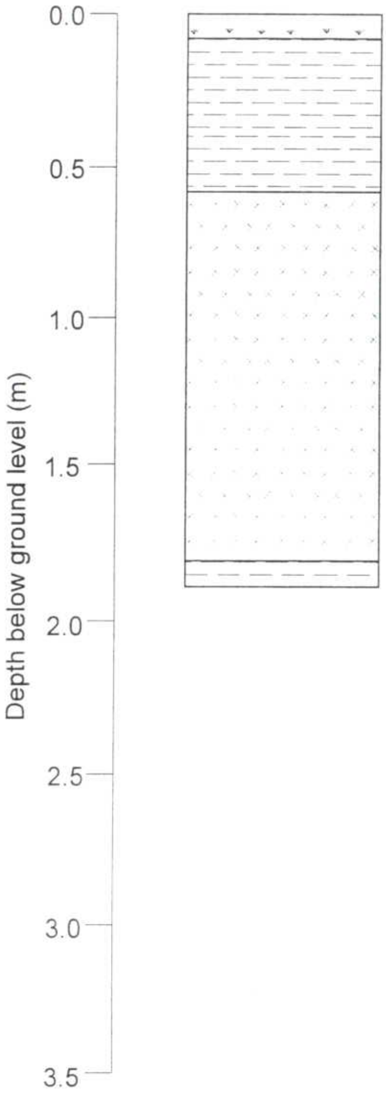
Aspinwall&company	**TRIAL PIT LOG**	**TP59**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5056, 2744

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, cloudy



Depth (m)	DESCRIPTION
0.1 m	Grass over medium brown silty clayey sand with many fine roots and some fine to coarse gravel of flint
0.6 m	Soft to firm brown sandy and silty clay with much fine gravel to cobble sized subangular limestone
1.8 m	Soft light brown clayey sandy silt with some fine gravel to cobble sized subangular limestone
1.9 m	Firm orange brown mottled grey silty sandy clay with a little fine to coarse gravel sized shell fragments

END OF TRIAL PIT 1.9 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP59	TP59					
Depth	0.15 m	0.9 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 23.04.97

Aspinwall&company

TRIAL PIT LOG

TP58

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - **m A.O.D.** approx.

Grid Ref.: 5043, 2579

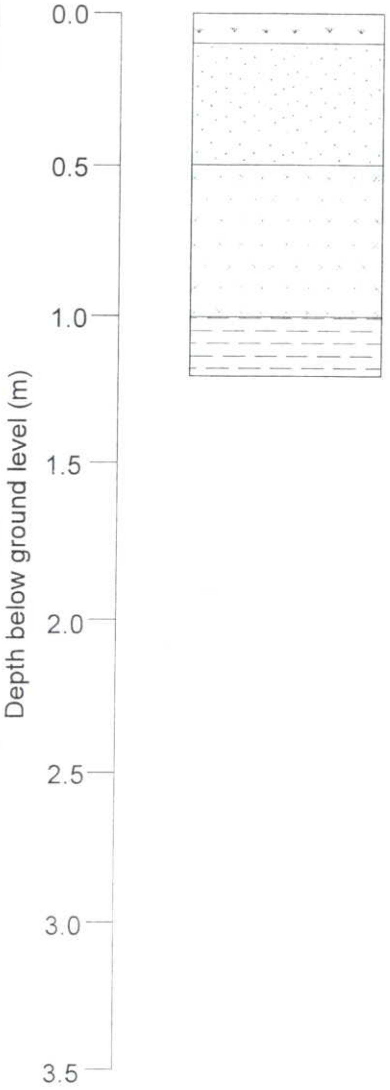
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast

Legend



Depth (m)	DESCRIPTION
0.1 m	Loose light-medium brown silty sand with roots
0.5 m	Loose brown silty fine sand with subangular gravel to cobble sized limestone
1.0 m	Loose medium to dark brown slightly sandy silt with much subangular gravel to cobble size limestone
1.2 m	Soft to firm red-orange-brown slightly sandy silty clay, many gravel to cobble sized pieces of subangular limestone
	White-grey subangular cobbles of limestone in matrix of red-brown silty clay

END OF TRIAL PIT 1.2 m

Scale: **1:25**

Remarks: End of trial pit at weathered bedrock.

Water: None

Stability: Yes

Time trench open: 20-30 mins

Sample	TP58	TP58					
Depth	0.4 m	1.0 m					
Type	SOIL	SOIL					
Test							

Logged by: ABW

Date: 22.04.97

Aspinwall&company

TRIAL PIT LOG

TP57

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5042, 2570

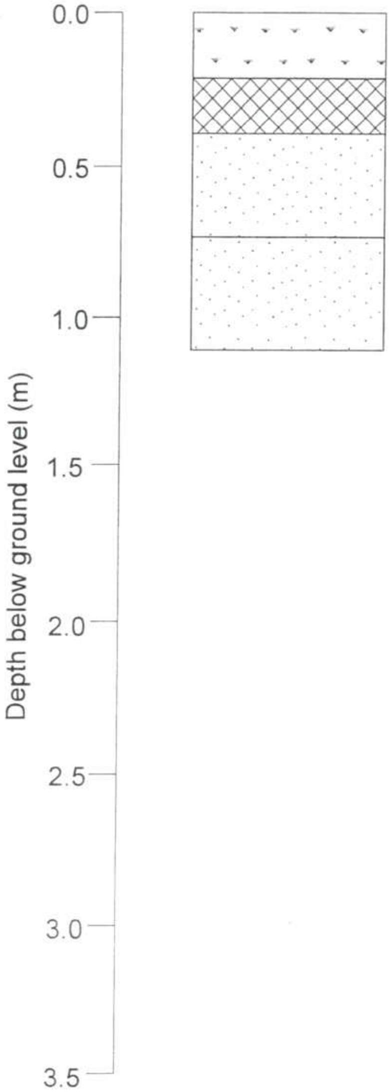
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast

Legend



Depth (m)	DESCRIPTION
0.2 m	Loose, light brown silty sand.
0.4 m	Loose light brown silty fine sand with gravel and cobble sized limestone and occasional gravel - cobble sized asphalt
0.75 m	Loose red-brown-yellow mottled cohesive clayey-silty sand with cobbles of subangular limestone increasing with depth
1.1 m	As 0.4 to 0.75 m with darker colour Trial pit abandoned after hitting and breaking drain

END OF TRIAL PIT 1.1 m

Scale: **1:25**

Remarks: Abandoned after damaging surface water drain.

Water: None

Stability: Stable

Time trench open: 30 mins

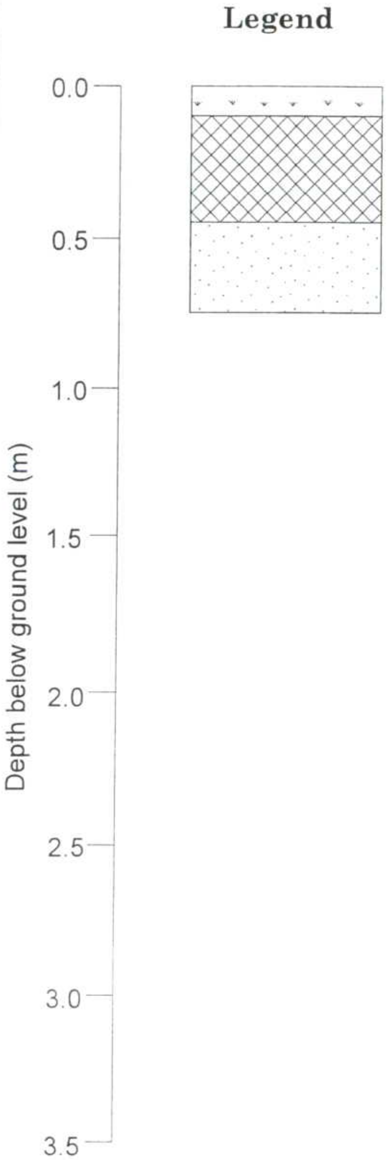
Sample	TP57	TP57					
Depth	0.25 m	1.0 m					
Type	SOIL	SOIL					
Test							

Logged by: ABW

Date: 21.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP56**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - **m A.O.D.** approx.	**Grid Ref.:** 5050, 2569

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, sunny



Depth (m)	DESCRIPTION
0.1 m	Loose light brown sandy silt with roots
0.45 m	Loose red-brown silty fine sand with cobbles of concrete and breeze block, a road side kerb, tree roots, asphalt and steel wire
0.75 m	Loose dark red-brown clayey silty sand with gravel to cobble sized angular limestone
	Pit abandoned after hitting 4 cm diameter water pipe - pit flooded

END OF TRIAL PIT 0.75 m

Scale: **1:25**

Remarks: Pit open but covered overnight for maintenance on 22.04.97.

Water: Yes - pipe at 0.75 m

Stability: Stable

Time trench open: 12-24 hrs

Sample	TP56	TP56						**Logged by:** ABW
Depth	0.25 m	0.75 m						
Type	SOIL	SOIL						**Date:** 22.04.97
Test								

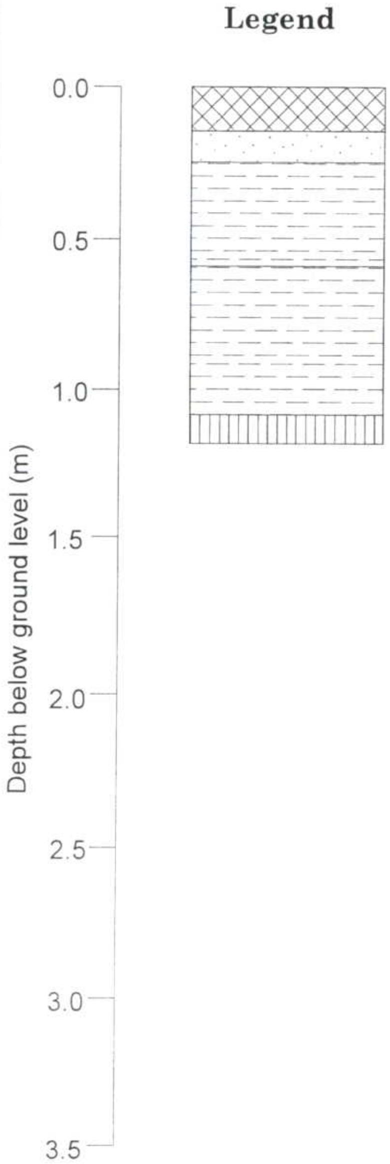
Aspinwall&company	**TRIAL PIT LOG**	**TP55**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5082, 2568

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry,overcast



Depth (m)	**DESCRIPTION**
0.15 m	Tarmac/asphalt
0.25 m	Loose beige to brown medium to coarse sand with some silt and occasional clay lenses of 1 cm diameter
0.6 m	Soft red-brown silty clay with some subangular gravel to cobble sized limestone with occasional half bricks, and sandstone and flint fragments
1.1 m	Soft dark grey-brown silty clay with some coarse sand and occasional coal/organic fragments and flint.
1.2 m	Old water pipe and large gravel sized bitumen fragments, steel bar, bricks Concrete

END OF TRIAL PIT 1.2 m

Scale: **1:25**

Remarks: Trial pit abandoned at concrete base.

Water: None

Stability: Sides collapsed at 1.1 m

Time trench open: 30 mins

Sample	TP55	TP55					
Depth	0.2 m	0.8 m					
Type	SOIL	SOIL					
Test							

Logged by: ABW

Date: 22.04.97

Aspinwall&company

TRIAL PIT LOG

TP54

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5118, 2578

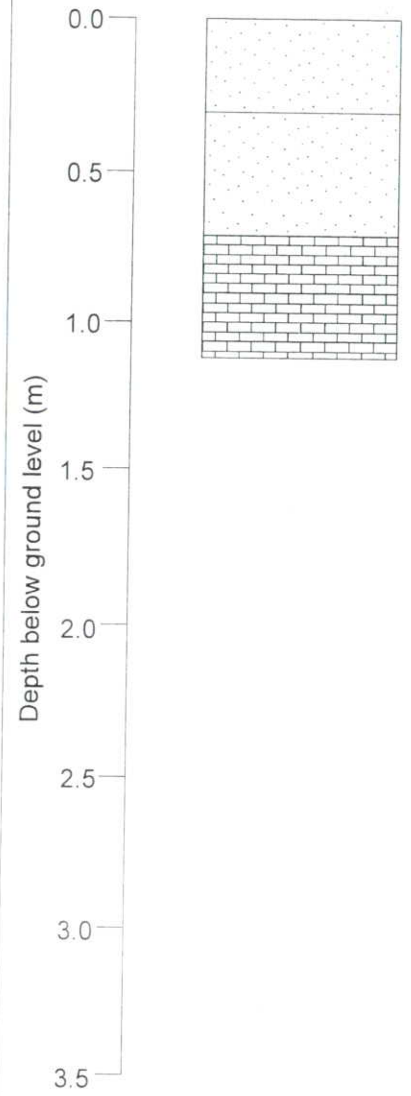
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry/overcast

Legend



Depth (m)	DESCRIPTION
0.3 m	Grass over loose medium brown silty clayey sand with fine roots and a little fine to coarse gravel sized fragments of brick, plastic, ash and limestone
0.7 m	Loose light brown silty/clayey sand with much fine subangular gravel to cobble sized limestone
1.1 m	White cobbles to boulder sized subangular limestone in a brown clayey silty sand matrix

END OF TRIAL PIT 1.1 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

Time trench open: 30 mins

Sample	TP54	TP54					
Depth	0.25 m	0.7 m					
Type	SOIL	SOIL					
Test							

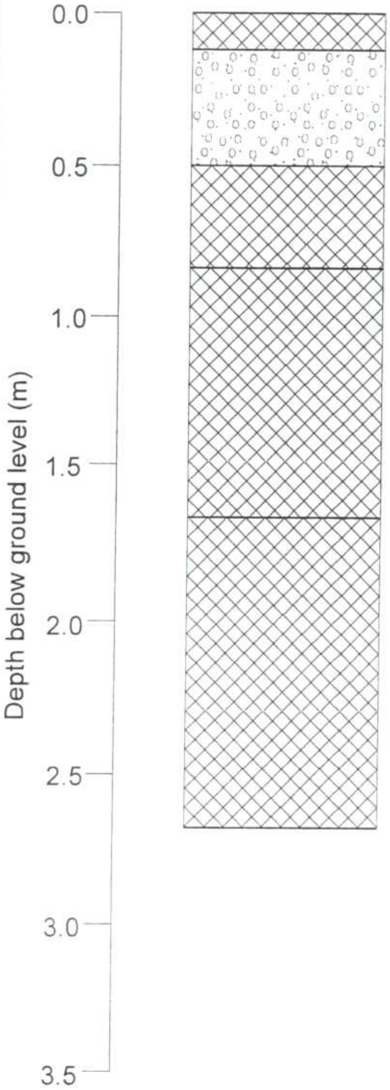
Logged by: HHU

Date: 22.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP53**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5130, 2545

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Sunny, dry

Legend



Depth (m)	DESCRIPTION
0.1 m	Tarmac
0.5 m	Loose orange sand and gravel with some fine gravel to cobbles of limestone
0.8 m	Soft to firm dark brown sandy silty clay with a little fine to coarse gravel of limestone and occasional fine gravel sized fragments of ash and brick
1.7 m	Soft to firm orange brown subangular silty clay with a little fine to coarse gravel of limestone and occasional fine gravel sized ash
2.7 m	Soft to firm dark brown with black patches sandy silty clay with fine to coarse gravel of limestone. Patches of oily residue. Crushed metal container at 2.4 m, piece of wood at 2.7 m

END OF TRIAL PIT 2.7 m

Scale: **1:25**

Remarks: Hydrocarbon odour at 1.7 m.

Water: None

Stability: Good

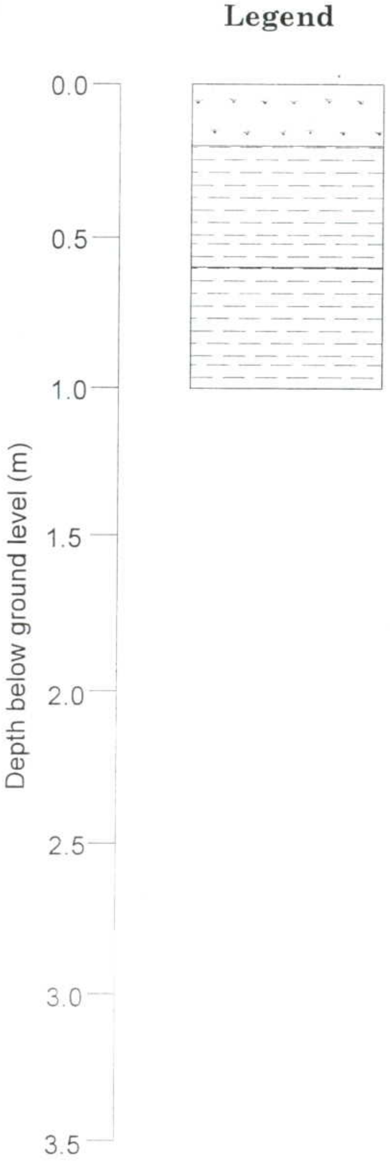
Time trench open: 30 mins

Sample	TP53	TP53					
Depth	0.3 m	1.9 m					
Type	SOIL	SOIL					
Test							

Logged by: ERM

Date: 01.05.97

Aspinwall&company	**TRIAL PIT LOG**	**TP52**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5155, 2575
Project: RAF Upper Heyford	**Excavation Method:** JCB	
Location: Upper Heyford	**Weather:** Dry/overcast	



Depth (m)	DESCRIPTION
0.2 m	Grass over medium brown silty clayey sand with much fine roots and a little fine to coarse gravel of flint
0.6 m	Loose red-brown silty sandy clay with a little fine subangular gravel to cobble sized limestone
1.0 m	Loose red-brown silty sandy clay with much fine subangular gravel to cobble sized limestone

END OF TRIAL PIT 1.0 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP52	TP52					
Depth	0.1 m	0.5 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 21.04.97

Aspinwall&company

TRIAL PIT LOG

TP51

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

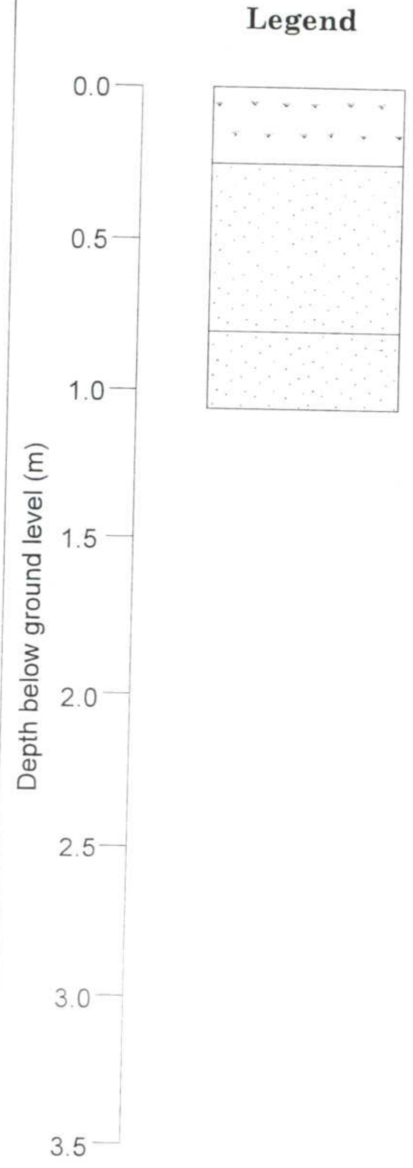
Grid Ref.: 5155, 2588

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny



Depth (m)	DESCRIPTION
0.25 m	Grass over loose medium brown silty clayey sand with many fine roots
0.8 m	Loose medium brown silty clayey sand with some fine subangular gravel to cobbles of limestone and some fine to coarse gravel sized fragments of coal, brick, ash. **Some black staining and possible fuel odour at 0.35 m**
1.05 m	Loose red-brown silty clayey sand with much subangular fine gravel to cobbles of limestone

END OF TRIAL PIT 1.05 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP51	TP51					
Depth	0.1 m	0.35 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 21.04.97

Aspinwall&company

TRIAL PIT LOG

TP50

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

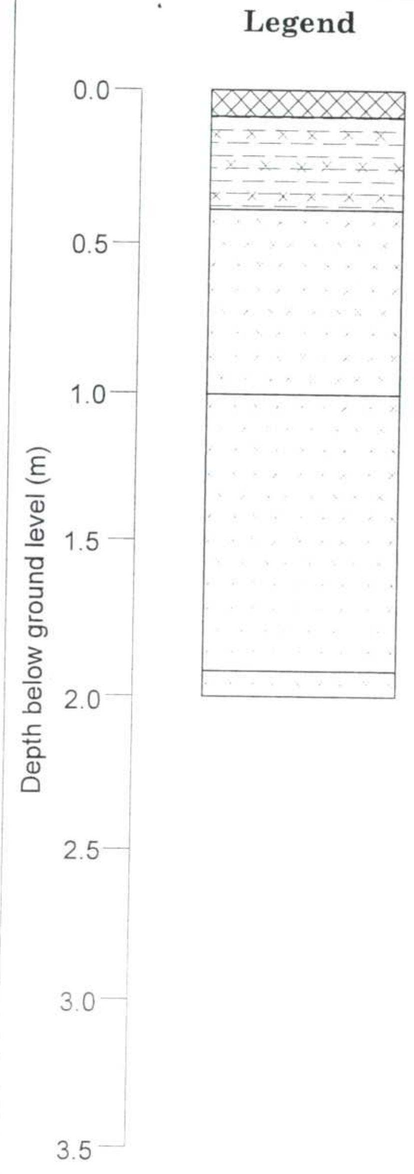
Grid Ref.: 5188, 2662

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast



Depth (m)	DESCRIPTION
0.1 m	Grass over loose medium brown silty clayey sand with many fine roots and some fine gravel of flint and occasional fine gravel sized ash and clinker
0.4 m	White fine gravel to cobbles of subangular limestone in a soft light brown sandy silt matrix
	Soft red brown clayey and sandy silt and fine gravel to cobbles of subangular white limestone
1.0 m	
	Soft orange brown clayey sandy silt and fine gravel to cobble sized subangular white limestone
1.9 m	Soft orange brown mottled grey sandy and clayey silt with a little fine to coarse limestone
2.0 m	

END OF TRIAL PIT 2.0 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP50	TP50					
Depth	0.1 m	1.8 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 24.04.97

Aspinwall&company

TRIAL PIT LOG

TP49

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5180, 2655

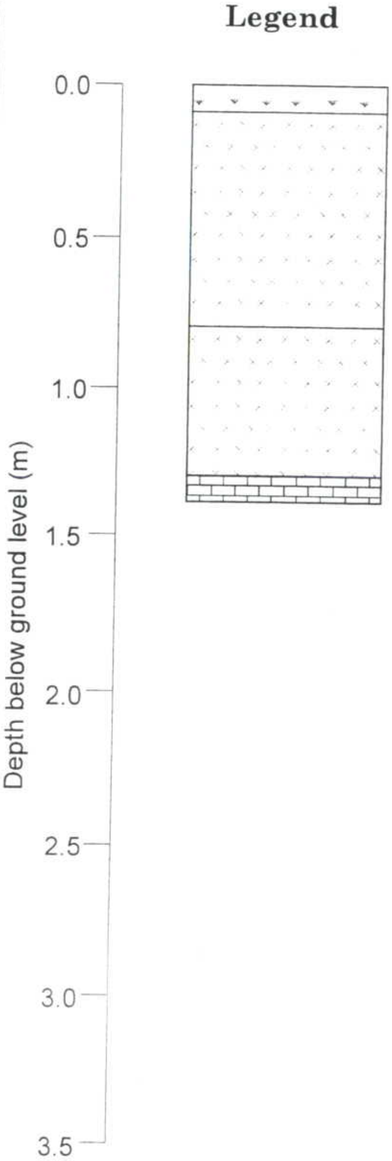
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast

Legend



Depth (m)	DESCRIPTION
0.1 m	Grass over loose medium brown silty clayey sand with many fine roots and some fine to coarse gravel of flint
0.8 m	Soft light orange/brown clayey sandy silt with fine gravel to cobbles of white subangular limestone
1.3 m	Soft orange/brown clayey sandy silt with some fine gravel to cobble sized white subangular limestone
1.4 m	White subangular cobbles to boulders of limestone in a light brown clayey, silty sand matrix

END OF TRIAL PIT 1.4 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP49	TP49					
Depth	0.1 m	1.0 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 24.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP48**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5168, 2630

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast, windy

Legend **Depth (m)** **DESCRIPTION**

Depth below ground level (m)

0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5

END OF TRIAL PIT - m

Scale: **1:25**

Remarks: Trial pit abandoned due to presence of services.

Water:

Stability:

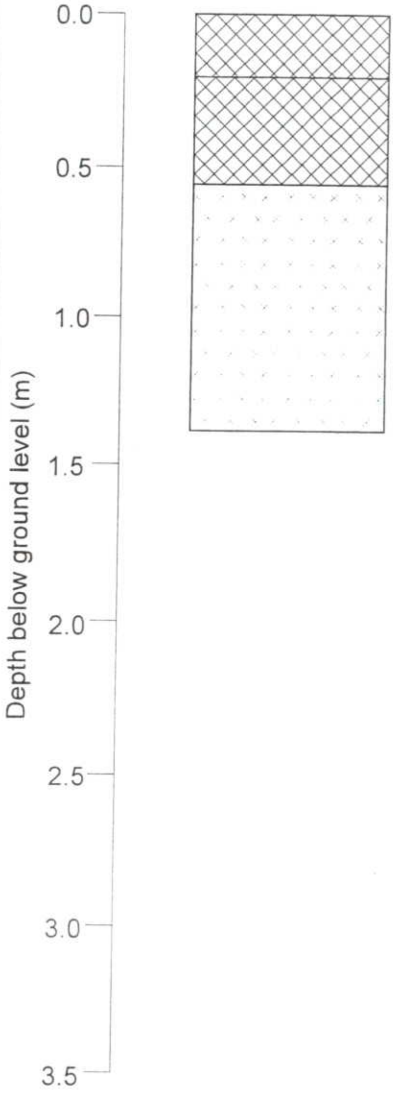
Time trench open:

Sample								
Depth								**Logged by:** ERM
Type								
Test								**Date:** 29.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP47**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5115, 2635

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Rain

Legend



Depth (m)	DESCRIPTION
0.2 m	Grass over loose medium brown silty clayey sand with many roots, a little fine to coarse gravel limestone and flint and occasional plastic
0.55 m	Soft red/brown sandy silt with much fine gravel to cobbles of subangular limestone and occasional fine gravel sized glass fragments
1.4 m	Soft light brown/orange sandy silt and fine gravel to cobble sized subangular limestone

END OF TRIAL PIT 1.4 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP47	TP47					
Depth	0.5 m	1.2 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 25.04.97

Aspinwall&company

TRIAL PIT LOG

TP46

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5120, 2635

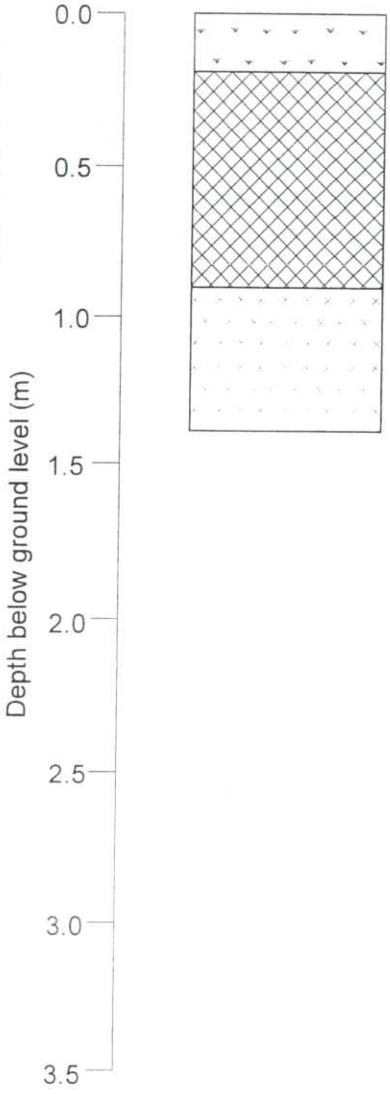
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Drizzle

Legend



Depth (m)	DESCRIPTION
0.2 m	Grass over loose medium brown silty, clayey sand with many fine roots and some fine to coarse gravel of limestone
0.9 m	Soft red brown sandy clayey silt with much fine gravel to cobbles of subangular limestone and occasional cobble sized fragments of brick and wood and fine gravel sized ash
1.4 m	Soft light brown sandy clayey silt with fine gravel to cobble sized subangular limestone

END OF TRIAL PIT 1.4 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP46	TP46					
Depth	0.4 m	1.3 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 25.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP45**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5112, 2630

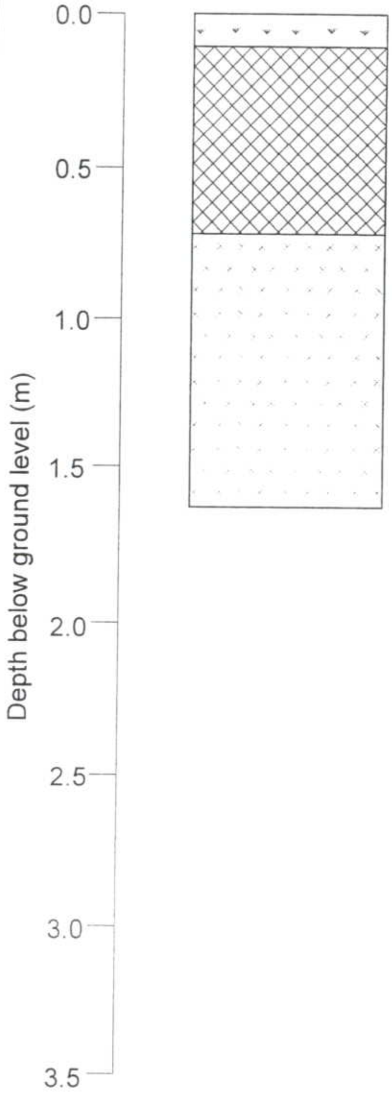
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Drizzle

Legend



Depth (m)	**DESCRIPTION**
0.1 m	Grass over loose medium brown silty clayey sand with many fine roots
0.7 m	Soft red brown sandy clayey silt with a little fine gravel to cobble sized concrete, subangular limestone and occasional fine gravel sized ash and a fragment of metal
1.6 m	Soft light brown sandy clayey silt with much fine gravel to cobble sized subangular limestone

END OF TRIAL PIT 1.6 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP45	TP45							**Logged by:** HHU
Depth	0.4 m	1.2 m							
Type	SOIL	SOIL							**Date:** 25.04.97
Test									

Aspinwall&company

TRIAL PIT LOG

TP44

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

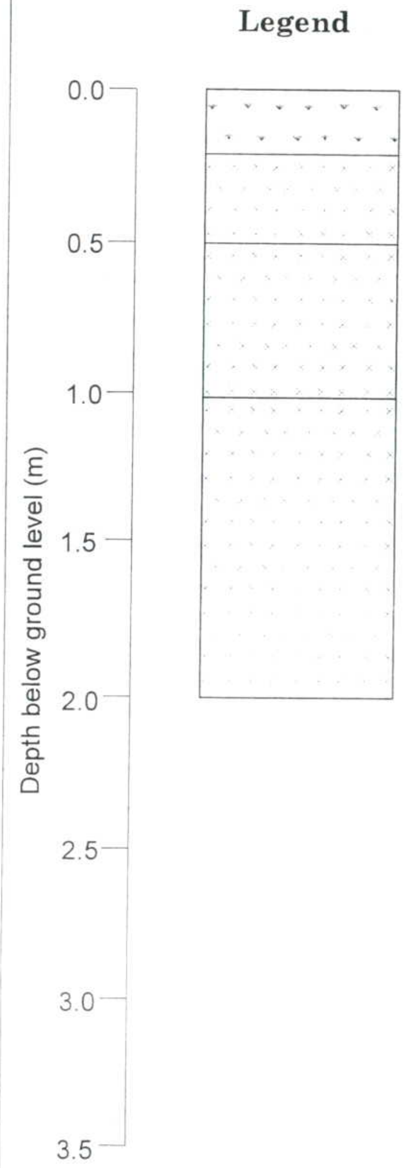
Grid Ref.: 5158, 2620

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast



Depth (m)	DESCRIPTION
0.2 m	Grass over brown sandy silt with many fine to coarse roots and some fine to coarse gravel of limestone, occasional coarse gravel sized glass, ash and occasional cobble sized fragments of brick and tile
0.5 m	Soft red brown sandy silt with a little coarse roots
1.0 m	Soft light brown orange sandy silt with much fine gravel to cobble sized limestone
2.0 m	Soft beige sandy silt with some fine gravel to cobble sized subangular limestone

END OF TRIAL PIT 2.0 m

Scale: **1:25**

Remarks:

Water: Encountered at 2.0 m

Stability: Good

Time trench open: 30 mins

Sample	TP44	TP44				
Depth	0.1 m	2.0 m				
Type	SOIL	SOIL				
Test						

Logged by: HHU

Date: 29.04.97

Aspinwall&company

TRIAL PIT LOG

TP43

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

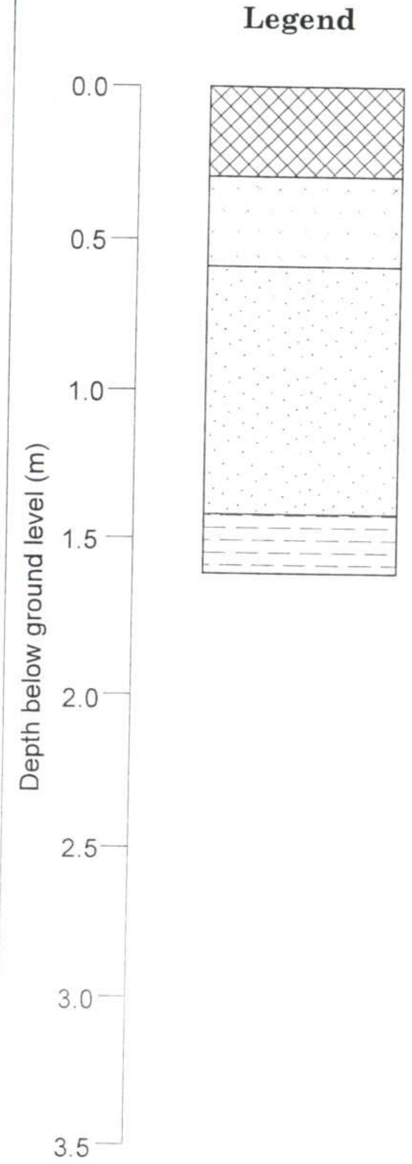
Grid Ref.: 5160, 2617

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Sunny, dry, windy



Depth (m)	DESCRIPTION
0.3 m	Grass over soft dark brown sandy silt with a little fine to coarse gravel of limestone. Small pieces of glass and fine root present
0.6 m	Soft orange/brown clayey sandy silt with a little fine gravel and cobbles of limestone
1.4 m	Loose light brown silty sand with some cobbles of limestone
1.6 m	Soft damp pale brown silty clay with some pockets of orange/brown sandy clay with some fine gravel to cobbles of limestone

END OF TRIAL PIT 1.6 m

Scale: **1:25**

Remarks: Water entering at base.

Water: (See Remarks)

Stability: Moderate

Time trench open: 30 mins

Sample	TP43	TP43					
Depth	0.4 m	1.6 m					
Type	SOIL	SOIL					
Test							

Logged by: ERM

Date: 29.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP42**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5163, 2613

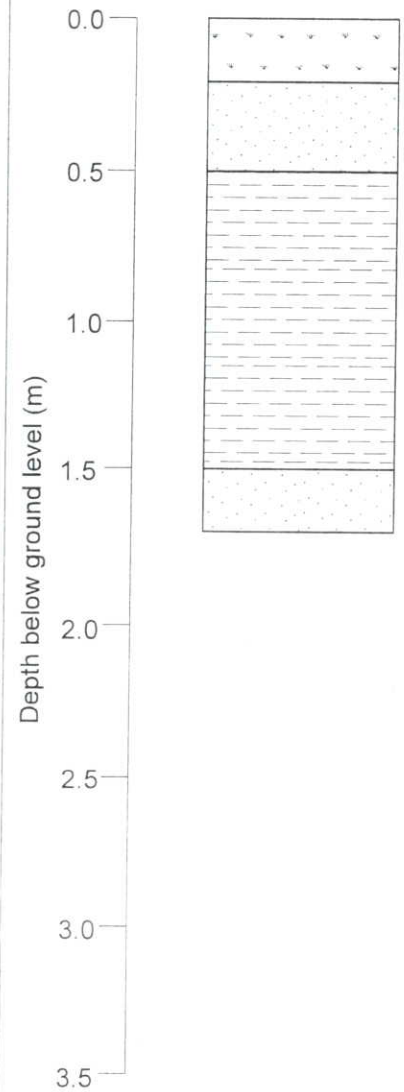
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Sunny, dry, windy

Legend



Depth (m)	**DESCRIPTION**
0.2 m	Grass over soft dark brown sandy silt with some fine to coarse gravel of limestone. Fine roots present
0.5 m	Soft light brown clayey sand with some fine gravel to cobbles of limestone
1.5 m	Soft red/brown silty sandy clay with a little fine to coarse gravel of limestone
1.7 m	Damp black/grey and brown silty sand and fine gravel to cobbles of limestone

END OF TRIAL PIT 1.7 m

Scale: **1:25**

Remarks: Metal bar at 0.2 m. Odour of hydrocarbons at depth.

Water entering at base with oily film.

Water: (See Remarks)

Stability: Good

Time trench open: 30 mins

Sample	TP42	TP42					
Depth	0.4 m	1.7 m					
Type	SOIL	SOIL					
Test							

Logged by: ERM

Date: 29.04.97

Aspinwall&company

TRIAL PIT LOG

TP41

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - **m A.O.D.** approx.

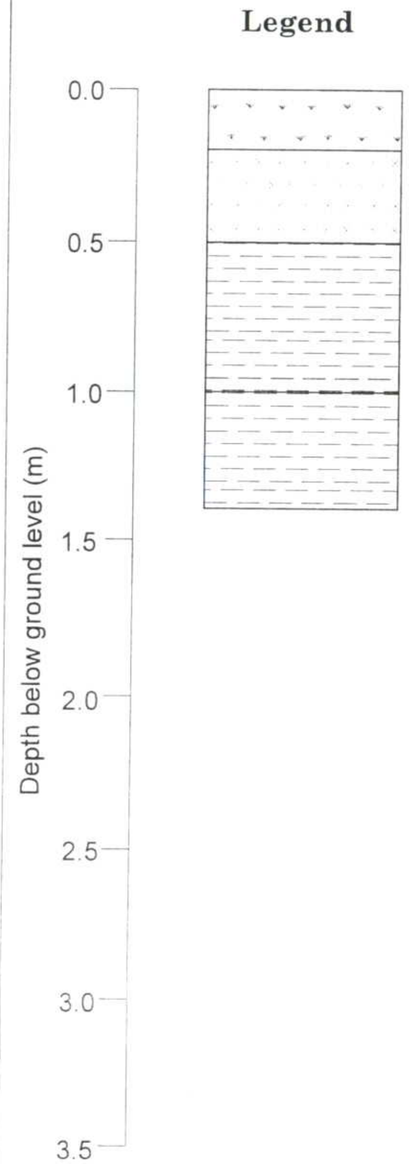
Grid Ref.: 5162, 2610

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Sunny, dry



Depth (m)	DESCRIPTION
0.2 m	Grass over soft dark brown sandy silt with a little fine to coarse gravel of limestone. Fine roots and a tree roots also present
0.5 m	Soft red brown clayey sandy silt with a little fine to coarse gravel of limestone
1.0 m	Soft red brown silty clay with some fine gravel of cobbles of limestone
1.4 m	Pale brown sandy clay with fine gravel to cobbles of limestone

END OF TRIAL PIT 1.4 m

Scale: **1:25**

Remarks: Piece of metal pipe found at 0.3 m.

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP41	TP41					
Depth	0.35 m	1.4 m					
Type	SOIL	SOIL					
Test							

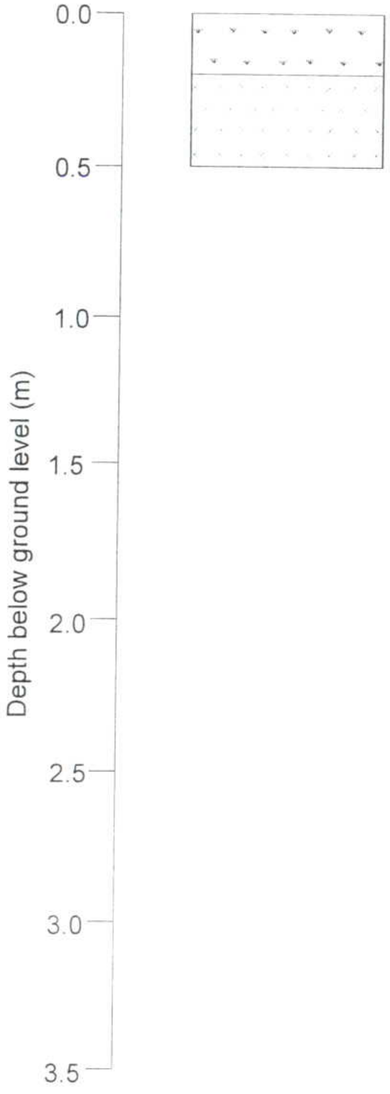
Logged by: ERM

Date: 30.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP40**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5162, 2615

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Sunny, dry

Legend



Depth (m)	DESCRIPTION
0.2 m	Grass over soft dark brown sandy silt with much fine to coarse gravel of limestone. Fine roots present
0.5 m	Soft dark brown sandy silt with much fine gravel to cobbles of limestone

END OF TRIAL PIT 0.5 m

Scale: **1:25**

Remarks: Excavation ceased after discovering cable at 0.5 m. Unable to locate other suitable area due to presence of services.

Water: None

Stability: Moderate

Time trench open: 20 mins

Sample	TP40						
Depth	0.35 m						
Type	SOIL						
Test							

Logged by: ERM

Date: 30.04.97

Aspinwall&company

TRIAL PIT LOG

TP39

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5158, 2610

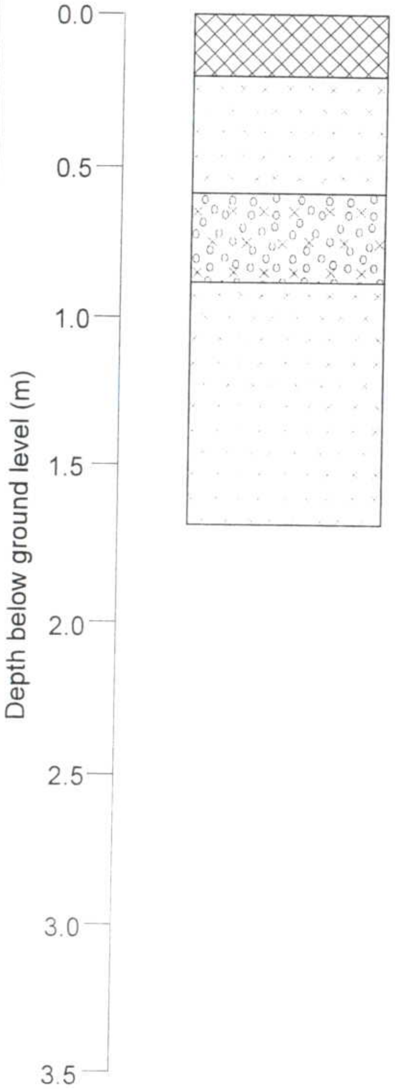
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast

Legend



Depth (m)	DESCRIPTION
0.2 m	Grass over dark brown sandy silt with many fine roots and a little fine gravel to cobbles of limestone and occasional coarse gravel of glass
0.6 m	Soft red/brown sandy silt
0.9 m	Fine gravel to cobbles of white subangular limestone in a soft red brown sandy silt matrix
1.7 m	Soft light brown mottled grey slightly sandy silt with a little fine gravel sized shell fragments

END OF TRIAL PIT 1.7 m

Scale: **1:25**

Remarks: Pit terminated at top of weathered bedrock.

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP39	TP39					
Depth	0.1 m	0.9 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 29.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP38**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5158, 2615

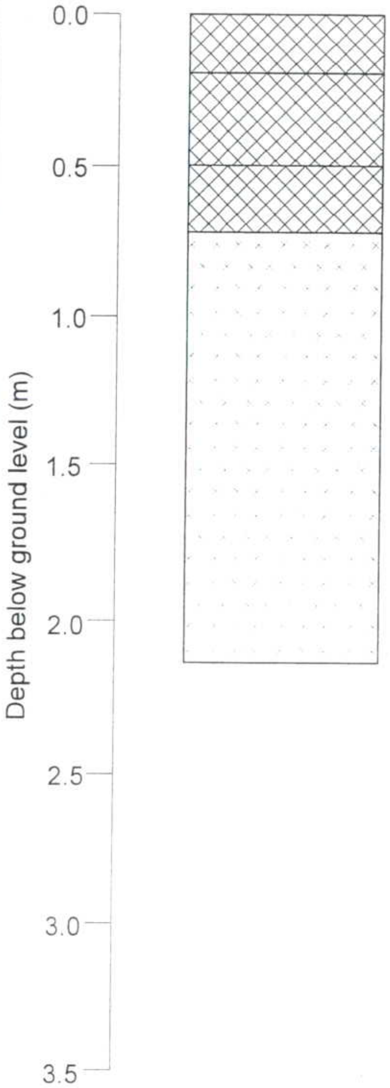
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast

Legend



Depth (m)	**DESCRIPTION**
0.2 m	Grass over soft brown sandy silt with many fine roots and a little fine to coarse gravel of limestone and occasional coarse gravel sized brick and metal fragments
0.5 m	Soft grey/brown silty and sandy clay with a little fine to coarse gravel of flint
0.7 m	Soft red brown sandy and clayey silt with a little fine gravel to cobble sized limestone and occasional coarse gravel sized wire and glass
2.1 m	Soft light brown orange sandy silt with much fine gravel to cobble sized subangular limestone

END OF TRIAL PIT 2.1 m

Scale: **1:25**

Remarks:

Water: Encountered at 2.0 m

Stability: Good

Time trench open: 30 mins

Sample	TP38	TP38	TP38	TP38			
Depth	0.3 m	0.6 m	2.0 m	2.0 m			
Type	SOIL	SOIL	SOIL	WATER			
Test							

Logged by: HHU

Date: 29.04.97

Aspinwall&company

TRIAL PIT LOG

TP37

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - **m A.O.D.** approx.

Grid Ref.: 5153, 2610

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Sunny, dry

Legend	**Depth (m)**	**DESCRIPTION**

Depth below ground level (m)

0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5

END OF TRIAL PIT - m

Scale: **1:25**

Remarks: Trial pit abandoned due to presence of services.

Water:

Stability:

Time trench open:

Sample						
Depth						
Type						
Test						

Logged by: ERM

Date: 30.04.97

Aspinwall&company

TRIAL PIT LOG

TP36

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5191, 2591

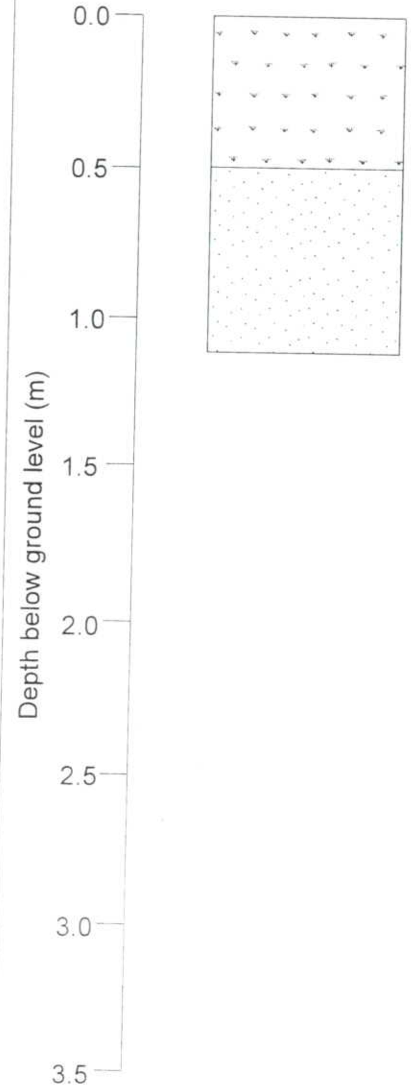
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.5 m	Loose, dark brown silty sand with roots some gravel sized limestone fragments
1.1 m	Loose dark brown silty fine sand with subangular gravel and cobble sized limestone fragments
	End of trial pit, weathered bedrock

END OF TRIAL PIT 1.1 m

Scale: **1:25**

Remarks: Trial pit finished when dense weathered limestone (top of bedrock) encountered.

Water: None

Stability: Stable

Time trench open: 15 mins

Sample	TP36						
Depth	0.9 m						
Type	SOIL						
Test							

Logged by: ABW

Date: 21.04.97

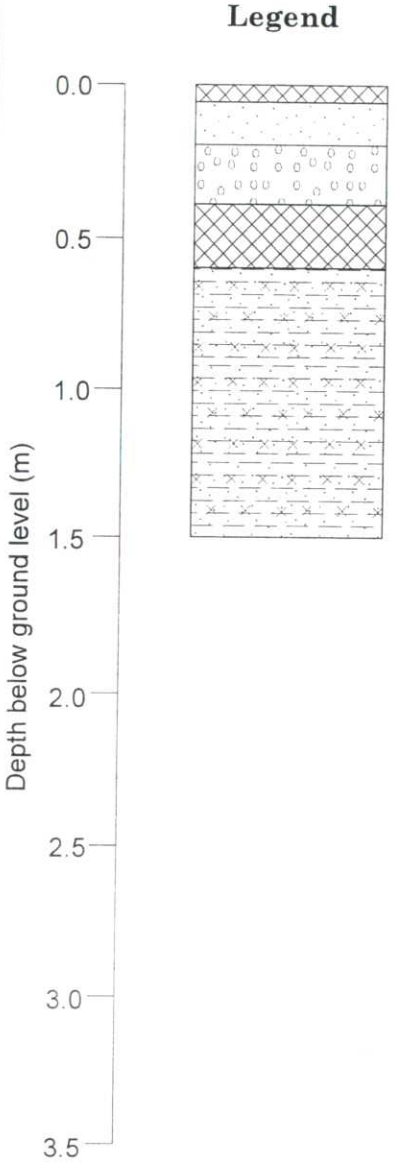
Aspinwall&company	**TRIAL PIT LOG**	**TP35**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5155, 2690

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny



Depth (m)	DESCRIPTION
0.05 m	Tarmac
0.2 m	Loose light brown slightly clayey sand and gravel layer of black staining between 0.15 and 0.2 m slight odour of hydrocarbons
0.4 m	Loose fine gravel to cobble sized subangular limestone in a light brown sandy matrix
0.6 m	Soft to firm dark brown sandy silty clay with a little fine to coarse gravel sized fragments of limestone, brick and ash, roots present
1.5 m	Soft orange brown slightly sandy clayey silt and fine gravel to cobbles of limestone

END OF TRIAL PIT 1.5 m

Scale: **1:25**

Remarks: Slight odour of hydrocarbons at 0.15 m - 0.6 m.

Water: None

Stability: Moderate

Time trench open: 30 mins

Sample	TP35	TP35	TP35				
Depth	0.2 m	0.5 m	1.5 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: ERM

Date: 02.05.97

Aspinwall&company	**TRIAL PIT LOG**	**TP34**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D.$_{\text{approx.}}$	**Grid Ref.:** 5149, 2590

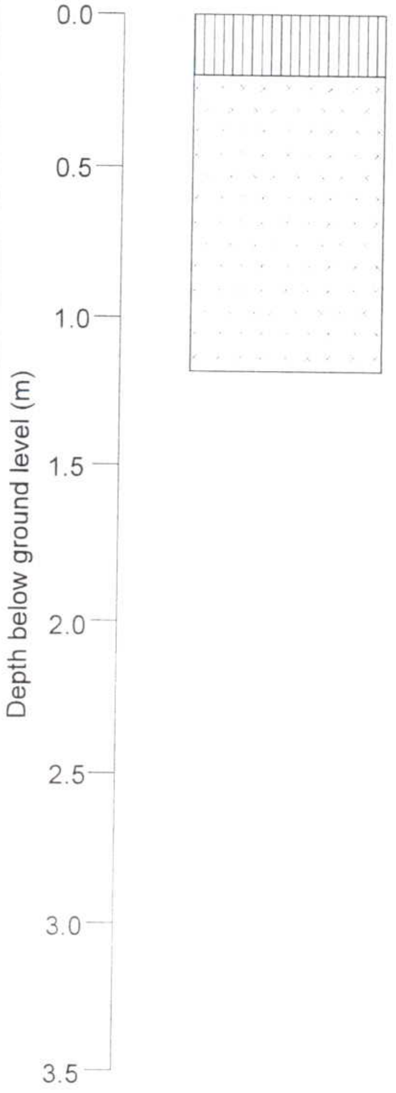
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend



Depth (m)	**DESCRIPTION**
0.2 m	Reinforced Concrete Layer of plastic sheeting at 0.2 m
1.2 m	Soft orange/brown sandy and slightly clayey silt and fine gravel to cobbles of subangular limestone

END OF TRIAL PIT 1.2 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP34	TP34					
Depth	0.2 m	1.2 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 02.05.97

Aspinwall&company

TRIAL PIT LOG

TP33

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5136, 2603

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Sunny, dry

Legend	**Depth (m)**	**DESCRIPTION**

Depth below ground level (m)

0.0

0.5

1.0

1.5

2.0

2.5

3.0

3.5

END OF TRIAL PIT - m

Scale: **1:25**

Remarks: Trial pit abandoned due to presence of services, not possible to re-locate.

Water:

Stability:

Time trench open:

Sample							
Depth							
Type							
Test							

Logged by: ABW

Date: 21.04.97

Aspinwall&company

TRIAL PIT LOG

TP32

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5130, 2580

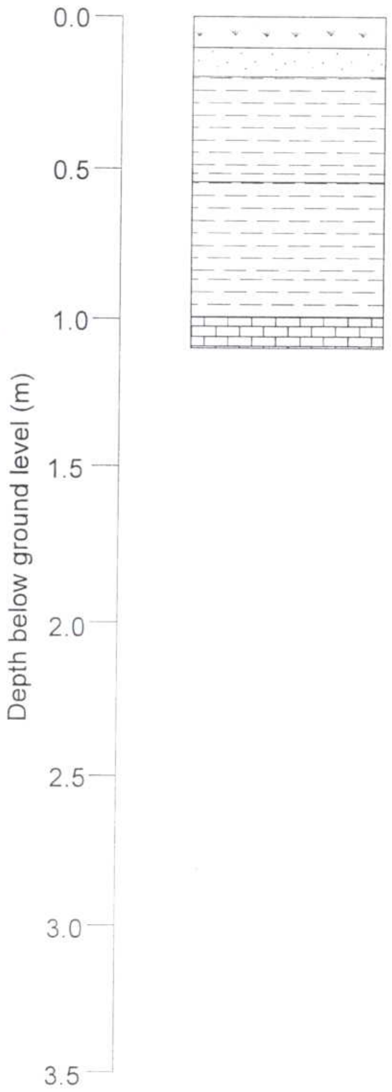
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Sunny, dry

Legend



Depth (m)	DESCRIPTION
0.1 m	Loose mid brown silty sand with roots
0.2 m	Loose grey-beige coarse sand lense at south edge of trial pit
0.55 m	Soft slightly sandy very silty clay with gravel to cobble sized subangular limestone, some vegetation traces
1.0 m	Slightly cemented red-brown silty clay with occasional coarse sand particles
1.1 m	Cobbles of limestone with red-brown silty clay matrix
	End of trial pit, weathered top of limestone bedrock

END OF TRIAL PIT 1.1 m

Scale: **1:25**

Remarks: 1.1 m end of trial pit at weathered top of limestone bedrock.

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP32	TP32					
Depth	0.5 m	1.0 m					
Type	SOIL	SOIL					
Test							

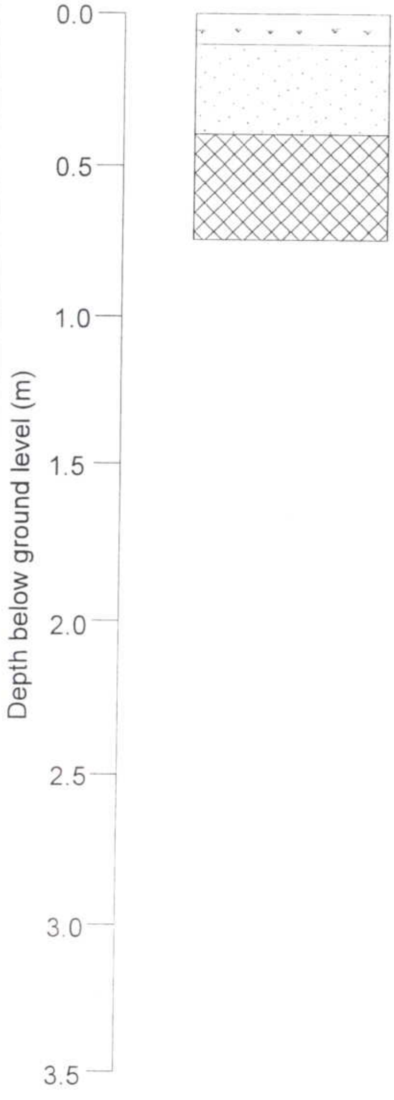
Logged by: ABW

Date: 21.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP31A**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5133, 2582

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.1 m	Loose mid brown silty fine sand with roots
0.4 m	Loose brown silty fine sand with angular gravel and cobble sized limestone
0.75 m	Loose brown silty fine sand with cobble and gravel sized rubble and fragments of asphalt, concrete and limestone. Some metal piping, two types
	End of trial pit at concrete slab.

END OF TRIAL PIT 0.75 m

Scale: **1:25**

Remarks: End of trial pit at 0.75 m at concrete slab, 2nd attempt.

Water: None

Stability: Yes

Time trench open: 30 mins

Sample	TP31A						
Depth	0.7 m						
Type	SOIL						
Test							

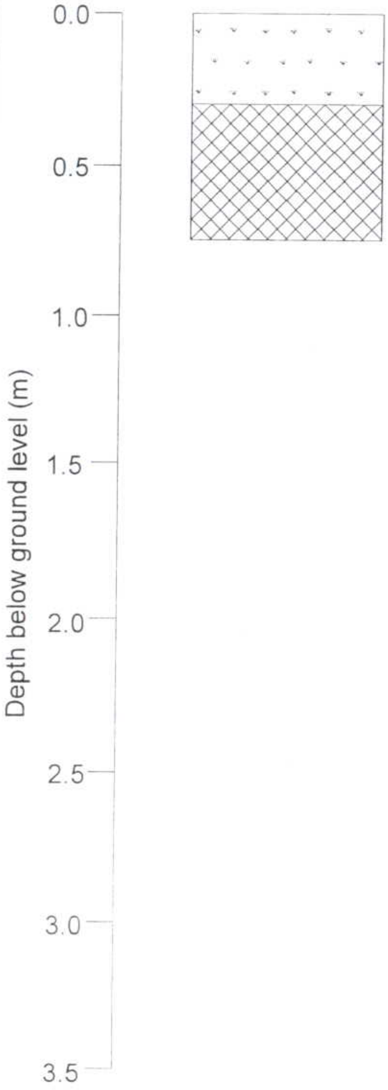
Logged by: ABW

Date: 21.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP31**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5132, 2582

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Sunny, dry

Legend



Depth (m)	DESCRIPTION
0.3 m	Loose grey-brown silty fine sand with roots
0.75 m	Loose grey/brown silty fine sand with cobble to boulder sized rubble with ceramic drains, concrete, brick, burnt timber, metal, asphalt, steel wire. End of trial pit at concrete slab

END OF TRIAL PIT 0.75 m

Scale: **1:25**

Remarks: End of trial pit at 0.75 m due to inpenetrable concrete slab.

Water: None

Stability: Yes, rubble reduces stability

Time trench open: 30-35 mins

Sample	TP31						**Logged by:** ABW
Depth	0.75 m						
Type	SOIL						**Date:** 21.04.97
Test							

Aspinwall&company

TRIAL PIT LOG

TP30

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5116, 2583

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Sunny, dry

Legend **Depth (m)** **DESCRIPTION**

Depth below ground level (m)

0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5

END OF TRIAL PIT - m

Scale: **1:25**

Remarks: Trial pit abandoned due to presence of services.

Water:

Stability:

Time trench open:

Sample							
Depth							
Type							
Test							

Logged by: ERM

Date: 30.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP29**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5115, 2590

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Raining

Legend **Depth (m)** **DESCRIPTION**

Depth below ground level (m)

0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5

END OF TRIAL PIT - m

Scale: **1:25**

Remarks: Trial pit abandoned because of services detected by CAT. Unable to re-locate close to AST.

Water:

Stability:

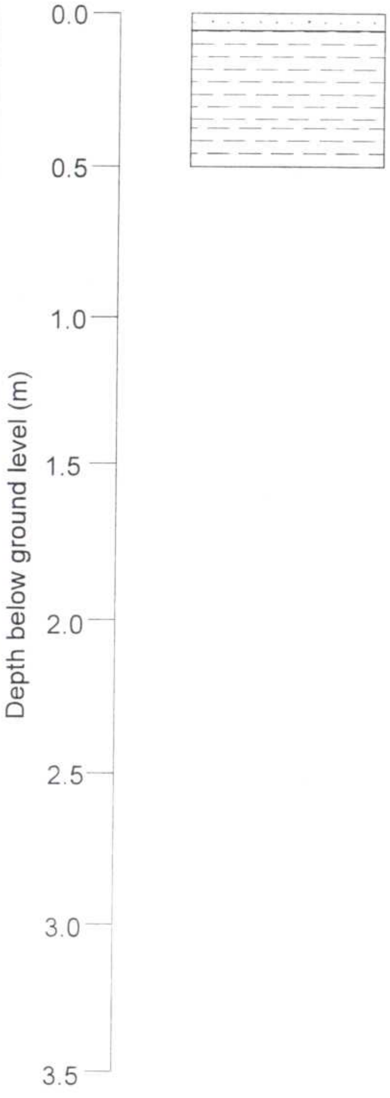
Time trench open:

Sample							**Logged by:** SLH
Depth							
Type							**Date:** 25.04.97
Test							

Aspinwall&company	**TRIAL PIT LOG**	**TP28**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5116, 2593

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Raining

Legend



Depth (m)	DESCRIPTION
0.05 m	Dark sandy clay with occasional up to medium, sub-rounded to subangular gravel
0.5 m	**West Side of Pit** Light brown sandy clay and fine to medium, subrounded to subangular gravel **East Side of Pit** Red brown slightly sandy firm CLAY Pea gravel encountered around services. Pit terminated. Too many services to re-locate.

END OF TRIAL PIT 0.5 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 20 mins

Sample	TP28						
Depth	0.4 m						
Type	SOIL						
Test							

Logged by: SLH

Date: 25.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP27**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5112, 2600

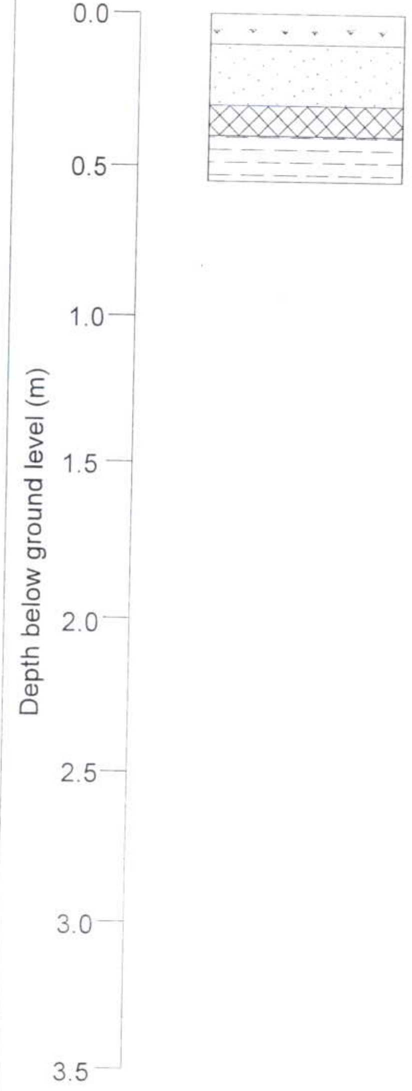
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast

Legend



Depth (m)	**DESCRIPTION**
0.1 m	Loose brown silty sand with roots
0.3 m	Loose brown-orange silty sand with gravel to cobble size limestone
0.4 m	Band of dense black asphalt
0.55 m	Soft to firm brown-orange slightly sandy very silty clay with large tree roots and gravel to cobble size subangular limestone

END OF TRIAL PIT 0.55 m

Scale: **1:25**

Remarks: Trial pit terminated at top of electric cable tiles.

Water: None

Stability: Stable

Time trench open: 15 mins

Sample	TP27					
Depth	0.3 m					
Type	SOIL					
Test						

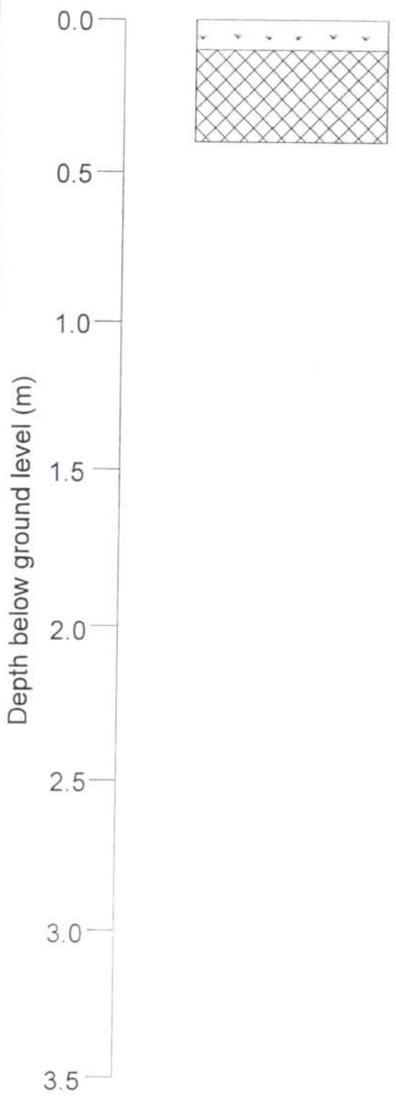
Logged by: ABW

Date: 25.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP26**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5113, 2602

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Damp, overcast, cool

Legend



Depth (m)	DESCRIPTION
0.1 m	Loose light brown silty fine sand with roots
0.4 m	Loose brown silty fine sand with gravel to cobble size subrounded to subangular limestone and occasional brick and ceramic fragments
	End of trial pit at top of line of electricity cable tiles

END OF TRIAL PIT 0.4 m

Scale: **1:25**

Remarks:

Water: None

Stability: Stable

Time trench open: 10 mins

Sample	TP26						
Depth	0.4 m						
Type	SOIL						
Test							

Logged by: ABW

Date: 25.04.97

Aspinwall&company

TRIAL PIT LOG

TP25

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

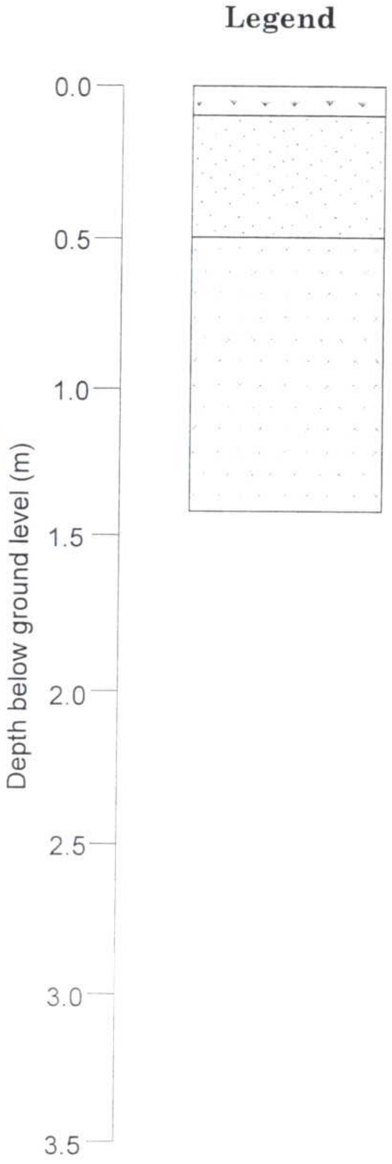
Grid Ref.: 5112, 2607

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Wet, cloudy



Depth (m)	DESCRIPTION
	Loose grey-brown silty sand with roots
0.1 m	Loose orange-brown clayey silty sand with gravel to cobble size subangular limestone
0.5 m	Loose beige-orange mottled clayey sandy silt with gravel-cobble size subrounded to subangular limestone
1.4 m	End of trial pit at top of weathered bedrock

END OF TRIAL PIT 1.4 m

Scale: **1:25**

Remarks:

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP25	TP25					
Depth	0.4 m	1.1 m					
Type	SOIL	SOIL					
Test							

Logged by: ABW

Date: 25.04.97

Aspinwall&company

TRIAL PIT LOG

TP24

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5111, 2602

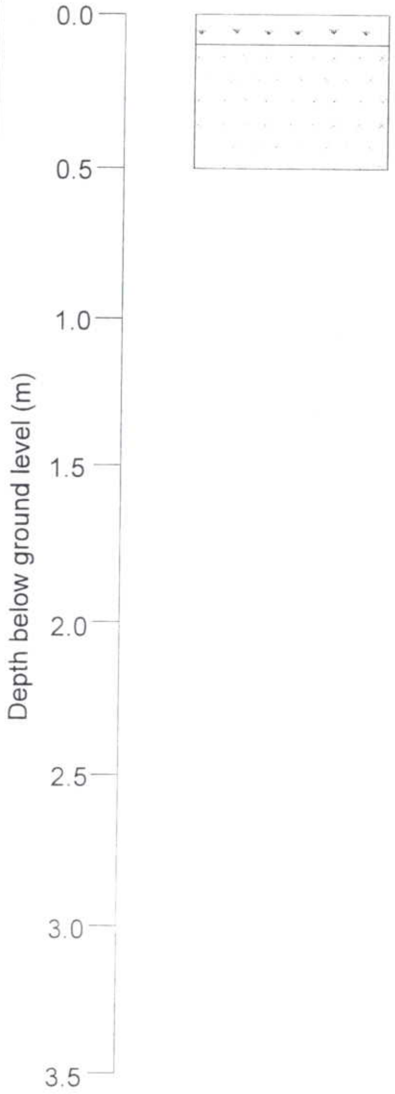
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Damp, overcast

Legend **Depth (m)** **DESCRIPTION**



Depth (m)	DESCRIPTION
0.1 m	Loose grey-brown topsoil with roots
0.5 m	Loose orange-brown sandy silt with gravel to cobble size subangular limestone and occasional roots. Some wood fragments. (0.5 m) Electric cable, pitch pitch paper lined severed (0.5 m) Loose beige-brown clayey silt with cobble-gravel size subangular limestone

END OF TRIAL PIT 0.5 m

Scale: **1:25**

Remarks: Trial pit abandoned after severing electric cable.

Water: None

Stability: Stable

Time trench open: 20 mins

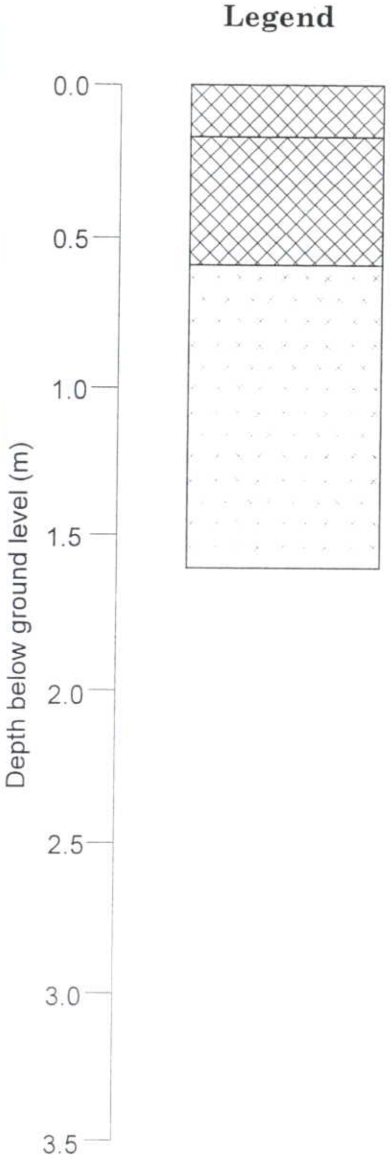
Sample	TP24						
Depth	0.4 m						
Type	SOIL						
Test							

Logged by: ABW

Date: 25.04.97

Aspinwall&company	# TRIAL PIT LOG	**TP23**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - **m A.O.D.** approx.	**Grid Ref.:** 5109, 2610

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Rain



Depth (m)	DESCRIPTION
0.2 m	Grass over loose medium brown silty clayey sand with many roots and some fine to coarse gravel of flint and limestone and occasional fine gravel sized ash
0.6 m	Soft red/brown sandy and clayey silt with a little to coarse gravel of limestone and occasional fine gravel sized ash
1.6 m	Soft light brown/orange sandy silt and fine gravel to cobbles of subangular limestone

END OF TRIAL PIT 1.6 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP23	TP23					
Depth	0.5 m	1.5 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 25.04.97

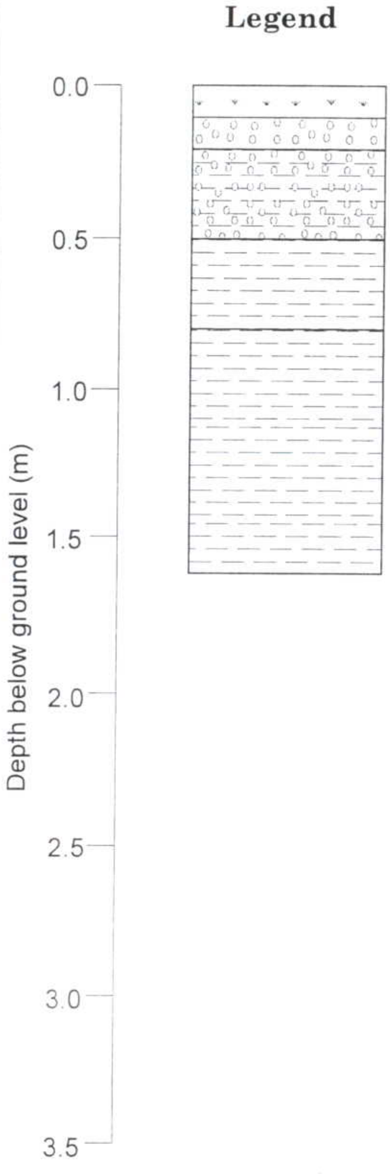
Aspinwall&company	**TRIAL PIT LOG**	**TP22**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5109, 2589

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Raining



Depth (m)	**DESCRIPTION**
0.1 m	Dark brown sandy clay with occasional up to medium gravel
0.2 m	Dark and light brown sandy clayey fine to coarse subangular gravel with flints
0.5 m	Dark brown sandy clay and fine to coarse subangular gravel
0.8 m	Dark brown slightly sandy firm CLAY
	Light brown sandy silty clay with up to cobble size angular white weathered limestone
1.6 m	

END OF TRIAL PIT 1.6 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 20 mins

Sample	TP22	TP22					
Depth	0.2 m	1.0 m					
Type	SOIL	SOIL					
Test							

Logged by: SLH

Date: 25.04.97

Aspinwall&company

TRIAL PIT LOG

TP21

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

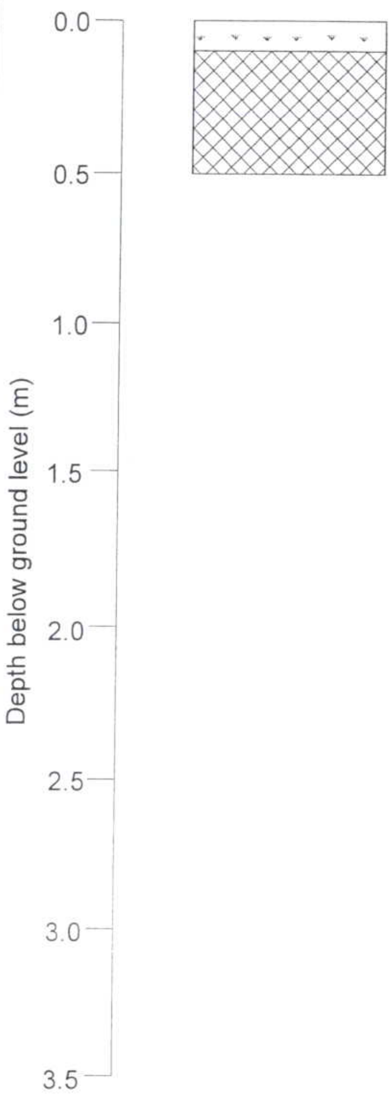
Grid Ref.: 5109, 2594

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Raining



Depth (m)	DESCRIPTION
0.1 m	Dark brown sandy clay with angular to subangular up to coarse gravel
0.5 m	Light brown and dark brown sandy clay with brick and stone fill, including a buried brickwall. Pit abandoned due to the presence of services

END OF TRIAL PIT 0.5 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 20 mins

Sample	TP21						
Depth	0.3 m						
Type	SOIL						
Test							

Logged by: SLH

Date: 25.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP20**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5105, 2597

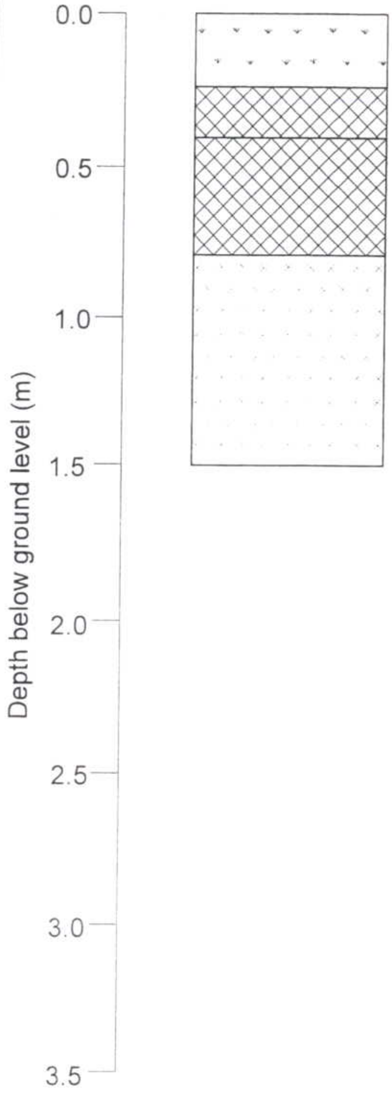
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Rain

Legend



Depth (m)	DESCRIPTION
	Grass over loose medium brown silty clayey sand with many roots and some fine to coarse gravel of flint and limestone
0.25 m	Soft dark grey sandy clayey silt with some fine to coarse gravel sized ash, clinker and limestone
0.4 m	Loose cobbles and boulders of white subangular limestone and brick and concrete in a light brown sandy matrix
0.8 m	Soft light brown/orange sandy silt and fine gravel to cobbles of subangular limestone
1.5 m	

END OF TRIAL PIT 1.5 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

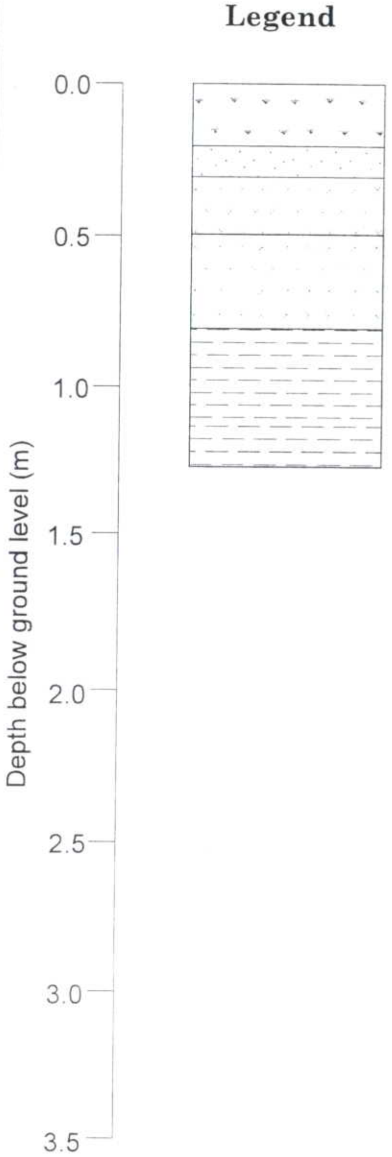
Sample	TP20	TP20	TP20				
Depth	0.35 m	0.5 m	1.2 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: HHU

Date: 25.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP19**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - **m A.O.D.** approx.	**Grid Ref.:** 5098, 2603

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Sunny, dry



Depth (m)	DESCRIPTION
0.2 m	Grass over soft dark brown sandy silt with some fine to coarse gravel of limestone. Fine roots present
0.3 m	Loose pale brown silty sand and cobbles of limestone
0.5 m	Soft dark brown sandy silt with some fine gravel to cobbles of limestone
0.8 m	Soft brown sandy clayey silt with many cobbles of limestone
1.25 m	Soft cohesive light brown and dark brown sandy silty clay with much fine gravel to cobbles of limestone

END OF TRIAL PIT 1.25 m

Scale: **1:25**

Remarks: Bedrock at 1.25 m.

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP19	TP19					
Depth	0.35 m	1.25 m					
Type	SOIL	SOIL					
Test							

Logged by: ERM

Date: 30.04.97

Aspinwall&company

TRIAL PIT LOG

TP18

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5075, 2635

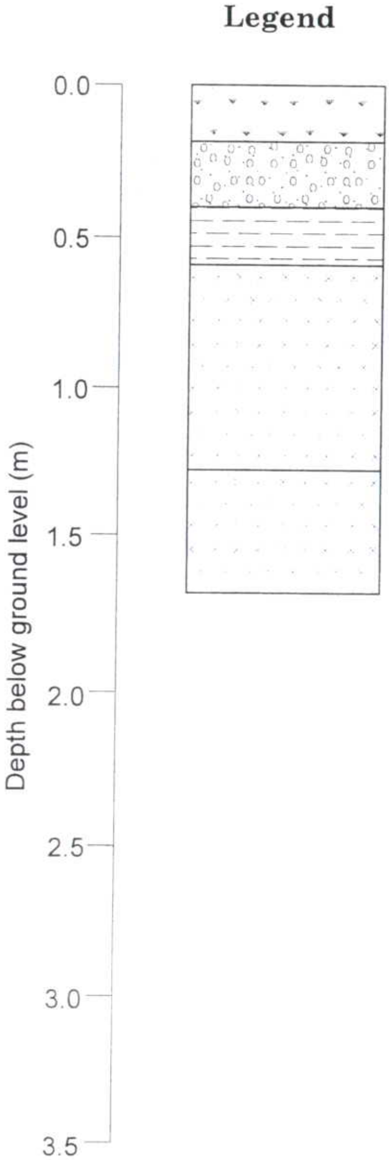
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Rain

Legend



Depth (m)	DESCRIPTION
0.2 m	Grass over loose medium brown silty clayey sand with many roots and some fine to coarse gravel of flint and limestone
0.4 m	Loose light brown sand and gravel of fine to coarse rounded flint in a sandy matrix
0.6 m	Soft to firm red brown sandy silty clay with some fine gravel to cobble sized subangular limestone
1.3 m	Soft light brown/orange sandy silt with fine gravel to cobble sized subangular limestone
1.7 m	Very stiff grey/brown slightly sandy silt with a little black staining and a little fine gravel to cobble sized subangular limestone

END OF TRIAL PIT 1.7 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP18	TP18	TP18				
Depth	0.2 m	0.8 m	1.6 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: HHU

Date: 25.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP17**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5075, 2600

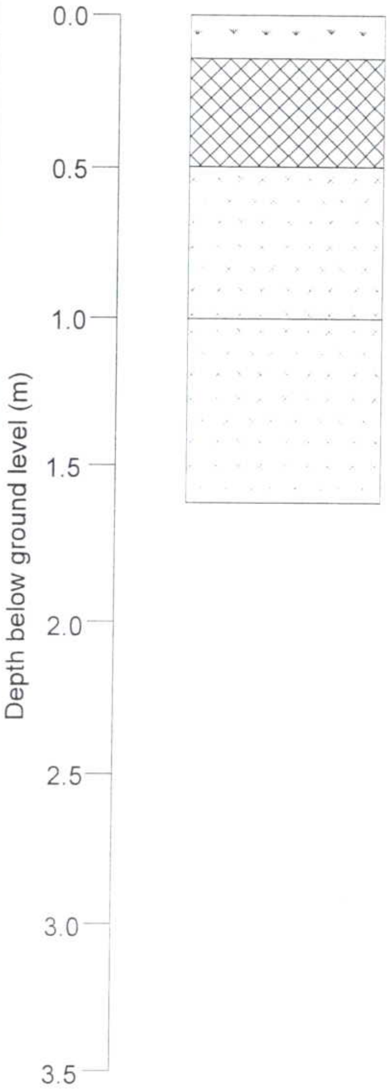
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.15 m	Grass over medium brown sandy silt with many fine roots and a little fine to coarse gravel of limestone
0.5 m	Soft red brown very sandy silt with much fine to coarse gravel sized limestone and occasional fine ash
1.0 m	Soft red brown sandy silt and fine gravel to cobble sized subangular limestone
1.6 m	Soft light brown orange sandy and slightly clayey silt and fine gravel to cobbles sized subangular limestone

END OF TRIAL PIT 1.6 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

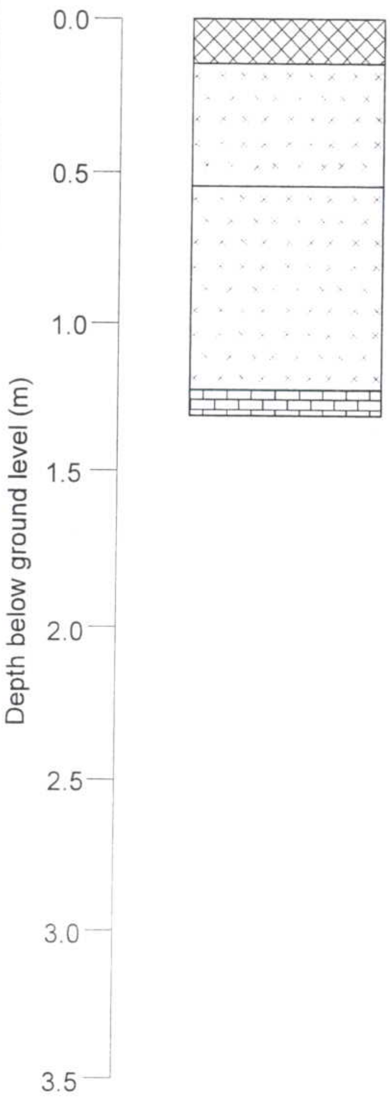
Time trench open: 30 mins

Sample	TP17	TP17						**Logged by:** HHU
Depth	0.45 m	1.5 m						
Type	SOIL	SOIL						**Date:** 30.04.97
Test								

Aspinwall&company	**TRIAL PIT LOG**	**TP16**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5077, 2595

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.15 m	Grass over soft brown sandy silt with many fine roots and occasional coarse gravel of black brittle fibrous substance
0.55 m	Soft red brown sandy silt with much fine gravel to cobble sized subangular limestone and occasional fine gravel sized ash
1.2 m	Soft light brown/orange mottled grey clayey sandy silt with much fine gravel to cobble sized subangular limestone
1.3 m	Fine gravel to cobbles of subangular limestone in a sandy silty matrix

END OF TRIAL PIT 1.3 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP16	TP16					
Depth	0.1 m	1.2 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 30.04.97

Aspinwall&company

TRIAL PIT LOG

TP15

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - **m A.O.D.** approx.

Grid Ref.: 5077, 2590

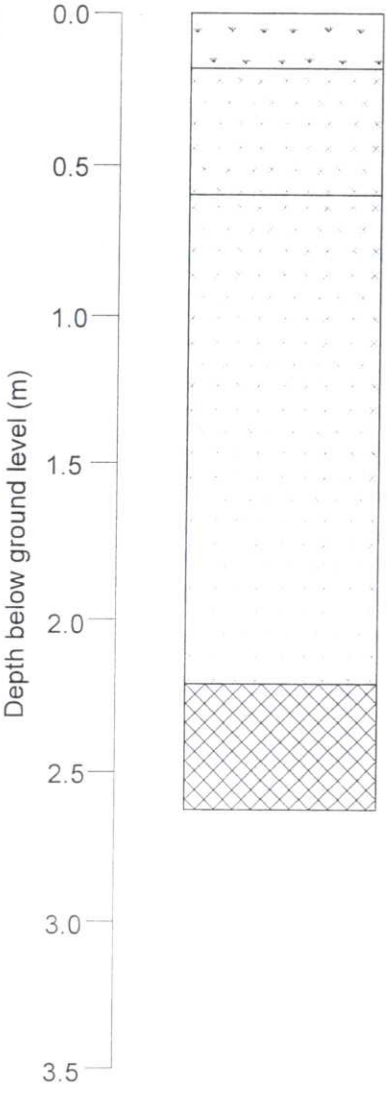
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.2 m	Grass over soft brown sandy silt with much fine roots and occasional fine to coarse gravel of limestone
0.6 m	Soft light brown sandy clayey silt with fine gravel to cobble sized subangular limestone and occasional fine gravel sized ash
2.2 m	Soft red brown clayey slightly sandy silt with some fine gravel to cobble sized subangular limestone
2.6 m	Soft light brown orange mottled grey silty sandy clay with much fine gravel to cobbles sized subangular limestone and occasional fine gravel sized ash and a little black staining

END OF TRIAL PIT 2.6 m

Scale: **1:25**

Remarks: Petroleum odour from 2.2 m.

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP15	TP15	TP15				
Depth	0.4 m	1.5 m	2.5 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: HHU

Date: 30.04.97

Aspinwall&company

TRIAL PIT LOG

TP14

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5072, 2588

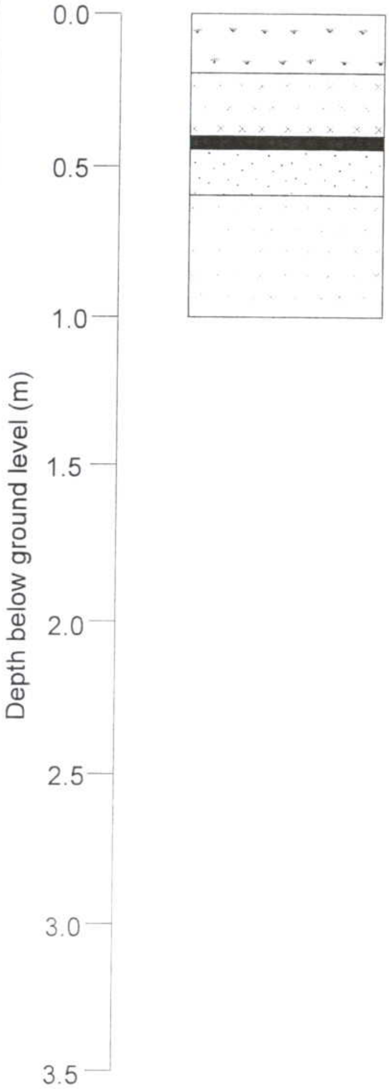
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Sunny, dry

Legend



Depth (m)	DESCRIPTION
0.2 m	Grass over soft brown sandy silt with some fine to coarse gravel of limestone. Fine roots present
0.4 m	Soft light brown silt and cobbles of limestone
0.45 m	Black layer of coal type material
0.6 m	Soft light brown silty sand
1.0 m	Soft light brown sandy silt with fine to coarse gravel of limestone

END OF TRIAL PIT 1.0 m

Scale: **1:25**

Remarks: Faint smell of hydrocarbons.

Bedrock at 1.0 m.

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP14	TP14					
Depth	0.4 m	1.0 m					
Type	SOIL	SOIL					
Test							

Logged by: ERM

Date: 30.04.97

Aspinwall&company

TRIAL PIT LOG

TP13

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5071, 2594

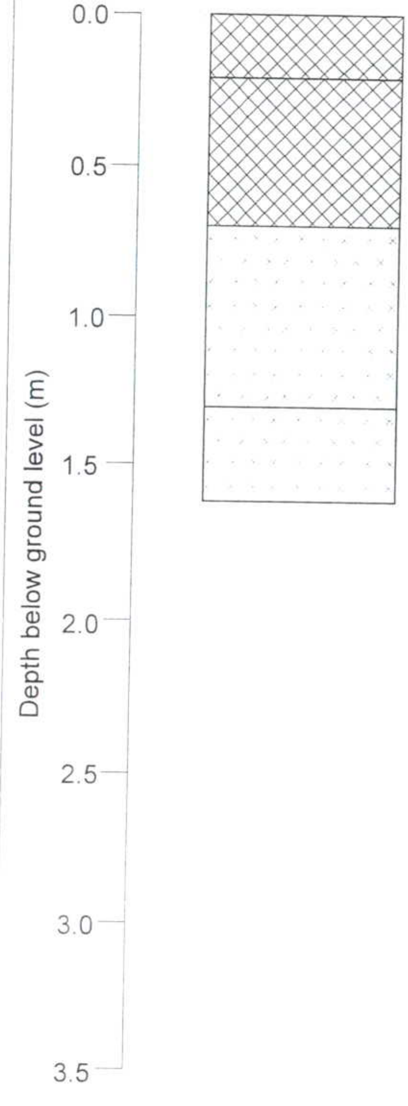
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.2 m	Grass over soft brown sandy silt with many roots and a little fine to coarse gravel sized flint, limestone and occasional fine to coarse gravel sized ash and glass
0.7 m	Soft red brown sandy slightly clayey silt with much fine gravel to cobble sized limestone and occasional fine to coarse gravel sized ash and brick
1.3 m	Soft light brown sandy and slightly clayey silt
1.6 m	Soft light brown very sandy silt with some fine to coarse gravel sized limestone

END OF TRIAL PIT 1.6 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

Sample	TP13	TP13					
Depth	0.4 m	1.0 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 30.04.97

Aspinwall&company

TRIAL PIT LOG

TP12

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5071, 2599

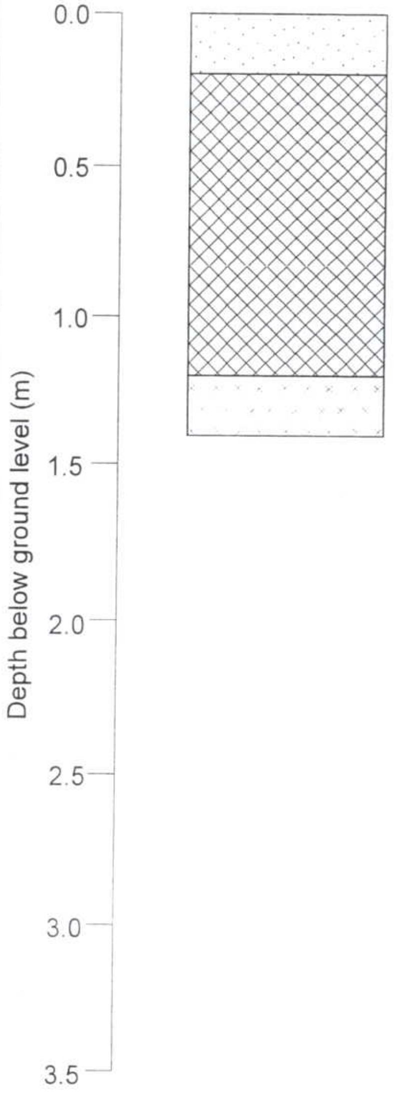
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.2 m	Grass over loose silty clayey sand with many fine roots and fine to coarse gravel sized flint and limestone
1.2 m	Loose orange/brown sand and gravel and occasional fine gravel sized ash and clinker
1.4 m	Soft light brown/orange mottled grey slightly clayey silt with a little fine to coarse gravel of limestone

END OF TRIAL PIT 1.4 m

Scale: **1:25**

Remarks:

Water: None

Stability: Poor

Time trench open: 30 mins

Sample	TP12	TP12	TP12			
Depth	0.1 m	1.0 m	1.3 m			
Type	SOIL	SOIL	SOIL			
Test						

Logged by: HHU

Date: 30.04.97

Aspinwall&company

TRIAL PIT LOG

TP11

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 5068, 2596

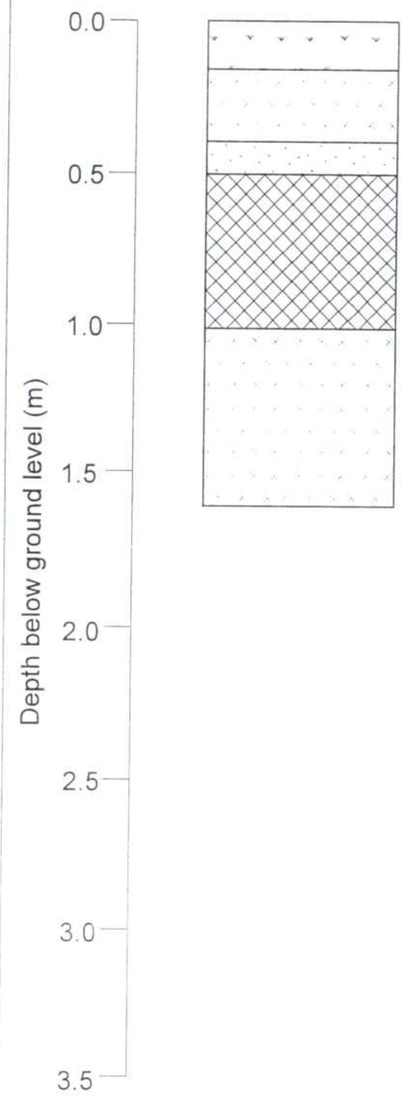
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, sunny

Legend



Depth (m)	DESCRIPTION
0.15 m	Grass over soft brown sandy silt with many fine roots
0.4 m	Very stiff grey silt and cobbles of subangular limestone
0.5 m	Loose orange sand
1.0 m	Soft red/brown sandy silt and fine gravel to cobbles sized subangular limestone and occasional fine gravel sized ash
1.6 m	Soft light brown/orange mottled grey slightly sandy silt with some fine gravel to cobble sized subangular limestone

END OF TRIAL PIT 1.6 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

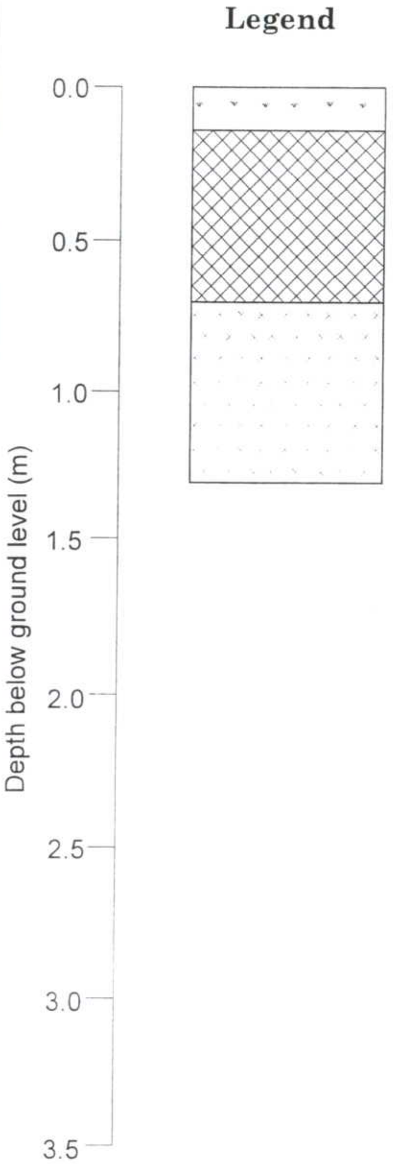
Sample	TP11	TP11					
Depth	0.2 m	0.7 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 30.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP10**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5068, 2602

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, sunny



Depth (m)	DESCRIPTION
0.15 m	Grass over soft brown sandy silt with many fine roots
0.7 m	Soft red brown sandy silt with some fine gravel to cobble sized limestone and occasional fine to coarse gravel sized ash, clinker and brick
1.3 m	Soft light orange/brown sandy silt and fine gravel to cobbles of subangular limestone

END OF TRIAL PIT 1.3 m

Scale: **1:25**

Remarks:

Water: None

Stability: Good

Time trench open: 30 mins

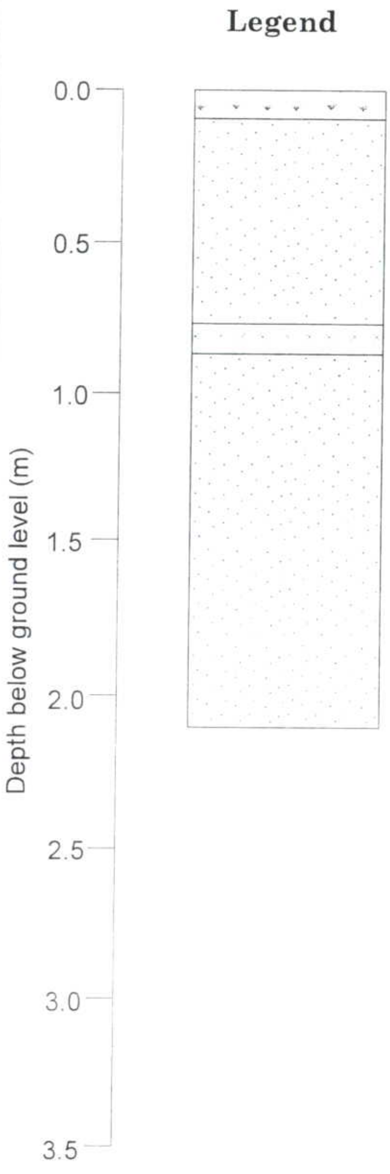
Sample	TP10	TP10					
Depth	0.3 m	1.2 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 30.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP9**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5055, 2590

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, sunny



Depth (m)	DESCRIPTION
0.1 m	Loose light brown silty fine sand with roots
0.75 m	Loose red-brown silty fine sand with some clay and subangular limestone gravel and cobbles
0.85 m	Firm grey-brown sandy silt with some subangular limestone gravel
2.1 m	Loose orange-brown silty fine sand with some subrounded limestone gravel and cobbles Weathered top of bedrock

END OF TRIAL PIT 2.1 m

Scale: **1:25**

Remarks: Trial pit ended at weathered bedrock.

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP9	TP9						**Logged by:** ABW
Depth	0.6 m	2.0 m						
Type	SOIL	SOIL						**Date:** 22.04.97
Test								

Aspinwall&company	**TRIAL PIT LOG**	**TP8**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5018, 2645

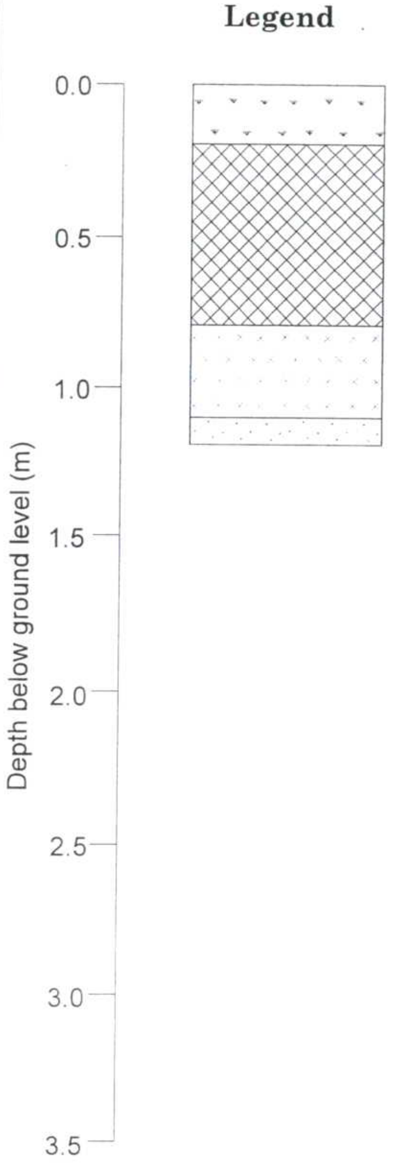
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry/overcast

Legend



Depth (m)	**DESCRIPTION**
0.2 m	Grass over medium brown silty clayey sand with many fine roots and subangular fine to coarse gravel of limestone
0.8 m	Loose light brown very clayey sand with fine gravels to cobble sized limestone and occasional fine to coarse gravel sized ash and clinker. Bundle of wire cable at 0.5 m
1.1 m	Soft dark brown sandy and clayey silt with some fine gravel to cobbles of subangular limestone
1.2 m	Loose red/brown clayey silty sand with much subangular fine gravel to cobbles of white limestone

END OF TRIAL PIT 1.2 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

Time trench open: 30 mins

Sample	TP8	TP8					
Depth	0.3 m	1.0 m					
Type	SOIL	SOIL					
Test							

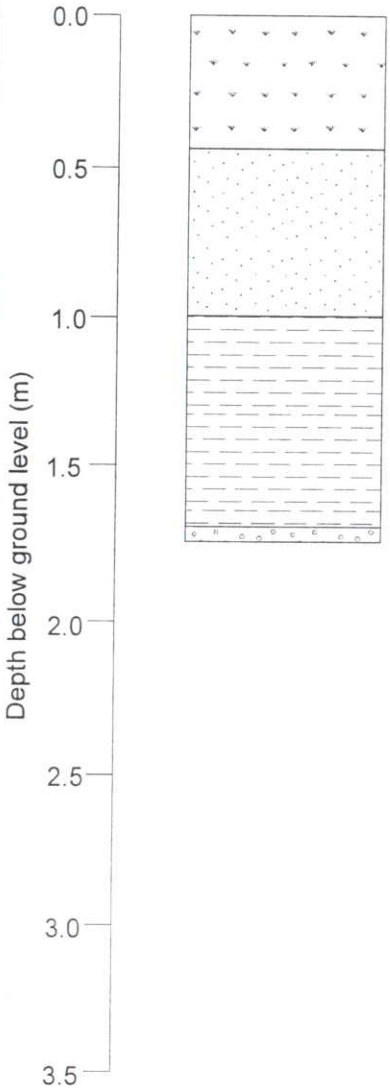
Logged by: HHU

Date: 22.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP7**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5038, 2640

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry/overcast

Legend



Depth (m)	DESCRIPTION
0.45 m	Grass over loose medium brown silty clayey sand with some fine roots, some subangular fine gravel to cobble sized limestone, occasional fine to coarse gravel sized ash
1.0 m	Loose red/brown clayey silty sand with much fine gravel to cobble sized limestone
1.7 m	Firm light brown mottled grey silty clay
1.75 m	White subangular cobble to boulder sized limestone in a brown clayey silty sandy matrix

END OF TRIAL PIT 1.75 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

Time trench open: 30 mins

Sample	TP7	TP7					
Depth	0.3 m	1.2 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 22.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP6**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 4992, 2642

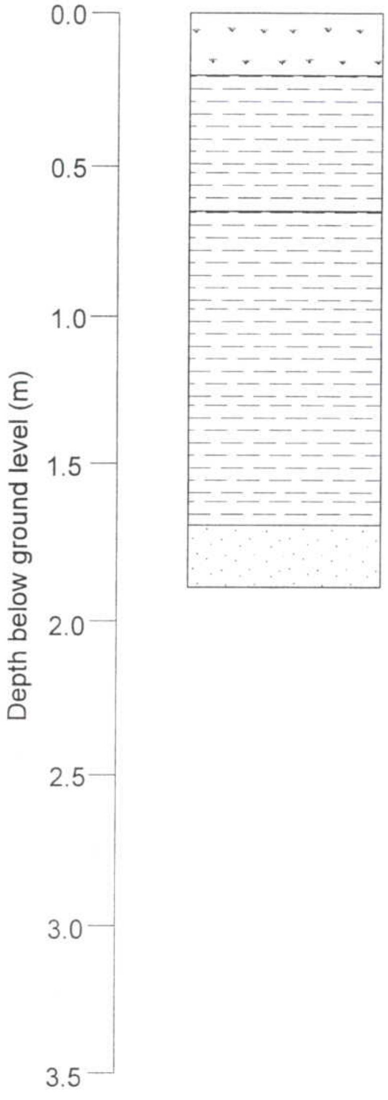
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry, overcast

Legend



Depth (m)	**DESCRIPTION**
0.2 m	Loose brown sandy silt with occasional subrounded limestone gravel
0.65 m	Firm red-brown silty clay with occasional subrounded to subangular gravel to cobble sized limestone
1.7 m	Soft to firm orange-beige-grey mottled silty weathered clay
1.9 m	Loose beige medium to coarse sand with angular gravel to cobble sized limestone
	Top of weathered bedrock

END OF TRIAL PIT 1.9 m

Scale: 1:25

Remarks: End of trial pit at 1.9 m at bedrock surface.

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP6	TP6	TP6				
Depth	0.6 m	1.45 m	1.9 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: ABW

Date: 22.04.97

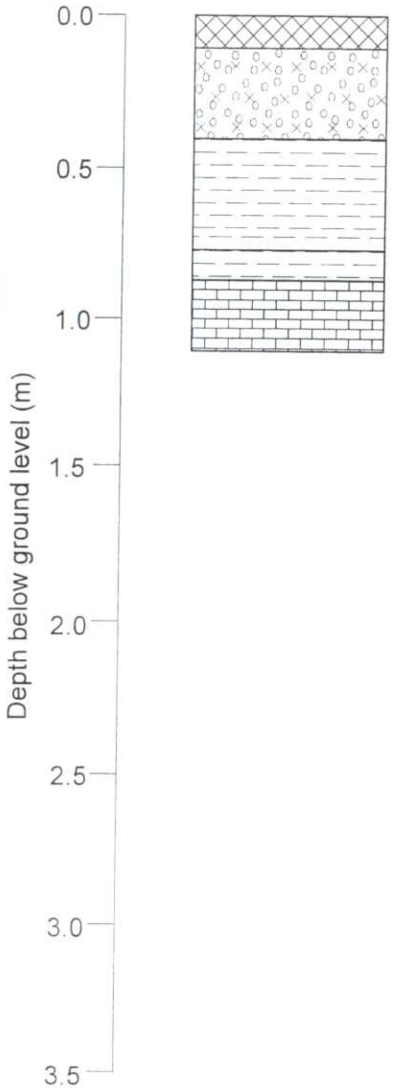
Aspinwall&company	**TRIAL PIT LOG**	**TP5**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 5000, 2648

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry/overcast



Depth (m)	DESCRIPTION
0.1 m	Asphalt hardstanding
0.4 m	Loose mid brown clayey sandy silt with subangular gravel to boulder size limestone
0.75 m	Firm red-brown silty clay with some sand
0.85 m	Firm mottled grey-green-orange mottled silty clay with shell fragments and vegetation remains
1.1 m	Weathered limestone bedrock

END OF TRIAL PIT 1.1 m

Scale: **1:25**

Remarks: Trial pit ended 1.1 m at top of weathered bedrock.

Water: None

Stability: Stable

Time trench open: 15-20 mins

Sample	TP5	TP5					
Depth	0.4 m	0.85 m					
Type	SOIL	SOIL					
Test							

Logged by: ABW

Date: 22.04.97

Aspinwall&company

TRIAL PIT LOG

TP4

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

Grid Ref.: 4990, 2645

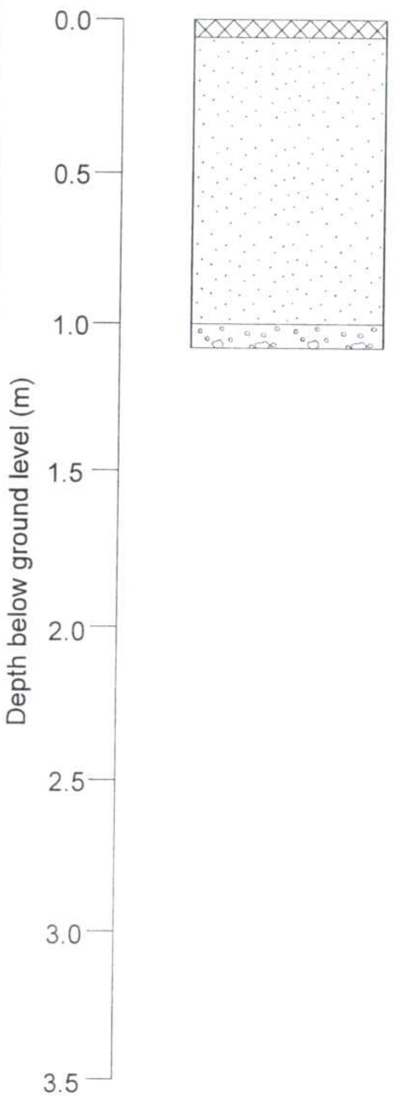
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry/overcast

Legend



Depth (m)	DESCRIPTION
0.05 m	Tarmac
1.0 m	Loose light brown clayey silty sand with much fine sub-angular gravel to cobble size fragments of white limestone
1.1 m	White subangular cobbles to boulder sized limestone in a brown clayey silty sandy matrix

END OF TRIAL PIT 1.1 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

Time trench open: 30 mins

Sample	TP4	TP4				
Depth	0.3 m	0.8 m				
Type	SOIL	SOIL				
Test						

Logged by: HHU

Date: 22.04.97

Aspinwall&company

TRIAL PIT LOG

TP3

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level -   m A.O.D. approx.

Grid Ref.: 4986, 2643

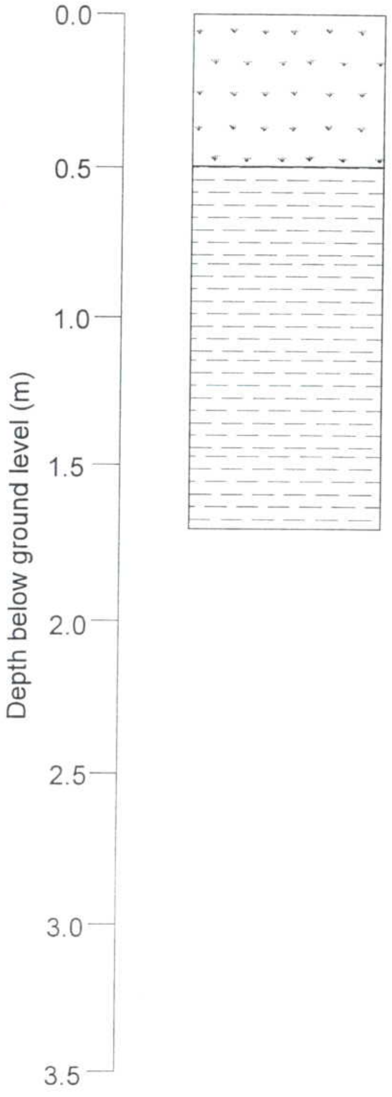
Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry/overcast

Legend **Depth (m)** **DESCRIPTION**



Depth (m)	DESCRIPTION
0.5 m	Grass over loose medium brown clayey silty sand with many fine roots and some fine to coarse gravel of flint and limestone
1.7 m	Firm brown mottled grey silty clay with much fine to coarse gravel sized shell fragments

END OF TRIAL PIT 1.7 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

Time trench open: 30 mins

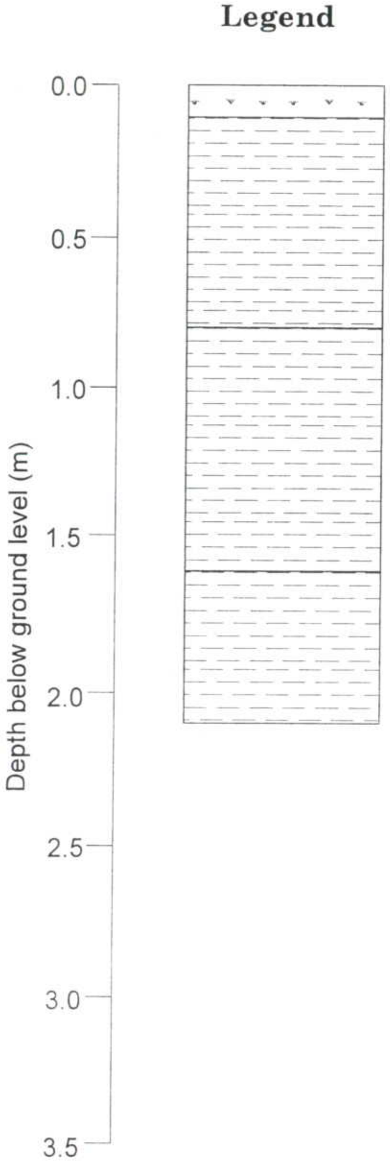
Sample	TP3	TP3					
Depth	0.4 m	0.9 m					
Type	SOIL	SOIL					
Test							

Logged by: HHU

Date: 22.04.97

Aspinwall&company	**TRIAL PIT LOG**	**TP2**
Client: Defence Estate Organisation	**CAN No:** MD3333A	**Sheet 1 of 1**
	Ground Level - m A.O.D. approx.	**Grid Ref.:** 4991, 2651

Project: RAF Upper Heyford	**Excavation Method:** JCB
Location: Upper Heyford	**Weather:** Dry, sunny



Depth (m)	DESCRIPTION
0.1 m	Loose light grey silty fine sand with occasional subrounded limestone gravel
	Soft to firm beige-brown-red silty clay with subangular gravel to cobble sized limestone
0.8 m	
	Firm grey-blue-brown mottled silty clay with some vegetation traces and shell fragments - **strong hydrocarbon odour**
1.6 m	
	Soft beige-orange mottled very silty clay with some shell fragments; **hydrocarbon odour**
2.1 m	
	(Weathered bedrock ?)
	END OF TRIAL PIT 2.1 m

Scale: 1:25

Remarks: 2.1 m TP ends at weathered bedrock.

Water: None

Stability: Stable

Time trench open: 20 mins

Sample	TP2	TP2	TP2				
Depth	0.4 m	1.1 m	2.0 m				
Type	SOIL	SOIL	SOIL				
Test							

Logged by: ABW

Date: 22.04.97

Aspinwall&company

TRIAL PIT LOG

TP1

Client: Defence Estate Organisation

CAN No: MD3333A

Sheet 1 of 1

Ground Level - m A.O.D. approx.

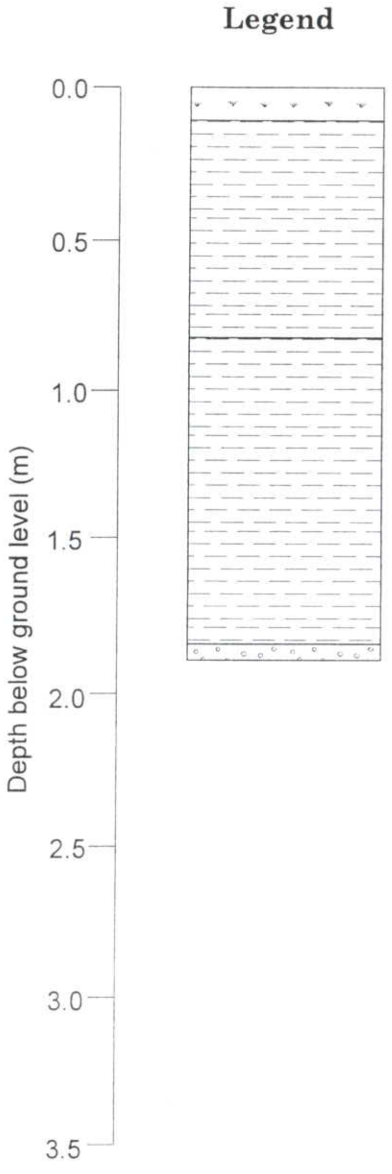
Grid Ref.: 4989, 2643

Project: RAF Upper Heyford

Excavation Method: JCB

Location: Upper Heyford

Weather: Dry/overcast



Depth (m)	DESCRIPTION
0.1 m	Grass over medium brown silty/clayey sand with many fine roots and some fine to coarse gravel of flint and limestone
0.8 m	Soft to firm orange brown sandy silty clay with much fine subangular gravel to cobble sized limestone
1.8 m	Soft to firm red brown silty clay
1.85 m	White sub angular cobbles and boulders of limestone in a brown clayey silty sand matrix

END OF TRIAL PIT 1.85 m

Scale: **1:25**

Remarks:

Water: None

Stability: Fair

Time trench open: 30 mins

Sample	TP1	TP1					
Depth	0.1 m	0.8 m					
Type	Soil	Soil					
Test							

Logged by: HHU

Date: 22.04.97

Appendix

5

Borehole Logs

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- **04/06/97**

Project: Site Investigation at RAF Upper Heyford			DRILLHOLE No BH-01
Client: Defence Estate Organisation	Location: Oxfordshire E449936.30 N226551.90		
Method & Equipment: Openhole using a UMM C10TW	Ground Level(m(AOD)): 116.42	Date: 22-04-97	Sheet: 1 of 6

RUN DETAILS			STRATA						
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thick-ness)	DESCRIPTION Discontinuities Detail	DESCRIPTION Main	Geology	Instru-ment / Backfill
			115.94		(0.48) 0.48	0.00-46.50m BGL ... Openhole drilling.	Stiff brown friable sandy gravelly CLAY with many rootlets.		
			115.59		(0.35) 0.83		(1) Grey brown completely weathered LIMESTONE very weak.		
			115.47		(0.12) 0.95		(1) Grey brown moderately weathered LIMESTONE moderately weak.		
			115.08		(0.39) 1.34		(1) Yellow brown completely weathered LIMESTONE very weak.		
			113.78		(1.30) 2.64		Yellow brown moderately weathered LIMESTONE moderately weak.		
			113.31		(0.47) 3.11		Yellow brown completely weathered LIMESTONE very weak.		
			109.96		(3.35) 6.46		Grey brown moderately weathered LIMESTONE moderately strong occasionally weak.		
					(1.79)		Orange brown completely weathered LIMESTONE very weak.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	Water (mBGL) RWL	Flush Type	Flush Returns
22/04/97		0.00	0.00					
22/04/97		17.00	1.45				air	100%
01/05/97		17.00	1.45					
01/05/97		46.50	16.85				air	100%

GENERAL REMARKS

1) Description derived from drillers daily report. 2) Inspection pit excavated prior to drilling (1.0x1.0x0.45m). 3) Jar sample taken every 1m. 4) Falling head permeability test carried out at 17.00m.

All dimensions in metres Scale 1:50	For Explanation of Symbols and Abbreviations see Key Sheets	Checked By:	Logged By: J. Fernley	Contract No. 1742

Date Printed:- 04/06/97

Form AEG22

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- **04/06/97**

Project: Site Investigation at RAF Upper Heyford	DRILLHOLE No BH-01
Client: Defence Estate Organisation	Location: Oxfordshire E449936.30 N226551.90
Method & Equipment: Openhole using a UMM C10TW	Ground Level(m(AOD)): 116.42
Date: 22-04-97	Sheet: **2 of 6**

RUN DETAILS			STRATA							
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thickness)	DESCRIPTION: Discontinuities	DESCRIPTION: Detail	DESCRIPTION: Main	Geology	Instru-ment / Backfill
			108.17		8.25			(As sheet 1 of 6)		
			107.22		(0.95) 9.20			Grey thinly laminated slightly weathered MUDSTONE moderately weak.		
			105.20		(2.02) 11.22			Yellow brown silty fine to medium SAND with occasional pockets of soft brown clay.		
			103.55		(1.65) 12.87			Orange brown highly weathered LIMESTONE weak.		
			100.87		(2.68) 15.55			Yellow brown slightly weathered LIMESTONE moderately strong.		
								Dark grey highly weathered MUDSTONE weak.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	Water (mBGL) RWL	Flush Type	Flush Returns
22/04/97		0.00	0.00					
22/04/97		17.00	1.45				air	100%
01/05/97		17.00	1.45					
01/05/97		46.50	16.85				air	100%

GENERAL REMARKS

1) Description derived from drillers daily report. 2) Inspection pit excavated prior to drilling (1.0x1.0x0.45m). 3) Jar sample taken every 1m. 4) Falling head permeability test carried out at 17.00m.

All dimensions in metres Scale 1:50	For Explanation of Symbols and Abbreviations see Key Sheets	Checked By:	Logged By: J. Fernley	Contract No. **1742**

Date Printed:- 04/06/97

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ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- **04/06/97**

Project: Site Investigation at RAF Upper Heyford	DRILLHOLE No BH-01
Client: Defence Estate Organisation	Location: Oxfordshire E449936.30 N226551.90
Method & Equipment: Openhole using a UMM C10TW	Ground Level(m(AOD)): 116.42
Date: 22-04-97	Sheet: 3 of 6

RUN DETAILS			STRATA							
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thickness)	DESCRIPTION Discontinuities	DESCRIPTION Detail	DESCRIPTION Main	Geology	Instrument/ Backfill
					(2.53)			(As sheet 2 of 6) Dark grey highly weathered MUDSTONE weak.		
			98.34		18.08					
								Dark grey slightly weathered MUDSTONE moderately weak to moderately strong.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	Water (mBGL) RWL	Flush Type	Flush Returns
22/04/97		0.00	0.00					
22/04/97		17.00	1.45				air	100%
01/05/97		17.00	1.45					
01/05/97		46.50	16.85				air	100%

GENERAL REMARKS

1) Description derived from drillers daily report. 2) Inspection pit excavated prior to drilling (1.0x1.0x0.45m). 3) Jar sample taken every 1m. 4) Falling head permeability test carried out at 17.00m.

All dimensions in metres Scale 1:50	For Explanation of Symbols and Abbreviations see Key Sheets	Checked By:	Logged By: J. Fernley	Contract No. 1742

Date Printed:- 04/06/97

Form AEG22

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- **04/06/97**

Project: Site Investigation at RAF Upper Heyford			DRILLHOLE No BH-01
Client: Defence Estate Organisation	Location: Oxfordshire E449936.30 N226551.90		
Method & Equipment: Openhole using a UMM C10TW	Ground Level (m (AOD)): 116.42	Date: 22-04-97	Sheet: **4 of 6**

RUN DETAILS			STRATA							
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thickness)	DESCRIPTION Discontinuities	Detail	Main	Geology	Instru-ment / Backfill
					(15.17)			(As sheet 3 of 6) Dark grey slightly weathered MUDSTONE moderately weak to moderately strong.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	RWL	Flush Type	Returns
22/04/97		0.00	0.00					
22/04/97		17.00	1.45				air	100%
01/05/97		17.00	1.45					
01/05/97		46.50	16.85				air	100%

GENERAL REMARKS

1) Description derived from drillers daily report. 2) Inspection pit excavated prior to drilling (1.0x1.0x0.45m). 3) Jar sample taken every 1m. 4) Falling head permeability test carried out at 17.00m.

All dimensions in metres Scale 1:50	For Explanation of Symbols and Abbreviations see Key Sheets	Checked By:	Logged By: J. Fernley	Contract No. 1742

Date Printed:- 04/06/97

Form AEG22

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- **04/06/97**

Project: Site Investigation at RAF Upper Heyford		DRILLHOLE No BH-01
Client: Defence Estate Organisation	Location: Oxfordshire E449936.30 N226551.90	
Method & Equipment: Openhole using a UMM C10TW	Ground Level (m(AOD)): 116.42	Date: 22-04-97	Sheet: 5 of 6

RUN DETAILS			STRATA						
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thickness)	DESCRIPTION Discontinuities Detail	DESCRIPTION Main	Geology	Instrument/Backfill
			83.17		33.25		(As sheet 4 of 6) Dark grey slightly weathered MUDSTONE moderately weak to moderately strong.		
			82.41		(0.76) 34.01		Dark grey slightly weathered sandy MUDSTONE moderately weak to moderately strong.		
			82.11		(0.30) 34.31		Brown slightly weathered LIMESTONE moderately strong.		
			81.57		(0.54) 34.85		Dark grey slightly weathered sandy MUDSTONE moderately weak to moderately strong.		
			81.08		(0.49) 35.34	34.85-35.51m ... No returns.	(1) Moderately weathered SANDSTONE weak.		
			80.91		(0.17) 35.51	35.31-37.70m ... Poor returns.	(1) VOID.		
			78.72		(2.19) 37.70	37.10-46.50m ... No returns	Dark grey slightly weathered MUDSTONE moderately weak to moderately strong.		
							(1) Dark grey slightly weathered MUDSTONE moderately strong.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	Water (mBGL) RWL	Flush Type	Flush Returns
22/04/97		0.00	0.00					
22/04/97		17.00	1.45				air	100%
01/05/97		17.00	1.45					
01/05/97		46.50	16.85				air	100%

GENERAL REMARKS

1) Description derived from drillers daily report. 2) Inspection pit excavated prior to drilling (1.0x1.0x0.45m). 3) Jar sample taken every 1m. 4) Falling head permeability test carried out at 17.00m.

All dimensions in metres Scale 1:50	For Explanation of Symbols and Abbreviations see Key Sheets	Checked By:	Logged By: J. Fernley	Contract No. 1742

Date Printed:- 04/06/97

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ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- **04/06/97**

Project: Site Investigation at RAF Upper Heyford

DRILLHOLE No: BH-01

Client: Defence Estate Organisation

Location: Oxfordshire E449936.30 N226551.90

Method & Equipment: Openhole using a UMM C10TW

Ground Level (m (AOD)): 116.42

Date: 22-04-97

Sheet: **6 of 6**

RUN DETAILS			STRATA							
						DESCRIPTION				
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thickness)	Discontinuities	Detail	Main	Geology	Instrument / Backfill
			69.92		(8.80) 46.50			(As sheet 5 of 6) (1) Dark grey slightly weathered MUDSTONE moderately strong.		
								Drillhole complete at 46.50m BGL.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	Water (mBGL) RWL	Flush Type	Flush Returns
22/04/97		0.00	0.00					
22/04/97		17.00	1.45				air	100%
01/05/97		17.00	1.45					
01/05/97		46.50	16.85				air	100%

GENERAL REMARKS

1) Description derived from drillers daily report. 2) Inspection pit excavated prior to drilling (1.0x1.0x0.45m). 3) Jar sample taken every 1m. 4) Falling head permeability test carried out at 17.00m.

All dimensions in metres
Scale 1:50

For Explanation of Symbols and Abbreviations see Key Sheets

Checked By:

Logged By: J. Fernley

Contract No. **1742**

Date Printed:- 04/06/97

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- **04/06/97**

Project: Site Investigation at RAF Upper Heyford

DRILLHOLE No: BH-02

Client: Defence Estate Organisation

Location: Oxfordshire E450676.90 N227674.40

Method & Equipment: Openhole/Rotary using a UMM C10TW

Ground Level (m (AOD)): 137.98

Date: 23-04-97

Sheet: **1 of 5**

RUN DETAILS			STRATA							
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thickness)	Discontinuities	Detail	Main	Geology	Instrument/Backfill
			137.58		(0.40) 0.40	0.00-40.00m ... Openhole drilling.		Stiff brown friable sandy gravelly CLAY.		
			136.98		(0.60) 1.00			Yellow brown highly weathered LIMESTONE very weak.		
			136.63		(0.35) 1.35			Yellow brown moderately to slightly weathered LIMESTONE very weak to moderately weak.		
			134.63		(2.00) 3.35			Yellow brown moderately to slightly weathered LIMESTONE very weak to moderately weak.		
			133.92		(0.71) 4.06			Light grey moderately weathered LIMESTONE moderately weak.		
			132.73		(1.19) 5.25			Light grey slightly weathered LIMESTONE moderately weak to moderately strong.		
			130.54		(2.19) 7.44			Yellow brown moderately weathered LIMESTONE weak to moderately weak.		
								Yellow brown slightly weathered LIMESTONE moderately strong.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	RWL	Flush Type	Returns
23/04/97		0.00	0.00					
23/04/97		27.00	4.50				air	100%
25/04/97		27.00	25.86					
25/04/97		40.00	25.86				air	100%

GENERAL REMARKS

1) Description derived from drillers daily report. 2) Inspection pit excavated prior to drilling (1.0 x 1.0 x 0.4m). 3) Jar sample taken every 1.00m. 4) 50mm Standpipe installed to 25.00m BGL.

All dimensions in metres
Scale 1:50

For Explanation of Symbols and Abbreviations see Key Sheets

Checked By:

Logged By: M. Slater

Contract No. 1742

Date Printed:- 06/06/97

Form AEG22

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- **04/06/97**

Project: Site Investigation at RAF Upper Heyford			DRILLHOLE No BH-02
Client: Defence Estate Organisation	Location: Oxfordshire E450676.90 N227674.40		
Method & Equipment: Openhole/Rotary using a UMM C10TW	Ground Level(m(AOD)): 137.98	Date: 23-04-97	Sheet: **2 of 5**

RUN DETAILS			STRATA							
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thickness)	Discontinuities	Detail	Main	Geology	Instru-ment/ Backfill
			128.97		(1.57) 9.01			(As sheet 1 of 5) Yellow brown slightly weathered LIMESTONE moderately strong.		
			128.77		(0.20) 9.21			(1) Yellow brown moderately weathered LIMESTONE moderately strong.		
			128.49		(0.28) 9.49			(1) Yellow brown moderately weathered LIMESTONE moderately weak.		
			127.97		(0.52) 10.01			(1) Light brown slightly weathered LIMESTONE moderately strong.		
			127.06		(0.91) 10.92			Grey fresh LIMESTONE moderately weak.		
			125.44		(1.62) 12.54			Yellow brown fresh LIMESTONE moderately strong.		
			124.77		(0.67) 13.21			(1) Dark brown completely weathered LIMESTONE very weak.		
			122.48		(2.29) 15.50			Orange brown slightly weathered LIMESTONE moderately strong with occasional pockets of soft brown clay.		
								(1) Yellow brown highly weathered LIMESTONE weak.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	RWL	Flush Type	Returns
23/04/97		0.00	0.00					
23/04/97		27.00	4.50				air	100%
25/04/97		27.00	25.86					
25/04/97		40.00	25.86				air	100%

GENERAL REMARKS

1) Description derived from drillers daily report. 2) Inspection pit excavated prior to drilling (1.0 x 1.0 x 0.4m). 3) Jar sample taken every 1.00m. 4) 50mm Standpipe installed to 25.00m BGL.

All dimensions in metres Scale 1:50	For Explanation of Symbols and Abbreviations see Key Sheets	Checked By:	Logged By: M. Slater	Contract No. 1742

Date Printed:- 06/06/97

Form AEG22

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- **04/06/97**

Project: Site Investigation at RAF Upper Heyford	DRILLHOLE No BH-02
Client: Defence Estate Organisation	Location: Oxfordshire E450676.90 N227674.40
Method & Equipment: Openhole/Rotary using a UMM C10TW	Ground Level (m(AOD)): 137.98
Date: 23-04-97	Sheet: **3 of 5**

RUN DETAILS			STRATA							
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thick-ness)	Discontinuities	Detail	Main	Geology	Instru-ment/ Backfill
			120.09		(2.39) 17.89			(As sheet 2 of 5) (1) Yellow brown highly weathered LIMESTONE weak.		
			117.09		(3.00) 20.89			Orange brown slightly weathered LIMESTONE moderately strong.		
			116.67		(0.42) 21.31			(1) Orange brown highly weathered LIMESTONE weak.		
			115.91		(0.76) 22.07			Dark grey thinly laminated slightly weathered MUDSTONE weak.		
								Dark grey thinly laminated fresh MUDSTONE moderately weak.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	RWL	Flush Type	Returns
23/04/97		**0.00**	**0.00**					
23/04/97		**27.00**	**4.50**				**air**	**100%**
25/04/97		**27.00**	**25.86**					
25/04/97		**40.00**	**25.86**				**air**	**100%**

GENERAL REMARKS

1) Description derived from drillers daily report. 2) Inspection pit excavated prior to drilling (1.0 x 1.0 x 0.4m). 3) Jar sample taken every 1.00m. 4) 50mm Standpipe installed to 25.00m BGL.

All dimensions in metres Scale 1:50	For Explanation of Symbols and Abbreviations see Key Sheets	Checked By:	Logged By: M. Slater	Contract No. **1742**

Date Printed:- 06/06/97

Form AEG22

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- **04/06/97**

Project: Site Investigation at RAF Upper Heyford			DRILLHOLE No BH-02
Client: Defence Estate Organisation	Location: Oxfordshire E450676.90 N227674.40		
Method & Equipment: Openhole/Rotary using a UMM C10TW	Ground Level(m(AOD)): 137.98	Date: 23-04-97	Sheet: **4 of 5**

RUN DETAILS			STRATA							
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thick-ness)	DESCRIPTION Discontinuities	DESCRIPTION Detail	DESCRIPTION Main	Geology	Instru-ment / Backfill
								(As sheet 3 of 5) Dark grey thinly laminated fresh MUDSTONE moderately weak.		
					(17.93)					
								(As sheet 4 of 5)		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	Water (mBGL) RWL	Flush Type	Flush Returns
23/04/97		0.00	0.00					
23/04/97		27.00	4.50				air	100%
25/04/97		27.00	25.86					
25/04/97		40.00	25.86				air	100%

GENERAL REMARKS

1) Description derived from drillers daily report. 2) Inspection pit excavated prior to drilling (1.0 x 1.0 x 0.4m). 3) Jar sample taken every 1.00m. 4) 50mm Standpipe installed to 25.00m BGL.

All dimensions in metres Scale 1:50	For Explanation of Symbols and Abbreviations see Key Sheets	Checked By:	Logged By: M. Slater	Contract No. 1742

Date Printed:- 06/06/97

Form AEG22

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- 04/06/97

Project: Site Investigation at RAF Upper Heyford			DRILLHOLE No BH-02
Client: Defence Estate Organisation	Location: Oxfordshire E450676.90 N227674.40		
Method & Equipment: Openhole/Rotary using a UMM C10TW	Ground Level(m(AOD)): 137.98	Date: 23-04-97	Sheet: 5 of 5

RUN DETAILS			STRATA							
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thickness)	Discontinuities	Detail	Main	Geology	Instrument / Backfill
			97.98	▤	40.00			Dark grey thinly laminated fresh MUDSTONE moderately weak.		▨
								Borehole complete at 40.00m BGL.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	RWL	Flush Type	Returns
23/04/97		0.00	0.00					
23/04/97		27.00	4.50				air	100%
25/04/97		27.00	25.86					
25/04/97		40.00	25.86				air	100%

GENERAL REMARKS

1) Description derived from drillers daily report. 2) Inspection pit excavated prior to drilling (1.0 x 1.0 x 0.4m). 3) Jar sample taken every 1.00m. 4) 50mm Standpipe installed to 25.00m BGL.

All dimensions in metres Scale 1:50	For Explanation of Symbols and Abbreviations see Key Sheets	Checked By:	Logged By: M. Slater	Contract No. 1742

Date Printed:- 06/06/97

Form AEG22

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- **04/06/97**

Project: Site Investigation at RAF Upper Heyford	DRILLHOLE No BH-03
Client: Defence Estate Organisation	Location: Oxfordshire E452454.60 N227337.20
Method & Equipment: Openhole using a UMM C10TW	Ground Level(m(AOD)): 121.71
Date: 29-04-97	Sheet: 1 of 1

RUN DETAILS			STRATA						Geology	Instru-ment/Backfill
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thick-ness)	DESCRIPTION: Discontinuities	Detail	Main		
			121.51		(0.20) 0.20	0.00-4.30m ... Openhole drilling.		(1) Firm to stiff brown sandy CLAY.		
			121.14		(0.37) 0.57			Yellow brown moderately to slightly weathered LIMESTONE moderately weak.		
			120.71		(0.43) 1.00			Yellow brown moderately weathered LIMESTONE weak to very weak.		
			119.50		(1.21) 2.21			Yellow moderately weathered LIMESTONE very weak.		
			119.11		(0.39) 2.60			(1) Yellow brown moderately weathered LIMESTONE weak.		
			118.30		(0.81) 3.41			(1) Yellow brown moderately weathered LIMESTONE weak.		
			117.75		(0.55) 3.96			(1) Grey moderately weathered MUDSTONE weak.		
			117.41		(0.34) 4.30			(1) Yellow brown moderately to slightly weathered LIMESTONE weak to moderately weak.		
								Drillhole complete at 4.30m BGL.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	RWL	Flush Type	Returns
29/04/97		0.00	0.00					
29/04/97		4.30	0.00		1.10		air	100%

GENERAL REMARKS

1) Description derived from drillers daily report. 2) Inspection pit excavated prior to drilling (1.0 x 1.0 x 0.20m). 3) Jar samples taken every 1.00m. 4) 50mm diameter standpipes installed to 3.10m and 4.30m.

All dimensions in metres Scale 1:50	For Explanation of Symbols and Abbreviations see Key Sheets	Checked By:	Logged By: J. Fernley	Contract No. 1742

Date Printed:- 06/06/97

Form AEG22

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- **04/06/97**

DRILLHOLE No
BH-04

Project: Site Investigation at RAF Upper Heyford

Client: Defence Estate Organisation

Location: Oxfordshire E453354.10 N227054.10

Method & Equipment: Openhole using a UMM C10TW

Ground Level (m(AOD)): 121.88

Date: 29-04-97

Sheet: 1 of 3

RUN DETAILS			STRATA						
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thickness)	Discontinuities Detail	Main	Geology	Instrument / Backfill
			121.68		(0.20) 0.20	0.00-19.80m ... Openhole drilling.	Firm to stiff brown sandy CLAY.		
			121.28		(0.40) 0.60		Yellow brown highly weathered LIMESTONE weak to very weak. (Boulders)		
			121.18		(0.10) 0.70		Firm brown sandy CLAY.		
			120.82		(0.36) 1.06		Yellow brown highly weathered LIMESTONE weak to very weak.		
			119.35		(1.47) 2.53		Yellow brown slightly to moderately weathered LIMESTONE moderately weak to moderately strong.		
			118.96		(0.39) 2.92		Yellow brown moderately weathered LIMESTONE weak.		
			117.79		(1.17) 4.09		Yellow brown moderately to slightly weathered LIMESTONE moderately weak.		
			117.51		(0.28) 4.37		Grey moderately weathered MUDSTONE weak.		
			116.33		(1.18) 5.55		Grey moderately to slightly weathered MUDSTONE moderately weak.		
			115.45		(0.88) 6.43		Grey moderately weathered MUDSTONE weak.		
							Grey moderately to slightly weathered MUDSTONE weak.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	Water (mBGL) RWL	Flush Type	Flush Returns
29/04/97		0.00	0.00					
29/04/97		19.80	0.00		16.82		air	100%

GENERAL REMARKS

1) Inspection pit excavated prior to drilling (1.0 x 1.0 x 0.20m). 2) Jar samples taken every 1.00m. 3) 50mm diameter standpipe installed to 19.80m.

All dimensions in metres
Scale 1:50

For Explanation of Symbols and Abbreviations see Key Sheets

Checked By:

Logged By: J. Fernley

Contract No. **1742**

Date Printed:- 04/06/97

Form AEG22

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- FINAL
Date:- 04/06/97

Project: Site Investigation at RAF Upper Heyford			**DRILLHOLE No** BH-04
Client: Defence Estate Organisation	**Location:** Oxfordshire E453354.10 N227054.10		
Method & Equipment: Openhole using a UMM C10TW	**Ground Level(m(AOD)):** 121.88	**Date:** 29-04-97	**Sheet:** 2 of 3

RUN DETAILS			STRATA							
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thickness)	Discontinuities	Detail	Main	Geology	Instru-ment/Backfill
			110.92		(4.53) 10.96			(As sheet 1 of 3) Grey moderately to slightly weathered MUDSTONE weak. between c.8.00-10.00m BGL ... greenish grey.		
			110.55		(0.37) 11.33			Grey moderately to slightly weathered sandy MUDSTONE moderately weak to weak.		
			110.31		(0.24) 11.57			Grey fine grained moderately to slightly weathered SANDSTONE moderately weak to weak.		
			109.06		(1.25) 12.82			Grey moderately to slightly weathered sandy MUDSTONE weak to moderately weak.		
			108.86		(0.20) 13.02			Grey fine grained moderately to slightly weathered SANDSTONE moderately weak.		
			108.28		(0.58) 13.60			Grey moderately to slightly weathered sandy MUDSTONE weak to moderately weak.		
			107.80		(0.48) 14.08			Grey fine grained moderately to slightly weathered SANDSTONE weak to moderately weak.		
			105.95		(1.85) 15.93			Grey slightly weathered MUDSTONE weak to moderately weak.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	RWL	Flush Type	Returns
29/04/97		0.00	0.00					
29/04/97		19.80	0.00		16.82		air	100%

GENERAL REMARKS

1) Inspection pit excavated prior to drilling (1.0 x 1.0 x 0.20m). 2) Jar samples taken every 1.00m. 3) 50mm diameter standpipe installed to 19.80m.

All dimensions in metres Scale 1:50	For Explanation of Symbols and Abbreviations see Key Sheets	Checked By:	Logged By: J. Fernley	Contract No. 1742

Date Printed:- 04/06/97

Form AEG22

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- **04/06/97**

Project: Site Investigation at RAF Upper Heyford

DRILLHOLE No: BH-04

Client: Defence Estate Organisation

Location: Oxfordshire E453354.10 N227054.10

Method & Equipment: Openhole using a UMM C10TW

Ground Level(m(AOD)): 121.88

Date: 29-04-97

Sheet: **3 of 3**

RUN DETAILS			STRATA							
						DESCRIPTION				
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thickness)	Discontinuities	Detail	Main	Geology	Instru-ment/ Backfill
			105.06		(0.89) 16.82			Dark grey brown moderately weathered MUDSTONE weak.		
			103.82		(1.24) 18.06			Dark grey moderately weathered MUDSTONE weak.		
			102.08		(1.74) 19.80			Grey moderately weathered sandy MUDSTONE weak to moderately weak.		
								Drillhole complete at 19.80m BGL.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	Water (mBGL) RWL	Flush Type	Flush Returns
29/04/97		**0.00**	**0.00**					
29/04/97		**19.80**	**0.00**		**16.82**		**air**	**100%**

GENERAL REMARKS

1) Inspection pit excavated prior to drilling (1.0 x 1.0 x 0.20m). 2) Jar samples taken every 1.00m. 3) 50mm diameter standpipe installed to 19.80m.

All dimensions in metres
Scale 1:50

For Explanation of Symbols and Abbreviations see Key Sheets

Checked By:

Logged By: J. Fernley

Contract No. **1742**

Date Printed:- 04/06/97

Form AEG22

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- **04/06/97**

Project: Site Investigation at RAF Upper Heyford

DRILLHOLE No BH-05

Client: Defence Estate Organisation

Location: Oxfordshire E451845.20 N226168.80

Method & Equipment: Openhole using a UMM C10TW

Ground Level (m (AOD)): 120.20

Date: 05-05-97

Sheet: 1 of 1

RUN DETAILS			STRATA							
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thickness)	Discontinuities	Detail	Main	Geology	Instrument / Backfill
			119.90		(0.30) 0.30	0.00-3.50m ... Openhole drilling.		Firm to stiff sandy gravelly CLAY.		
			119.20		(0.70) 1.00			(1) Yellow brown moderately weathered LIMESTONE weak to very weak. (Boulder).		
			118.96		(0.24) 1.24			Firm to stiff sandy CLAY.		
			118.24		(0.72) 1.96			Yellow brown moderately weathered LIMESTONE weak.		
			117.70		(0.54) 2.50			(1) Yellow brown moderately weathered LIMESTONE weak to moderately weak.		
			117.45		(0.25) 2.75			(1) Yellow brown moderately weathered LIMESTONE weak.		
			116.81		(0.64) 3.39			(1) Yellow brown moderately weathered LIMESTONE moderately weak.		
			116.70		(0.11) 3.50			Grey moderately weathered MUDSTONE weak.		
								Drillhole complete at 3.50m BGL.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	RWL	Flush Type	Returns
05/05/97		0.00	0.00					
05/05/97		3.50	0.00		1.96		air	100%

GENERAL REMARKS

1) Description derived from drillers daily report. 2) Inspection pit excavated prior to drilling (1.0 x 1.0 x 0.20m). 3) Jar samples taken every 1.00m. 4) 50mm diameter standpipe installed to 3.50m.

All dimensions in metres
Scale 1:50

For Explanation of Symbols and Abbreviations see Key Sheets

Checked By:

Logged By: J. Fernley

Contract No. 1742

Date Printed:- 06/06/97

Form AEG22

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- 04/06/97

Project: Site Investigation at RAF Upper Heyford	DRILLHOLE No BH-06
Client: Defence Estate Organisation	Location: Oxfordshire E450556.40 N225597.10
Method & Equipment: Openhole using a UMM C10TW	Ground Level (m(AOD)): 121.56
Date: 02-05-97	Sheet: 1 of 2

RUN DETAILS			STRATA							
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thick-ness)	DESCRIPTION Discontinuities	Detail	Main	Geology	Instru-ment/ Backfill
			121.26		(0.30) 0.30	0.00-16.00m ... Openhole drilling.		Firm to stiff brown sandy CLAY with moderate hydrocarbon odour.		
			120.76		(0.50) 0.80			Yellow brown moderately weathered LIMESTONE moderately weak to weak. (Boulder).		
			119.70		(1.06) 1.86			Firm brown sandy CLAY with moderate hydrocarbon odour.		
			119.06		(0.64) 2.50			Yellow brown moderately weathered LIMESTONE moderately weak to weak. (Boulder).		
			118.60		(0.46) 2.96			Firm brown sandy CLAY with faint hydrocarbon odour.		
			118.18		(0.42) 3.38			Yellow brown moderately weathered LIMESTONE weak.		
			117.85		(0.33) 3.71			Yellow brown moderately to highly weathered LIMESTONE weak to very weak.		
			117.07		(0.78) 4.49			Yellow brown moderately to highly weathered LIMESTONE weak to very weak.		
			116.67		(0.40) 4.89			Yellow brown moderately weathered LIMESTONE weak to moderately weak.		
			115.88		(0.79) 5.68			Dark grey moderately weathered MUDSTONE moderately weak.		
			114.97		(0.91) 6.59			Yellow brown moderately weathered LIMESTONE weak to moderately weak.		
			114.81		(0.16) 6.75			Yellow brown moderately weathered LIMESTONE weak.		
					(1.55)			Dark grey moderately weathered MUDSTONE weak.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	Water (mBGL) RWL	Flush Type	Flush Returns
02/05/97		0.00	0.00		12.55			
02/05/97		16.00	0.00				air	100%

GENERAL REMARKS

1) Inspection pit excavated prior to drilling (1.0 x 1.0 x 0.30m). 2) Jar samples taken every 1.00m. 3) 50mm diameter standpipe installed to 16.00m BGL.

All dimensions in metres Scale 1:50	For Explanation of Symbols and Abbreviations see Key Sheets	Checked By:	Logged By: J. Fernley	Contract No. 1742

Date Printed:- 06/06/97

Form AEG22

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- **04/06/97**

Project: Site Investigation at RAF Upper Heyford				DRILLHOLE No BH-06
Client: Defence Estate Organisation	Location: Oxfordshire E450556.40 N225597.10			
Method & Equipment: Openhole using a UMM C10TW	Ground Level(m(AOD)): 121.56	Date: 02-05-97		Sheet: 2 of 2

RUN DETAILS			STRATA						Geology	Instru-ment / Backfill
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thick-ness)	Discontinuities	Detail	Main		
			113.26		8.30					
			112.78		(0.48) 8.78			Grey fine grained moderately weathered SANDSTONE weak.		
			112.27		(0.51) 9.29			Grey fine grained moderately weathered SANDSTONE moderately weak.		
			112.06		(0.21) 9.50			Grey moderately weathered MUDSTONE moderately weak.		
			111.80		(0.26) 9.76			Grey moderately weathered sandy MUDSTONE moderately weak.		
			111.22		(0.58) 10.34			Grey moderately weathered MUDSTONE moderately weak.		
			110.51		(0.71) 11.05			Grey moderately weathered sandy MUDSTONE moderately weak.		
			109.01		(1.50) 12.55			Grey fine grained moderately weathered SANDSTONE moderately weak to moderately strong.		
			105.56		(3.45) 16.00			Grey moderately weathered to slightly weathered MUDSTONE moderately weak.		
								Drillhole complete at 16.00m BGL.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	Water (mBGL) RWL	Flush Type	Flush Returns
02/05/97		0.00	0.00		12.55			
02/05/97		16.00	0.00				air	100%

GENERAL REMARKS

1) Inspection pit excavated prior to drilling (1.0 x 1.0 x 0.30m). 2) Jar samples taken every 1.00m. 3) 50mm diameter standpipe installed to 16.00m BGL.

All dimensions in metres Scale 1:50	For Explanation of Symbols and Abbreviations see Key Sheets	Checked By:	Logged By: J. Fernley	Contract No. 1742

Date Printed:- 06/06/97

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- **04/06/97**

Project: Site Investigation at RAF Upper Heyford	DRILLHOLE No BH-07
Client: Defence Estate Organisation	Location: Oxfordshire E451463.00 N226810.10
Method & Equipment: Openhole using a UMM C10TW	Ground Level(m(AOD)): 131.01
Date: 30-04-97	Sheet: 1 of 2

RUN DETAILS			STRATA				
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thickness)	DESCRIPTION Discontinuities Detail	DESCRIPTION Main
			130.61		(0.40) 0.40	0.00-8.00m ... Openhole drilling.	Stiff brown sandy CLAY with occasional rootlets.
			130.27		(0.34) 0.74		Yellow brown moderately weathered LIMESTONE weak. (Boulder).
			129.81		(0.46) 1.20		Stiff brown sandy CLAY.
			129.66		(0.15) 1.35		Yellow brown moderately weathered LIMESTONE weak. (Boulder).
			129.57		(0.09) 1.44		Stiff brown sandy CLAY.
			126.36		(3.21) 4.65		Yellow brown moderately to slightly weathered LIMESTONE weak to moderately weak.
			126.19		(0.17) 4.82		Yellow brown moderately to slightly weathered LIMESTONE moderately weak.
			125.86		(0.33) 5.15		Yellow brown moderately weathered LIMESTONE weak to moderately weak.
			124.96		(0.90) 6.05		Yellow brown moderately to slightly weathered LIMESTONE moderately weak.
			123.46		(1.50) 7.55		Dark grey moderately to slightly weathered MUDSTONE moderately weak.
			123.08		(0.38) 7.93		Grey to brown moderately to slightly weathered SANDSTONE
					(0.07)		

Geology | Instru-ment / Backfill

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	Water (mBGL) RWL	Flush Type	Flush Returns
30/04/97		0.00	0.00					
30/04/97		8.00	0.00		4.65		air	100%

GENERAL REMARKS

1) Inspection pit excavated prior to drilling (1.0 x 1.0 x 0.40m) 2) Jar samples taken every 1.00m. 3) 50mm diameter standpipe installed to 5.50m BGL.

All dimensions in metres Scale 1:50	For Explanation of Symbols and Abbreviations see Key Sheets	Checked By:	Logged By: J. Fernley	Contract No. 1742

Date Printed:- 04/06/97

ALLIED EXPLORATION & GEOTECHNICS LTD

DRILLHOLE LOG

Status:- **FINAL**
Date:- **04/06/97**

Project: Site Investigation at RAF Upper Heyford			DRILLHOLE No BH-07
Client: Defence Estate Organisation	Location: Oxfordshire E451463.00 N226810.10		
Method & Equipment: Openhole using a UMM C10TW	Ground Level(m(AOD)): 131.01	Date: 30-04-97	Sheet: **2 of 2**

RUN DETAILS			STRATA							
Depth	TCR (SCR) RQD	(SPT) Fracture Index	Red'cd Level	Legend	Depth (Thick-ness)	DESCRIPTION Discontinuities	DESCRIPTION Detail	DESCRIPTION Main	Geology	Instru-ment/ Backfill
			123.01		8.00			moderately weak. Dark grey moderately to slightly weathered MUDSTONE moderately weak. Drillhole complete at 8.00m BGL.		

Drilling Progress and Water Observations

Date		Depth	Casing	Core Dia mm	Water (mBGL) Strike	RWL	Flush Type	Returns
30/04/97		**0.00**	**0.00**					
30/04/97		**8.00**	**0.00**		**4.65**		**air**	**100%**

GENERAL REMARKS

1) Inspection pit excavated prior to drilling (1.0 x 1.0 x 0.40m) 2) Jar samples taken every 1.00m. 3) 50mm diameter standpipe installed to 5.50m BGL.

All dimensions in metres Scale 1:50	For Explanation of Symbols and Abbreviations see Key Sheets	Checked By:	Logged By: J. Fernley	Contract No. **1742**

Date Printed:- 04/06/97

Form AEG22

2 SOIL CHEMICAL ANALYTICAL RESULTS (ASPINWALL 1997)

Appendix 4

Results of Chemical Testing - Trial Pits

G CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

NAMAS TESTING No. 1291

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Arsenic	Arsenic On Leachate	Boron (Water Soluble)	Cadmium	Cadmium on Leachate	Chromium	Chromium on Leachate	Copper	Copper on Leachate	Mercury	Mercury On Leachate	Nickel	Nickel On Leachate	Lead	Lead Leachate	Selenium
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Method			ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
Detection Limits			<1	<0.05	<1	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1
1	TP 7	0.3	10	-	<1	<1	-	17	-	8	-	<1	-	17	-	10	-	<1
2	TP 7	1.2	8	-	1	<1	-	9	-	4	-	<1	-	7	-	2	-	<1
3	TP 8	0.3	20	-	2	<1	-	17	-	14	-	<1	-	21	-	8	-	<1
4	TP 8	1	19	-	2	<1	-	41	-	8	-	<1	-	13	-	13	-	<1
5	TP 9	0.6	27	-	1	<1	-	27	-	10	-	<1	-	18	-	14	-	<1
6	TP 9	2	6	-	<1	<1	-	17	-	5	-	<1	-	7	-	3	-	<1
7	TP 31	0.7	17	-	1	<1	-	17	-	8	-	<1	-	11	-	16	-	<1
8	TP 31	0.75	18	-	1	<1	-	15	-	11	-	<1	-	13	-	32	-	2
9	TP 32	0.5	31	-	1	<1	-	30	-	12	-	<1	-	21	-	22	-	1
10	TP 32	1	66	-	1	<1	-	60	-	21	-	<1	-	46	-	13	-	<1
11	TP 36	0.9	26	-	1	<1	-	22	-	9	-	<1	-	17	-	12	-	<1
12	TP 51	0.1	7	-	<1	<1	-	40	-	7	-	<1	-	10	-	45	-	<1
13	TP 51	0.35	22	-	<1	<1	-	35	-	9	-	<1	-	12	-	81	-	<1
14	TP 52	0.1	32	-	<1	<1	-	34	-	18	-	<1	-	21	-	143	-	<1
15	TP 52	0.5	35	-	<1	<1	-	38	-	11	-	<1	-	24	-	10	-	<1
16	TP 54	0.25	30	-	<1	<1	-	33	-	14	-	<1	-	19	-	28	-	<1
17	TP 54	0.7	15	-	<1	<1	-	14	-	6	-	<1	-	10	-	6	-	<1
18	TP 55	0.2	11	-	<1	<1	-	10	-	5	-	<1	-	5	-	4	-	<1
19	TP 55	0.8	29	-	2	<1	-	23	-	15	-	<1	-	17	-	18	-	<1
20	TP 56	0.25	19	-	2	<1	-	25	-	13	-	<1	-	16	-	22	-	<1

Printed on 30 June 1997

Checked by ......Ball...................... Alison Ball

GL CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Arsenic	Arsenic On Leachate	Boron (Water Soluble)	Cadmium	Cadmium on Leachate	Chromium	Chromium on Leachate	Copper	Copper on Leachate	Mercury	Mercury On Leachate	Nickel	Nickel On Leachate	Lead	Lead Leachate	Selenium
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Method			ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
Detection Limits			<1	<0.05	<1	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1
21	TP 56	0.75	17	-	<1	<1	-	24	-	10	-	<1	-	13	-	10	-	<1
22	TP 57	0.25	24	-	<1	<1	-	20	-	11	-	<1	-	17	-	16	-	2
23	TP 57	1	15	-	<1	<1	-	20	-	8	-	<1	-	13	-	4	-	2
24	TP 58	0.4	22	-	<1	<1	-	26	-	10	-	<1	-	17	-	12	-	2
25	TP 58	1	34	-	<1	<1	-	22	-	15	-	<1	-	27	-	5	-	<1
26	TP108	0.2	13	-	<1	<1	-	12	-	17	-	<1	-	11	-	14	-	<1
27	TP 108	1.1	14	-	<1	<1	-	16	-	7	-	<1	-	10	-	10	-	<1
28	TP 117	0.1	31	-	<1	<1	-	36	-	16	-	<1	-	19	-	82	-	<1
29	TP 118	0.5	16	-	<1	<1	-	16	-	8	-	<1	-	11	-	13	-	<1
30	TP 118	0.95	23	-	<1	<1	-	20	-	11	-	<1	-	12	-	25	-	<1
31	TP 118	1.5	21	-	<1	<1	-	30	-	12	-	<1	-	21	-	9	-	<1
32	TP 122	0.4	19	-	<1	<1	-	23	-	12	-	<1	-	13	-	15	-	2
33	TP 122	1	12	-	<1	<1	-	8	-	4	-	<1	-	6	-	3	-	<1
34	TP 123	0.1	25	-	<1	<1	-	31	-	12	-	1	-	13	-	71	-	<1
35	TP 123	0.35	28	-	<1	<1	-	29	-	11	-	<1	-	18	-	16	-	<1
36	TP 126	0.25	17	-	<1	<1	-	27	-	10	-	<1	-	15	-	12	-	<1
37	TP 126	1	6	-	<1	<1	-	6	-	3	-	<1	-	4	-	2	-	<1
38	TP 131	0.2	27	-	<1	<1	-	26	-	25	-	<1	-	19	-	60	-	<1
39	TP 131	0.5	31	-	<1	<1	-	36	-	13	-	<1	-	27	-	12	-	1
40	TP 133	0.25	11	-	<1	<1	-	9	-	4	-	<1	-	6	-	5	-	<1

Printed on 30 June 1997

Checked by .... Alison Ball

GL CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Arsenic	Arsenic On Leachate	Boron (Water Soluble)	Cadmium	Cadmium on Leachate	Chromium	Chromium on Leachate	Copper	Copper on Leachate	Mercury	Mercury On Leachate	Nickel	Nickel On Leachate	Lead	Lead Leachate	Selenium
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Method			ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
Detection Limits			<1	<0.05	<1	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1
41	TP 133 (A)	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	TP 1	0.1	17	-	<1	<1	-	25	-	12	-	<1	-	15	-	11	-	1
43	TP 1	0.8	23	-	<1	<1	-	27	-	18	-	<1	-	16	-	12	-	2
44	TP 2	0.4	17	-	<1	<1	-	9	-	6	-	<1	-	10	-	3	-	<1
45	TP 2	1.1	12	-	<1	<1	-	14	-	9	-	<1	-	13	-	4	-	<1
46	TP 2	2	11	-	<1	<1	-	7	-	9	-	<1	-	9	-	2	-	2
47	TP 3	0.4	18	-	<1	<1	-	19	-	13	-	<1	-	13	-	13	-	<1
48	TP 3	0.9	13	-	<1	<1	-	15	-	12	-	<1	-	13	-	3	-	<1
49	TP 4	0.3	15	-	<1	<1	-	9	-	6	-	<1	-	9	-	4	-	1
50	TP 4	0.8	16	-	<1	<1	-	12	-	7	-	<1	-	11	-	3	-	<1
51	TP 5	0.4	16	-	<1	<1	-	10	-	6	-	<1	-	10	-	4	-	<1
52	TP 5	0.85	12	-	<1	<1	-	14	-	9	-	<1	-	14	-	4	-	<1
53	TP 6	0.6	16	-	<1	<1	-	21	-	13	-	<1	-	17	-	12	-	<1
54	TP 6	1.45	8	-	<1	<1	-	14	-	14	-	<1	-	11	-	3	-	2
55	TP 6	1.9	6	-	<1	<1	-	5	-	6	-	<1	-	8	-	4	-	<1
56	TP 59	0.9	1	-	<1	<1	-	5	-	4	-	<1	-	6	-	1	-	<1
57	TP 59	0.15	22	-	<1	<1	-	17	-	7	-	<1	-	12	-	8	-	<1
58	TP 60	0.7	26	-	<1	<1	-	26	-	14	-	<1	-	20	-	30	-	2
59	TP 60	1	20	-	2	<1	-	12	-	7	-	<1	-	14	-	6	-	2
60	TP 61	0.7	18	-	<1	<1	-	16	-	21	-	<1	-	18	-	10	-	<1

Printed on 30 June 1997

Checked by .... Alison Ball

GEOCI.

GL CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Arsenic	Arsenic On Leachate	Boron (Water Soluble)	Cadmium	Cadmium on Leachate	Chromium	Chromium on Leachate	Copper	Copper on Leachate	Mercury	Mercury On Leachate	Nickel	Nickel On Leachate	Lead	Lead Leachate	Selenium
		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		Detection Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
		Detection Limits	<1	<0.05	<1	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1
61	TP 61	1.1	10	-	<1	<1	-	10	-	7	-	<1	-	11	-	5	-	<1
62	TP 62	0.4	22	-	1	<1	-	25	-	12	-	<1	-	15	-	17	-	<1
63	TP 62	0.8	6	-	1	<1	-	4	-	3	-	<1	-	5	-	<1	-	<1
64	TP 62	1.4	7	-	5	<1	-	8	-	6	-	<1	-	8	-	5	-	<1
65	TP 67	0.35	21	-	<1	<1	-	13	-	6	-	<1	-	10	-	8	-	<1
66	TP 67	1.3	15	-	2	<1	-	16	-	8	-	<1	-	14	-	6	-	<1
67	TP 68	0.1	15	-	<1	<1	-	26	-	11	-	<1	-	15	-	73	-	<1
68	TP 68	0.8	15	-	2	<1	-	6	-	4	-	<1	-	9	-	4	-	<1
69	TP 69	0.4	34	-	<1	<1	-	36	-	13	-	<1	-	28	-	13	-	<1
70	TP 69	0.95	17	-	<1	<1	-	12	-	7	-	<1	-	12	-	6	-	<1
71	TP 70	0.2	23	-	<1	<1	-	20	-	11	-	<1	-	16	-	24	-	<1
72	TP 70	1	15	-	<1	<1	-	8	-	5	-	<1	-	9	-	4	-	<1
73	TP 71	0.1	16	-	<1	<1	-	14	-	9	-	<1	-	13	-	12	-	<1
74	TP 71	0.4	21	-	<1	12	-	10	-	140	-	<1	-	31	-	43	-	<1
75	TP 71	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
76	TP 73	0.3	16	-	<1	<1	-	16	-	8	-	<1	-	12	-	13	-	<1
77	TP 73	0.6	25	-	<1	<1	-	22	-	11	-	<1	-	15	-	18	-	<1
78	TP 73	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
79	TP 78	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
80	TP 78 A	0.35	22	-	<1	<1	-	13	-	7	-	<1	-	11	-	7	-	<1

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GL CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

NAMAS
TESTING
No. 1291

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Arsenic	Arsenic On Leachate	Boron (Water Soluble)	Cadmium	Cadmium on Leachate	Chromium	Chromium on Leachate	Copper	Copper on Leachate	Mercury	Mercury On Leachate	Nickel	Nickel On Leachate	Lead	Lead Leachate	Selenium
		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		Detection Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
		Detection Limits	<1	<0.05	<1	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1
81	TP 78 A	0.9	8	-	<1	<1	-	9	-	6	-	<1	-	9	-	4	-	<1
82	TP 78 A	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
83	TP 79	0.5	<1	-	<1	<1	-	21	-	13	-	<1	-	17	-	14	-	<1
84	TP 79	0.9	8	-	3	<1	-	10	-	4	-	<1	-	6	-	4	-	<1
85	TP 80	0.1	22	-	1	<1	-	23	-	15	-	<1	-	18	-	18	-	<1
86	TP 80	0.55	20	-	1	<1	-	19	-	13	-	<1	-	15	-	13	-	<1
87	TP 139	0.5	13	-	1	<1	-	7	-	4	-	<1	-	8	-	8	-	<1
88	TP 139	1.1	12	-	2	<1	-	16	-	10	-	<1	-	12	-	12	-	<1
89	TP 139	1.7	6	-	<1	<1	-	8	-	6	-	<1	-	7	-	3	-	<1
105	TP 50	0.1	30	-	<1	<1	-	21	-	12	-	<1	-	14	-	13	-	<1
106	TP 50	1.8	14	-	<1	<1	-	4	-	<1	-	<1	-	4	-	2	-	<1
107	TP 49	0.1	18	-	<1	<1	-	21	-	7	-	<1	-	10	-	29	-	<1
108	TP 49	1	1	-	<1	<1	-	6	-	3	-	<1	-	4	-	1	-	<1
109	TP 66	0.6	13	-	<1	<1	-	13	-	4	-	<1	-	8	-	2	-	1
110	TP 66	1.4	15	-	2	1	-	15	-	33	-	<1	-	8	-	5	-	<1
111	TP 66	1.45	12	-	4	<1	-	8	-	2	-	<1	-	5	-	1	-	<1
112	TP 72	0.35	18	-	2	<1	-	20	-	1	-	<1	-	3	-	<1	-	<1
113	TP 72	1.2	29	-	<1	<1	-	28	-	9	-	<1	-	18	-	11	-	<1
114	TP 74	0.5	16	-	<1	<1	-	20	-	8	-	<1	-	12	-	7	-	<1
115	TP 74	1.3	18	-	<1	<1	-	19	-	11	-	<1	-	20	-	9	-	<1

Printed on 30 June 1997

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G CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Arsenic	Arsenic On Leachate	Boron (Water Soluble)	Cadmium	Cadmium on Leachate	Chromium	Chromium on Leachate	Copper	Copper on Leachate	Mercury	Mercury On Leachate	Nickel	Nickel On Leachate	Lead	Lead Leachate	Selenium
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Method			ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
Detection Limits			<1	<0.05	<1	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1
116	TP 75	0.5	15	-	1	<1	-	17	-	8	-	<1	-	11	-	9	-	<1
117	TP 75	1.4	9	-	<1	<1	-	11	-	4	-	<1	-	6	-	2	-	<1
118	TP 75	1.9	2	-	2	<1	-	5	-	3	-	<1	-	4	-	2	-	<1
119	TP 76	0.45	24	-	<1	<1	-	25	-	12	-	<1	-	18	-	12	-	<1
120	TP 76	1.25	9	-	2	<1	-	13	-	5	-	<1	-	8	-	2	-	2
121	TP 77	0.5	28	-	<1	<1	-	36	-	12	-	<1	-	24	-	5	-	<1
122	TP 77	1.5	11	-	<1	<1	-	12	-	6	-	<1	-	17	-	4	-	<1
123	TP 82	0.3	22	-	<1	<1	-	24	-	12	-	<1	-	19	-	23	-	<1
124	TP 82	0.8	13	-	4	<1	-	9	-	22	-	<1	-	9	-	<1	-	<1
125	TP 83	0.1	18	-	<1	<1	-	21	-	10	-	<1	-	15	-	10	-	2
126	TP 83	0.9	15	-	2	<1	-	10	-	6	-	<1	-	9	-	3	-	<1
127	TP 84	0.2	21	-	1	<1	-	24	-	10	-	<1	-	17	-	14	-	<1
128	TP 84	0.8	16	-	<1	<1	-	12	-	6	-	<1	-	11	-	3	-	1
129	TP 85	0.1	28	-	<1	<1	-	28	-	11	-	<1	-	18	-	31	-	<1
130	TP 85	0.7	11	-	<1	<1	-	9	-	4	-	<1	-	7	-	1	-	<1
131	TP 87	0.4	29	-	<1	<1	-	32	-	11	-	<1	-	20	-	79	-	<1
132	TP 87	1.55	9	-	<1	<1	-	14	-	6	-	<1	-	10	-	2	-	2
133	TP 88	0.4	28	-	<1	<1	-	27	-	10	-	<1	-	18	-	16	-	<1
134	TP 88	1.4	4	-	<1	<1	-	4	-	3	-	<1	-	5	-	1	-	<1
135	TP 89	0.4	13	-	<1	<1	-	13	-	7	-	<1	-	10	-	7	-	<1

Printed on 30 June 1997

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GL CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number :	97/01023/02/01	Sample Type :	SOIL
Client :	ASPINWALL & COMPANY	Location :	RAF Upper Heyford
Date of Receipt : (of first sample)	01/05/97	Client Contact :	Steve Hobbs
		Client Ref. No. :	MD3333A

NAMAS TESTING No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Arsenic	Arsenic On Leachate	Boron (Water Soluble)	Cadmium	Cadmium on Leachate	Chromium	Chromium on Leachate	Copper	Copper on Leachate	Mercury	Mercury On Leachate	Nickel	Nickel On Leachate	Lead	Lead Leachate	Selenium
		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		Detection Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
		Detection Limits	<1	<0.05	<1	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1
136	TP 89	1.9	9	-	<1	<1	-	5	-	5	-	<1	-	6	-	3	-	<1
137	TP 109	0.4	25	-	<1	<1	-	21	-	9	-	<1	-	14	-	15	-	1
138	TP 109	1.2	7	-	<1	<1	-	7	-	4	-	<1	-	7	-	5	-	<1
139	TP 109	1.65	20	-	<1	<1	-	25	-	9	-	<1	-	15	-	11	-	<1
140	TP 110	0.2	10	-	<1	<1	-	9	-	4	-	<1	-	6	-	5	-	<1
141	TP 110	0.5	8	-	<1	<1	-	9	-	4	-	<1	-	6	-	4	-	<1
142	TP 110	1.4	5	-	3	<1	-	4	-	3	-	<1	-	5	-	2	-	1
143	TP 111	0.15	22	-	<1	<1	-	20	-	14	-	<1	-	15	-	18	-	<1
144	TP 111	0.7	20	-	<1	<1	-	24	-	11	-	<1	-	16	-	11	-	<1
145	TP 113	0.4	49	<0.05	<1	4	<0.05	72	<0.05	1338	<0.05	<1	<0.05	16	<0.05	70	<0.05	<1
146	TP 113A	0.4	76	<0.05	<1	4	<0.05	187	<0.05	1799	0.44	<1	<0.05	15	<0.05	38	0.21	<1
147	TP 124	0.2	22	-	<1	<1	-	27	-	11	-	<1	-	20	-	12	-	<1
148	TP 124	1.2	11	-	1	<1	-	11	-	6	-	<1	-	9	-	3	-	1
149	TP 124	1.9	4	-	<1	<1	-	3	-	4	-	<1	-	4	-	<1	-	<1
150	TP 124	1.7	6	-	<1	<1	-	4	-	5	-	<1	-	6	-	<1	-	1
151	TP 127	0.25	21	-	1	<1	-	22	-	15	-	<1	-	18	-	14	-	<1
152	TP 127	0.9	6	-	1	<1	-	4	-	3	-	<1	-	5	-	<1	-	<1
153	TP 127	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
179	TP 18	0.2	23	-	<1	<1	-	21	-	10	-	<1	-	13	-	16	-	<1
180	TP 18	0.8	6	-	<1	<1	-	8	-	4	-	<1	-	7	-	1	-	<1

Printed on 30 June 1997

Checked by .... Alison Ball

G CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS TESTING No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Arsenic	Arsenic On Leachate	Boron (Water Soluble)	Cadmium	Cadmium on Leachate	Chromium	Chromium on Leachate	Copper	Copper on Leachate	Mercury	Mercury On Leachate	Nickel	Nickel On Leachate	Lead	Lead Leachate	Selenium
		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		Detection Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
		Detection Limits	<1	<0.05	<1	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1
181	TP 18	1.6	6	-	<1	<1	-	6	-	3	-	<1	-	4	-	1	-	<1
182	TP 20	0.35	28	-	<1	<1	-	21	-	49	-	<1	-	29	-	58	-	<1
183	TP 20	0.5	26	-	<1	<1	-	26	-	11	-	<1	-	18	-	22	-	<1
184	TP 20	1.2	14	-	<1	<1	-	12	-	6	-	<1	-	8	-	4	-	<1
185	TP 21	0.3	36	-	<1	2	-	35	-	3	-	1	-	16	-	530	-	<1
186	TP 22	0.2	10	-	<1	<1	-	18	-	15	-	<1	-	13	-	59	-	<1
187	TP 22	1	16	-	<1	<1	-	15	-	6	-	<1	-	9	-	7	-	<1
188	TP 23	0.5	28	-	<1	<1	-	36	-	13	-	<1	-	23	-	24	-	<1
189	TP 23	1.5	11	-	<1	<1	-	10	-	5	-	<1	-	8	-	1	-	<1
190	TP 24	0.4	31	-	<1	<1	-	41	-	12	-	<1	-	27	-	10	-	<1
191	TP 25	0.5	28	-	<1	<1	-	22	-	9	-	<1	-	19	-	12	-	<1
192	TP 25	1.1	14	-	<1	<1	-	14	-	6	-	<1	-	9	-	4	-	<1
193	TP 26	0.4	29	-	<1	1	-	32	-	16	-	<1	-	20	-	55	-	<1
194	TP 27	0.3	25	-	<1	2	-	26	-	21	-	<1	-	17	-	76	-	<1
195	TP 27	0.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
196	TP 28	0.4	23	-	<1	2	-	23	-	16	-	<1	-	14	-	66	-	<1
197	TP 45	0.4	22	-	<1	<1	-	29	-	11	-	<1	-	19	-	16	-	<1
198	TP 45	1.2	23	-	<1	<1	-	15	-	8	-	<1	-	12	-	5	-	<1
199	TP 46	0.4	24	-	<1	<1	-	28	-	11	-	<1	-	18	-	23	-	<1
200	TP 46	1.3	18	-	<1	<1	-	8	-	6	-	<1	-	9	-	1	-	1

Printed on 30 June 1997

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GL CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

NAMAS
TESTING
No. 1291

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

☐ Preliminary
☐ Validated
☐ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Arsenic	Arsenic On Leachate	Boron (Water Soluble)	Cadmium	Cadmium on Leachate	Chromium	Chromium on Leachate	Copper	Copper on Leachate	Mercury	Mercury On Leachate	Nickel	Nickel On Leachate	Lead	Lead Leachate	Selenium
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Method			ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
Detection Limits			<1	<0.05	<1	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1
201	TP 47	0.5	29	-	<1	<1	-	24	-	10	-	<1	-	18	-	13	-	<1
202	TP 47	1.2	12	-	<1	<1	-	11	-	6	-	<1	-	9	-	5	-	<1
203	TP 63	0.35	24	-	<1	<1	-	24	-	12	-	<1	-	18	-	16	-	<1
204	TP 63	1.1	9	-	<1	<1	-	11	-	5	-	<1	-	10	-	6	-	<1
205	TP 64	0.55	31	-	<1	<1	-	30	-	13	-	<1	-	23	-	10	-	<1
206	TP 64	1.3	11	-	<1	<1	-	9	-	7	-	<1	-	8	-	4	-	1
207	TP 65	0.4	28	-	<1	<1	-	34	-	10	-	<1	-	22	-	10	-	<1
208	TP 65	1.3	7	-	<1	<1	-	8	-	4	-	<1	-	7	-	4	-	2
209	TP 81	0.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
210	TP 81A	0.55	21	-	<1	<1	-	30	-	14	-	<1	-	28	-	8	-	<1
211	TP 81A	1.4	8	-	<1	<1	-	7	-	6	-	<1	-	8	-	2	-	<1
212	TP 86	0.45	31	-	<1	<1	-	89	-	81	-	<1	-	41	-	51	-	<1
213	TP 86	1.2	24	-	<1	<1	-	26	-	11	-	<1	-	21	-	15	-	2
214	TP 92	0.4	23	-	<1	<1	-	29	-	12	-	<1	-	18	-	30	-	2
215	TP 92	1.4	13	-	<1	<1	-	11	-	6	-	<1	-	9	-	5	-	<1
216	TP 93	0.35	16	-	<1	<1	-	15	-	8	-	<1	-	13	-	12	-	<1
217	TP 93	0.9	13	-	<1	<1	-	17	-	6	-	<1	-	12	-	5	-	<1
218	TP 94	0.4	32	-	<1	<1	-	23	-	42	-	<1	-	25	-	98	-	<1
219	TP 94	1.4	11	-	<1	<1	-	15	-	11	-	<1	-	12	-	16	-	<1
220	TP 95	0.35	27	-	<1	<1	-	21	-	11	-	<1	-	17	-	21	-	<1

Printed on 30 June 1997

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G CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Arsenic	Arsenic On Leachate	Boron (Water Soluble)	Cadmium	Cadmium on Leachate	Chromium	Chromium on Leachate	Copper	Copper on Leachate	Mercury	Mercury On Leachate	Nickel	Nickel On Leachate	Lead	Lead Leachate	Selenium
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Method			ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
Detection Limits			<1	<0.05	<1	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1
221	TP 95	1.2	24	-	2	<1	-	23	-	9	-	<1	-	17	-	16	-	<1
222	TP 96	0.4	23	-	1	<1	-	11	-	6	-	<1	-	10	-	4	-	2
223	TP 97	0.4	27	-	2	<1	-	28	-	11	-	<1	-	20	-	17	-	<1
224	TP 98	0.4	34	-	3	<1	-	35	-	13	-	<1	-	24	-	24	-	<1
225	TP 99	0.3	18	-	3	<1	-	22	-	14	-	<1	-	17	-	21	-	<1
226	TP 99	1.9	10	-	2	<1	-	8	-	5	-	<1	-	7	-	3	-	<1
227	TP 100	0.4	12	-	2	1	-	16	-	6	-	<1	-	11	-	10	-	<1
228	TP 100	1.4	13	-	2	<1	-	13	-	5	-	<1	-	9	-	3	-	<1
229	TP 100	1.6	15	-	1	<1	-	8	-	6	-	<1	-	8	-	6	-	<1
230	TP 102	0.1	26	-	<1	<1	-	28	-	24	-	<1	-	21	-	27	-	<1
231	TP 102	0.5	20	-	3	<1	-	17	-	47	-	<1	-	18	-	32	-	<1
232	TP 102	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
233	TP 103	0.3	21	-	1	<1	-	24	-	10	-	<1	-	15	-	21	-	<1
234	TP 103	1.2	9	-	<1	<1	-	19	-	8	-	<1	-	12	-	6	-	<1
235	TP 104	0.4	22	-	2	<1	-	31	-	11	-	<1	-	22	-	22	-	1
236	TP 104	1.3	13	-	1	<1	-	13	-	7	-	<1	-	12	-	5	-	<1
237	TP 105	0.4	23	-	2	<1	-	23	-	17	-	<1	-	23	-	12	-	<1
238	TP 105	1.2	17	-	4	<1	-	19	-	20	-	<1	-	29	-	13	-	<1
239	TP 105	3	12	-	<1	<1	-	7	-	4	-	<1	-	6	-	5	-	2
240	TP 119	0.2	12	-	<1	<1	-	7	-	4	-	<1	-	7	-	6	-	<1

Printed on 30 June 1997

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G CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

NAMAS
TESTING
No. 1291

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Arsenic	Arsenic On Leachate	Boron (Water Soluble)	Cadmium	Cadmium on Leachate	Chromium	Chromium on Leachate	Copper	Copper on Leachate	Mercury	Mercury On Leachate	Nickel	Nickel On Leachate	Lead	Lead Leachate	Selenium
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Method			ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
Detection Limits			<1	<0.05	<1	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1
241	TP 121	0.2	23	-	<1	<1	-	36	-	13	-	<1	-	19	-	65	-	<1
242	TP 121	1.2	8	-	2	<1	-	6	-	5	-	<1	-	7	-	2	-	<1
243	TP 125	0.1	18	-	<1	<1	-	27	-	42	-	<1	-	13	-	14	-	<1
244	TP 125	0.6	20	-	2	<1	-	23	-	9	-	<1	-	14	-	12	-	<1
245	TP 130	0.45	14	-	<1	<1	-	14	-	7	-	<1	-	10	-	7	-	<1
246	TP 130	1.1	10	-	2	<1	-	7	-	4	-	<1	-	7	-	3	-	<1
247	TP 132	0.1	17	-	3	4	-	46	-	21	-	<1	-	16	-	126	-	2
248	TP 132	0.7	24	-	2	<1	-	21	-	8	-	<1	-	16	-	5	-	2
249	TP 140	0.2	15	-	<1	<1	-	10	-	5	-	<1	-	11	-	5	-	<1
250	TP 140	1.3	10	-	2	<1	-	11	-	6	-	<1	-	8	-	3	-	<1
251	TP 10	0.3	19	-	<1	1	-	19	-	20	-	<1	-	14	-	34	-	<1
252	TP 10	1.2	4	-	<1	<1	-	4	-	5	-	<1	-	5	-	5	-	<1
253	TP 12	0.1	17	-	<1	<1	-	13	-	11	-	<1	-	13	-	30	-	<1
254	TP 12	1	15	-	<1	<1	-	7	-	5	-	<1	-	8	-	3	-	<1
255	TP 12	1.3	3	-	<1	<1	-	4	-	3	-	<1	-	5	-	<1	-	<1
256	TP 14	0.4	12	-	<1	<1	-	14	-	23	-	<1	-	11	-	23	-	<1
257	TP 14	1	2	-	<1	<1	-	4	-	3	-	<1	-	4	-	2	-	<1
258	TP 15	0.4	15	-	<1	<1	-	13	-	8	-	<1	-	9	-	12	-	1
259	TP 15	1.5	23	-	<1	<1	-	18	-	10	-	<1	-	15	-	19	-	<1
260	TP 15	2.5	11	-	<1	<1	-	16	-	8	-	<1	-	12	-	9	-	<1

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GL CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Arsenic	Arsenic On Leachate	Boron (Water Soluble)	Cadmium	Cadmium on Leachate	Chromium	Chromium on Leachate	Copper	Copper on Leachate	Mercury	Mercury On Leachate	Nickel	Nickel On Leachate	Lead	Lead Leachate	Selenium
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Method			ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
Detection Limits			<1	<0.05	<1	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1
261	TP 16	0.1	25	-	<1	<1	-	24	-	11	-	<1	-	14	-	17	-	1
262	TP 16	1.2	9	-	<1	<1	-	13	-	5	-	<1	-	8	-	5	-	2
263	TP 17	0.45	15	-	<1	<1	-	29	-	14	-	<1	-	17	-	18	-	<1
264	TP 17	1.5	9	-	<1	<1	-	10	-	5	-	<1	-	8	-	5	-	<1
265	TP 19	0.35	19	-	2	<1	-	30	-	16	-	<1	-	21	-	33	-	<1
266	TP 19	1.25	9	-	<1	<1	-	10	-	6	-	<1	-	8	-	5	-	<1
267	TP 38	0.3	<1	-	<1	<1	-	9	-	21	-	<1	-	20	-	166	-	2
268	TP 38	0.6	17	-	1	<1	-	18	-	65	-	<1	-	19	-	123	-	<1
269	TP 38	2	4	-	<1	<1	-	6	-	4	-	<1	-	5	-	14	-	<1
270	TP 39	0.1	24	-	<1	<1	-	24	-	21	-	<1	-	15	-	767	-	<1
271	TP 39	0.9	4	-	<1	<1	-	8	-	6	-	<1	-	7	-	3	-	<1
272	TP 40	0.35	17	-	<1	<1	-	18	-	10	-	<1	-	13	-	106	-	<1
273	TP 41	0.35	21	-	<1	<1	-	30	-	10	-	<1	-	19	-	34	-	<1
274	TP 41	1.4	<1	-	<1	<1	-	4	-	2	-	<1	-	7	-	3	-	<1
275	TP 42	0.35	7	-	<1	<1	-	8	-	9	-	<1	-	8	-	16	-	<1
276	TP 42	1.7	3	-	2	<1	-	5	-	2	-	<1	-	4	-	7	-	<1
277	TP 43	0.4	22	-	<1	<1	-	32	-	9	-	<1	-	18	-	9	-	<1
278	TP 43	1.6	4	-	<1	<1	-	5	-	9	-	<1	-	7	-	3	-	<1
279	TP 44	0.1	22	-	<1	<1	-	24	-	27	-	<1	-	17	-	299	-	<1
280	TP 44	2	<1	-	1	<1	-	5	-	2	-	<1	-	4	-	2	-	<1

Printed on 30 June 1997

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GL CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS TESTING No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Arsenic	Arsenic On Leachate	Boron (Water Soluble)	Cadmium	Cadmium on Leachate	Chromium	Chromium on Leachate	Copper	Copper on Leachate	Mercury	Mercury On Leachate	Nickel	Nickel On Leachate	Lead	Lead Leachate	Selenium
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Method			ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
Detection Limits			<1	<0.05	<1	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1
281	TP 90	0.4	13	-	<1	<1	-	18	-	8	-	<1	-	12	-	31	-	<1
282	TP 90	1.1	4	-	1	<1	-	14	-	6	-	<1	-	10	-	8	-	<1
283	TP 91	0.1	23	-	<1	<1	-	16	-	18	-	<1	-	13	-	27	-	<1
284	TP 91	0.75	6	-	<1	<1	-	7	-	5	-	<1	-	7	-	3	-	<1
285	TP 91	1.2	1	-	<1	<1	-	4	-	3	-	<1	-	6	-	4	-	<1
286	TP 91	2.3	<1	-	<1	<1	-	4	-	1	-	<1	-	4	-	1	-	<1
287	TP 93	1.6	4	-	<1	<1	-	7	-	4	-	<1	-	7	-	<1	-	<1
288	TP 97	1.7	12	-	<1	<1	-	4	-	5	-	<1	-	7	-	3	-	<1
289	TP 98	1.6	10	-	2	<1	-	5	-	5	-	<1	-	8	-	4	-	<1
290	TP 101	0.5	16	-	<1	<1	-	11	-	50	-	<1	-	15	-	26	-	<1
291	TP 101	1.6	9	-	1	<1	-	4	-	43	-	<1	-	8	-	7	-	<1
292	TP 128	0.35	17	-	<1	<1	-	15	-	8	-	<1	-	13	-	12	-	2
293	TP 128	1.5	7	-	<1	<1	-	2	-	3	-	<1	-	6	-	2	-	2
301	TP11	0.2	<1	-	<1	<1	-	2	-	<1	-	<1	-	<1	-	<1	-	<1
302	TP11	0.7	1	-	<1	<1	-	9	-	<1	-	<1	-	5	-	<1	-	<1
303	TP13	0.4	<1	-	<1	<1	-	8	-	<1	-	<1	-	4	-	<1	-	<1
304	TP13	1	<1	-	<1	<1	-	<1	-	<1	-	<1	-	1	-	<1	-	<1
305	TP120	0.35	<1	-	<1	<1	-	10	-	<1	-	<1	-	5	-	3	-	<1
306	TP120	0.75	<1	-	<1	<1	-	6	-	<1	-	<1	-	2	-	3	-	<1
307	TP120	1.4	<1	-	<1	<1	-	10	-	<1	-	<1	-	3	-	<1	-	<1

Printed on 30 June 1997

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G CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Method			ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
Detection Limits			<1	<0.05	<1	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1
Sample Number	Sample Identity	Depth (m)	Arsenic	Arsenic On Leachate	Boron (Water Soluble)	Cadmium	Cadmium on Leachate	Chromium	Chromium on Leachate	Copper	Copper on Leachate	Mercury	Mercury On Leachate	Nickel	Nickel On Leachate	Lead	Lead Leachate	Selenium
308	TP138	0.3	13	-	<1	<1	-	19	-	4	-	<1	-	11	-	8	-	<1
309	TP138	0.7	19	0.05	1	<1	<0.05	7	<0.05	13	0.08	<1	<0.05	10	0.09	11	0.19	<1
310	TP138	1.5	3	-	<1	<1	-	5	-	3	-	<1	-	6	-	1	-	<1
311	TP141	0.4	28	-	<1	<1	-	23	-	11	-	<1	-	22	-	7	-	<1
312	TP141	1.45	6	-	<1	<1	-	6	-	4	-	<1	-	6	-	<1	-	<1
313	TP142	0.2	18	-	<1	<1	-	22	-	13	-	<1	-	15	-	39	-	<1
314	TP142	1.4	2	-	<1	<1	-	<1	-	1	-	<1	-	2	-	<1	-	<1
315	TP143	0.3	22	-	1	<1	-	10	-	84	-	<1	-	23	-	16	-	<1
316	TP143	0.45	22	-	<1	<1	-	17	-	9	-	<1	-	14	-	10	-	2
317	TP143	1.2	13	-	<1	<1	-	8	-	9	-	<1	-	11	-	2	-	<1
318	TP144	0.4	16	-	<1	<1	-	13	-	45	-	<1	-	16	-	10	-	2
319	TP144	0.5	27	-	<1	<1	-	19	-	16	-	<1	-	18	-	19	-	<1
320	TP144	1.1	11	-	<1	<1	-	12	-	14	-	<1	-	12	-	4	-	1
321	TP145	0.0-0.3	13	-	<1	<1	-	9	-	12	-	<1	-	11	-	15	-	<1
322	TP145	0.45	26	-	<1	<1	-	21	-	11	-	<1	-	18	-	13	-	<1
323	TP145	1	16	-	<1	<1	-	9	-	7	-	<1	-	10	-	3	-	<1
324	TP146	0.3	25	-	<1	<1	-	16	-	9	-	<1	-	14	-	15	-	<1
325	TP146	1.2	16	-	<1	<1	-	8	-	7	-	<1	-	10	-	7	-	<1
326	TP147	0.35	28	-	<1	<1	-	28	-	11	-	<1	-	22	-	9	-	<1
327	TP147	1.2	13	-	<1	<1	-	13	-	7	-	<1	-	12	-	5	-	<1

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GL CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Arsenic	Arsenic On Leachate	Boron (Water Soluble)	Cadmium	Cadmium on Leachate	Chromium	Chromium on Leachate	Copper	Copper on Leachate	Mercury	Mercury On Leachate	Nickel	Nickel On Leachate	Lead	Lead Leachate	Selenium
		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		Detection Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
		Detection Limits	<1	<0.05	<1	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1
328	TP148	0.8	28	-	<1	<1	-	23	-	11	-	<1	-	17	-	10	-	2
329	TP148	0.2	13	-	<1	<1	-	11	-	7	-	<1	-	13	-	2	-	<1
330	TP149	0.3	25	-	1	<1	-	17	-	12	-	<1	-	17	-	11	-	<1
331	TP149	0.5	23	-	<1	<1	-	7	-	6	-	<1	-	10	-	17	-	2
332	TP149	1.2	11	-	<1	<1	-	7	-	4	-	<1	-	6	-	<1	-	<1
335	TP 35	0.2	72	<0.05	3	<1	<0.05	39	<0.05	9	<0.05	<1	<0.05	23	<0.05	18	<0.05	<1
336	TP 35	0.5	32	-	4	<1	-	34	-	9	-	<1	-	17	-	11	-	<1
337	TP 35	1.5	19	-	2	<1	-	19	-	5	-	<1	-	10	-	4	-	<1
338	TP 53	0.3	12	-	<1	<1	-	10	-	4	-	<1	-	9	-	3	-	4
339	TP 53	1.9	26	-	2	<1	-	28	-	11	-	<1	-	18	-	35	-	<1
340	TP 53	2.6	26	-	2	<1	-	37	-	10	-	<1	-	16	-	85	-	<1
341	TP 106	0.3	4	-	2	<1	-	4	-	2	-	<1	-	3	-	1	-	<1
342	TP 106	1	7	-	1	<1	-	6	-	3	-	<1	-	4	-	2	-	1
343	TP 106	1.2	11	-	1	<1	-	6	-	4	-	<1	-	5	-	2	-	<1
344	TP 107A	0.3	13	-	3	<1	-	14	-	6	-	<1	-	8	-	6	-	<1
345	TP 107A	1.1	21	-	<1	<1	-	35	-	9	-	<1	-	17	-	10	-	<1
346	TP 107A	2	3	-	<1	<1	-	5	-	3	-	<1	-	5	-	2	-	<1
347	TP 129	0.35	22	-	<1	<1	-	24	-	7	-	<1	-	13	-	6	-	<1
348	TP 129	1.3	NDP	-	NDP	NDP	-	NDP	-	NDP	-	NDP	-	NDP	-	NDP	-	NDP
349	TP 134	0.5	26	-	<1	<1	-	25	-	15	-	<1	-	26	-	10	-	<1

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GE CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		Detection Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
		Detection Limits	<1	<0.05	<1	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1	<0.05	<1
Sample Number	Sample Identity	Depth (m)	Arsenic	Arsenic On Leachate	Boron (Water Soluble)	Cadmium	Cadmium on Leachate	Chromium	Chromium on Leachate	Copper	Copper on Leachate	Mercury	Mercury On Leachate	Nickel	Nickel On Leachate	Lead	Lead Leachate	Selenium
350	TP 134	1	15	-	1	<1	-	26	-	9	-	<1	-	13	-	18	-	<1
351	TP 134	1.6	5	-	<1	<1	-	11	-	2	-	<1	-	6	-	2	-	<1
352	TP 135	0.2	3	-	<1	<1	-	5	-	2	-	<1	-	4	-	2	-	<1
353	TP 135	0.5	8	-	1	<1	-	7	-	5	-	<1	-	9	-	3	-	<1
354	TP 135	1.7	2	-	<1	<1	-	6	-	3	-	<1	-	5	-	<1	-	2
355	TP 147	0.2	29	-	2	<1	-	33	-	14	-	<1	-	23	-	23	-	1
356	TP 137	0.9	<1	-	<1	<1	-	10	-	6	-	<1	-	9	-	2	-	<1
359	TP34	0.3	12	-	<1	<1	-	10	-	5	-	<1	-	9	-	3	-	1
360	TP34	1.2	14	-	<1	<1	-	19	-	6	-	<1	-	9	-	2	-	2
361	TP112	0.5	15	-	1	<1	-	22	-	13	-	<1	-	13	-	47	-	<1
362	TP112	1.6	14	-	2	<1	-	12	-	6	-	<1	-	9	-	5	-	<1

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GL CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Selenium Leachate	Zinc	Zinc In Leachate	Solvent Extractable Matter	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC	Hexavalent Chrome (acid)	Asbestos Type	Asbestos	DCM/MeOH Extract	Acid Sol. Sulphate as SO4	pH of Leachate	pH Value In Soil	Water Soluble Sulphate as SO4
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		%	ppm	%			g/l
Detection Method			ICP	ICP	ICP	Soxtec	TLC	TLC	TLC	TLC	Spectro	Visual	Grav	Gravi	Leco	Meter	Meter	Spectro1
Detection Limits			<0.1	<1	<0.05	<1	<1	<1	<1	<1	<0.1	NONE	<0.001	<1	<0.01	<0.01	<0.01	<0.003
1	TP 7	0.3	-	37	-	-	-	-	-	-	-	-	-	411	0.05	-	7.86	0.005
2	TP 7	1.2	-	25	-	-	-	-	-	-	-	-	-	571	0.06	-	8.27	0.013
3	TP 8	0.3	-	27	-	-	-	-	-	-	-	-	-	332	0.07	-	7.96	0.019
4	TP 8	1	-	36	-	-	-	-	-	-	-	-	-	115	0.04	-	7.98	0.006
5	TP 9	0.6	-	46	-	-	-	-	-	-	-	-	-	382	0.05	-	7.93	0.005
6	TP 9	2	-	11	-	-	-	-	-	-	-	-	-	140	0.08	-	8.41	0.019
7	TP 31	0.7	-	77	-	-	-	-	-	-	-	-	-	808	0.07	-	9.25	0.019
8	TP 31	0.75	-	84	-	-	-	-	-	-	-	-	-	2543	0.42	-	8.20	0.592
9	TP 32	0.5	-	52	-	-	-	-	-	-	-	-	-	200	0.04	-	7.98	0.007
10	TP 32	1	-	72	-	-	-	-	-	-	-	-	-	373	0.02	-	7.83	<0.003
11	TP 36	0.9	-	38	-	-	-	-	-	-	-	-	-	628	0.05	-	7.98	0.003
12	TP 51	0.1	-	65	-	-	-	-	-	-	-	-	-	976	0.02	-	7.88	0.011
13	TP 51	0.35	-	61	-	-	-	-	-	-	-	-	-	2658	0.05	-	7.93	0.007
14	TP 52	0.1	-	147	-	-	-	-	-	-	-	-	-	1710	0.04	-	7.70	0.013
15	TP 52	0.5	-	46	-	-	-	-	-	-	-	-	-	181	0.01	-	7.85	0.004
16	TP 54	0.25	-	72	-	-	-	-	-	-	-	-	-	754	0.02	-	7.86	0.008
17	TP 54	0.7	-	23	-	-	-	-	-	-	-	-	-	189	0.04	-	8.07	0.004
18	TP 55	0.2	-	22	-	-	-	-	-	-	-	-	-	1372	0.08	-	8.41	0.014
19	TP 55	0.8	-	54	-	-	-	-	-	-	-	-	-	2094	0.07	-	8.21	0.015
20	TP 56	0.25	-	63	-	-	-	-	-	-	-	-	-	1404	0.04	-	7.83	0.009

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G CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS TESTING No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Selenium Leachate	Zinc	Zinc In Leachate	Solvent Extractable Matter	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC	Hexavalent Chrome (acid)	Asbestos Type	Asbestos	DCM/MeOH Extract	Acid Sol. Sulphate as SO4	pH of Leachate	pH Value In Soil	Water Soluble Sulphate as SO4
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		%	ppm	%			g/l
Detection Method			ICP	ICP	ICP	Soxtec	TLC	TLC	TLC	TLC	Spectro	Visual	Grav	Gravi	Leco	Meter	Meter	Spectro1
Detection Limits			<0.1	<1	<0.05	<1	<1	<1	<1	<1	<0.1	NONE	<0.001	<1	<0.01	<0.01	<0.01	<0.003
21	TP 56	0.75	-	39	-	-	-	-	-	-	-	-	-	823	0.06	-	8.00	0.006
22	TP 57	0.25	-	42	-	-	-	-	-	-	-	-	-	7919	0.06	-	7.94	0.027
23	TP 57	1	-	30	-	-	-	-	-	-	-	-	-	1093	0.06	-	8.20	0.012
24	TP 58	0.4	-	44	-	-	-	-	-	-	-	-	-	330	0.09	-	8.88	0.172
25	TP 58	1	-	34	-	-	-	-	-	-	-	-	-	339	0.06	-	7.98	<0.003
26	TP108	0.2	-	54	-	-	-	-	-	-	-	-	-	318	0.06	-	8.14	0.046
27	TP 108	1.1	-	33	-	-	-	-	-	-	-	-	-	350	0.05	-	7.69	0.012
28	TP 117	0.1	-	97	-	-	-	-	-	-	-	-	-	1461	0.02	-	7.66	0.011
29	TP 118	0.5	-	34	-	-	-	-	-	-	-	-	-	888	0.05	-	7.89	0.005
30	TP 118	0.95	-	83	-	-	-	-	-	-	-	-	-	5878	0.05	-	7.96	0.016
31	TP 118	1.5	-	46	-	-	-	-	-	-	-	-	-	174	<0.01	-	7.70	0.003
32	TP 122	0.4	-	49	-	-	-	-	-	-	-	-	-	1030	0.10	-	8.88	0.090
33	TP 122	1	-	11	-	-	-	-	-	-	-	-	-	250	0.05	-	8.01	0.017
34	TP 123	0.1	-	78	-	-	-	-	-	-	-	-	-	709	0.05	-	7.71	0.011
35	TP 123	0.35	-	54	-	-	-	-	-	-	-	-	-	279	0.04	-	7.78	0.006
36	TP 126	0.25	-	46	-	-	-	-	-	-	-	-	-	256	0.05	-	7.73	0.007
37	TP 126	1	-	15	-	-	-	-	-	-	-	-	-	334	0.06	-	8.10	0.014
38	TP 131	0.2	-	196	-	-	-	-	-	-	-	-	-	2244	0.21	-	7.67	0.026
39	TP 131	0.5	-	57	-	-	-	-	-	-	-	-	-	257	0.03	-	7.71	0.022
40	TP 133	0.25	-	22	-	-	-	-	-	-	-	-	-	1711	0.09	-	8.31	0.015

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G CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

NAMAS
TESTING
No. 1291

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Selenium Leachate	Zinc	Zinc In Leachate	Solvent Extractable Matter	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC	Hexavalent Chrome (acid)	Asbestos Type	Asbestos	DCM/MeOH Extract	Acid Sol. Sulphate as SO4	pH of Leachate	pH Value In Soil	Water Soluble Sulphate as SO4
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		%	ppm	%			g/l
Detection Method			ICP	ICP	ICP	Soxtec	TLC	TLC	TLC	TLC	Spectro	Visual	Grav	Gravi	Leco	Meter	Meter	Spectro1
Detection Limits			<0.1	<1	<0.05	<1	<1	<1	<1	<1	<0.1	NONE	<0.001	<1	<0.01	<0.01	<0.01	<0.003
41	TP 133 (A)	UNKNOWN	-	-	-	-	-	-	-	-	-	WHITE	12.0	-	-	-	-	-
42	TP 1	0.1	-	45	-	-	-	-	-	-	-	-	-	1067	0.06	-	7.22	0.012
43	TP 1	0.8	-	58	-	-	-	-	-	-	-	-	-	611	0.05	-	7.70	0.006
44	TP 2	0.4	-	14	-	-	-	-	-	-	-	-	-	341	0.08	-	8.16	0.011
45	TP 2	1.1	-	24	-	-	17	8	86	25	-	-	-	112	0.08	-	7.94	0.007
46	TP 2	2	-	262	-	-	31	9	219	40	-	-	-	259	0.06	-	8.14	0.013
47	TP 3	0.4	-	62	-	-	-	-	-	-	-	-	-	436	0.05	-	7.64	0.006
48	TP 3	0.9	-	32	-	-	-	-	-	-	-	-	-	433	0.09	-	8.12	0.015
49	TP 4	0.3	-	13	-	-	-	-	-	-	-	-	-	1259	0.07	-	8.16	0.017
50	TP 4	0.8	-	21	-	-	-	-	-	-	-	-	-	432	0.09	-	7.99	0.019
51	TP 5	0.4	-	36	-	-	-	-	-	-	-	-	-	253	0.07	-	8.19	0.016
52	TP 5	0.85	-	69	-	-	-	-	-	-	-	-	-	89	<0.01	-	8.13	0.055
53	TP 6	0.6	-	47	-	-	-	-	-	-	-	-	-	350	<0.01	-	7.71	0.067
54	TP 6	1.45	-	21	-	-	-	-	-	-	-	-	-	266	0.02	-	8.10	0.012
55	TP 6	1.9	-	9	-	-	-	-	-	-	-	-	-	1381	0.06	-	8.28	0.009
56	TP 59	0.9	-	10	-	-	-	-	-	-	-	-	-	151	0.04	-	8.33	0.008
57	TP 59	0.15	-	39	-	-	-	-	-	-	-	-	-	432	0.01	-	7.61	0.016
58	TP 60	0.7	-	60	-	-	-	-	-	-	-	-	-	910	<0.01	-	7.83	0.005
59	TP 60	1	-	22	-	-	-	-	-	-	-	-	-	227	0.04	-	8.00	0.005
60	TP 61	0.7	-	35	-	-	-	-	-	-	-	-	-	403	0.03	-	7.96	0.026

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G CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

NAMAS TESTING No. 1291

Job Number :	97/01023/02/01	Sample Type :	SOIL
Client :	ASPINWALL & COMPANY	Location :	RAF Upper Heyford
Date of Receipt : (of first sample)	01/05/97	Client Contact :	Steve Hobbs
		Client Ref. No. :	MD3333A

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Selenium Leachate	Zinc	Zinc In Leachate	Solvent Extractable Matter	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC	Hexavalent Chrome (acid)	Asbestos Type	Asbestos	DCM/MeOH Extract	Acid Sol. Sulphate as SO4	pH of Leachate	pH Value in Soil	Water Soluble Sulphate as SO4
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		%	ppm	%			g/l
Detection Method			ICP	ICP	ICP	Soxtec	TLC	TLC	TLC	TLC	Spectro	Visual	Grav	Gravi	Leco	Meter	Meter	Spectro1
Detection Limits			<0.1	<1	<0.05	<1	<1	<1	<1	<1	<0.1	NONE	<0.001	<1	<0.01	<0.01	<0.01	<0.003
61	TP 61	1.1	-	30	-	-	86	13	306	99	-	-	-	406	0.06	-	8.02	0.005
62	TP 62	0.4	-	54	-	-	-	-	-	-	-	-	-	305	0.04	-	7.78	0.008
63	TP 62	0.8	-	8	-	-	-	-	-	-	-	-	-	221	0.04	-	8.38	<0.003
64	TP 62	1.4	-	14	-	-	-	-	-	-	-	-	-	419	0.08	-	8.38	<0.003
65	TP 67	0.35	-	26	-	-	-	-	-	-	-	-	-	95	0.04	-	7.59	0.005
66	TP 67	1.3	-	23	-	-	-	-	-	-	-	-	-	1051	0.03	-	8.23	<0.003
67	TP 68	0.1	-	107	-	-	-	-	-	-	-	-	-	939	<0.01	-	7.46	0.011
68	TP 68	0.8	-	17	-	-	-	-	-	-	-	-	-	691	0.05	-	8.19	<0.003
69	TP 69	0.4	-	64	-	-	-	-	-	-	-	-	-	404	0.01	-	7.50	0.004
70	TP 69	0.95	-	16	-	-	-	-	-	-	-	-	-	339	0.06	-	8.19	0.006
71	TP 70	0.2	-	54	-	-	-	-	-	-	-	-	-	761	0.03	-	8.02	0.023
72	TP 70	1	-	16	-	-	-	-	-	-	-	-	-	209	0.04	-	8.22	0.004
73	TP 71	0.1	-	44	-	-	-	-	-	-	-	-	-	692	0.01	-	7.80	0.007
74	TP 71	0.4	-	36	-	-	-	-	-	-	-	-	-	4097	<0.01	-	8.04	0.017
75	TP 71	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
76	TP 73	0.3	-	42	-	-	-	-	-	-	-	-	-	611	0.02	-	7.71	0.009
77	TP 73	0.6	-	45	-	-	-	-	-	-	-	-	-	1024	0.04	-	8.00	0.005
78	TP 73	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
79	TP 78	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
80	TP 78 A	0.35	-	31	-	-	-	-	-	-	-	-	-	596	0.03	-	8.28	0.024

Printed on 30 June 1997

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G CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Selenium Leachate	Zinc	Zinc In Leachate	Solvent Extractable Matter	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC	Hexavalent Chrome (acid)	Asbestos Type	Asbestos	DCM/MeOH Extract	Acid Sol. Sulphate as SO4	pH of Leachate	pH Value In Soil	Water Soluble Sulphate as SO4
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		%	ppm	%			g/l
Detection Method			ICP	ICP	ICP	Soxtec	TLC	TLC	TLC	TLC	Spectro	Visual	Grav	Gravi	Leco	Meter	Meter	Spectro1
Detection Limits			<0.1	<1	<0.05	<1	<1	<1	<1	<1	<0.1	NONE	<0.001	<1	<0.01	<0.01	<0.01	<0.003
81	TP 78 A	0.9	-	17	-	-	-	-	-	-	-	-	-	1329	0.05	-	8.29	0.004
82	TP 78 A	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
83	TP 79	0.5	-	51	-	-	-	-	-	-	-	-	-	323	.018	-	7.57	0.02
84	TP 79	0.9	-	19	-	-	-	-	-	-	-	-	-	240	0.07	-	8.23	0.017
85	TP 80	0.1	-	61	-	-	-	-	-	-	-	-	-	675	0.03	-	7.68	0.009
86	TP 80	0.55	-	46	-	-	-	-	-	-	-	-	-	393	0.02	-	7.84	0.006
87	TP 139	0.5	-	16	-	-	-	-	-	-	-	-	-	769	0.04	-	8.08	0.011
88	TP 139	1.1	-	42	-	-	96	11	409	107	-	-	-	517	0.02	-	7.64	0.007
89	TP 139	1.7	-	16	-	-	-	-	-	-	-	-	-	283	0.07	-	7.99	0.003
105	TP 50	0.1	-	52	-	-	-	-	-	-	-	-	-	7106	0.03	-	8.05	0.023
106	TP 50	1.8	-	17	-	-	-	-	-	-	-	-	-	1116	0.06	-	8.43	0.008
107	TP 49	0.1	-	68	-	-	-	-	-	-	-	-	-	855	0.01	-	8.06	0.010
108	TP 49	1	-	6	-	-	-	-	-	-	-	-	-	1665	0.05	-	8.38	0.010
109	TP 66	0.6	-	6	-	-	-	-	-	-	-	-	-	631	0.12	-	10.13	0.109
110	TP 66	1.4	-	52	-	-	230	3	196	233	-	-	-	429	0.05	-	8.13	0.049
111	TP 66	1.45	-	6	-	-	67	<1	99	67	-	-	-	167	0.05	-	8.35	0.017
112	TP 72	0.35	-	21	-	-	-	-	-	-	-	-	-	1206	<0.01	-	8.01	0.007
113	TP 72	1.2	-	42	-	-	-	-	-	-	-	-	-	303	<0.01	-	7.84	0.005
114	TP 74	0.5	-	31	-	-	-	-	-	-	-	-	-	662	0.03	-	8.06	0.010
115	TP 74	1.3	-	27	-	-	-	-	-	-	-	-	-	241	0.04	-	7.97	0.013

Printed on 30 June 1997

Checked by .... Alison Ball

GL CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

NAMAS
TESTING
No. 1291

Job Number :	97/01023/02/01	Sample Type :	SOIL
Client :	ASPINWALL & COMPANY	Location :	RAF Upper Heyford
Date of Receipt : (of first sample)	01/05/97	Client Contact :	Steve Hobbs
		Client Ref. No. :	MD3333A

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Selenium Leachate	Zinc	Zinc In Leachate	Solvent Extractable Matter	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC	Hexavalent Chrome (acid)	Asbestos Type	Asbestos	DCM/MeOH Extract	Acid Sol. Sulphate as SO4	pH of Leachate	pH Value In Soil	Water Soluble Sulphate as SO4
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		%	ppm	%			g/l
Detection Method			ICP	ICP	ICP	Soxtec	TLC	TLC	TLC	TLC	Spectro	Visual	Grav	Gravi	Leco	Meter	Meter	Spectro1
Detection Limits			<0.1	<1	<0.05	<1	<1	<1	<1	<1	<0.1	NONE	<0.001	<1	<0.01	<0.01	<0.01	<0.003
116	TP 75	0.5	-	30	-	-	-	-	-	-	-	-	-	687	0.01	-	7.83	0.009
117	TP 75	1.4	-	144	-	-	674	1	295	675	-	-	-	971	0.07	-	8.13	0.045
118	TP 75	1.9	-	30	-	-	168	45	291	280	-	-	-	505	0.04	-	8.38	0.008
119	TP 76	0.45	-	46	-	-	-	-	-	-	-	-	-	226	0.02	-	7.97	0.006
120	TP 76	1.25	-	15	-	-	-	-	-	-	-	-	-	206	0.05	-	8.39	0.004
121	TP 77	0.5	-	45	-	-	-	-	-	-	-	-	-	306	<0.01	-	8.05	0.005
122	TP 77	1.5	-	15	-	-	-	-	-	-	-	-	-	206	0.04	-	8.18	0.012
123	TP 82	0.3	-	54	-	-	-	-	-	-	-	-	-	623	<0.01	-	7.89	0.009
124	TP 82	0.8	-	76	-	-	-	-	-	-	-	-	-	907	0.05	-	8.43	0.019
125	TP 83	0.1	-	38	-	-	-	-	-	-	-	-	-	466	0.01	-	7.79	0.008
126	TP 83	0.9	-	15	-	-	-	-	-	-	-	-	-	1459	0.03	-	8.42	0.004
127	TP 84	0.2	-	44	-	-	-	-	-	-	-	-	-	618	<0.01	-	7.82	0.015
128	TP 84	0.8	-	20	-	-	-	-	-	-	-	-	-	600	0.05	-	8.30	<0.003
129	TP 85	0.1	-	48	-	-	-	-	-	-	-	-	-	3920	<0.01	-	7.77	0.018
130	TP 85	0.7	-	11	-	-	-	-	-	-	-	-	-	222	0.04	-	8.31	0.003
131	TP 87	0.4	-	57	-	-	-	-	-	-	-	-	-	1118	<0.01	-	7.95	0.009
132	TP 87	1.55	-	20	-	-	-	-	-	-	-	-	-	204	0.03	-	8.27	0.009
133	TP 88	0.4	-	41	-	-	-	-	-	-	-	-	-	484	<0.01	-	7.90	0.005
134	TP 88	1.4	-	7	-	-	-	-	-	-	-	-	-	657	0.05	-	8.36	0.004
135	TP 89	0.4	-	22	-	-	-	-	-	-	-	-	-	474	0.04	-	8.54	0.050

Printed on 30 June 1997

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G CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		%	ppm	%			g/l
Detection Method			ICP	ICP	ICP	Soxtec	TLC	TLC	TLC	TLC	Spectro	Visual	Grav	Gravi	Leco	Meter	Meter	Spectro1
Detection Limits			<0.1	<1	<0.05	<1	<1	<1	<1	<1	<0.1	NONE	<0.001	<1	<0.01	<0.01	<0.01	<0.003
Sample Number	Sample Identity	Depth (m)	Selenium Leachate	Zinc	Zinc In Leachate	Solvent Extractable Matter	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC	Hexavalent Chrome (acid)	Asbestos Type	Asbestos	DCM/MeOH Extract	Acid Sol. Sulphate as SO4	pH of Leachate	pH Value In Soil	Water Soluble Sulphate as SO4
136	TP 89	1.9	-	16	-	-	-	-	-	-	-	-	-	373	0.05	-	8.30	0.016
137	TP 109	0.4	-	37	-	-	-	-	-	-	-	-	-	348	0.02	-	8.01	0.006
138	TP 109	1.2	-	15	-	-	108	<1	188	108	-	-	-	296	0.06	-	8.18	0.059
139	TP 109	1.65	-	35	-	-	-	-	-	-	-	-	-	561	0.02	-	7.93	0.009
140	TP 110	0.2	-	16	-	-	-	-	-	-	-	-	-	229	0.04	-	8.13	0.005
141	TP 110	0.5	-	17	-	-	-	-	-	-	-	-	-	616	0.03	-	8.07	0.005
142	TP 110	1.4	-	9	-	-	-	-	-	-	-	-	-	305	0.06	-	8.43	0.010
143	TP 111	0.15	-	49	-	-	-	-	-	-	-	-	-	3619	0.02	-	7.88	0.013
144	TP 111	0.7	-	40	-	-	-	-	-	-	-	-	-	712	0.05	-	8.24	0.017
145	TP 113	0.4	<0.1	1365	<0.05	-	-	-	-	-	-	NONE	<0.001	2522	0.04	7.89	8.28	0.033
146	TP 113A	0.4	<0.1	4563	1.73	-	-	-	-	-	<0.1	NONE	<0.001	1066	0.02	7.97	8.12	0.036
147	TP 124	0.2	-	45	-	-	-	-	-	-	-	-	-	339	<0.01	-	7.77	0.005
148	TP 124	1.2	-	14	-	-	-	-	-	-	-	-	-	737	0.05	-	8.23	0.019
149	TP 124	1.9	-	5	-	-	8473	9	290	8482	-	-	-	8780	0.22	-	7.92	0.044
150	TP 124	1.7	-	7	-	-	5755	13	657	5768	-	-	-	6437	0.07	-	8.09	0.022
151	TP 127	0.25	-	58	-	-	-	-	-	-	-	-	-	312	0.01	-	7.75	0.005
152	TP 127	0.9	-	12	-	-	-	-	-	-	-	-	-	292	0.06	-	8.35	0.008
153	TP 127	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
179	TP 18	0.2	-	58	-	-	-	-	-	-	-	-	-	800	0.05	-	7.74	0.016
180	TP 18	0.8	-	16	-	-	-	-	-	-	-	-	-	120	0.08	-	8.23	0.006

Printed on 30 June 1997

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GEOCH

GE CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Selenium Leachate	Zinc	Zinc In Leachate	Solvent Extractable Matter	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC	Hexavalent Chrome (acid)	Asbestos Type	Asbestos	DCM/MeOH Extract	Acid Sol. Sulphate as SO4	pH of Leachate	pH Value In Soil	Water Soluble Sulphate as SO4
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		%	ppm	%			g/l
Detection Method			ICP	ICP	ICP	Soxtec	TLC	TLC	TLC	TLC	Spectro	Visual	Grav	Gravi	Leco	Meter	Meter	Spectro1
Detection Limits			<0.1	<1	<0.05	<1	<1	<1	<1	<1	<0.1	NONE	<0.001	<1	<0.01	<0.01	<0.01	<0.003
181	TP 18	1.6	-	13	-	-	41	8	125	49	-	-	-	174	0.08	-	8.12	0.030
182	TP 20	0.35	-	44	-	-	-	-	-	-	-	-	-	3631	0.06	-	8.09	0.032
183	TP 20	0.5	-	51	-	-	-	-	-	-	-	-	-	872	0.01	-	8.18	0.009
184	TP 20	1.2	-	15	-	-	-	-	-	-	-	-	-	200	0.05	-	8.28	0.011
185	TP 21	0.3	-	271	-	-	-	-	-	-	-	-	-	54	0.59	-	9.80	1.306
186	TP 22	0.2	-	95	-	-	-	-	-	-	-	-	-	4946	0.02	-	8.17	0.022
187	TP 22	1	-	21	-	-	-	-	-	-	-	-	-	269	0.06	-	8.16	0.013
188	TP 23	0.5	-	53	-	-	-	-	-	-	-	-	-	256	0.02	-	7.84	0.004
189	TP 23	1.5	-	13	-	-	-	-	-	-	-	-	-	229	0.07	-	8.40	0.008
190	TP 24	0.4	-	52	-	-	-	-	-	-	-	-	-	413	0.01	-	7.98	0.008
191	TP 25	0.5	-	43	-	-	-	-	-	-	-	-	-	388	0.03	-	8.19	0.006
192	TP 25	1.1	-	16	-	-	-	-	-	-	-	-	-	153	0.08	-	8.20	0.011
193	TP 26	0.4	-	184	-	-	-	-	-	-	-	-	-	7911	0.04	-	8.15	0.016
194	TP 27	0.3	-	114	-	9665	-	-	-	-	-	-	-	10506	<0.01	-	8.17	0.011
195	TP 27	0.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
196	TP 28	0.4	-	117	-	-	-	-	-	-	-	-	-	3993	0.05	-	8.31	0.007
197	TP 45	0.4	-	58	-	-	-	-	-	-	-	-	-	385	0.03	-	8.01	0.010
198	TP 45	1.2	-	24	-	-	-	-	-	-	-	-	-	190	0.06	-	8.38	0.025
199	TP 46	0.4	-	60	-	-	-	-	-	-	-	-	-	314	0.03	-	7.87	0.016
200	TP 46	1.3	-	15	-	-	-	-	-	-	-	-	-	192	0.05	-	7.61	0.032

Printed on 30 June 1997

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GEOCH

GEOCHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Selenium Leachate	Zinc	Zinc In Leachate	Solvent Extractable Matter	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC	Hexavalent Chrome (acid)	Asbestos Type	Asbestos	DCM/MeOH Extract	Acid Sol. Sulphate as SO4	pH of Leachate	pH Value in Soil	Water Soluble Sulphate as SO4
		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		%	ppm	%			g/l
		Detection Method	ICP	ICP	ICP	Soxtec	TLC	TLC	TLC	TLC	Spectro	Visual	Grav	Gravi	Leco	Meter	Meter	Spectro1
		Detection Limits	<0.1	<1	<0.05	<1	<1	<1	<1	<1	<0.1	NONE	<0.001	<1	<0.01	<0.01	<0.01	<0.003
201	TP 47	0.5	-	52	-	-	-	-	-	-	-	-	-	509	0.03	-	7.97	0.009
202	TP 47	1.2	-	22	-	-	-	-	-	-	-	-	-	338	0.02	-	8.28	0.028
203	TP 63	0.35	-	53	-	-	-	-	-	-	-	-	-	374	0.02	-	7.98	0.009
204	TP 63	1.1	-	26	-	-	-	-	-	-	-	-	-	292	0.06	-	8.15	0.007
205	TP 64	0.55	-	59	-	-	-	-	-	-	-	-	-	250	0.01	-	8.09	0.009
206	TP 64	1.3	-	28	-	-	-	-	-	-	-	-	-	226	0.08	-	8.22	0.008
207	TP 65	0.4	-	50	-	-	-	-	-	-	-	-	-	419	<0.01	-	7.86	0.044
208	TP 65	1.3	-	18	-	-	-	-	-	-	-	-	-	208	0.03	-	8.32	0.003
209	TP 81	0.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
210	TP 81A	0.55	-	50	-	-	-	-	-	-	-	-	-	274	<0.01	-	8.10	0.007
211	TP 81A	1.4	-	15	-	-	-	-	-	-	-	-	-	239	0.05	-	8.39	0.013
212	TP 86	0.45	-	85	-	-	-	-	-	-	<0.1	-	-	830	0.01	-	7.98	0.016
213	TP 86	1.2	-	60	-	-	-	-	-	-	-	-	-	153	0.09	-	8.29	0.010
214	TP 92	0.4	-	53	-	-	-	-	-	-	-	-	-	454	0.03	-	7.99	0.013
215	TP 92	1.4	-	19	-	-	-	-	-	-	-	-	-	384	0.05	-	8.28	0.018
216	TP 93	0.35	-	44	-	-	-	-	-	-	-	-	-	448	0.04	-	8.08	0.010
217	TP 93	0.9	-	28	-	495	1215	125	329	1340	-	-	-	1671	0.06	-	8.09	0.006
218	TP 94	0.4	-	139	-	-	-	-	-	-	-	-	-	958	0.04	-	8.10	0.010
219	TP 94	1.4	-	52	-	-	-	-	-	-	-	-	-	830	0.01	-	8.01	0.013
220	TP 95	0.35	-	49	-	-	-	-	-	-	-	-	-	552	<0.01	-	8.06	0.011

Printed on 30 June 1997

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GL CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS TESTING No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		%	ppm	%			g/l
		Detection Method	ICP	ICP	ICP	Soxtec	TLC	TLC	TLC	TLC	Spectro	Visual	Grav	Gravi	Leco	Meter	Meter	Spectro1
		Detection Limits	<0.1	<1	<0.05	<1	<1	<1	<1	<1	<0.1	NONE	<0.001	<1	<0.01	<0.01	<0.01	<0.003
Sample Number	**Sample Identity**	**Depth (m)**	Selenium Leachate	Zinc	Zinc In Leachate	Solvent Extractable Matter	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC	Hexavalent Chrome (acid)	Asbestos Type	Asbestos	DCM/MeOH Extract	Acid Sol. Sulphate as SO4	pH of Leachate	pH Value In Soil	Water Soluble Sulphate as SO4
221	TP 95	1.2	-	45	-	-	-	-	-	-	-	-	-	314	0.04	-	8.03	0.008
222	TP 96	0.4	-	28	-	-	-	-	-	-	-	-	-	185	0.04	-	8.87	0.032
223	TP 97	0.4	-	53	-	-	-	-	-	-	-	-	-	1152	0.09	-	9.81	0.159
224	TP 98	0.4	-	64	-	-	-	-	-	-	-	-	-	372	0.01	-	7.58	0.014
225	TP 99	0.3	-	70	-	-	-	-	-	-	-	-	-	630	0.04	-	7.99	0.027
226	TP 99	1.9	-	15	-	-	48	14	114	62	-	-	-	177	0.04	-	8.13	0.024
227	TP 100	0.4	-	31	-	-	-	-	-	-	-	-	-	312	0.04	-	7.32	0.029
228	TP 100	1.4	-	17	-	-	40	17	242	57	-	-	-	299	0.05	-	8.20	0.023
229	TP 100	1.6	-	20	-	-	126	11	291	137	-	-	-	429	0.05	-	8.05	0.039
230	TP 102	0.1	-	133	-	-	-	-	-	-	-	-	-	4675	0.01	-	7.58	0.014
231	TP 102	0.5	-	194	-	-	-	-	-	-	-	-	-	1881	0.02	-	8.18	0.013
232	TP 102	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
233	TP 103	0.3	-	47	-	-	-	-	-	-	-	-	-	747	0.04	-	8.17	0.012
234	TP 103	1.2	-	35	-	-	-	-	-	-	-	-	-	123	0.06	-	8.18	0.013
235	TP 104	0.4	-	52	-	-	-	-	-	-	-	-	-	560	0.01	-	7.92	0.013
236	TP 104	1.3	-	24	-	-	-	-	-	-	-	-	-	211	0.05	-	8.32	0.004
237	TP 105	0.4	-	49	-	-	-	-	-	-	-	-	-	387	0.06	-	8.03	0.012
238	TP 105	1.2	-	76	-	-	61	18	135	59	-	-	-	214	<0.01	-	7.08	0.009
239	TP 105	3	-	13	-	-	14	3	90	17	-	-	-	107	0.27	-	7.86	0.060
240	TP 119	0.2	-	20	-	-	-	-	-	-	-	-	-	141	0.09	-	8.41	0.018

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GEOCH

GL CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

NAMAS TESTING No. 1291

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Selenium Leachate	Zinc	Zinc In Leachate	Solvent Extractable Matter	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC	Hexavalent Chrome (acid)	Asbestos Type	Asbestos	DCM/MeOH Extract	Acid Sol. Sulphate as SO4	pH of Leachate	pH Value In Soil	Water Soluble Sulphate as SO4
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		%	ppm	%			g/l
Detection Method			ICP	ICP	ICP	Soxtec	TLC	TLC	TLC	TLC	Spectro	Visual	Grav	Gravi	Leco	Meter	Meter	Spectro1
Detection Limits			<0.1	<1	<0.05	<1	<1	<1	<1	<1	<0.1	NONE	<0.001	<1	<0.01	<0.01	<0.01	<0.003
241	TP 121	0.2	-	68	-	-	-	-	-	-	-	-	-	4882	0.04	-	7.48	0.024
242	TP 121	1.2	-	10	-	-	-	-	-	-	-	-	-	122	0.07	-	8.28	3.206
243	TP 125	0.1	-	53	-	-	-	-	-	-	-	-	-	888	0.04	-	8.05	0.016
244	TP 125	0.6	-	42	-	-	-	-	-	-	-	-	-	407	0.05	-	8.48	0.033
245	TP 130	0.45	-	32	-	-	-	-	-	-	-	-	-	728	0.08	-	10.27	0.132
246	TP 130	1.1	-	13	-	-	-	-	-	-	-	-	-	261	0.07	-	8.49	0.049
247	TP 132	0.1	-	156	-	-	-	-	-	-	-	-	-	2126	0.03	-	8.09	0.014
248	TP 132	0.7	-	34	-	-	-	-	-	-	-	-	-	105	0.04	-	8.07	0.010
249	TP 140	0.2	-	25	-	-	-	-	-	-	-	-	-	250	0.07	-	8.34	0.006
250	TP 140	1.3	-	17	-	-	-	-	-	-	-	-	-	219	0.08	-	8.28	0.015
251	TP 10	0.3	-	53	-	-	-	-	-	-	-	-	-	118	0.04	-	7.91	0.008
252	TP 10	1.2	-	13	-	-	-	-	-	-	-	-	-	75	0.06	-	8.29	0.004
253	TP 12	0.1	-	58	-	-	-	-	-	-	-	-	-	236	0.03	-	7.95	0.015
254	TP 12	1	-	24	-	-	-	-	-	-	-	-	-	42	0.06	-	8.43	0.005
255	TP 12	1.3	-	10	-	-	-	-	-	-	-	-	-	174	0.05	-	8.24	0.005
256	TP 14	0.4	-	92	-	-	127	174	1159	301	-	-	-	1463	0.10	-	7.99	0.027
257	TP 14	1	-	11	-	-	-	-	-	-	-	-	-	156	0.05	-	8.46	<0.003
258	TP 15	0.4	-	33	-	-	-	-	-	-	-	-	-	335	0.04	-	8.18	0.008
259	TP 15	1.5	-	51	-	-	-	-	-	-	-	-	-	351	0.02	-	7.97	0.008
260	TP 15	2.5	-	31	-	-	119	10	259	128	-	-	-	387	0.07	-	8.11	0.013

Printed on 30 June 1997

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GL CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		%	ppm	%			g/l
Detection Method			ICP	ICP	ICP	Soxtec	TLC	TLC	TLC	TLC	Spectro	Visual	Grav	Gravi	Leco	Meter	Meter	Spectro1
Detection Limits			<0.1	<1	<0.05	<1	<1	<1	<1	<1	<0.1	NONE	<0.001	<1	<0.01	<0.01	<0.01	<0.003
Sample Number	Sample Identity	Depth (m)	Selenium Leachate	Zinc	Zinc In Leachate	Solvent Extractable Matter	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC	Hexavalent Chrome (acid)	Asbestos Type	Asbestos	DCM/MeOH Extract	Acid Sol. Sulphate as SO4	pH of Leachate	pH Value in Soil	Water Soluble Sulphate as SO4
261	TP 16	0.1	-	53	-	-	-	-	-	-	-	-	-	8530	0.02	-	7.76	0.020
262	TP 16	1.2	-	17	-	-	-	-	-	-	-	-	-	284	0.05	-	8.23	0.006
263	TP 17	0.45	-	58	-	-	-	-	-	-	-	-	-	311	0.01	-	7.87	0.006
264	TP 17	1.5	-	20	-	-	-	-	-	-	-	-	-	191	0.04	-	8.19	0.012
265	TP 19	0.35	-	69	-	-	-	-	-	-	-	-	-	563	0.01	-	7.88	0.012
266	TP 19	1.25	-	19	-	-	-	-	-	-	-	-	-	114	0.04	-	8.24	0.006
267	TP 38	0.3	-	27	-	-	-	-	-	-	-	-	-	149	2.20	-	7.65	1.361
268	TP 38	0.6	-	69	-	-	-	-	-	-	-	-	-	373	0.03	-	8.02	0.093
269	TP 38	2	-	18	-	-	-	-	-	-	-	-	-	104	0.07	-	8.22	0.092
270	TP 39	0.1	-	104	-	-	-	-	-	-	-	-	-	901	0.02	-	7.92	0.013
271	TP 39	0.9	-	16	-	-	-	-	-	-	-	-	-	159	0.06	-	8.22	0.004
272	TP 40	0.35	-	163	-	-	-	-	-	-	-	-	-	1121	0.03	-	8.09	0.016
273	TP 41	0.35	-	50	-	-	-	-	-	-	-	-	-	178	0.02	-	7.66	0.008
274	TP 41	1.4	-	9	-	-	-	-	-	-	-	-	-	181	0.05	-	8.25	0.023
275	TP 42	0.35	-	31	-	-	-	-	-	-	-	-	-	202	0.03	-	8.28	0.003
276	TP 42	1.7	-	10	-	-	39	15	86	54	-	-	-	141	0.09	-	8.25	0.028
277	TP 43	0.4	-	48	-	-	-	-	-	-	-	-	-	70	0.03	-	8.26	0.010
278	TP 43	1.6	-	11	-	-	-	-	-	-	-	-	-	146	0.06	-	8.34	0.012
279	TP 44	0.1	-	152	-	-	-	-	-	-	-	-	-	2414	0.03	-	7.96	0.014
280	TP 44	2	-	11	-	-	-	-	-	-	-	-	-	69	0.07	-	8.14	0.009

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GEOCHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS TESTING No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Selenium Leachate	Zinc	Zinc In Leachate	Solvent Extractable Matter	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC	Hexavalent Chrome (acid)	Asbestos Type	Asbestos	DCM/MeOH Extract	Acid Sol. Sulphate as SO4	pH of Leachate	pH Value In Soil	Water Soluble Sulphate as SO4
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		%	ppm	%			g/l
Detection Method			ICP	ICP	ICP	Soxtec	TLC	TLC	TLC	TLC	Spectro	Visual	Grav	Gravi	Leco	Meter	Meter	Spectro1
Detection Limits			<0.1	<1	<0.05	<1	<1	<1	<1	<1	<0.1	NONE	<0.001	<1	<0.01	<0.01	<0.01	<0.003
281	TP 90	0.4	-	42	-	-	-	-	-	-	-	-	-	136	0.05	-	8.14	0.009
282	TP 90	1.1	-	304	-	-	-	-	-	-	-	-	-	619	0.05	-	8.04	0.007
283	TP 91	0.1	-	67	-	-	-	-	-	-	-	-	-	838	0.05	-	7.96	0.012
284	TP 91	0.75	-	16	-	-	38	36	145	74	-	-	-	219	0.06	-	7.97	0.023
285	TP 91	1.2	-	14	-	-	107	127	532	234	-	-	-	767	0.15	-	7.97	0.074
286	TP 91	2.3	-	11	-	-	30	7	109	37	-	-	-	146	0.06	-	8.14	0.006
287	TP 93	1.6	-	15	-	-	948	23	185	1001	-	-	-	1158	0.08	-	8.17	0.018
288	TP 97	1.7	-	14	-	-	-	-	-	-	-	-	-	208	0.06	-	8.24	0.004
289	TP 98	1.6	-	15	-	-	-	-	-	-	-	-	-	103	0.05	-	8.15	0.003
290	TP 101	0.5	-	180	-	-	-	-	-	-	-	-	-	620	0.03	-	8.11	0.009
291	TP 101	1.6	-	23	-	-	-	-	-	-	-	-	-	142	0.06	-	8.41	0.012
292	TP 128	0.35	-	37	-	-	-	-	-	-	-	-	-	622	0.05	-	7.92	0.007
293	TP 128	1.5	-	12	-	-	-	-	-	-	-	-	-	124	0.06	-	8.29	0.005
301	TP11	0.2	-	5	-	-	-	-	-	-	-	-	-	122	0.03	-	8.27	0.006
302	TP11	0.7	-	20	-	-	-	-	-	-	-	-	-	550	<0.01	-	8.30	0.017
303	TP13	0.4	-	24	-	-	-	-	-	-	-	-	-	522	<0.01	-	8.18	0.007
304	TP13	1	-	4	-	-	-	-	-	-	-	-	-	208	0.03	-	8.41	0.051
305	TP120	0.35	-	33	-	-	-	-	-	-	-	-	-	2102	0.04	-	8.45	0.060
306	TP120	0.75	-	16	-	-	-	-	-	-	-	-	-	3296	0.05	-	8.56	0.036
307	TP120	1.4	-	17	-	-	-	-	-	-	-	-	-	602	0.05	-	8.61	0.058

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GL CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS TESTING No. 1291

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Selenium Leachate	Zinc	Zinc In Leachate	Solvent Extractable Matter	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC	Hexavalent Chrome (acid)	Asbestos Type	Asbestos	DCM/MeOH Extract	Acid Sol. Sulphate as SO4	pH of Leachate	pH Value In Soil	Water Soluble Sulphate as SO4
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		%	ppm	%			g/l
Detection Method			ICP	ICP	ICP	Soxtec	TLC	TLC	TLC	TLC	Spectro	Visual	Grav	Gravi	Leco	Meter	Meter	Spectro1
Detection Limits			<0.1	<1	<0.05	<1	<1	<1	<1	<1	<0.1	NONE	<0.001	<1	<0.01	<0.01	<0.01	<0.003
308	TP138	0.3	-	66	-	-	-	-	-	-	-	-	-	1537	<0.01	-	8.16	0.017
309	TP138	0.7	<0.1	30	0.16	-	-	-	-	-	-	-	-	4517	0.08	7.84	8.27	0.061
310	TP138	1.5	-	12	-	-	734	36	394	770	-	-	-	1165	0.03	-	8.81	0.030
311	TP141	0.4	-	46	-	-	-	-	-	-	-	-	-	441	<0.01	-	7.92	0.017
312	TP141	1.45	-	10	-	-	-	-	-	-	-	-	-	2118	0.04	-	8.29	0.062
313	TP142	0.2	-	185	-	-	513	556	6048	1069	-	-	-	7124	0.03	-	8.24	0.143
314	TP142	1.4	-	6	-	-	-	-	-	-	-	-	-	131	0.03	-	8.58	0.050
315	TP143	0.3	-	205	-	-	47	37	323	74	-	-	-	397	0.06	-	8.26	0.089
316	TP143	0.45	-	38	-	-	16	6	215	22	-	-	-	237	0.03	-	7.95	0.017
317	TP143	1.2	-	27	-	-	-	-	-	-	-	-	-	219	0.03	-	8.31	0.063
318	TP144	0.4	-	69	-	-	-	-	-	-	-	-	-	600	0.04	-	8.39	0.078
319	TP144	0.5	-	52	-	-	26	6	456	32	-	-	-	488	0.01	-	7.77	0.073
320	TP144	1.1	-	30	-	-	23	7	203	30	-	-	-	183	0.04	-	8.21	0.035
321	TP145	0.0-0.3	-	84	-	-	-	-	-	-	-	-	-	907	0.11	-	8.35	0.076
322	TP145	0.45	-	43	-	-	-	-	-	-	-	-	-	154	0.02	-	7.89	<0.003
323	TP145	1	-	23	-	-	-	-	-	-	-	-	-	236	0.03	-	8.23	0.030
324	TP146	0.3	-	57	-	-	522	16	764	538	-	-	-	1304	0.08	-	7.93	0.081
325	TP146	1.2	-	34	-	-	452	4	116	456	-	-	-	573	0.05	-	8.30	0.056
326	TP147	0.35	-	57	-	-	-	-	-	-	-	-	-	285	<0.01	-	7.91	0.097
327	TP147	1.2	-	28	-	-	-	-	-	-	-	-	-	230	0.02	-	8.36	0.026

Printed on 30 June 1997

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GL CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

NAMAS TESTING No. 1291

☐ Preliminary
☐ Validated
☐ NAMAS Accredited

Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		%	ppm	%			g/l
Detection Method			ICP	ICP	ICP	Soxtec	TLC	TLC	TLC	TLC	Spectro	Visual	Grav	Gravi	Leco	Meter	Meter	Spectro1
Detection Limits			<0.1	<1	<0.05	<1	<1	<1	<1	<1	<0.1	NONE	<0.001	<1	<0.01	<0.01	<0.01	<0.003
Sample Number	Sample Identity	Depth (m)	Selenium Leachate	Zinc	Zinc In Leachate	Solvent Extractable Matter	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC	Hexavalent Chrome (acid)	Asbestos Type	Asbestos	DCM/MeOH Extract	Acid Sol. Sulphate as SO4	pH of Leachate	pH Value In Soil	Water Soluble Sulphate as SO4
328	TP148	0.8	-	57	-	-	110	18	498	128	-	-	-	626	0.03	-	8.23	0.109
329	TP148	0.2	-	30	-	-	-	-	-	-	-	-	-	305	0.06	-	8.20	0.106
330	TP149	0.3	-	68	-	-	22	4	42	25	-	-	-	67	0.05	-	8.96	0.194
331	TP149	0.5	-	77	-	-	1101	22	426	1123	-	-	-	1550	0.07	-	8.20	0.132
332	TP149	1.2	-	13	-	-	-	-	-	-	-	-	-	162	0.06	-	8.52	0.135
335	TP 35	0.2	<0.1	78	<0.05	-	949	40	179	989	-	-	-	1169	0.11	-	8.22	0.102
336	TP 35	0.5	-	44	-	-	265	259	494	524	-	-	-	1021	0.01	-	7.87	0.020
337	TP 35	1.5	-	17	-	-	-	-	-	-	-	-	-	211	0.04	-	8.14	0.014
338	TP 53	0.3	-	152	-	-	-	-	-	-	-	-	-	2472	0.18	-	11.27	0.128
339	TP 53	1.9	-	51	-	-	2783	34	269	2817	-	-	-	3089	0.06	-	7.45	0.027
340	TP 53	2.6	-	42	-	-	677	30	278	707	-	-	-	986	<0.01	-	7.65	0.025
341	TP 106	0.3	-	34	-	-	-	-	-	-	-	-	-	922	0.26	-	8.55	0.395
342	TP 106	1	-	10	-	-	-	-	-	-	-	-	-	187	0.05	-	6.85	0.058
343	TP 106	1.2	-	11	-	-	-	-	-	-	-	-	-	515	0.05	-	8.36	0.057
344	TP 107A	0.3	-	18	-	-	-	-	-	-	-	-	-	527	0.11	-	8.33	0.077
345	TP 107A	1.1	-	47	-	-	-	-	-	-	-	-	-	238	0.02	-	8.11	0.068
346	TP 107A	2	-	10	-	-	-	-	-	-	-	-	-	149	0.05	-	8.44	0.018
347	TP 129	0.35	-	28	-	-	-	-	-	-	-	-	-	100	0.04	-	8.26	0.012
348	TP 129	1.3	-	NDP	-	-	-	-	-	-	-	-	-	NDP	NDP	-	NDP	NDP
349	TP 134	0.5	-	49	-	-	-	-	-	-	-	-	-	1232	0.03	-	7.97	0.010

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Checked by ......ABall.............. Alison Ball

GL CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

NAMAS
TESTING
No. 1291

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 01/05/97
(of first sample)

Sample Type : SOIL
Location : RAF Upper Heyford
Client Contact : Steve Hobbs
Client Ref. No. : MD3333A

☐ Preliminary
☐ Validated
▨ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Selenium Leachate	Zinc	Zinc In Leachate	Solvent Extractable Matter	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC	Hexavalent Chrome (acid)	Asbestos Type	Asbestos	DCM/MeOH Extract	Acid Sol. Sulphate as SO4	pH of Leachate	pH Value In Soil	Water Soluble Sulphate as SO4
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		%	ppm	%			g/l
Detection Method			ICP	ICP	ICP	Soxtec	TLC	TLC	TLC	TLC	Spectro	Visual	Grav	Gravi	Leco	Meter	Meter	Spectro1
Detection Limits			<0.1	<1	<0.05	<1	<1	<1	<1	<1	<0.1	NONE	<0.001	<1	<0.01	<0.01	<0.01	<0.003
350	TP 134	1	-	51	-	-	131	27	260	158	-	-	-	420	0.07	-	8.33	0.020
351	TP 134	1.6	-	10	-	-	38	14	108	52	-	-	-	160	0.01	-	8.03	0.015
352	TP 135	0.2	-	11	-	-	-	-	-	-	-	-	-	921	0.05	-	8.50	0.010
353	TP 135	0.5	-	11	-	-	-	-	-	-	-	-	-	1119	0.08	-	8.27	0.017
354	TP 135	1.7	-	8	-	-	-	-	-	-	-	-	-	185	0.06	-	8.43	0.013
355	TP 147	0.2	-	74	-	-	-	-	-	-	-	-	-	883	0.02	-	7.83	0.021
356	TP 137	0.9	-	21	-	-	-	-	-	-	-	-	-	444	0.04	-	8.22	0.006
359	TP34	0.3	-	36	-	-	-	-	-	-	-	-	-	241	0.05	-	10.92	0.100
360	TP34	1.2	-	21	-	-	-	-	-	-	-	-	-	149	0.06	-	8.63	0.052
361	TP112	0.5	-	76	-	-	-	-	-	-	-	-	-	444	0.15	-	10.37	0.359
362	TP112	1.6	-	23	-	-	-	-	-	-	-	-	-	164	0.05	-	8.74	0.064

Printed on 30 June 1997

Checked by ....Ball............. Alison Ball

GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Diesel Range Organics
by
G.C.

NAMAS
TESTING
No. 1291

Client Ref:= MD3333A/2850
Sample Matrix= Soil
Job Number:= 97/1023/02/01

Date Sample Received:= 25/4/97
Date Extracted/Prepared:= 21/5/97
Date Analysed:= 25/5/97

Separatory Funnel Ext:= No
Soxtec Extraction:= Yes
Column Extraction:= No

Internal Standard:= A :- 2,2,4,4,6,8,8, HEPTAMETHYLNONANE B :- 1-CHLOROOCTADECANE C :- SQUALANE

Sample number	Sample Identity	Depth	Total Soluble Extract (mg/kg)	Diesel Range Hydrocarbons (mg/kg)	Interpretation
105	TP 50	0.10	3279	392	No Identification, requires GCMS

Checked by

GEOCHEM ANALYTICAL SERVICES

Diesel Range Organics
by
G.C.

Client Ref:= MD3333A
Sample Matrix= Soil
Job Number:= 97/1023/02/01

Date Sample Received:= 30/4/97
Date Extracted/Prepared:= 28/5/97
Date Analysed:= 29/5/97

Separatory Funnel Ext:= No
Soxtec Extraction:= Yes
Column Extraction:= No

Internal Standard:= A :- 2,2,4,4,6,8,8, HEPTAMETHYLNONANE B :- 1-CHLOROOCTADECANE C :- SQUALANE

Sample number	Sample Identity	Depth	Total Soluble Extract (mg/kg)	Diesel Range Hydrocarbons (mg/kg)	Interpretation
194	TP 27	0.30	9665	2050	Possible Coal Tar (PAH'S)
217	TP 93	0.90	495	119	Biodegraded Diesel/Carboxylic Acids

Checked by

GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Diesel Range Organics
by
G.C.

NAMAS
TESTING
No. 1291

Client Ref:= MD3333A
Sample Matrix= Soil
Job Number:= 97/1023/02/01

Date Sample Received:= 1/5/97
Date Extracted/Prepared:= 22/5/97
Date Analysed:= 25/5/97

Separatory Funnel Ext:= No
Soxtec Extraction:= Yes
Column Extraction:= No

Internal Standard:= A :- 2,2,4,4,6,8,8, HEPTAMETHYLNONANE B :- 1-CHLOROOCTADECANE C :- SQUALANE

Sample number	Sample Identity	Depth	Total Soluble Extract (mg/kg)	Diesel Range Hydrocarbons (mg/kg)	Interpretation
256	TP 14	0.40	781	62	Weathered Diesel/Carboxylic Acids
261	TP 16	0.10	4401	108	Weathered Diesel/Carboxylic Acids

Checked by

GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Diesel Range Organics
by
G.C.

NAMAS
TESTING
No. 1291

Client Ref:= MD3333A
Sample Matrix= Soil
Job Number:= 97/1023/02/01

Date Sample Received:= 02/05/97
Date Extracted/Prepared:= 25/05/97
Date Analysed:= 27/05/97

Separatory Funnel Ext:= No
Soxtec Extraction:= Yes
Column Extraction:= No

Internal Standard:= A :- 2,2,4,4,6,8,8, HEPTAMETHYLNONANE B :- 1-CHLOROOCTADECANE C :- SQUALANE

Sample number	Sample Identity	Depth	Total Soluble Extract (mg/kg)	Diesel Range Hydrocarbons (mg/kg)	Interpretation
313	TP142	0.20	7124	871	Weathered Diesel/Carboxylic Acids

Checked by

GEOCHEM ANALYTICAL SERVICES

Diesel Range Organics
by
G.C.

NAMAS
TESTING
No. 1291

Client Ref:= MD3333A
Sample Matrix= Soil
Job Number:= 97/1023/02/01

Date Sample Received:= 3/6/97
Date Extracted/Prepared:= 4/6/97
Date Analysed:= 4/6/97

Separatory Funnel Ext:= No
Soxtec Extraction:= Yes
Column Extraction:= No

Internal Standard:= A :- 2,2,4,4,6,8,8, HEPTAMETHYLNONANE B :- 1-CHLOROOCTADECANE C :- SQUALANE

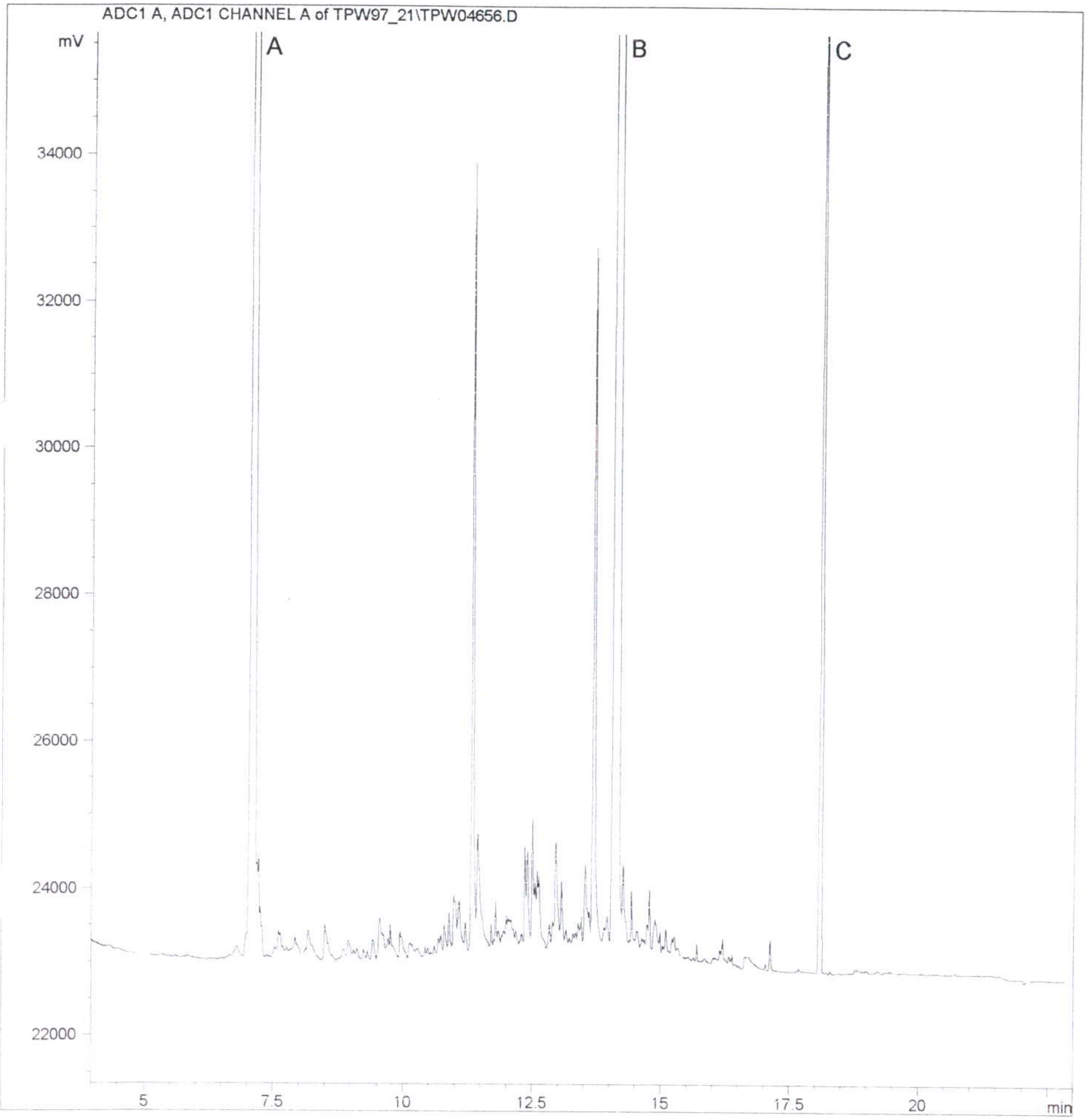
Sample number	Sample Identity	Depth	Total Soluble Extract (mg/kg)	Diesel Range Hydrocarbons (mg/kg)	Interpretation
414	BH6	GL-1.0	303	56	Biodegraded Diesel/Carboxylic Acids
415	BH6	1.0-2.0	1860	516	No Identification, requires GCMS

Checked by

GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis
By G.C.

1023-105

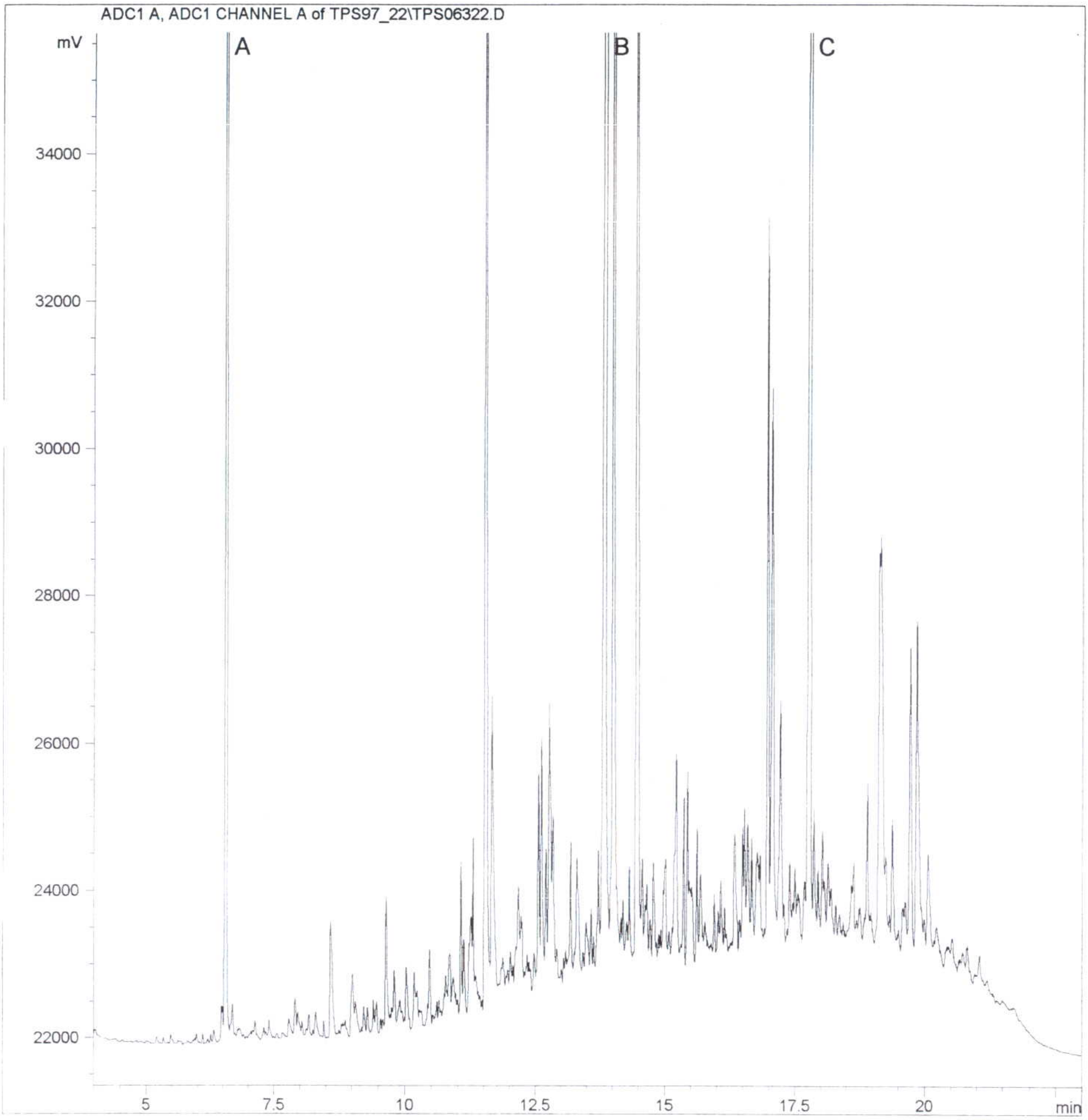
ADC1 A, ADC1 CHANNEL A of TPW97_21\TPW04656.D



Job Number: 97/01023/02/01

1023-194

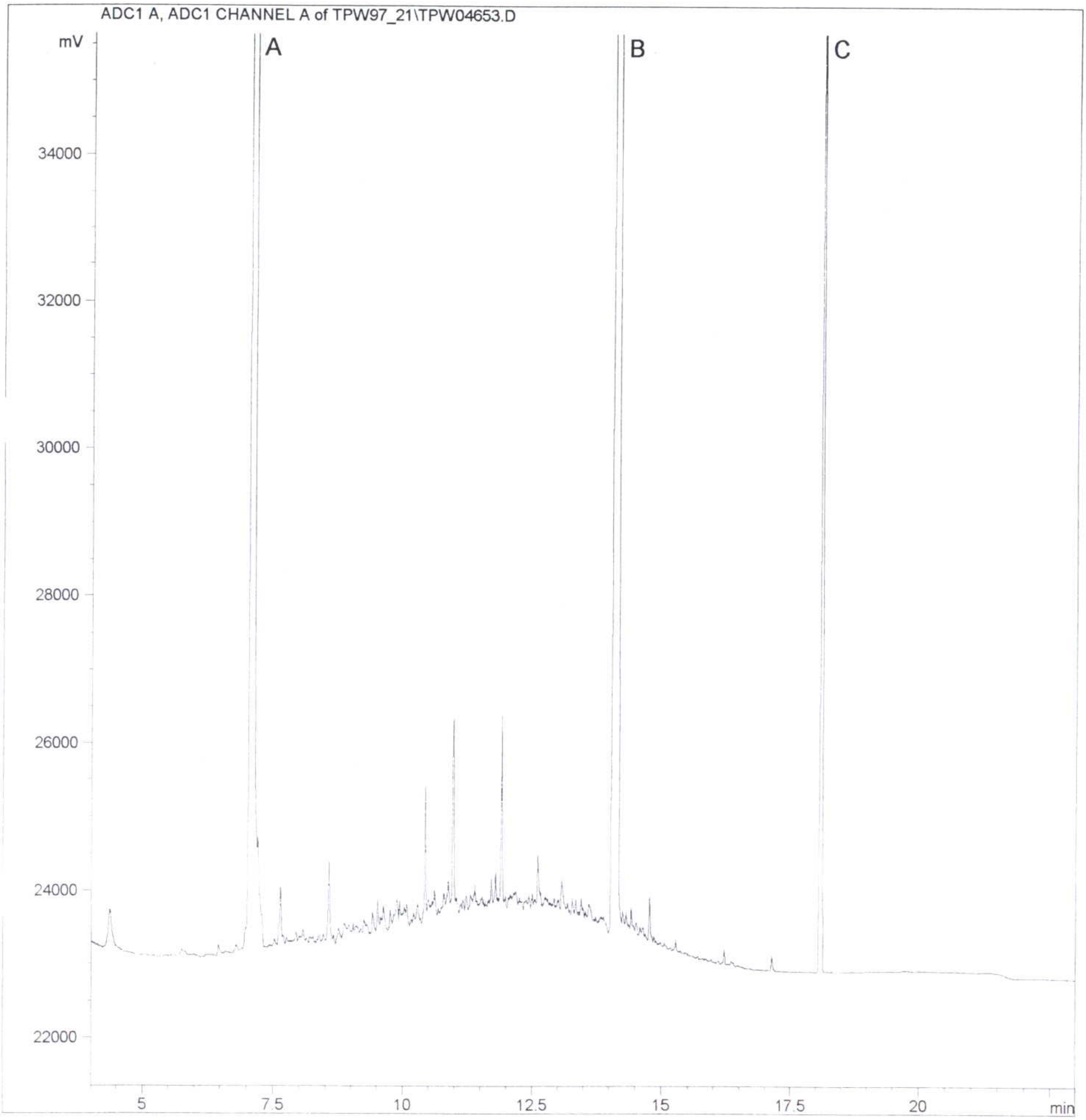
NAMAS
TESTING
No. 1291



GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis
By G.C.

1023-217

NAMAS TESTING No. 1291



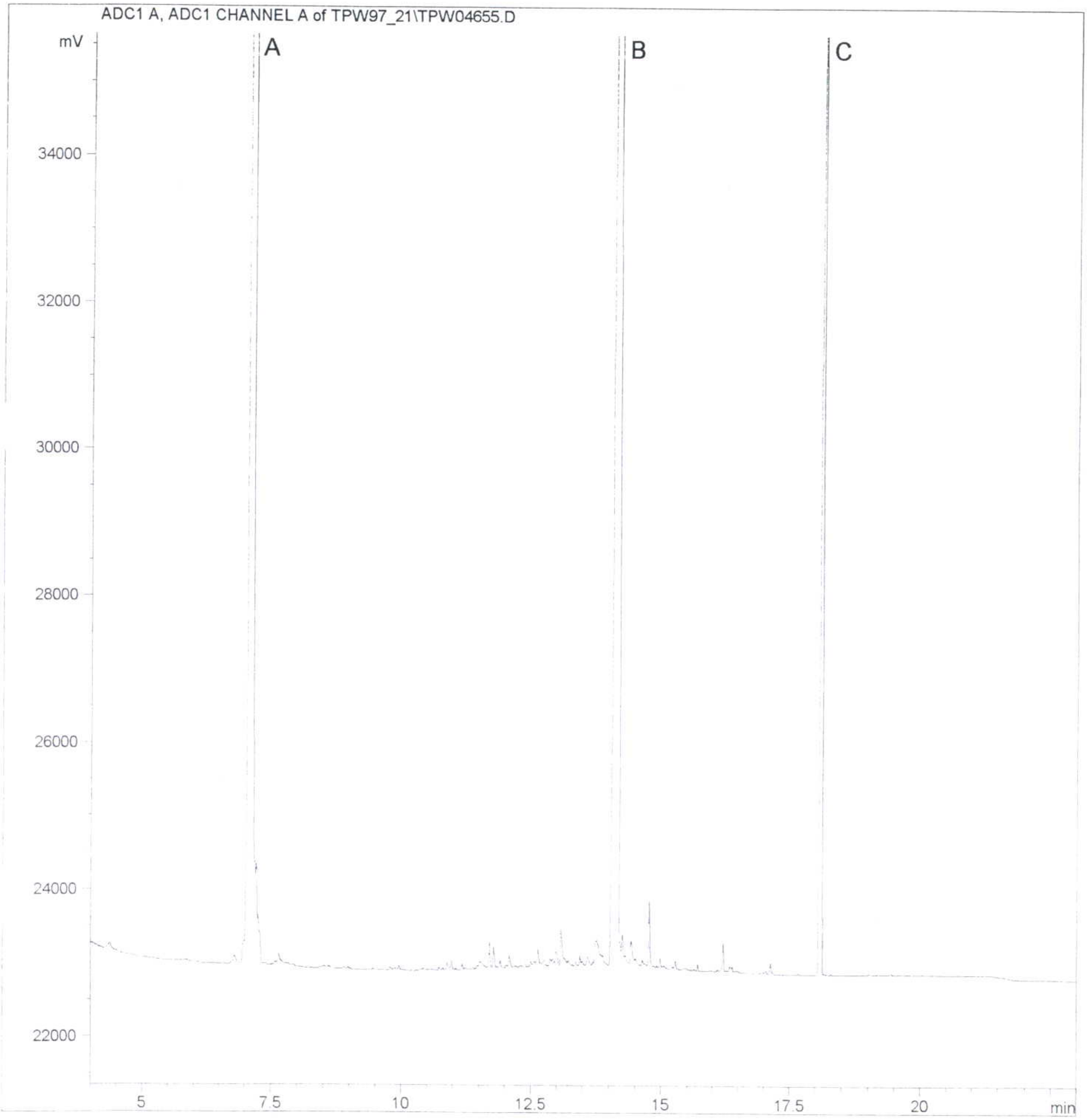
Job Number: 97/01023/02/01

GEOCHEM

GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis By G.C.

1023-256

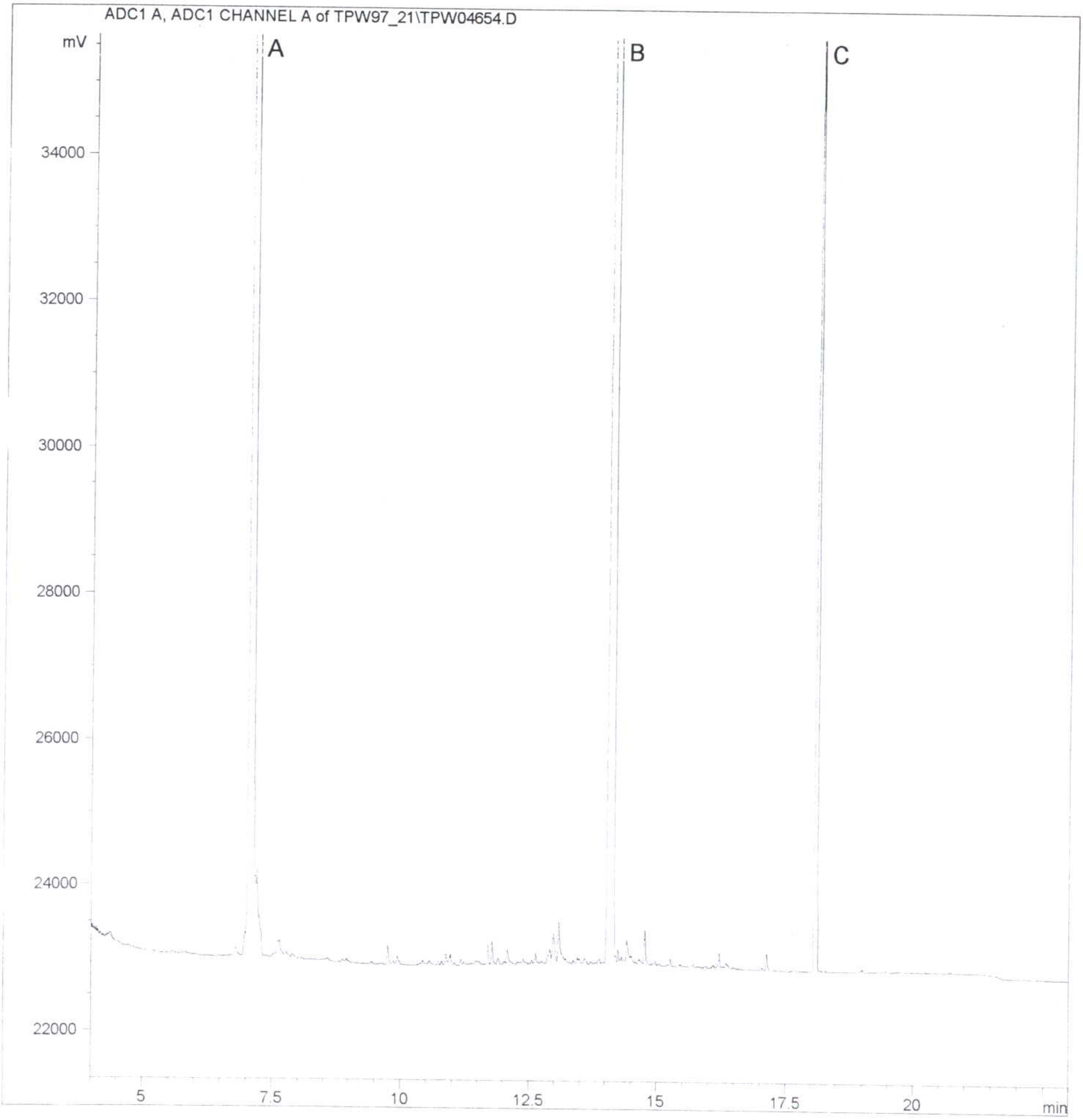
NAMAS TESTING No. 1291



Job Number: 97/01023/02/01

GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis
By G.C.

1023-261

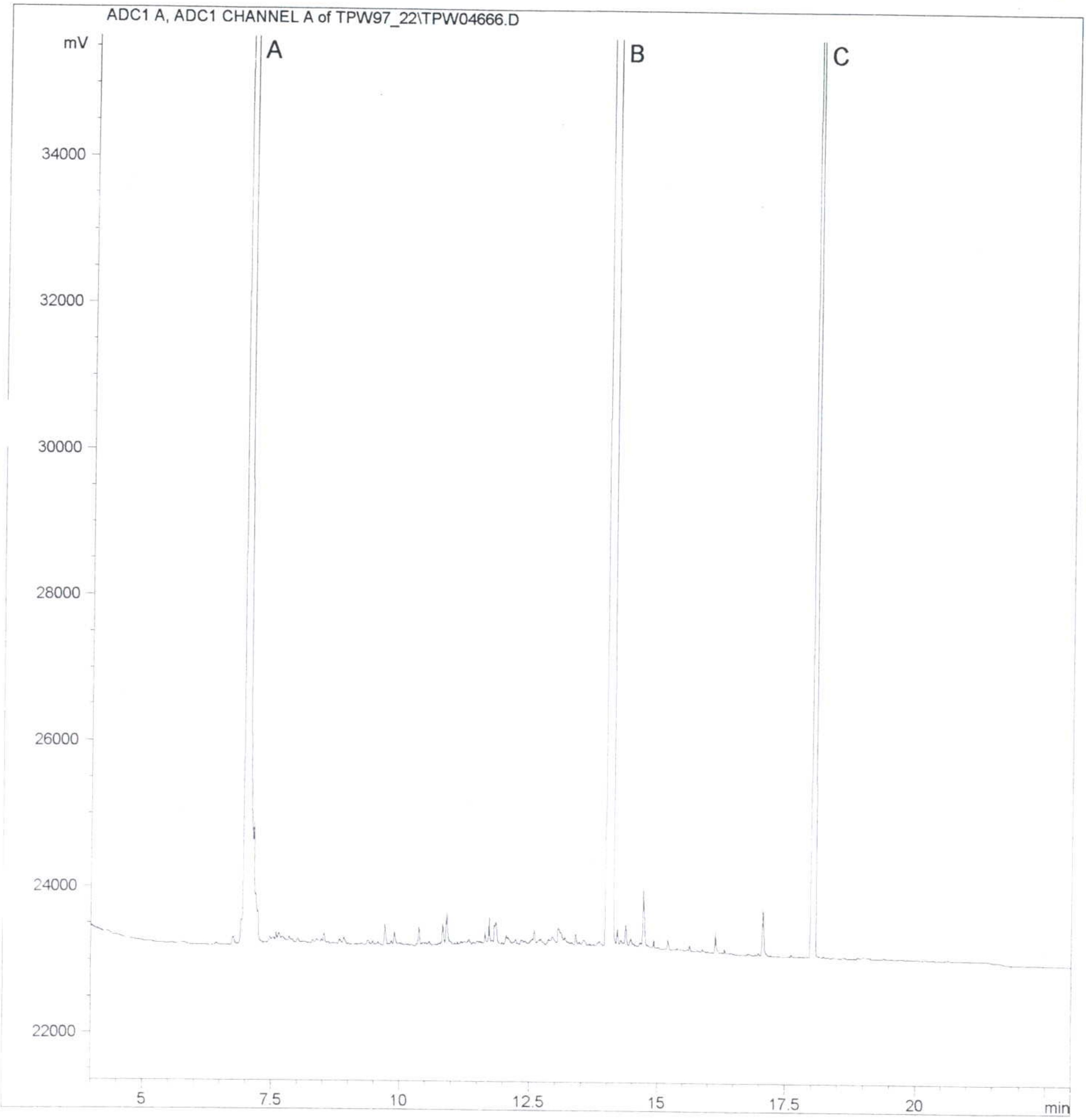


GEOCHEM

GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis By G.C.

1023-313

NAMAS TESTING No. 1291

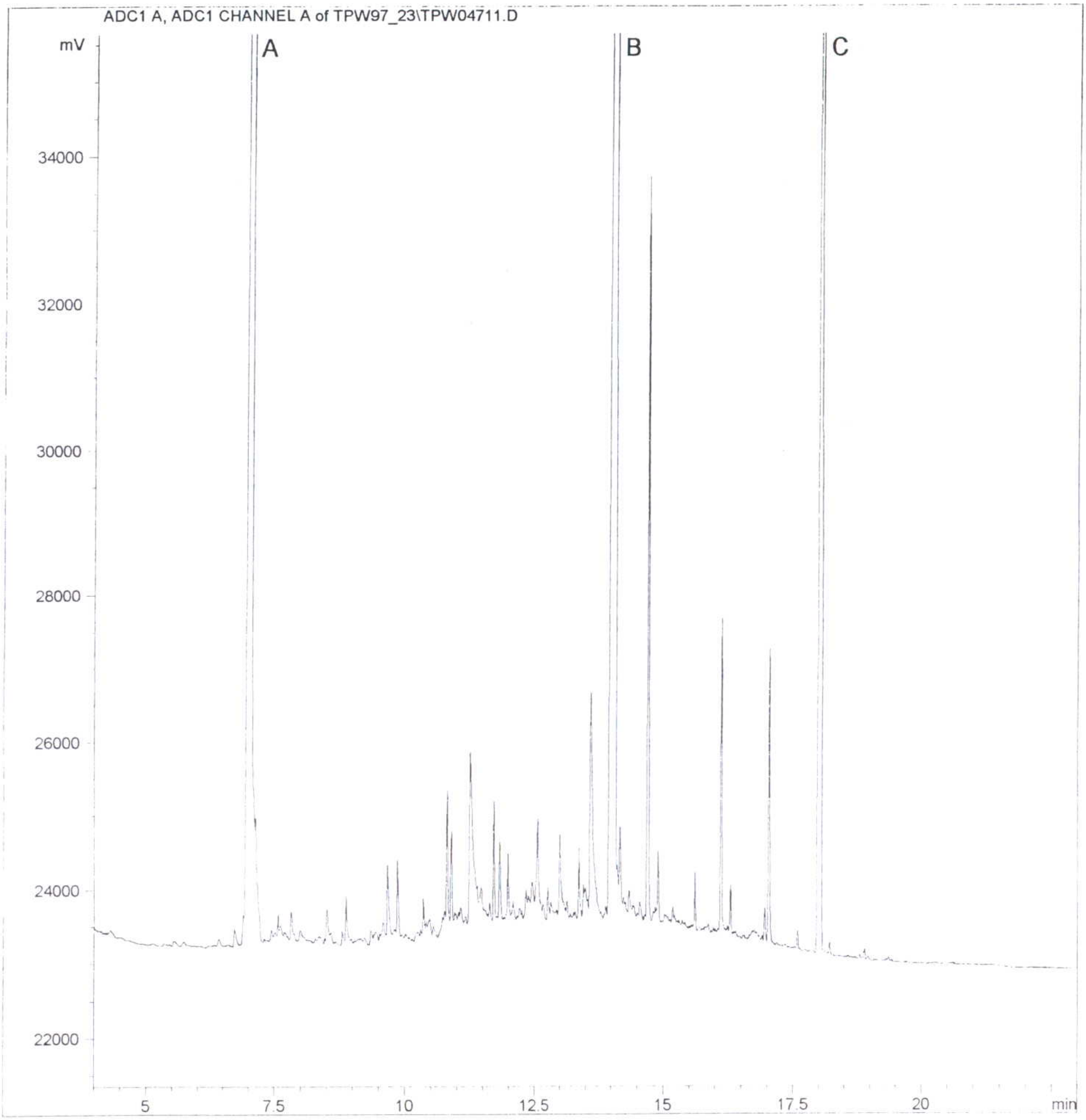


Job Number: 97/01023/02/01

GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis
By G.C.

NAMAS TESTING No. 1291

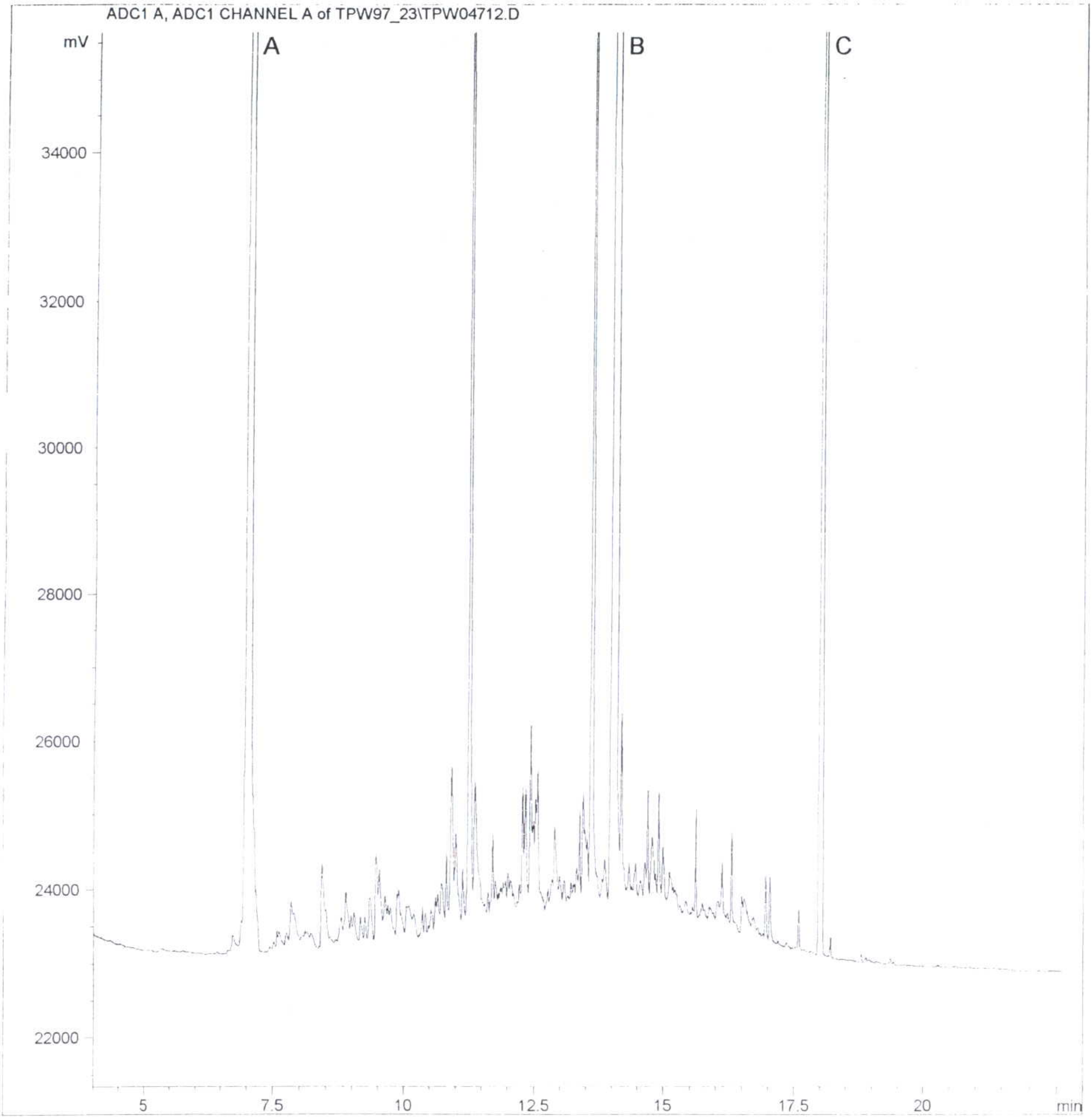
1023 - 414



Job Number: 97/01023/02/01

GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis
By G.C.

1023 - 415



Job Number: 97/01023/02/01

GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Petrol Range Organics
By
GC

NAMAS
TESTING
No. 1291

Job No: 97/1023/02/01
Client: Aspinwall & Company
Matrix: Soil
Units: μg/kg

Sample	Sample	Depth	Total
No	Ref	m/ft	Volatiles
105	TP 50	0.1	<10

Checked by.............................

GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Petrol Range Organics
By
GC

NAMAS
TESTING
No. 1291

Job No: 97/1023/02/01
Client: Aspinwall & Company
Matrix: Soil
Units: µg/kg

Sample No	Sample Ref	Depth m/ft	Total Volatiles
194	TP 27	0.3	<10

Checked by..........................

GEOCHEM ANALYTICAL SERVICES

Petrol Range Organics
By
GC

NAMAS
TESTING
No. 1291

Job No: 97/1023/02/01
Client: Aspinwall & Company
Matrix: Soil
Units: µg/kg

Sample No	Sample Ref	Depth m/ft	Total Volatiles
256	TP 14	0.4	<10
261	TP 16	0.1	<10

Checked by ....

GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Petrol Range Organics
By
GC

NAMAS
TESTING
No. 1291

Job No: 97/1023/02/01
Client: Aspinwall & Company
Matrix: Soil
Units: µg/kg

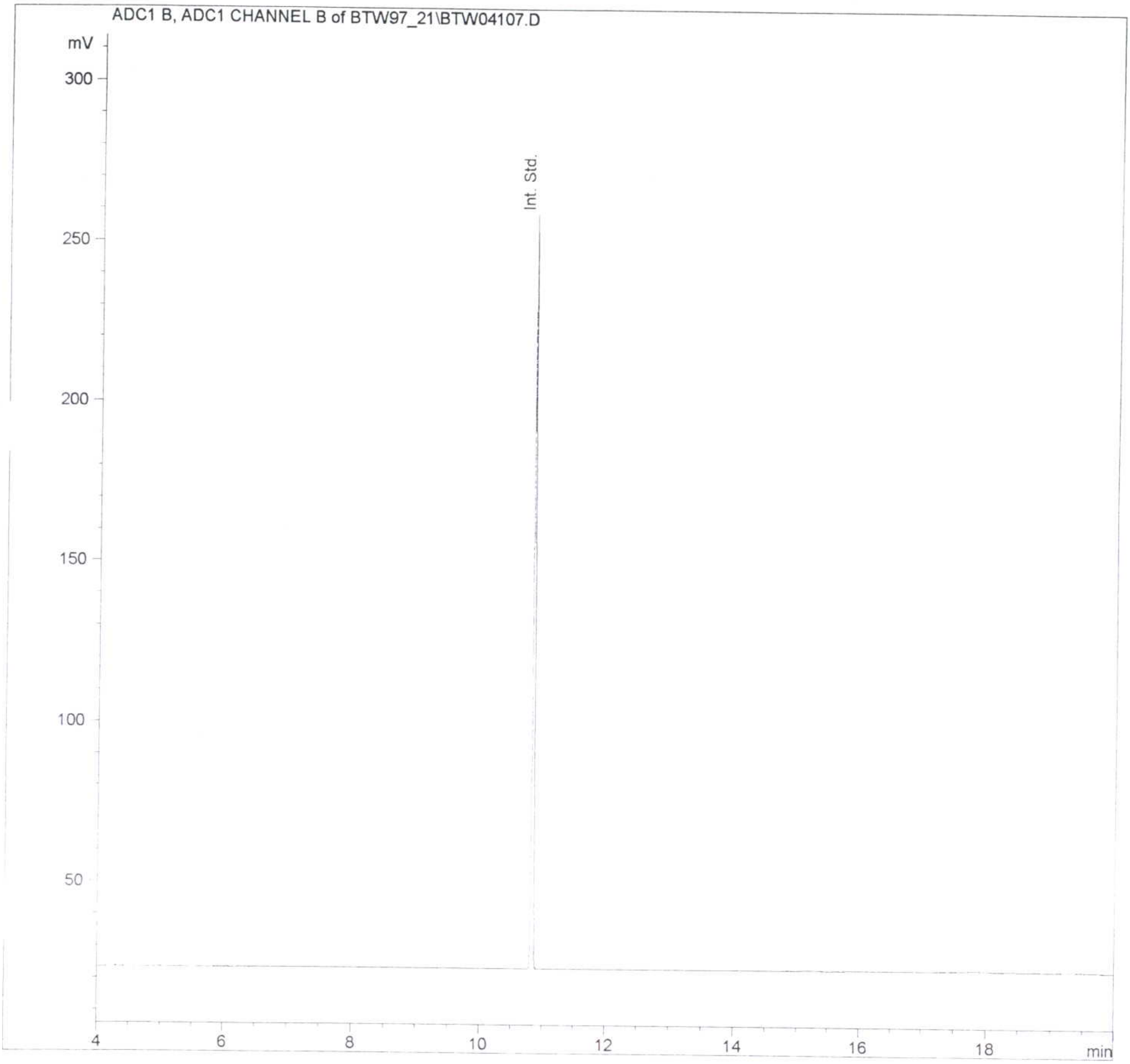
Sample No	Sample Ref	Depth m/ft	Total Volatiles
414	BH 6	GL-1.0	<10
415	BH 6	1.0-2.0	<10

Checked by..............................

GEOCHEM ANALYTICAL SERVICES
Gasoline Range Organics (G.R.O.) Analysis By G.C.

1023-105

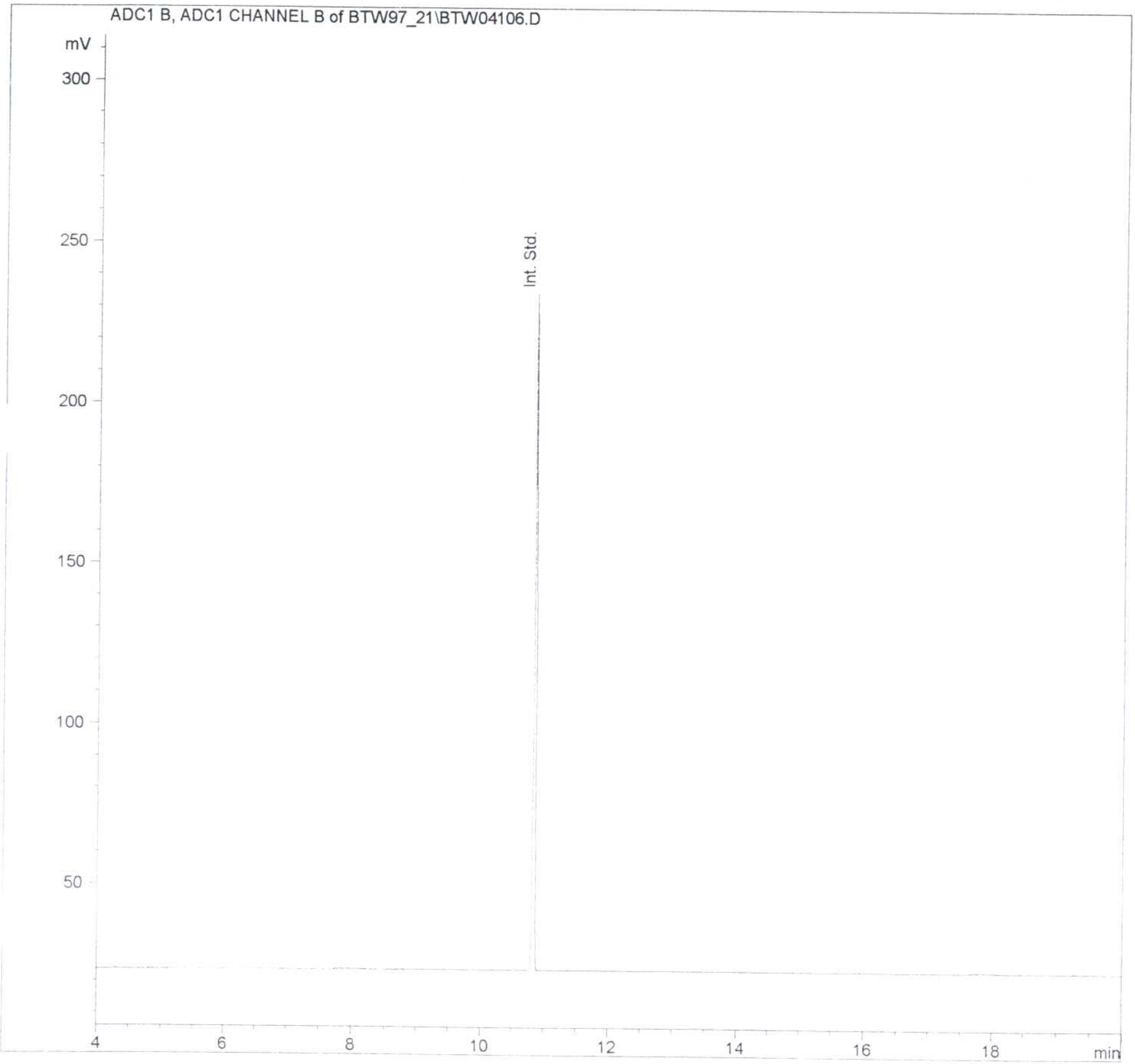
NAMAS TESTING No. 1291



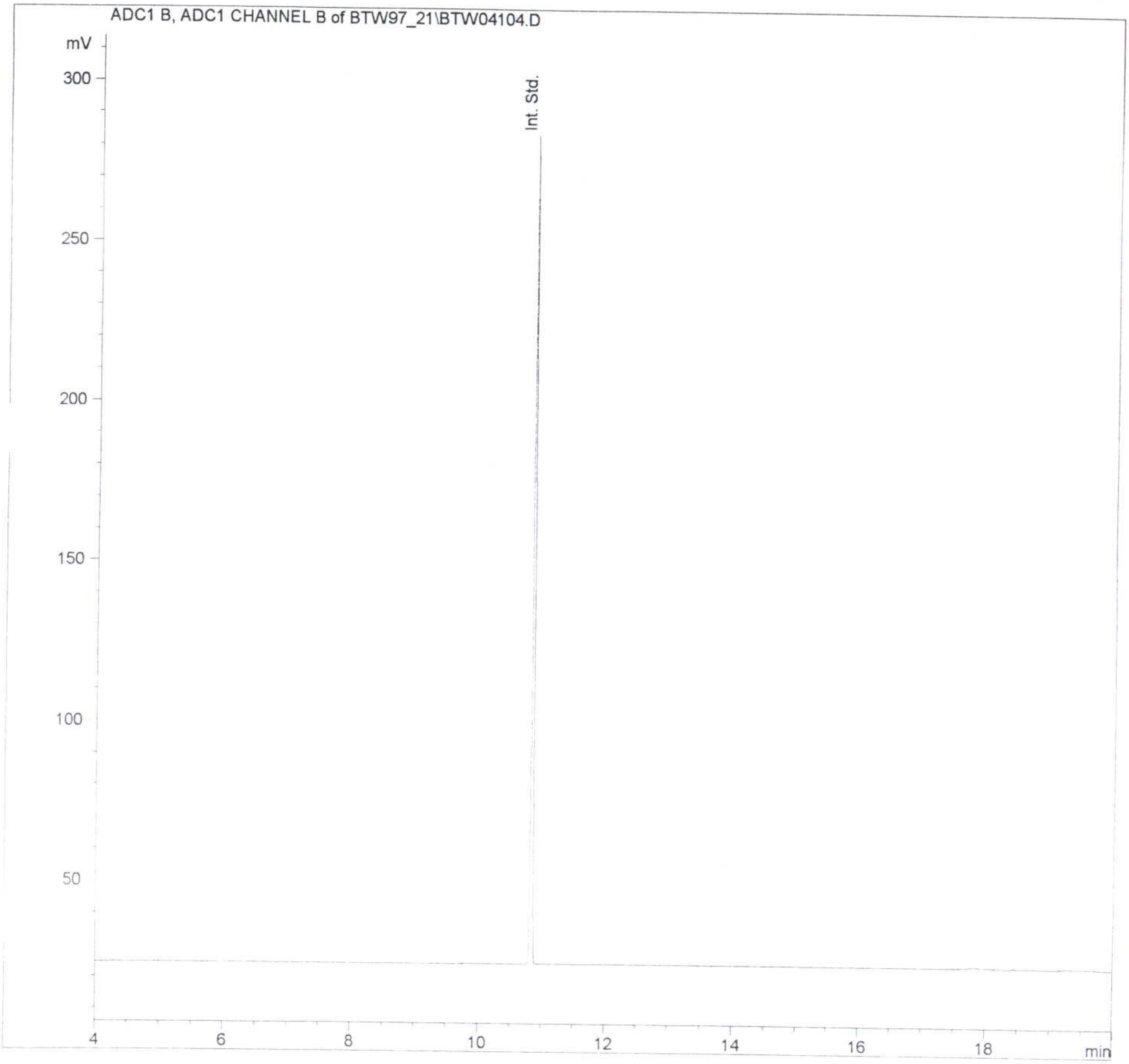
GEOCHEM ANALYTICAL SERVICES
Gasoline Range Organics (G.R.O.) Analysis By G.C.

1023-194

NAMAS TESTING No. 1291



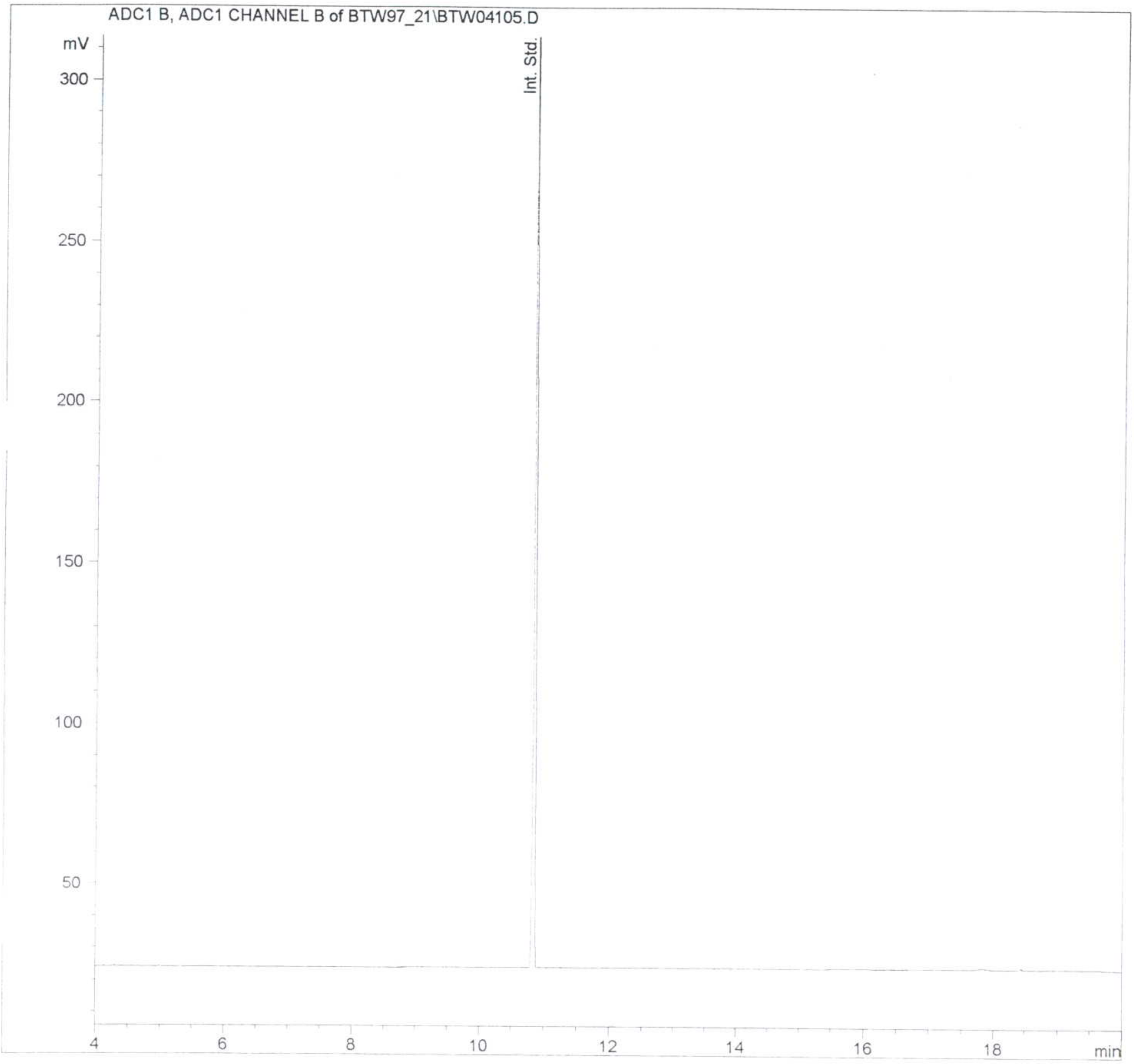
1023-256


ADC1 B, ADC1 CHANNEL B of BTW97_21\BTW04104.D
mV
300
250
200
150
100
50
Int. Std.
4
6
8
10
12
14
16
18
min

GEOCHEM ANALYTICAL SERVICES
Gasoline Range Organics (G.R.O.) Analysis By G.C.

1023-261

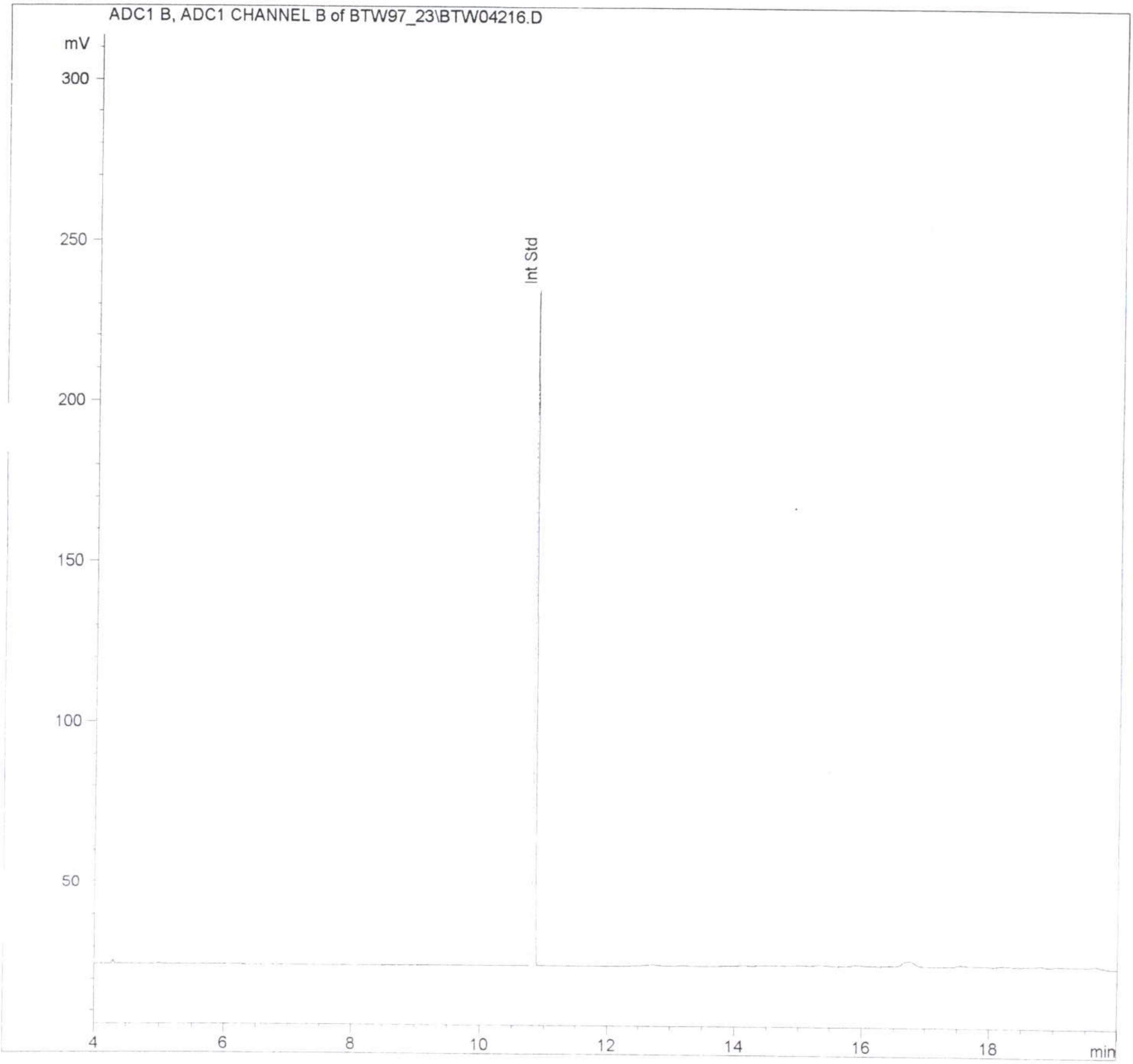
NAMAS
TESTING
No. 1291



Job Number: 97/01023/02/01

GEOCHEM ANALYTICAL SERVICES
BTEX & GRO Analysis
By G.C.

1023-414



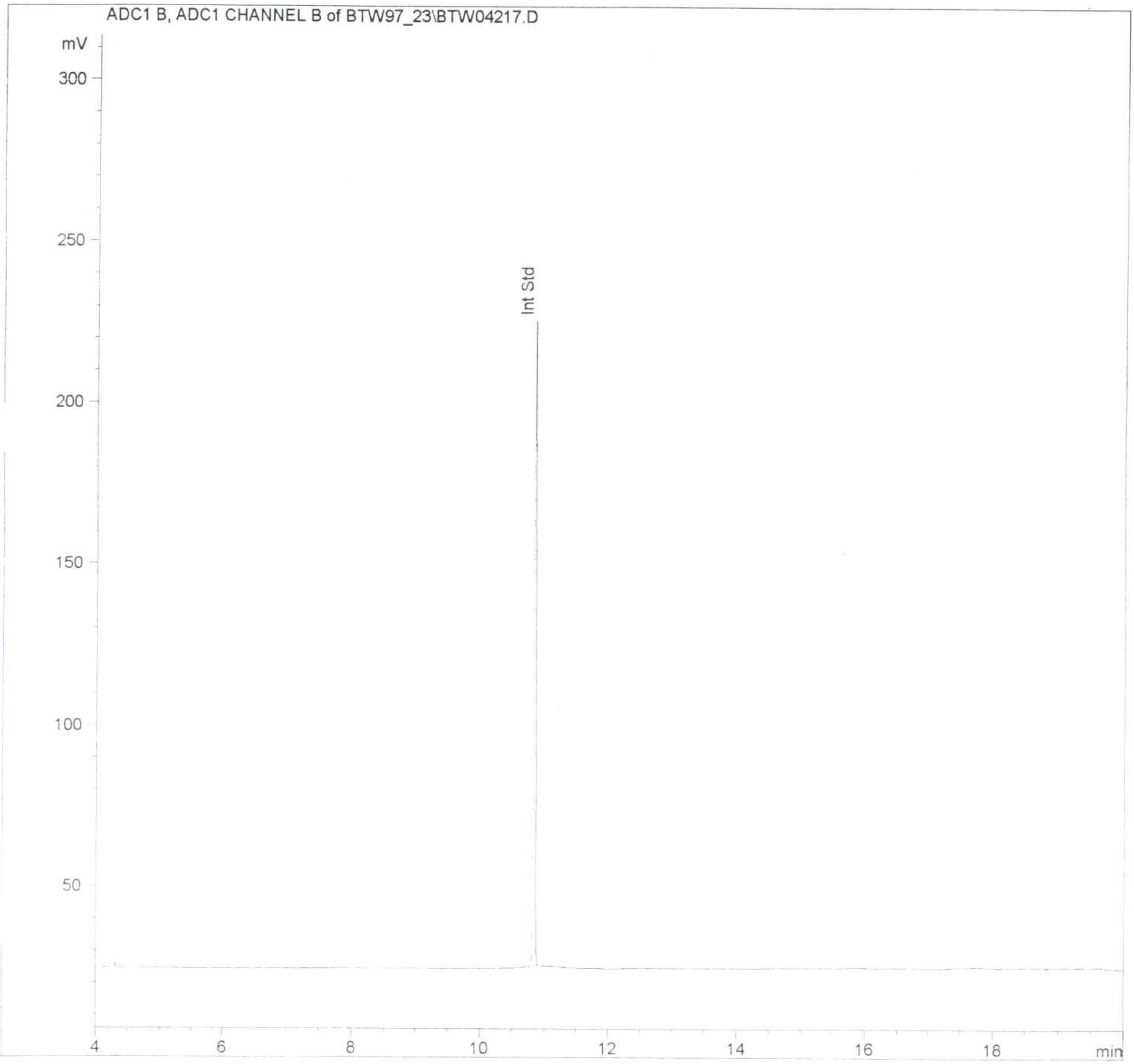
Peak #	R T (min)	Response Factor	Amount (ppb)	Name
1	0.0	0.0	0	Benzene
2	0.0	0.0	0	Toluene
3	10.8	1.0	20000	Int Std
4	0.0	0.0	0	Ethyl Benzene
5	0.0	0.0	0	p,m Xylene
6	0.0	0.0	0	o-Xylene

* NB. Amounts shown as Zero represent less than the P.Q.L. (<10ppb)

Job Number: 97/01023/02/01

GEOCHEM ANALYTICAL SERVICES
BTEX & GRO Analysis
By G.C.

1023-415



Peak #	R T (min)	Response Factor	Amount (ppb)	Name
1	0.0	0.0	0	Benzene
2	0.0	0.0	0	Toluene
3	10.8	1.0	20000	Int Std
4	0.0	0.0	0	Ethyl Benzene
5	0.0	0.0	0	p,m Xylene
6	0.0	0.0	0	o-Xylene

* NB. Amounts shown as Zero represent less than the P.Q.L. (<10ppb)

Job Number: 97/01023/02/01

GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Semi-Volatiles
By
G.C.M.S.

NAMAS
TESTING
No. 1291

Sample Matrix: Soil
Our Reference: 97/1023/02/01
Date Sample Received: 25/4/97
Date Extracted/Prepared: 23/5/97
Separatory Funnel Ext: No
Soxtec Extraction: Yes
Column Extraction: No
Date Analysed: 29/5/97
GC-MS Mode: SCAN
Internal Standard: External

Sample Number	149
Sample Identity	TP124 1.90
P.Q.L.	10
Units	µg/kg
1	11411
2	20291
3	31164
4	32335
5	27761
6	12074
7	52796
8	12903
9	15424
10	65557
11	84464
12	125686
13	17213
14	183854
15	49261
16	183696
17	29241
18	83364
19	63062
20	27708
21	38498
22	17343
23	39211
24	6646

Checked By:.......................................

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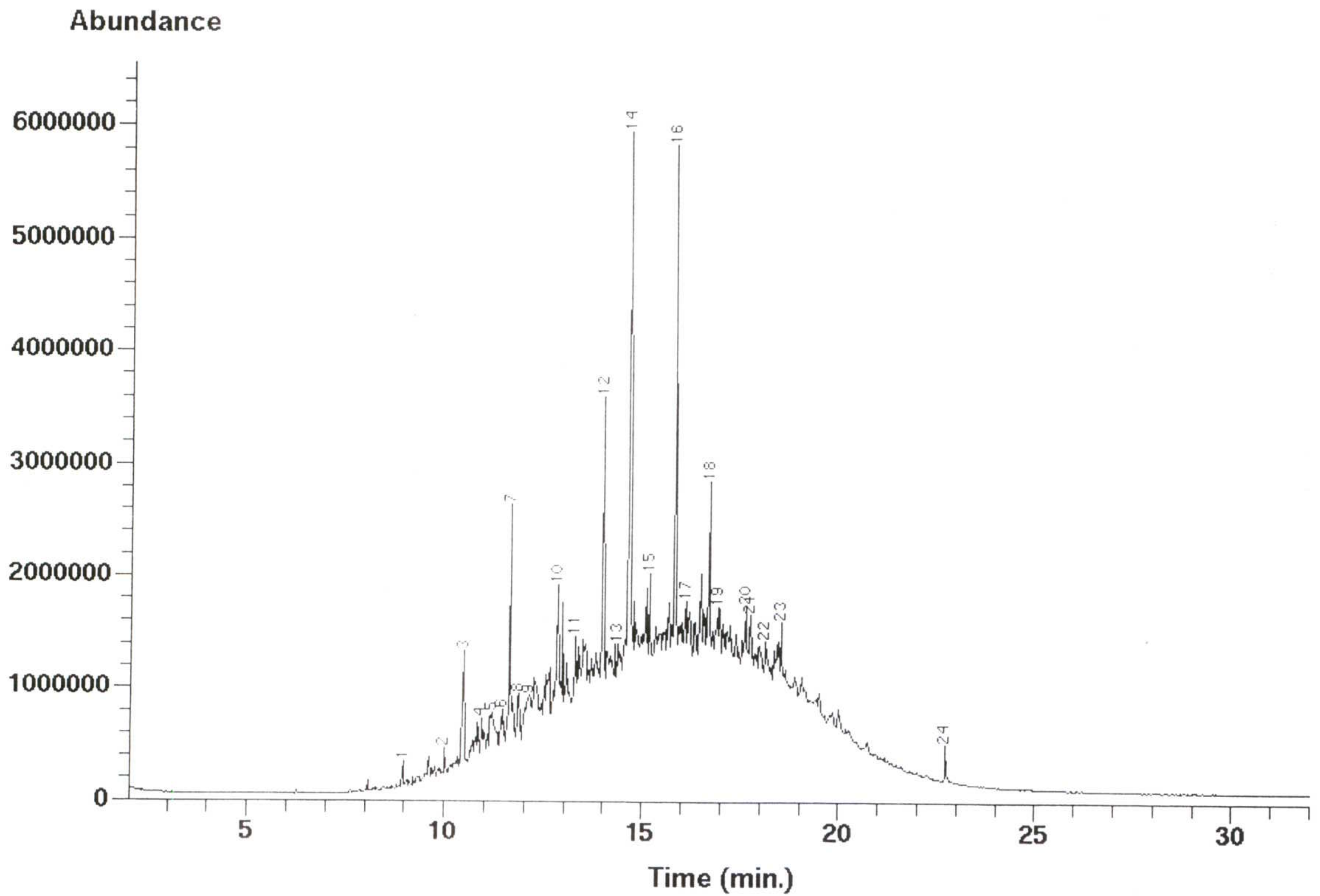
Full library search report      Page    1

Search results for Data File /chem/hp1/6301096.d
1023-149 SCAN
Injected Thu May 29 97 10:42:23 PM by Geochem Analytical Services

 Peak  Retention
Number   Time         Prob.   Compound Name
-------------------------------------------------------------------
    1     8.961        72      Hexadecane, 2,6,10,14-tetramethyl-
    2     9.998        38      Cyclopentane, 1-methyl-3-(1-methylethyl)
    3    10.462        91      Dodecane, 2,7,10-trimethyl-
    4    10.927        95      Naphthalene, 1,3-dimethyl-
    5    11.173        95      Naphthalene, 2,7-dimethyl-
    6    11.418        58      4-Hexenoic acid, 3-methyl-2,6-dioxo-
    7    11.609        87      Undecane
    8    11.855        80      Tetracontane, 3,5,24-trimethyl-
    9    12.101        62      17-Pentatriacontene
   10    12.810        64      Dodecane
   11    13.275        55      Dodecane, 5,8-diethyl-
   12    13.957        87      Dodecane, 2-methyl-8-propyl-
   13    14.367        52      4-Hexenoic acid, 3-methyl-2,6-dioxo-
   14    14.640        93      Heptadecane, 2,6-dimethyl-
   15    15.159        89      Dodecane, 5,8-diethyl-
   16    15.815        86      Hexadecane, 2,6,10,14-tetramethyl-
   17    16.088        64      Decane
   18    16.689        91      Octacosane
   19    16.908        70      Undecane
   20    17.618        83      1-Hexadecene
   21    17.754        70      Ethanol, 2-(dodecyloxy)-
   22    18.137        64      4-Hexenoic acid, 3-methyl-2,6-dioxo-
   23    18.520        76      Pentadecane, 2-methyl-
   24    22.729        80      1,2-Benzenedicarboxylic acid, 3-nitro-
```

TIC of 6301096.d

1023-149 SCAN; Run at 10:42 PM BST on Thu May 29, 1997



GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Semi-Volatiles
By
G.C.M.S.

NAMAS
TESTING
No. 1291

Sample Matrix: Soil
Our Reference: 97/1023/02/01
Date Sample Received: 25/4/97
Date Extracted/Prepared: 23/5/97
Separatory Funnel Ext: No
Soxtec Extraction: Yes
Column Extraction: No
Date Analysed: 29/5/97
GC-MS Mode: SCAN
Internal Standard: External

Sample Number	150
Sample Identity	TP124 1.70
P.Q.L.	10
Units	µg/kg
1	29173
2	30485
3	30177
4	14163
5	60327
6	15453
7	25402
8	22533
9	84486
10	19816
11	58799
12	107083
13	13821
14	227035
15	58293
16	283979
17	107571
18	108225
19	108639
20	11582

Checked By:..................................

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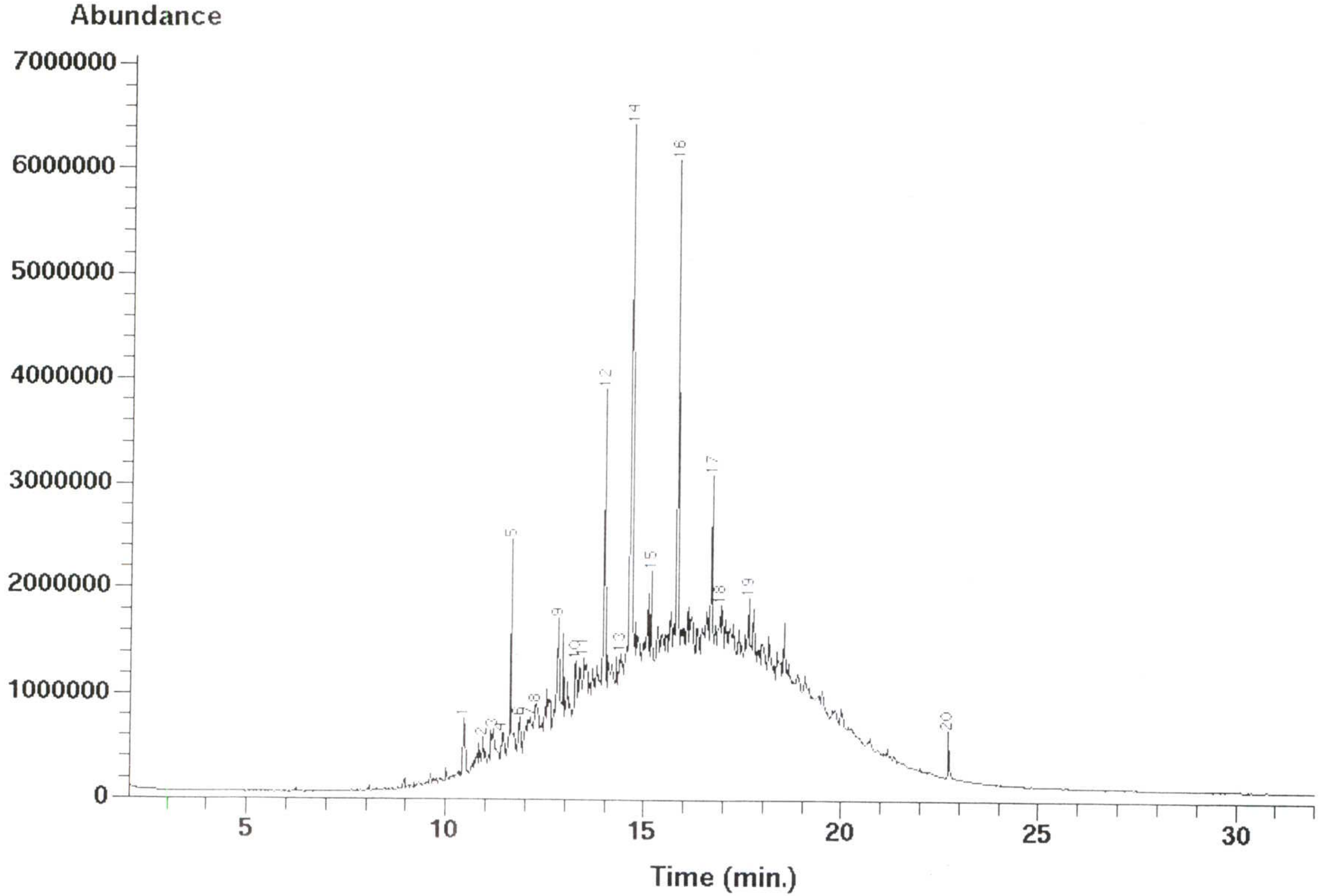
Full library search report      Page   1

Search results for Data File /chem/hp1/6401097.d
1023-150 SCAN
Injected Thu May 29 97 11:21:54 PM by Geochem Analytical Services

 Peak  Retention
Number   Time        Prob.   Compound Name
-------------------------------------------------------------------
    1    10.434       90      Heptadecane, 2,6,10,14-tetramethyl-
    2    10.925       96      Naphthalene, 1,8-dimethyl-
    3    11.143       97      Naphthalene, 1,5-dimethyl-
    4    11.416       55      1-Dotriacontanol
    5    11.607       83      Undecane
    6    11.853       80      Tetracontane, 3,5,24-trimethyl-
    7    12.098       80      Oxirane, [(hexadecyloxy)methyl]-
    8    12.262       92      Naphthalene, 1,4,6-trimethyl-
    9    12.809       42      Undecane
   10    13.274       55      Dodecane
   11    13.383       52      1-Dotriacontanol
   12    13.957       83      Heptadecane, 2,6-dimethyl-
   13    14.367       52      4-Hexenoic acid, 3-methyl-2,6-dioxo-
   14    14.641       93      Heptadecane, 2,6-dimethyl-
   15    15.160       89      Dodecane, 5,8-diethyl-
   16    15.815       87      Heptadecane, 2,6,10,15-tetramethyl-
   17    16.689       94      Tetradecane
   18    16.908       83      Heptadecane, 2,6,10,14-tetramethyl-
   19    17.618       83      Hexadecane, 2,6,10,14-tetramethyl-
   20    22.727       80      1,2-Benzenedicarboxylic acid, 3-nitro-
```

TIC of 6401097.d

1023-150 SCAN; Run at 11:21 PM BST on Thu May 29, 1997



GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Semi-Volatiles
By
G.C.M.S.

NAMAS
TESTING
No. 1291

Sample Matrix: Soil
Our Reference: 97/1023/02/01
Date Sample Received: 30/4/97
Date Extracted/Prepared: 23/5/97
Separatory Funnel Ext: No
Soxtec Extraction: Yes
Column Extraction: No
Date Analysed: 29/5/97
GC-MS Mode: SCAN
Internal Standard: External

Sample Number	193
Sample Identity	TP26 0.40
P.Q.L.	10
Units	µg/kg
1	370
2	413
3	697
4	90
5	768
6	447

Checked By:.......................................

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Full library search report     Page   1

Search results for Data File /chem/hp1/6501098_bsb3.d
1023-193 SCAN
Injected Fri May 30 97 12:01:26 AM by **BSB** MODIFIED

 Peak  Retention
Number   Time        Prob.   Compound Name
-------------------------------------------------------------------
    1     17.352       15     2(1H)-Pyridinone, 1-methyl-
    2     17.680       43     Cyclohexane, 1-(cyclohexylmethyl)-2-ethy
    3     18.089       49     Cyclohexane, 1-(cyclohexylmethyl)-4-ethy
    4     18.253       22     1,3-Hexadiene, 3-ethyl-2-methyl-, (Z)-
    5     18.745       47     Tridecane, 5-propyl-
    6     21.998       47     2,5-Octadecadiynoic acid, methyl ester
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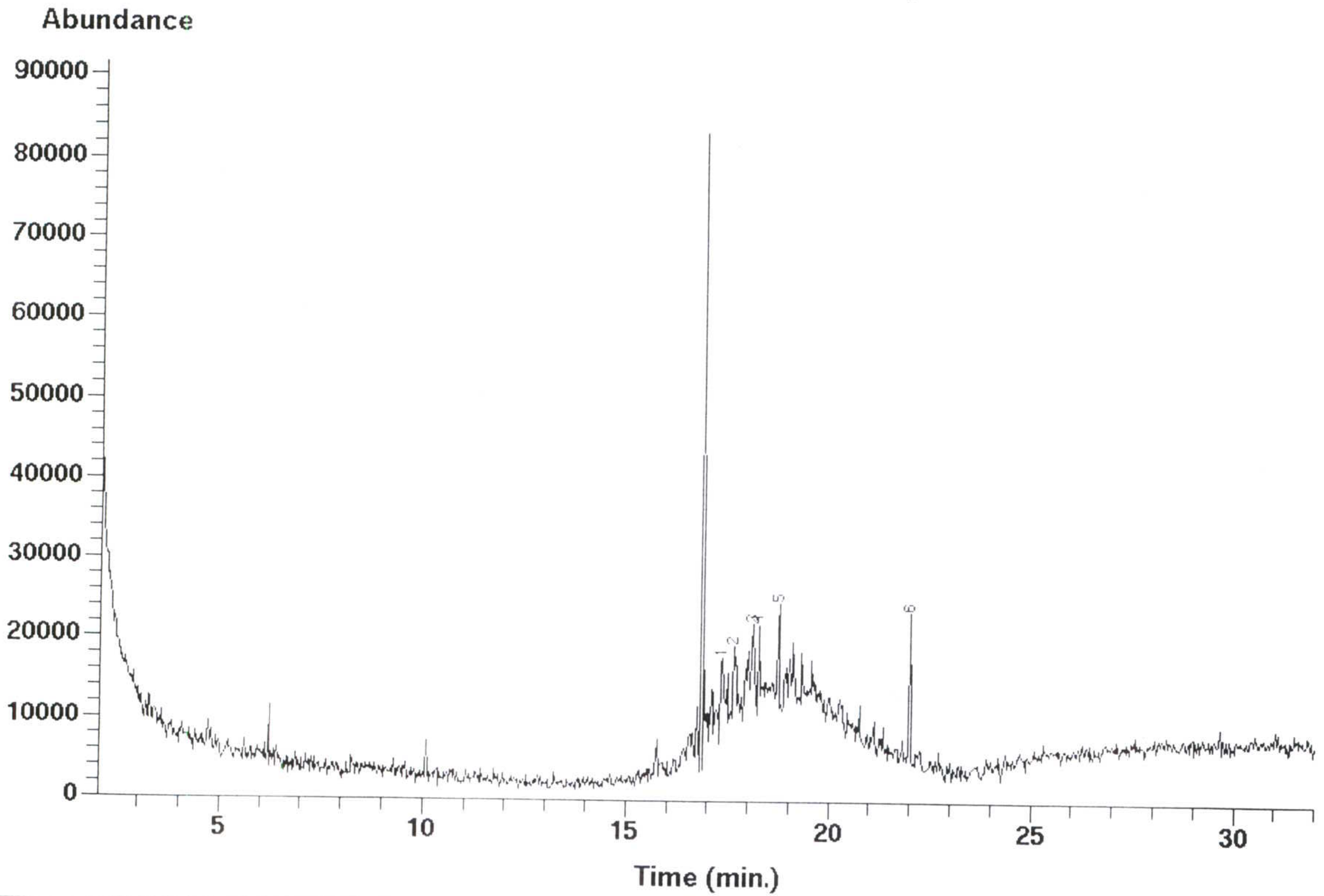
TIC of 6501098_bsb3.d
1023-193 SCAN; Run at 12:01 AM BST on Fri May 30, 1997



GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Semi-Volatiles
By
G.C.M.S.

NAMAS
TESTING
No. 1291

Sample Matrix: Soil
Our Reference: 97/1023/02/01
Date Sample Received: 2/5/97
Date Extracted/Prepared: 25/5/97
Separatory Funnel Ext: No
Soxtec Extraction: Yes
Column Extraction: No
Date Analysed: 30/5/97
GC-MS Mode: SCAN
Internal Standard: External

Sample Number	306
Sample Identity	TP120 0.75
P.Q.L.	10
Units	µg/kg
1	52834
2	5229
3	5414
4	9333
5	5844
6	4551
7	4259

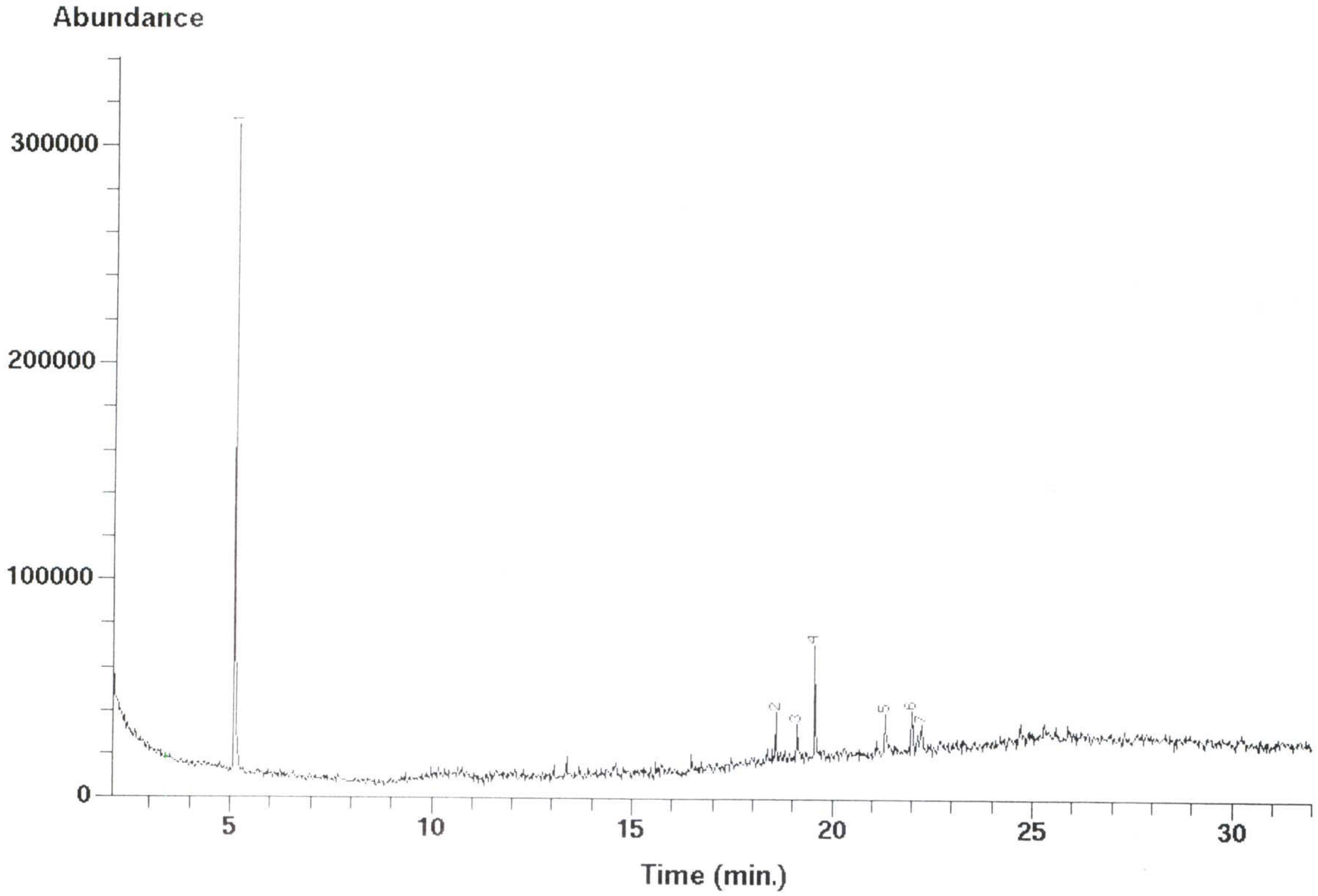
Checked By:

```
Full library search report     Page   1

Search results for Data File /chem/hp1/6601099_bsb1.d
1023-306 SCAN
Injected Fri May 30 97 12:40:56 AM by **BSB** MODIFIED

 Peak  Retention
Number   Time       Prob.   Compound Name
-------------------------------------------------------------------
    1      5.090      50     Heptane, 1,1'-oxybis-
    2     18.576      95     Fluoranthene
    3     19.121      94     Pyrene
    4     19.556      46     2-Hexene, 5-methyl-, (E)-
    5     21.327      50     2,4(1H,3H)-Pyrimidinedione, 5-nitro-
    6     22.007      22     Benzonitrile, m-phenethyl-
    7     22.253      52     3,6-Phenanthrenedicarbonitrile
```

TIC of 6601099_bsb1.d
1023–306 SCAN; Run at 12:40 AM BST on Fri May 30, 1997



Job Number: 97/01023/02/01

GEOCHEM ANALYTICAL SERVICES

Semi-Volatiles
By
G.C.M.S.

NAMAS
TESTING
No. 1291

Sample Matrix:	Soil
Our Reference:	97/1023/02/01
Date Sample Received:	2/5/97
Date Extracted/Prepared:	25/5/97
Separatory Funnel Ext:	No
Soxtec Extraction:	Yes
Column Extraction:	No
Date Analysed:	30/5/97
GC-MS Mode:	SCAN
Internal Standard:	External

Sample Number	309
Sample Identity	TP138 0.70
P.Q.L.	10
Units	µg/kg
1	54148
2	9238
3	9123
4	9476
5	38977
6	16675
7	8164
8	12080
9	6583
10	27646
11	5048
12	30409
13	10404
14	5033
15	7860
16	12558
17	11314

Checked By:..............................

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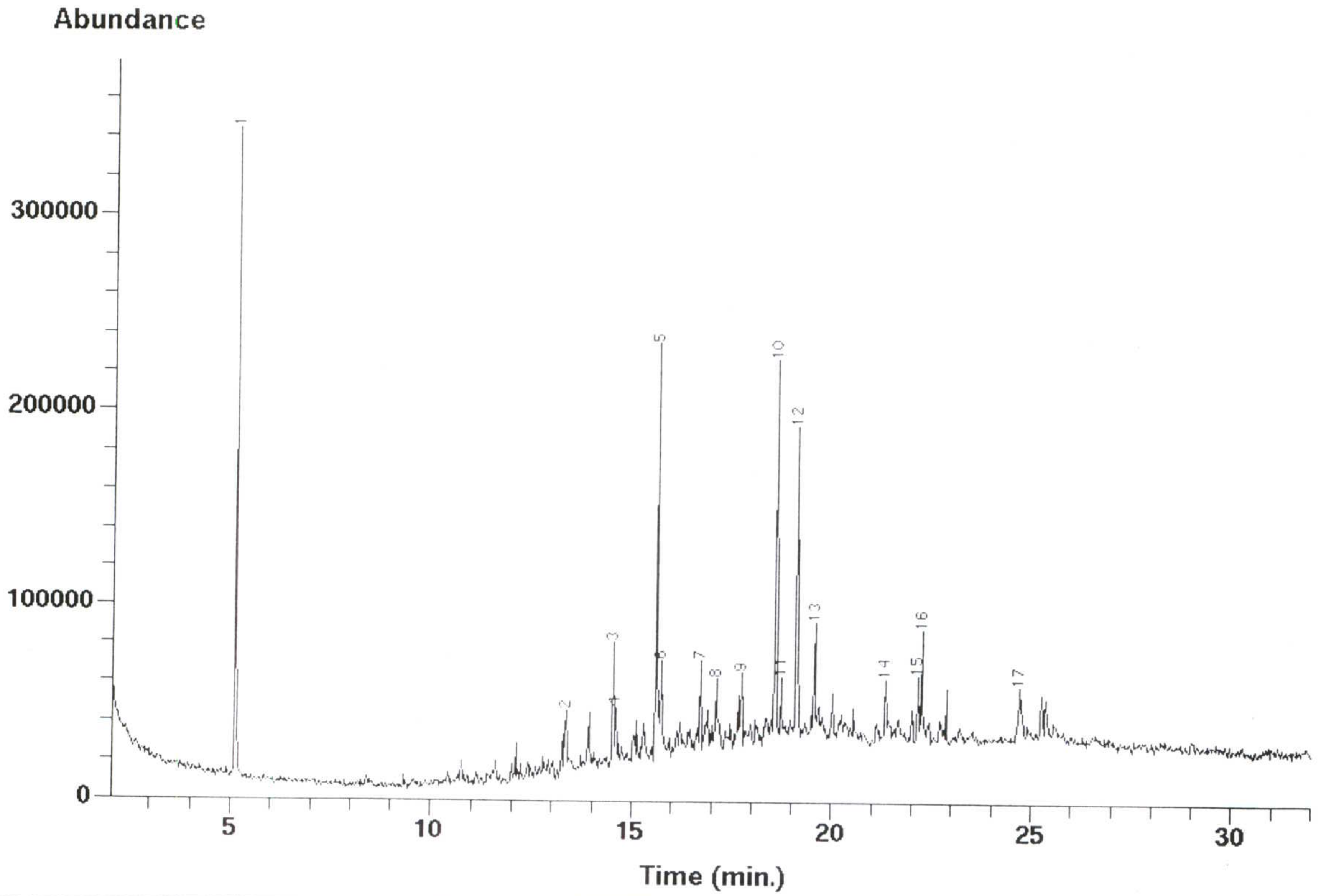
Full library search report      Page   1

Search results for Data File /chem/hp1/6701100_bsb1.d
1023-309 SCAN
Injected Fri May 30 97 01:20:30 AM by **BSB** MODIFIED

 Peak  Retention
Number   Time       Prob.   Compound Name
-------------------------------------------------------------------
    1      5.089      40      1-Decene, 2,4-dimethyl-
    2     13.350      96      Hexadecane
    3     14.524      94      Tridecane
    4     14.606      76      Butane, 2-iodo-2-methyl-
    5     15.615      95      Anthracene
    6     15.752      74      Octacosane
    7     16.734      95      Tetradecane
    8     17.116      49      (5-CHLORO-8-QUINOLINATO-O,N)BORANE
    9     17.744      89      Pentadecane
   10     18.589      97      Pyrene
   11     18.726      60      Tridecane, 2-methyl-
   12     19.108      70      Fluoranthene
   13     19.571      45      Cyclopentane, 3-hexyl-1,1-dimethyl-
   14     21.344      53      Octadecanoic acid, butyl ester
   15     22.163      96      Chrysene
   16     22.244      96      Triphenylene
   17     24.727      98      Benz[e]acephenanthrylene
```

TIC of 6701100_bsb1.d
1023–309 SCAN; Run at 01:20 AM BST on Fri May 30, 1997



GEOCHEM ANALYTICAL SERVICES

Semi-Volatiles
By
G.C.M.S.

NAMAS TESTING No. 1291

Sample Matrix:	Soil
Our Reference:	97/1023/02/01
Date Sample Received:	2/5/97
Date Extracted/Prepared:	25/5/97
Separatory Funnel Ext:	No
Soxtec Extraction:	Yes
Column Extraction:	No
Date Analysed:	30/5/97
GC-MS Mode:	SCAN
Internal Standard:	External

Sample Number	339
Sample Identity	TP53 1.90
P.Q.L.	10
Units	µg/kg
1	486
2	888
3	769
4	1054
5	920
6	796
7	830
8	2203
9	4952
10	810
11	961
12	2196
13	656
14	714

Checked By: David

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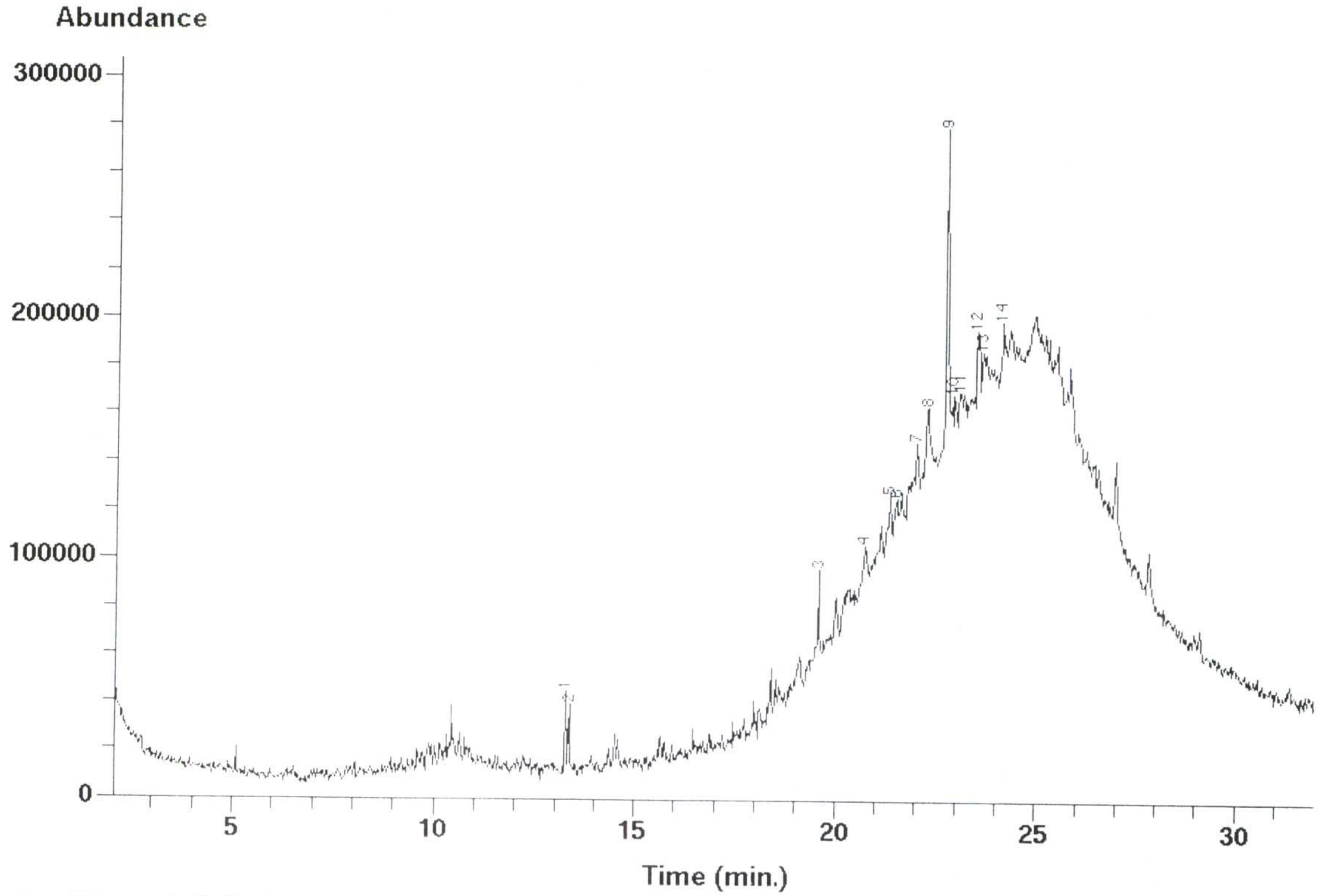
Full library search report     Page   1

Search results for Data File /chem/hp1/6801101_bsb1.d
1023-339 SCAN
Injected Fri May 30 97 02:00:00 AM by **BSB** MODIFIED

 Peak  Retention
Number   Time        Prob.   Compound Name
-------------------------------------------------------------------
    1    13.267       38      2,4(1H,3H)-Pyrimidinedione, 5-nitro-
    2    13.376       36      Heptane, 1,1-dimethoxy-
    3    19.565       38      1-Undecene, 5-methyl-
    4    20.712       43      1-Octadecanethiol
    5    21.341       72      4-Hexenoic acid, 3-methyl-2,6-dioxo-
    6    21.505       72      1-Hentetracontanol
    7    21.997       38      Cyclohexane, (2,2-dimethylcyclopentyl)-
    8    22.271       58      Cyclohexane, 1-(1,5-dimethylhexyl)-4-(4-
    9    22.735       83      1,2-Benzenedicarboxylic acid, diisooctyl
   10    22.927       90      Octadecane, 1-chloro-
   11    23.091       91      4-Hexenoic acid, 3-methyl-2,6-dioxo-
   12    23.501       95      Pentacosane
   13    23.637       87      Cyclotetradecane, 1,7,11-trimethyl-4-(1-
   14    24.129       91      Cyclotetradecane, 1,7,11-trimethyl-4-(1-
```

TIC of 6801101_bsb1.d
1023-339 SCAN; Run at 02:00 AM BST on Fri May 30, 1997



GEOCHEM ANALYTICAL SERVICES

Semi-Volatiles
By
G.C.M.S.

NAMAS
TESTING
No. 1291

Sample Matrix:	Soil
Our Reference:	97/1023/02/01
Date Sample Received:	3/6/97
Date Extracted/Prepared:	11/6/97
Separatory Funnel Ext:	No
Soxtec Extraction:	Yes
Column Extraction:	No
Date Analysed:	17/6/97
GC-MS Mode:	SCAN
Internal Standard:	External

Sample Number	415
Sample Identity	BH6 1.0-2.0m
P.Q.L.	1
Units	mg/kg
1	2
2	6
3	2
4	5
5	3
6	24
7	6
8	2
9	3
10	3
11	8
12	4
13	25
14	27
15	5
16	4
17	2
18	4
19	10
20	15
21	3
22	5
23	3
24	16
25	7
26	9
27	3
28	8
29	5

Checked By:..

Job Number: 97/01023/02/01

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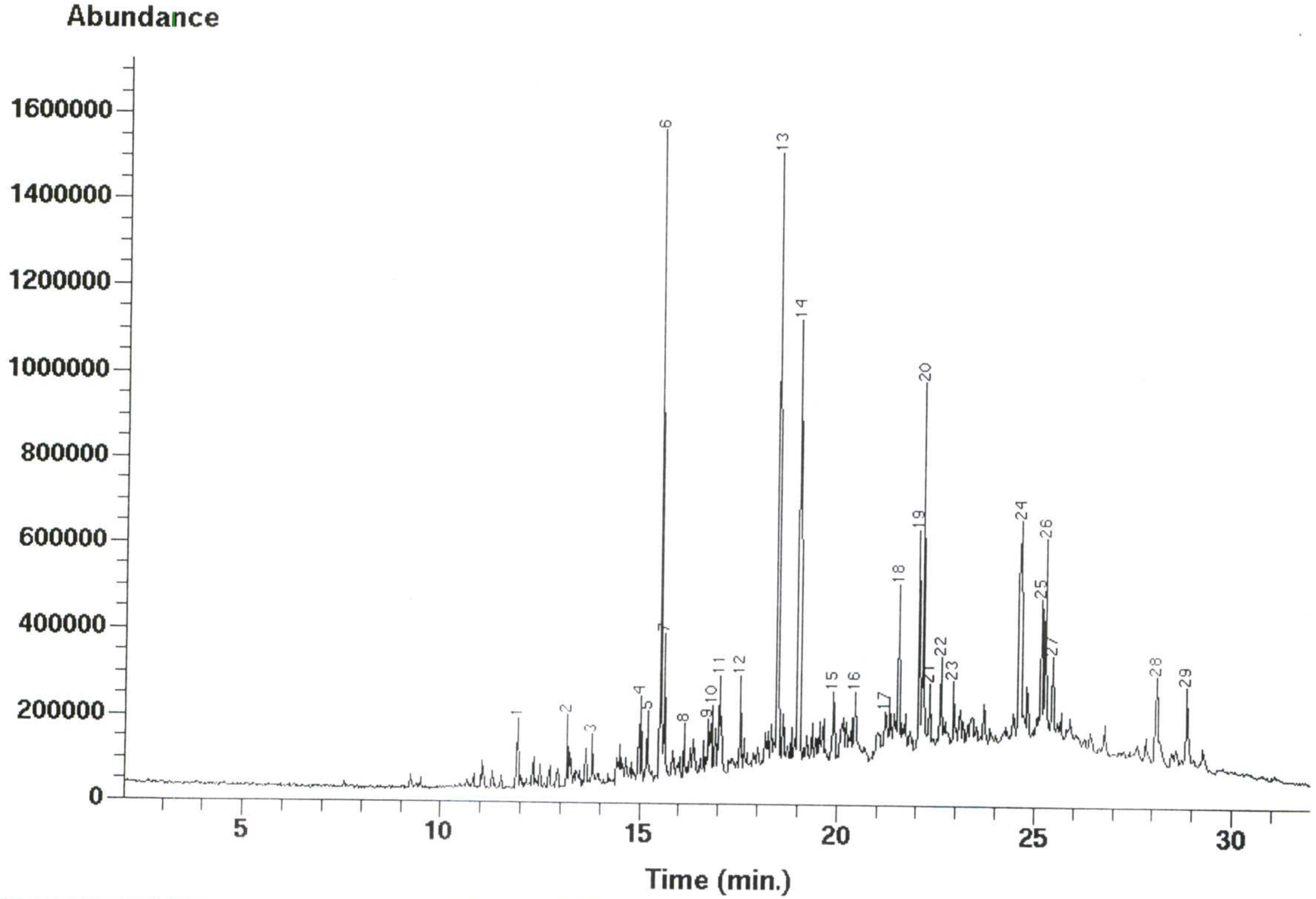
Full library search report      Page   1

Search results for Data File /chem/hp1/0101634.d
1023-415 SCAN
Injected Tue Jun 17 97 09:39:04 AM by Geochem Analytical Services

 Peak  Retention
Number   Time       Prob.   Compound Name
-------------------------------------------------------------------
    1   11.906       76      Acenaphthene (8CI)
    2   13.163       93      9H-Fluorene
    3   13.791       94      Dibenzofuran, 4-methyl-
    4   14.966       42      Azulene, 7-ethyl-1,4-dimethyl-
    5   15.185       83      Dibenzothiophene
    6   15.513       96      Phenanthrene
    7   15.622       94      Anthracene
    8   16.114       91      1,1'-Biphenyl, 2-azido-
    9   16.742       96      Anthracene, 2-methyl-
   10   16.824       94      Anthracene, 2-methyl-
   11   17.015       58      4H-Cyclopenta[def]phenanthrene
   12   17.561       95      9,10-Anthracenedione
   13   18.489       96      Fluoranthene
   14   19.008       87      Pyrene
   15   19.908       94      11H-Benzo[b]fluorene
   16   20.454       92      Heptadecane
   17   21.218       70      7H-Benz[de]anthracen-7-one
   18   21.546       91      Benzo[ghi]fluoranthene
   19   22.038       98      Benz[a]anthracene
   20   22.147       93      Triphenylene
   21   22.338       93      3,4-DIHYDROCYCLOPENTA(CD)PYRENE (ACEPYRE
   22   22.611       49      1,2-Benzenedicarboxylic acid, diisooctyl
   23   22.939       86      Hexadecane
   24   24.633       97      Benzo[j]fluoranthene
   25   25.153       96      Benzo[j]fluoranthene
   26   25.262       97      Benz[e]acephenanthrylene
   27   25.453       97      Benzo[j]fluoranthene
   28   28.105       96      Indeno[1,2,3-cd]pyrene
   29   28.870       95      Dibenzo[def,mno]chrysene
```

TIC of 0101634.d

1023-415 SCAN; Run at 09:39 AM BST on Tue Jun 17, 1997



Job Number: 97/01023/02/01

GEOCHEM ANALYTICAL SERVICES

Volatile Organics Analysis
by
G.C.M.S.

NAMAS
TESTING
No. 1291

Job Number		Sample number	226				
		Client Ref	TP 99				
97/01023/02/01		Depth	1.9				
		Date analysed	12/5/97				
		Matrix	Soil				
Peak	CAS No:	Units	µg/kg				
2T	75-71-8	Dichlorodifluoromethane	<1				
3T	74-87-3	Chloromethane	<1				
4T	75-01-4	Vinyl chloride	<1				
5T	74-83-9	Bromomethane	<1				
6T	75-00-3	Chloroethane	<1				
7T	75-69-4	Trichlorofluoromethane	<1				
8T	156-60-5	trans-1,2-Dichloroethene	<1				
9T	75-09-2	Dichloromethane	<1				
10T	75-35-4	1,1-Dichloroethene	<1				
11T	75-34-3	1,1-Dichloroethane	<1				
12T	156-59-2	cis-1,2-Dichloroethene	<1				
13T	74-97-5	Bromochloromethane	<1				
14T	67-66-3	Chloroform	<1				
16T	107-06-2	1,2-Dichloroethane	<1				
17T	71-55-6	1,1,1-Trichloroethane	<1				
3T	563-58-6	1,1-Dichloropropene	<1				
9T	71-43-2	Benzene	<1				
20T	56-23-5	Carbontetrachloride	<1				
22T	74-95-3	Dibromomethane	<1				
23T	78-87-5	1,2-Dichloropropane	<1				
24T	79-01-6	Trichloroethene	<1				
25T	10061-01-5	cis-1,3-Dichloropropene	<1				
26T	10061-02-6	trans-1,3-Dichloropropene	<1				
27T	79-00-5	1,1,2-Trichloroethane	<1				
29T	108-88-3	Toluene	<1				
30T	142-28-9	1,3-Dichloropropane	<1				
31T	124-48-1	Dibromochloromethane	<1				
32T	106-93-4	1,2-Dibromoethane	<1				
33T	127-18-4	Tetrachloroethene	<1				
35T	108-90-7	Chlorobenzene	<1				
36T	100-41-4	Ethylbenzene	<1				
37T	106-42-3/108-38-3	p/m-Xylene	<1				
38T	100-42-5	Styrene	<1				
39T	95-47-6	o-Xylene	<1				
40T	79-34-5	1,1,2,2-Tetrachloroethane	<1				
41T	96-18-4	1,2,3-Trichloropropane	<1				
43T	98-82-8	Isopropylbenzene	<1				
4T	108-86-1	Bromobenzene	<1				
T	95-49-8	2-Chlorotoluene	<1				
6T	103-65-1	Propylbenzene	<1				
47T	95-36-3	1,2,4-Trimethylbenzene	<1				
48T	99-87-6	4-Isopropyltoluene	<1				
49T	108-67-8	1,3,5-Trimethylbenzene	<1				
50T	95-50-1	1,2-Dichlorobenzene	<1				
52T	106-46-7	1,4-Dichlorobenzene	<1				
53T	135-98-8	sec-Butylbenzene	<1				
54T	98-06-6	tert-Butylbenzene	<1				
55T	541-73-1	1,3-Dichlorobenzene	<1				
56T	104-51-8	n-Butylbenzene	<1				
57T	96-12-8	1,2-Dibromo-3-chloro-propane	<1				
58T	120-82-1	1,2,4-Trichlorobenzene	<1				
59T	91-20-3	Naphthalene	<1				
60T	87-61-6	1,2,3-Trichlorobenzene	<1				
61T	87-68-3	Hexachlorobutadiene	<1				

Water blank subtracted

Job Number: 97/01023/02/01

Approved by

Print name J W F JONES

GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Volatile Organics Analysis
by
G.C.M.S.

NAMAS
TESTING
No. 1291

Job Number		Sample number	217	228	238		
		Client Ref	TP 93	TP 100	TP 105		
97/01023/02/01		Depth	0.9	1.4	1.2		
		Date analysed	9/5/97	9/5/97	9/5/97		
		Matrix	Soil	Soil	Soil		
Peak	CAS No:	Units	µg/kg	µg/kg	µg/kg		
2T	75-71-8	Dichlorodifluoromethane	<1	<1	<1		
3T	74-87-3	Chloromethane	<1	<1	<1		
4T	75-01-4	Vinyl chloride	<1	<1	<1		
5T	74-83-9	Bromomethane	<1	<1	<1		
6T	75-00-3	Chloroethane	<1	<1	<1		
7T	75-69-4	Trichlorofluoromethane	<1	<1	<1		
8T	156-60-5	trans-1,2-Dichloroethene	<1	<1	<1		
9T	75-09-2	Dichloromethane	<1	<1	<1		
10T	75-35-4	1,1-Dichloroethene	<1	<1	<1		
11T	75-34-3	1,1-Dichloroethane	<1	<1	<1		
12T	156-59-2	cis-1,2-Dichloroethene	<1	<1	<1		
13T	74-97-5	Bromochloromethane	<1	<1	<1		
14T	67-66-3	Chloroform	<1	<1	<1		
16T	107-06-2	1,2-Dichloroethane	<1	<1	<1		
17T	71-55-6	1,1,1-Trichloroethane	<1	<1	<1		
18T	563-58-6	1,1-Dichloropropene	<1	<1	<1		
9T	71-43-2	Benzene	<1	<1	1110		
20T	56-23-5	Carbontetrachloride	<1	<1	<1		
22T	74-95-3	Dibromomethane	<1	<1	<1		
23T	78-87-5	1,2-Dichloropropane	<1	<1	<1		
24T	79-01-6	Trichloroethene	<1	<1	<1		
25T	10061-01-5	cis-1,3-Dichloropropene	<1	<1	<1		
26T	10061-02-6	trans-1,3-Dichloropropene	<1	<1	<1		
27T	79-00-5	1,1,2-Trichloroethane	<1	<1	<1		
29T	108-88-3	Toluene	<1	<1	<1		
30T	142-28-9	1,3-Dichloropropane	<1	<1	<1		
31T	124-48-1	Dibromochloromethane	<1	<1	<1		
32T	106-93-4	1,2-Dibromoethane	<1	<1	<1		
33T	127-18-4	Tetrachloroethene	<1	<1	<1		
35T	108-90-7	Chlorobenzene	<1	<1	<1		
36T	100-41-4	Ethylbenzene	<1	<1	9433		
37T	106-42-3/108-38-3	p/m-Xylene	<1	<1	9087		
38T	100-42-5	Styrene	<1	<1	<1		
39T	95-47-6	o-Xylene	<1	<1	<1		
40T	79-34-5	1,1,2,2-Tetrachloroethane	<1	<1	<1		
41T	96-18-4	1,2,3-Trichloropropane	<1	<1	<1		
43T	98-82-8	Isopropylbenzene	<1	<1	1677		
44T	108-86-1	Bromobenzene	<1	<1	<1		
T	95-49-8	2-Chlorotoluene	<1	<1	<1		
46T	103-65-1	Propylbenzene	<1	<1	1928		
47T	95-36-3	1,2,4-Trimethylbenzene	<1	53	3784		
48T	99-87-6	4-Isopropyltoluene	<1	<1	<1		
49T	108-67-8	1,3,5-Trimethylbenzene	<1	<1	11725		
50T	95-50-1	1,2-Dichlorobenzene	<1	<1	<1		
52T	106-46-7	1,4-Dichlorobenzene	<1	<1	<1		
53T	135-98-8	sec-Butylbenzene	<1	<1	944		
54T	98-06-6	tert-Butylbenzene	<1	<1	<1		
55T	541-73-1	1,3-Dichlorobenzene	<1	<1	<1		
56T	104-51-8	n-Butylbenzene	<1	<1	1456		
57T	96-12-8	1,2-Dibromo-3-chloro-propane	<1	<1	<1		
58T	120-82-1	1,2,4-Trichlorobenzene	<1	<1	<1		
59T	91-20-3	Naphthalene	<1	<1	2664		
60T	87-61-6	1,2,3-Trichlorobenzene	<1	<1	<1		
61T	87-68-3	Hexachlorobutadiene	<1	<1	<1		

Water blank subtracted

Approved by

Print name J.W.F. JONES

GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Volatiles Analysis
by
G.C.M.S.

NAMAS
TESTING
No. 1291

		Sample number	284				
Job Number		Client Ref	TP91				
		Depth	0.75				
97/1023/02/05		Date analysed	12/5/97				
		Matrix	Soil				
		Dilution factor (P.Q.L)	5				
Peak	CAS No:	Units	µg/kg				
2T	75-35-4	1,1-Dichloroethene	<5				
3T	75-09-2	Dichloromethane	<5				
4T	156-59-2	trans-1,2-Dichloroethene	<5				
5T	75-34-3	1,1-Dichloroethane	<5				
6T	156-60-5	cis-1,2-Dichloroethene	<5				
7T	67-66-3	Chloroform	<5				
8T	594-20-7	2,2-Dichloropropane	<5				
10T	107-06-2	1,2-Dichloroethane	<5				
11T	71-55-6	1,1,1-Trichloroethane	<5				
12T	563-58-6	1,1-Dichloropropene	<5				
3T	71-43-2	Benzene	<5				
T	56-23-5	Carbon Tetrachloride	<5				
16T	74-95-3	Dibromomethane	<5				
17T	78-87-5	1,2-Dichloropropane	<5				
18T	75-27-4	Bromodichloromethane	<5				
19T	79-01-6	Trichloroethene	<5				
20T	10061-01-6	cis-1,3-Dichloropropene	<5				
21T	10061-02-5	trans-1,3-Dichloropropene	<5				
22T	79-00-5	1,1,2-Trichloroethane	<5				
24T	108-88-3	Toluene	<5				
25T	124-48-1	Dibromochloromethane	<5				
26T	106-93-4	1,2-Dibromoethane	<5				
27T	127-18-4	Tetrachloroethene	<5				
29T	108-90-7	Chlorobenzene	<5				
30T	100-41-4	Ethylbenzene	<5				
31T	1330-20-7	Xylenes(meta & para)	<5				
32T	75-25-2	Bromoform	<5				
33T	100-42-5	Styrene	<5				
34T	79-34-5	1,1,2,2-Tetrachloroethane	<5				
35T	95-47-6	o-Xylene	<5				
6T	142-28-9	1,3-Dichloropropane	<5				
T	98-82-8	Isopropylbenzene	<5				
9T	108-86-1	Bromobenzene	<5				
40T	95-49-8	2-Chlorotoluene	<5				
41T	103-65-1	n-Propylbenzene	<5				
42T	106-43-4	4-Chlorotoluene	<5				
43T	108-67-8	1,3,5-Trimethylbenzene	<5				
44T	25155-15-1	4-Isopropyltoluene	<5				
45T	95-63-6	1,2,4-Trimethylbenzene	<5				
46T	95-50-1	1,2-Dichlorobenzene	<5				
48T	541-73-1	1,3-Dichlorobenzene	<5				
49T	135-98-8	sec-Butylbenzene	<5				
50T	98-06-6	tert-Butylbenzene	<5				
51T	106-46-7	1,4-Dichlorobenzene	<5				
52T	104-51-8	n-Butylbenzene	<5				
		Total Other Volatiles	<5				

N.B. Water blank subtracted

\# High dilution factor

* Out of calibration

Approved by

Print name J.W.F.JONES

GEOCHEM

NAMAS
TESTING
No. 1291

GEOCHEM ANALYTICAL SERVICES

Tentatively Identified Compounds
by
GCMS

Method: Purge & Trap
Detection: GC/MS
Mode: Full scan
Internal Std: Internal & Surrogate
Conc: 100µg/kg
Matrix: Soil

Our ref: 97/1023-284
Your ref: TP 91

Peak No:	Compound Identification	R.Time (min)	Conc. (µg/kg)
a	Carbon disulphide	7.08	18

Units: µg/kg

Approved by: ______________________

GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Volatiles Analysis
by
G.C.M.S.

NAMAS
TESTING
No. 1291

Job Number **97/1023/02/06**		Sample number	310				
		Client Ref	TP138				
		Depth	1.50				
		Date analysed	22/05/97				
		Matrix	Soil				
		Dilution factor (P.Q.L)	10				
Peak	CAS No:	Units	µg/kg				
2T	75-35-4	1,1-Dichloroethene	<10				
3T	75-09-2	Dichloromethane	*43				
4T	156-59-2	trans-1,2-Dichloroethene	<10				
5T	75-34-3	1,1-Dichloroethane	<10				
6T	156-60-5	cis-1,2-Dichloroethene	<10				
7T	67-66-3	Chloroform	<10				
8T	594-20-7	2,2-Dichloropropane	<10				
10T	107-06-2	1,2-Dichloroethane	<10				
11T	71-55-6	1,1,1-Trichloroethane	<10				
12T	563-58-6	1,1-Dichloropropene	<10				
13T	71-43-2	Benzene	<10				
4T	56-23-5	Carbon Tetrachloride	<10				
6T	74-95-3	Dibromomethane	<10				
17T	78-87-5	1,2-Dichloropropane	<10				
18T	75-27-4	Bromodichloromethane	<10				
19T	79-01-6	Trichloroethene	24				
20T	10061-01-6	cis-1,3-Dichloropropene	<10				
21T	10061-02-5	trans-1,3-Dichloropropene	<10				
22T	79-00-5	1,1,2-Trichloroethane	<10				
24T	108-88-3	Toluene	<10				
25T	124-48-1	Dibromochloromethane	<10				
26T	106-93-4	1,2-Dibromoethane	<10				
27T	127-18-4	Tetrachloroethene	<10				
29T	108-90-7	Chlorobenzene	<10				
30T	100-41-4	Ethylbenzene	<10				
31T	1330-20-7	Xylenes(meta & para)	<10				
32T	75-25-2	Bromoform	<10				
33T	100-42-5	Styrene	<10				
34T	79-34-5	1,1,2,2-Tetrachloroethane	<10				
35T	95-47-6	o-Xylene	<10				
36T	142-28-9	1,3-Dichloropropane	<10				
38T	98-82-8	Isopropylbenzene	<10				
T	108-86-1	Bromobenzene	<10				
0T	95-49-8	2-Chlorotoluene	<10				
41T	103-65-1	n-Propylbenzene	<10				
42T	106-43-4	4-Chlorotoluene	<10				
43T	108-67-8	1,3,5-Trimethylbenzene	<10				
44T	25155-15-1	4-Isopropyltoluene	<10				
45T	95-63-6	1,2,4-Trimethylbenzene	<10				
46T	95-50-1	1,2-Dichlorobenzene	<10				
48T	541-73-1	1,3-Dichlorobenzene	<10				
49T	135-98-8	sec-Butylbenzene	<10				
50T	98-06-6	tert-Butylbenzene	<10				
51T	106-46-7	1,4-Dichlorobenzene	<10				
52T	104-51-8	n-Butylbenzene	<10				
		Total Other Volatiles	4678				

N.B. Water blank subtracted

High dilution factor

* Out of calibration

Approved by ....

Print name J.W.F.JONES

GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Volatiles Analysis
by
G.C.M.S.

NAMAS
TESTING
No. 1291

Job Number		Sample number	313	234	331		
		Client Ref	TP142	TP146	TP149		
97/1023/02/06		Depth	0.20	0.30	0.50		
		Date analysed	19/05/97	19/05/97	20/05/97		
		Matrix	Soil	Soil	Soil		
		Dilution factor (P.Q.L)	5	5	10		
Peak	CAS No:	Units	µg/kg	µg/kg	µg/kg		
2T	75-35-4	1,1-Dichloroethene	<5	<5	<10		
3T	75-09-2	Dichloromethane	38	<5	30		
4T	156-59-2	trans-1,2-Dichloroethene	<5	<5	<10		
5T	75-34-3	1,1-Dichloroethane	<5	<5	<10		
6T	156-60-5	cis-1,2-Dichloroethene	<5	<5	<10		
7T	67-66-3	Chloroform	<5	<5	<10		
8T	594-20-7	2,2-Dichloropropane	<5	<5	<10		
10T	107-06-2	1,2-Dichloroethane	<5	<5	<10		
11T	71-55-6	1,1,1-Trichloroethane	<5	<5	<10		
12T	563-58-6	1,1-Dichloropropene	<5	<5	<10		
13T	71-43-2	Benzene	<5	<5	<10		
4T	56-23-5	Carbon Tetrachloride	<5	<5	<10		
16T	74-95-3	Dibromomethane	<5	<5	<10		
17T	78-87-5	1,2-Dichloropropane	<5	<5	<10		
18T	75-27-4	Bromodichloromethane	<5	<5	<10		
19T	79-01-6	Trichloroethene	<5	<5	<10		
20T	10061-01-6	cis-1,3-Dichloropropene	<5	<5	<10		
21T	10061-02-5	trans-1,3-Dichloropropene	<5	<5	<10		
22T	79-00-5	1,1,2-Trichloroethane	<5	<5	<10		
24T	108-88-3	Toluene	<5	<5	26		
25T	124-48-1	Dibromochloromethane	<5	<5	<10		
26T	106-93-4	1,2-Dibromoethane	<5	<5	<10		
27T	127-18-4	Tetrachloroethene	<5	<5	<10		
29T	108-90-7	Chlorobenzene	<5	<5	<10		
30T	100-41-4	Ethylbenzene	<5	<5	<10		
31T	1330-20-7	Xylenes(meta & para)	<5	<5	36		
32T	75-25-2	Bromoform	<5	<5	<10		
33T	100-42-5	Styrene	<5	<5	<10		
34T	79-34-5	1,1,2,2-Tetrachloroethane	<5	<5	<10		
35T	95-47-6	o-Xylene	<5	<5	30		
36T	142-28-9	1,3-Dichloropropane	<5	<5	<10		
38T	98-82-8	Isopropylbenzene	<5	<5	<10		
T	108-86-1	Bromobenzene	<5	<5	<10		
40T	95-49-8	2-Chlorotoluene	<5	<5	<10		
41T	103-65-1	n-Propylbenzene	<5	<5	<10		
42T	106-43-4	4-Chlorotoluene	<5	<5	<10		
43T	108-67-8	1,3,5-Trimethylbenzene	<5	<5	457		
44T	25155-15-1	4-Isopropyltoluene	<5	<5	<10		
45T	95-63-6	1,2,4-Trimethylbenzene	<5	6	524		
46T	95-50-1	1,2-Dichlorobenzene	<5	<5	<10		
48T	541-73-1	1,3-Dichlorobenzene	<5	<5	<10		
49T	135-98-8	sec-Butylbenzene	<5	<5	<10		
50T	98-06-6	tert-Butylbenzene	<5	<5	187		
51T	106-46-7	1,4-Dichlorobenzene	<5	<5	<10		
52T	104-51-8	n-Butylbenzene	<5	<5	<10		
		Total Other Volatiles	<5	17	21013		

N.B. Water blank subtracted

\# High dilution factor

* Out of calibration

Approved by ....

Print name J.W.F.JONES

GEOCHEM ANALYTICAL SERVICES

Tentatively Identified Compounds
by
GCMS

NAMAS
TESTING
No. 1291

Method: Purge & Trap
Detection: GC/MS
Mode: Full scan
Internal Std: Internal & Surrogate
Conc: 100µg/kg
Matrix: Soil

Our ref: 97/1023-331
Your ref: TP 149

Peak No:	Compound Identification	R.Time (min)	Conc. (µg/kg)
a	3-methyl-Octane	23.56	579
b	3,5-dimethyl-Octane	25.98	1137
c	2,6-dimethyl-Octane	26.40	2067
d	1-ethyl-2-methyl-Benzene	27.17	525
e	2-methyl-Nonane	27.66	1609
f	2,6-dimethyl-Nonane	30.04	1106
g	butyl-Cyclohexane	30.59	909

Units: µg/kg

Approved by: ....

GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Volatile Organics Analysis
by
G.C.M.S.

NAMAS
TESTING
No. 1291

Job Number 97/01023/02/01		Sample number	335	350			
		Client Ref	TP 35	TP 134			
		Depth	0.2	1.0			
		Date analysed	12/5/97	12/5/97			
		Matrix	Soil	Soil			
Peak	CAS No:	Units	µg/kg	µg/kg			
2T	75-71-8	Dichlorodifluoromethane	<1	<1			
3T	74-87-3	Chloromethane	<1	<1			
4T	75-01-4	Vinyl chloride	<1	<1			
5T	74-83-9	Bromomethane	<1	<1			
6T	75-00-3	Chloroethane	<1	<1			
7T	75-69-4	Trichlorofluoromethane	<1	<1			
8T	156-60-5	trans-1,2-Dichloroethene	<1	<1			
9T	75-09-2	Dichloromethane	<1	<1			
10T	75-35-4	1,1-Dichloroethene	<1	<1			
11T	75-34-3	1,1-Dichloroethane	<1	<1			
12T	156-59-2	cis-1,2-Dichloroethene	<1	<1			
13T	74-97-5	Bromochloromethane	<1	<1			
14T	67-66-3	Chloroform	<1	<1			
16T	107-06-2	1,2-Dichloroethane	<1	<1			
17T	71-55-6	1,1,1-Trichloroethane	<1	<1			
8T	563-58-6	1,1-Dichloropropene	<1	<1			
9T	71-43-2	Benzene	<1	<1			
20T	56-23-5	Carbontetrachloride	<1	<1			
22T	74-95-3	Dibromomethane	<1	<1			
23T	78-87-5	1,2-Dichloropropane	<1	<1			
24T	79-01-6	Trichloroethene	<1	<1			
25T	10061-01-5	cis-1,3-Dichloropropene	<1	<1			
26T	10061-02-6	trans-1,3-Dichloropropene	<1	<1			
27T	79-00-5	1,1,2-Trichloroethane	<1	<1			
29T	108-88-3	Toluene	<1	<1			
30T	142-28-9	1,3-Dichloropropane	<1	<1			
31T	124-48-1	Dibromochloromethane	<1	<1			
32T	106-93-4	1,2-Dibromoethane	<1	<1			
33T	127-18-4	Tetrachloroethene	<1	<1			
35T	108-90-7	Chlorobenzene	<1	<1			
36T	100-41-4	Ethylbenzene	<1	<1			
37T	106-42-3/108-38-3	p/m-Xylene	<1	<1			
38T	100-42-5	Styrene	<1	<1			
39T	95-47-6	o-Xylene	<1	<1			
40T	79-34-5	1,1,2,2-Tetrachloroethane	<1	<1			
41T	96-18-4	1,2,3-Trichloropropane	<1	<1			
43T	98-82-8	Isopropylbenzene	<1	<1			
44T	108-86-1	Bromobenzene	<1	<1			
T	95-49-8	2-Chlorotoluene	<1	<1			
6T	103-65-1	Propylbenzene	<1	<1			
47T	95-36-3	1,2,4-Trimethylbenzene	<1	73			
48T	99-87-6	4-Isopropyltoluene	<1	<1			
49T	108-67-8	1,3,5-Trimethylbenzene	<1	<1			
50T	95-50-1	1,2-Dichlorobenzene	<1	<1			
52T	106-46-7	1,4-Dichlorobenzene	<1	<1			
53T	135-98-8	sec-Butylbenzene	<1	<1			
54T	98-06-6	tert-Butylbenzene	<1	<1			
55T	541-73-1	1,3-Dichlorobenzene	<1	<1			
56T	104-51-8	n-Butylbenzene	<1	<1			
57T	96-12-8	1,2-Dibromo-3-chloro-propane	<1	<1			
58T	120-82-1	1,2,4-Trichlorobenzene	<1	<1			
59T	91-20-3	Naphthalene	<1	<1			
60T	87-61-6	1,2,3-Trichlorobenzene	<1	<1			
61T	87-68-3	Hexachlorobutadiene	<1	<1			

Water blank subtracted

Job Number: 97/01023/02/01

Approved by

Print name J.W.F. JONES

```
File          : C:\HPCHEM\1\DATA\120597\S9201984.D
Operator      : Geochem Analytical Services
Acquired      : 12 May 97  10:53 pm using AcqMethod 60VOCHS
Instrument :    MSD Vols5
Sample Name: 1023-226
Misc Info   :
Vial Number: 15
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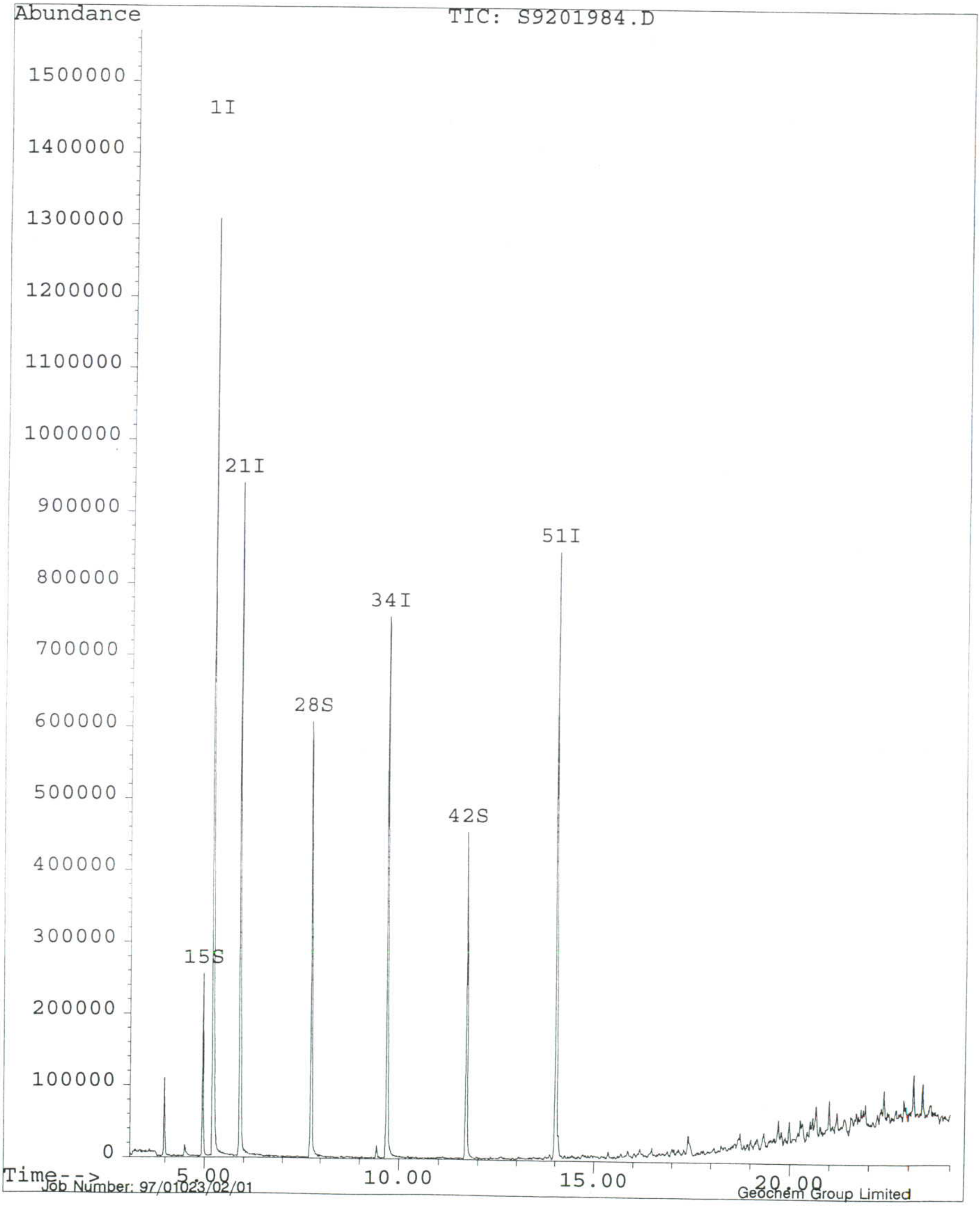

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File          : C:\HPCHEM\1\DATA\090597\S5901951.D
Operator      : Geochem Analytical Services
Acquired      : 10 May 97   7:00 am using AcqMethod 60VOCHS
Instrument :    MSD Vols5
Sample Name: 1023-217
Misc Info  :
Vial Number: 30
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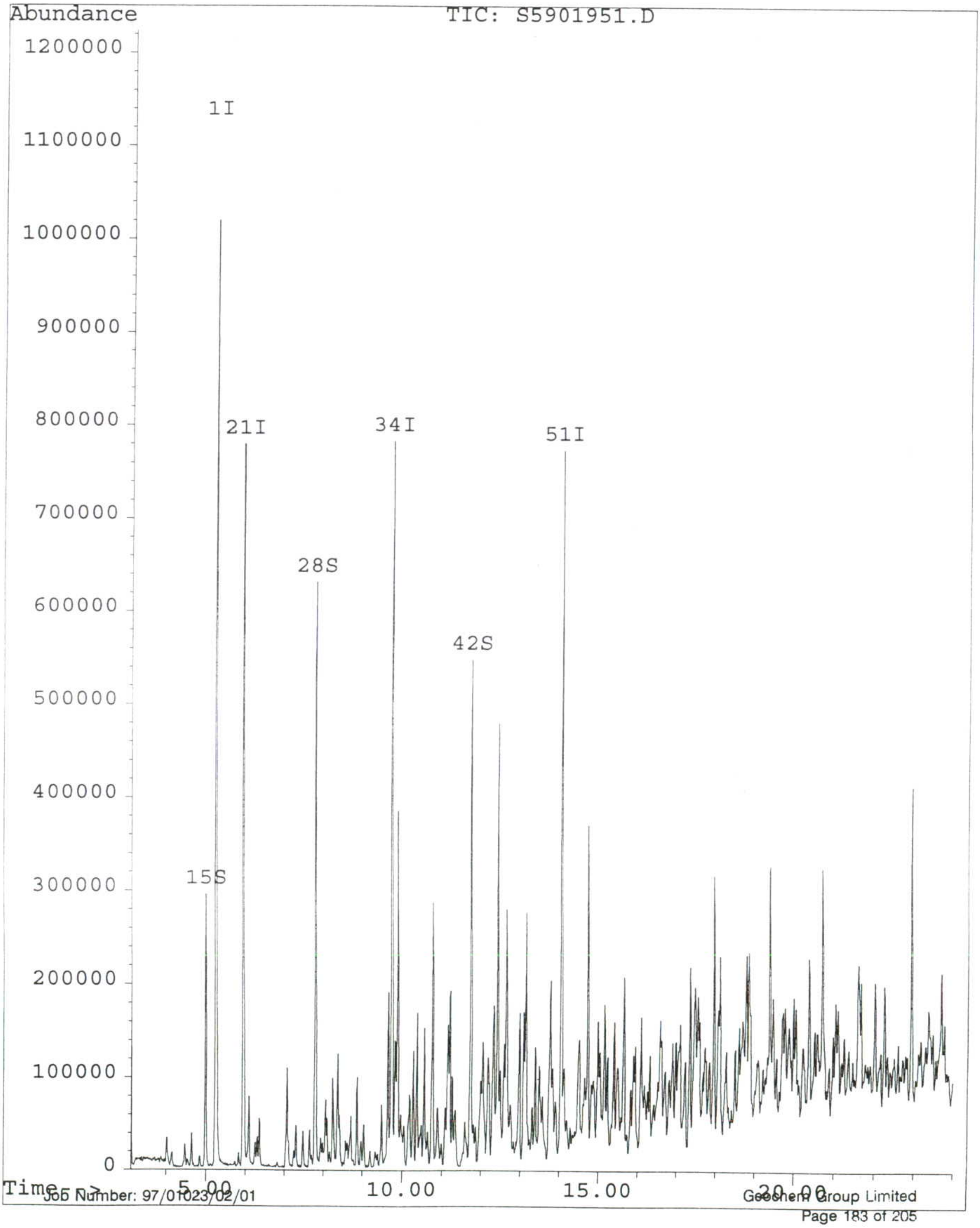

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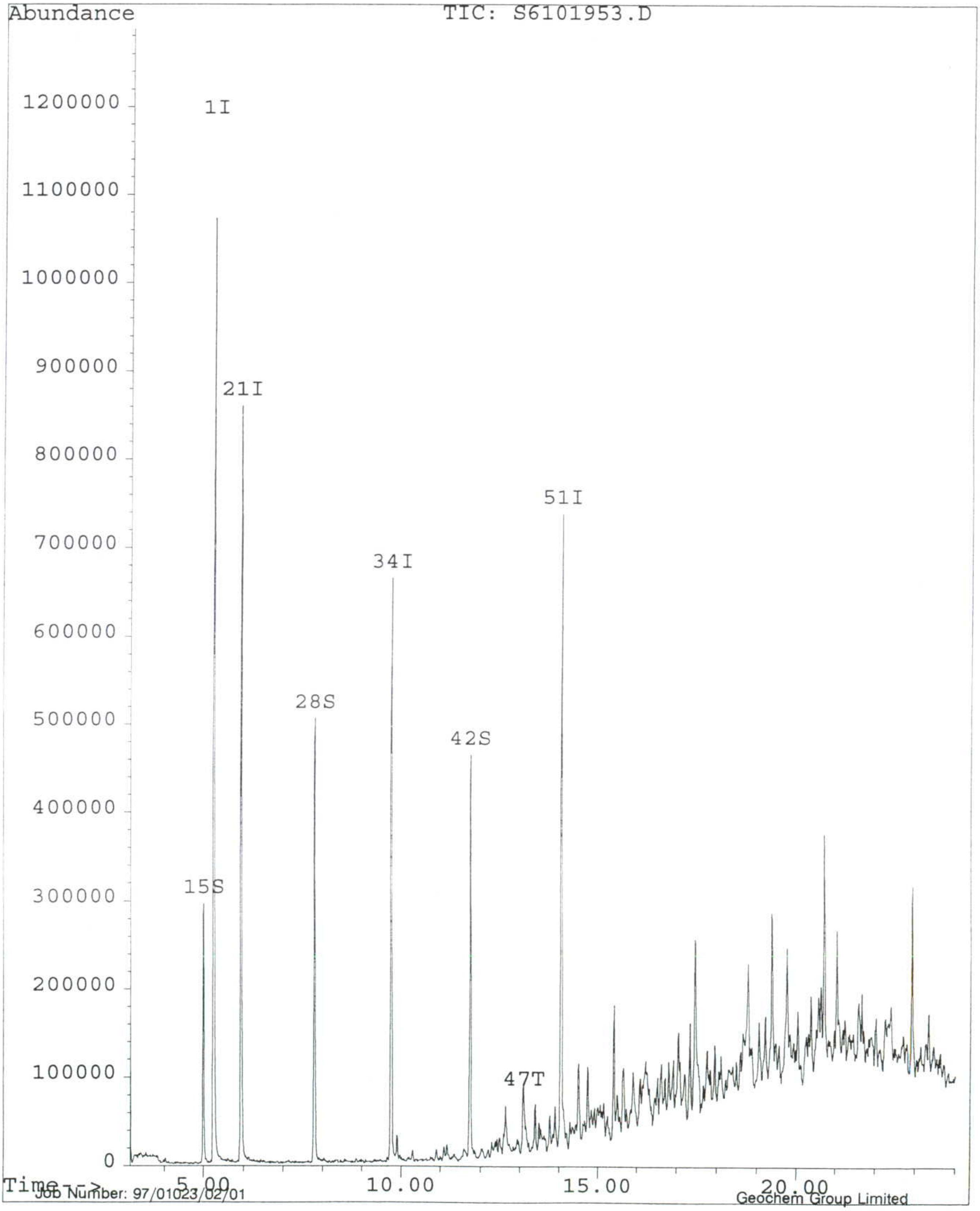
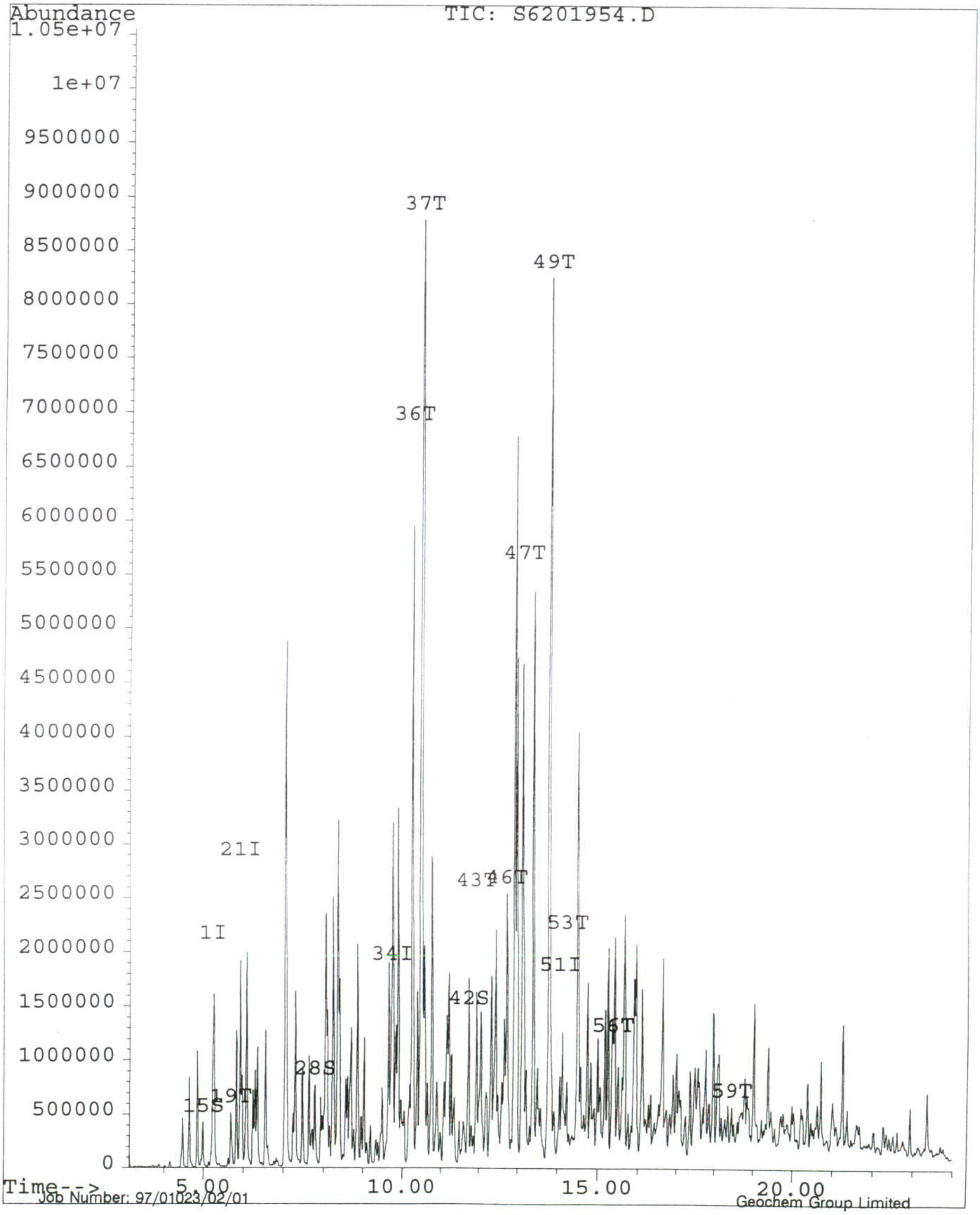
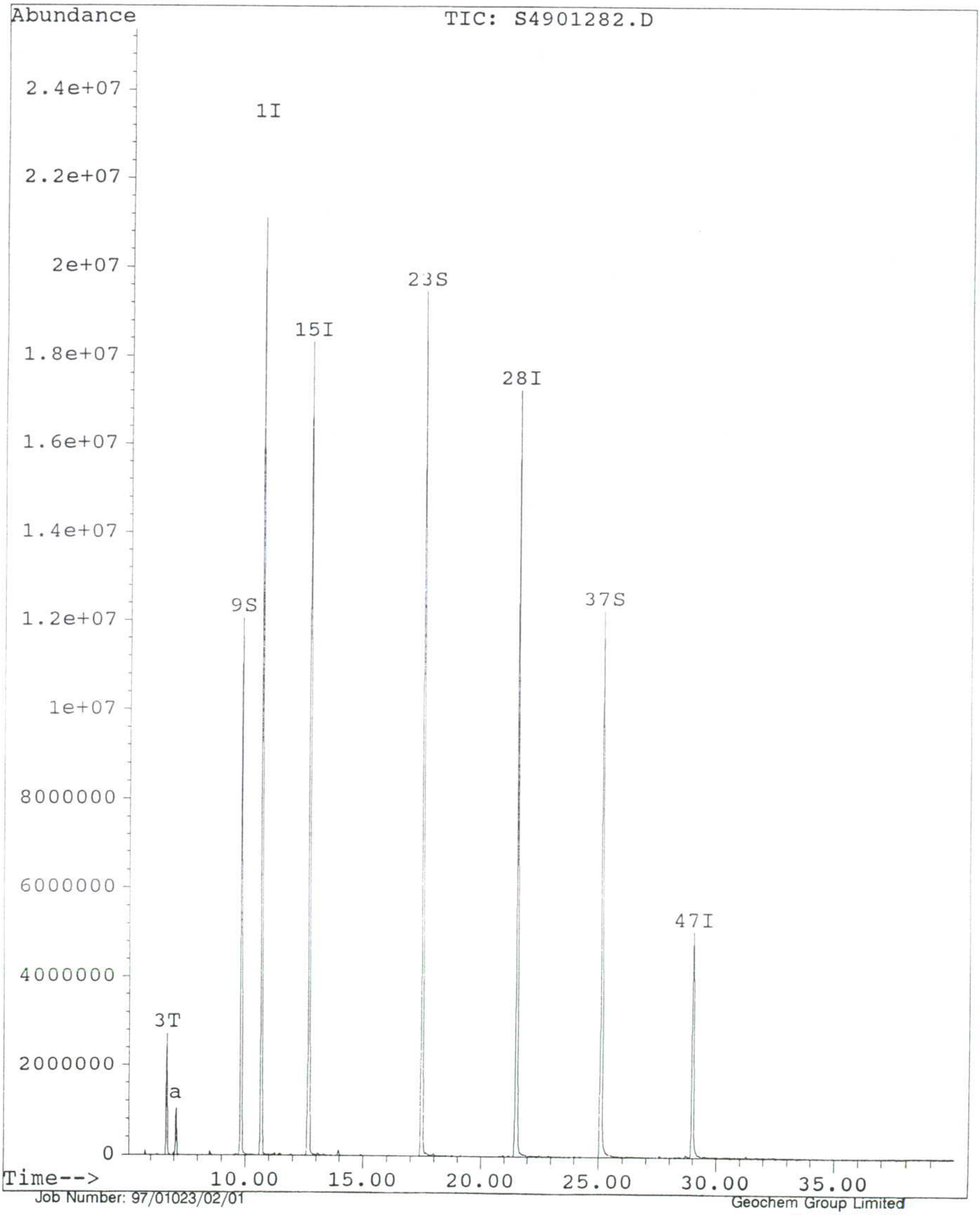
File         : C:\HPCHEM\1\DATA\090597\S6101953.D
Operator     : Geochem Analytical Services
Acquired     : 10 May 97   8:09 am using AcqMethod 60VOCHS
Instrument :   MSD Vols5
Sample Name: 1023-228
Misc Info  :
Vial Number: 32
```



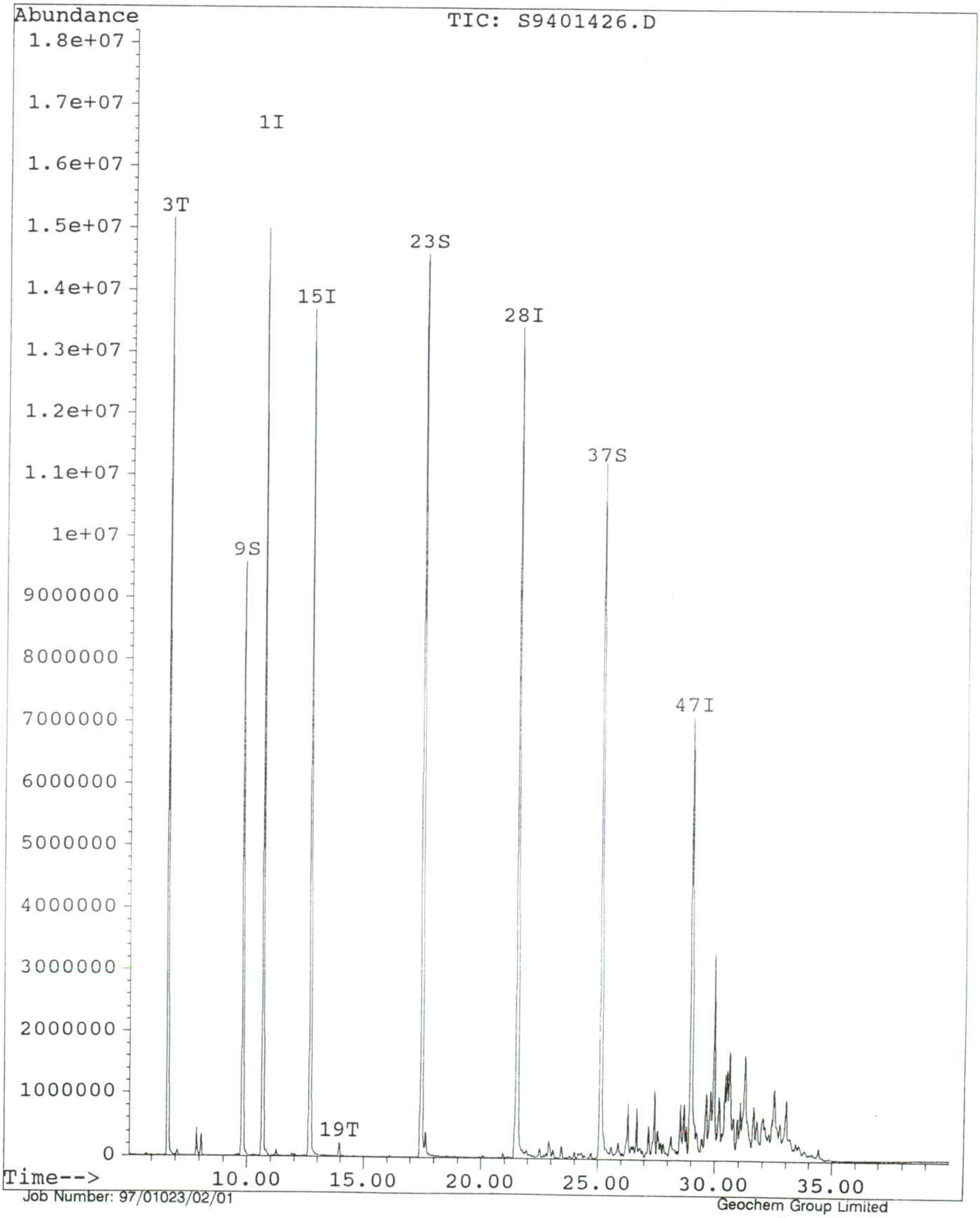
File : C:\HPCHEM\1\DATA\090597\S6201954.D
Operator : Geochem Analytical Services
Acquired : 10 May 97 8:43 am using AcqMethod 60VOCHS
Instrument : MSD Vols5
Sample Name: 1023-238
Misc Info :
Vial Number: 33



File : C:\HPCHEM\1\DATA\S4901282.D
Operator : Geochem Analytical Services
Acquired : 12 May 97 11:15 pm using AcqMethod VOLENV
Instrument : 5971 MSD
Sample Name: 1023/5-284
Misc Info : Aspinall & Company
Vial Number: 49



```
File          : C:\HPCHEM\1\DATA\S9401426.D
Operator      : Geochem Analytical Services
Acquired      : 22 May 97   9:11 am using AcqMethod VOLENV
Instrument    :   5971 MSD
Sample Name:  1023/6-310
Misc Info     : Aspinwall & Company
Vial Number:  94
```



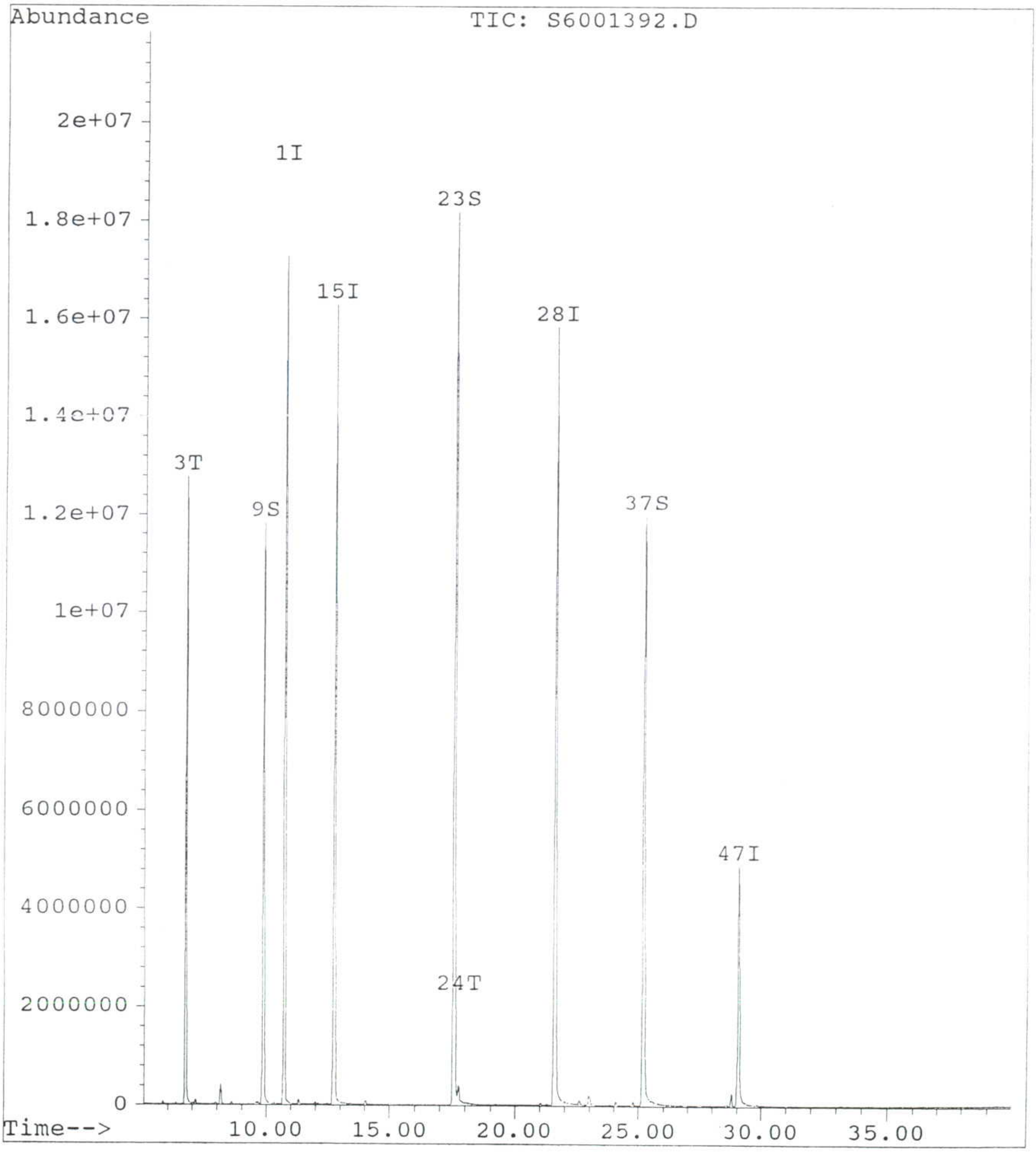
Job Number: 97/01023/02/01

Geochem Group Limited

Quantitation Report

```
Data File : C:\HPCHEM\1\DATA\S6001392.D
Acq Time  : 19 May 97   8:22 pm                Operator: Geochem
Sample    : 1023/6-313                          Inst    : 5971 MS
Misc      : Aspinwall & Company                 Multiplr: 1.00
Quant Time: May 20 11:55 1997

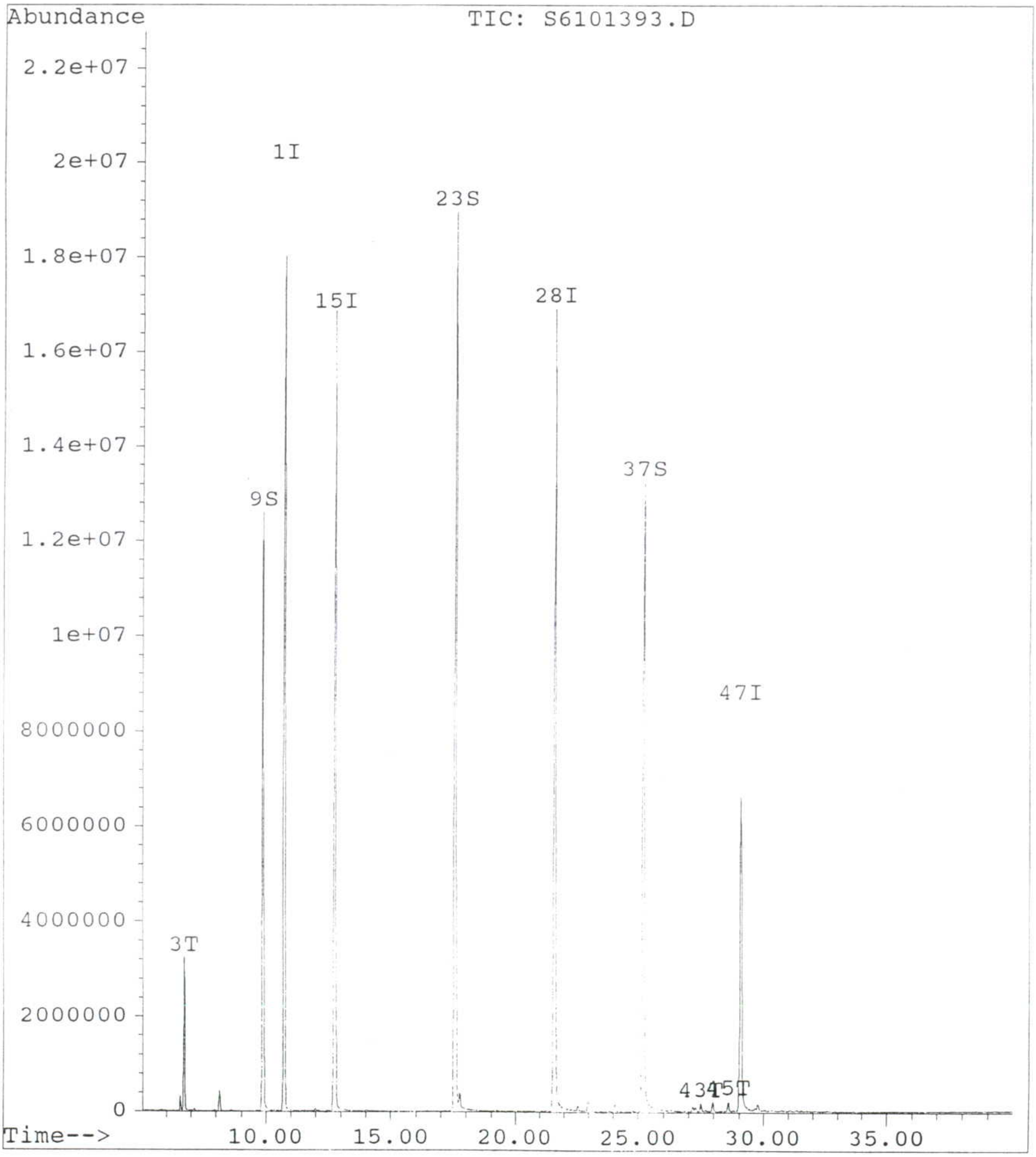
Method        : C:\HPCHEM\1\METHODS\VOLENV.M
Title         : Volatile standards for 5 point calibration
Last Update   : Thu May 15 10:40:37 1997
Response via  : Multiple Level Calibration
```



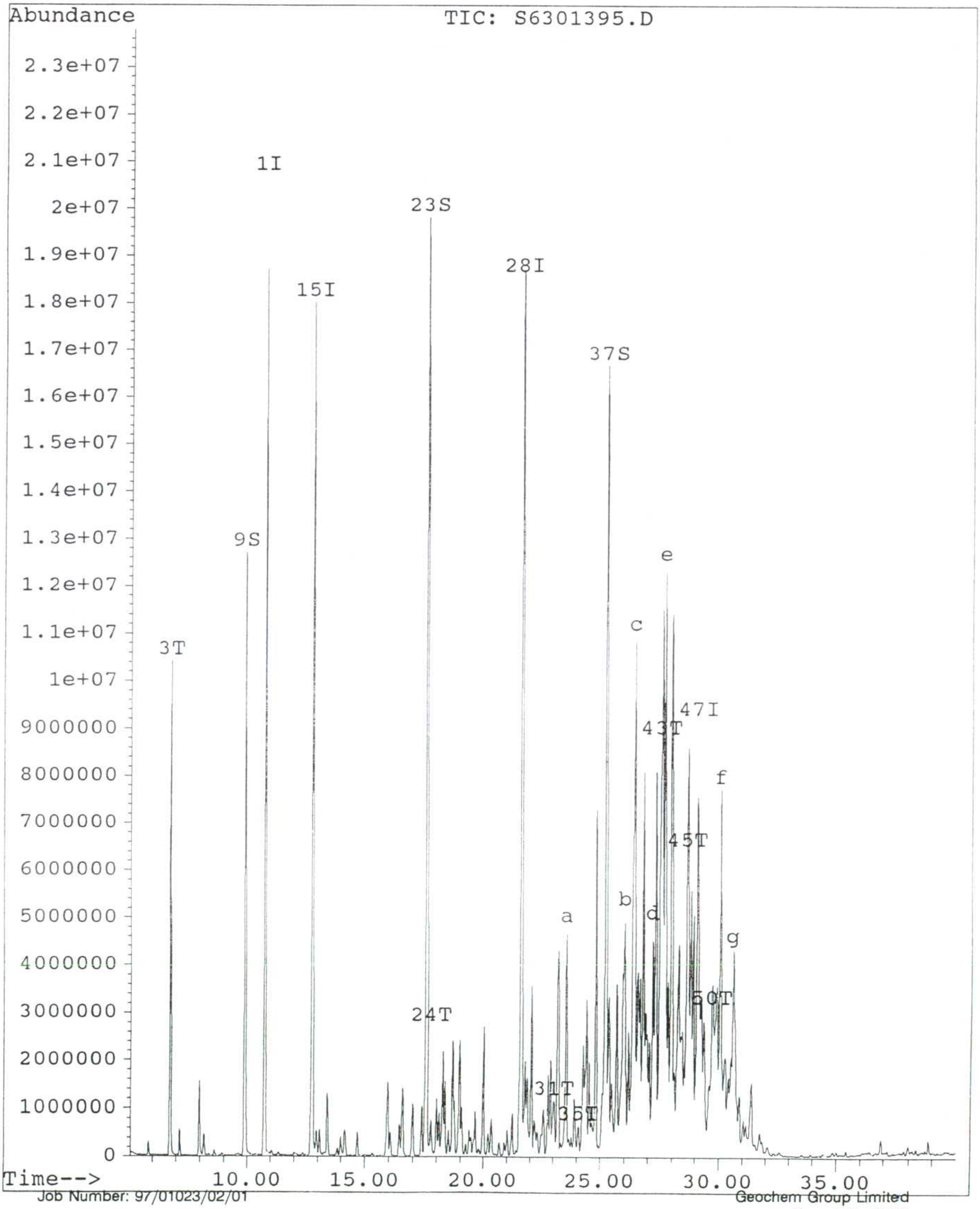
```
                              Quantitation Report

  Data File : C:\HPCHEM\1\DATA\S6101393.D
  Acq Time  : 19 May 97   9:19 pm                               Operator: Geoche
  Sample    : 1023/6-324                                        Inst     : 5971 M
  Misc      : Aspinwall & Company                               Multiplr: 1.00
  Quant Time: May 21 11:39 1997

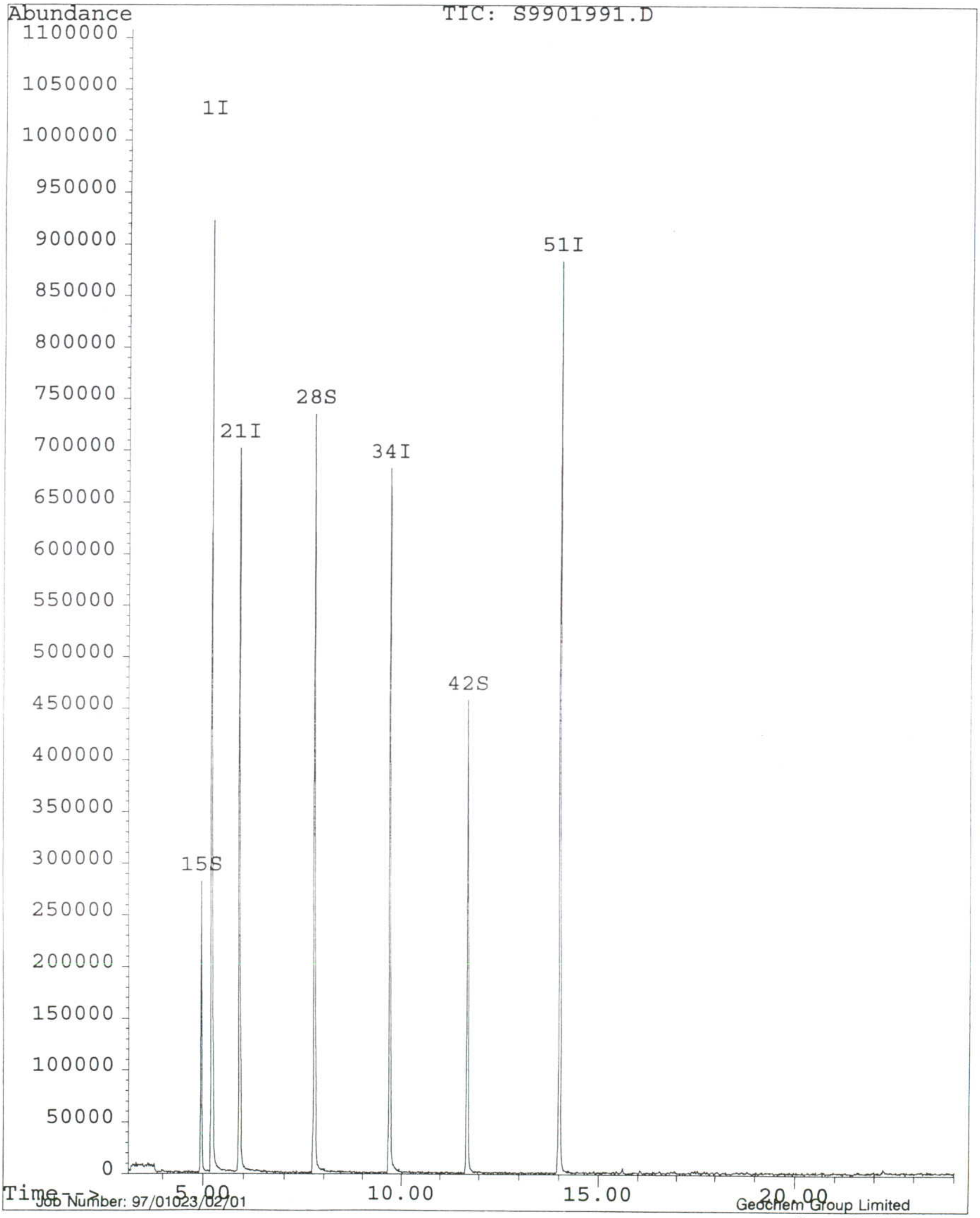
  Method         : C:\HPCHEM\1\METHODS\VOLENV.M
  Title          : Volatile standards for 5 point calibration
  Last Update    : Thu May 15 10:40:37 1997
  Response via   : Multiple Level Calibration
```



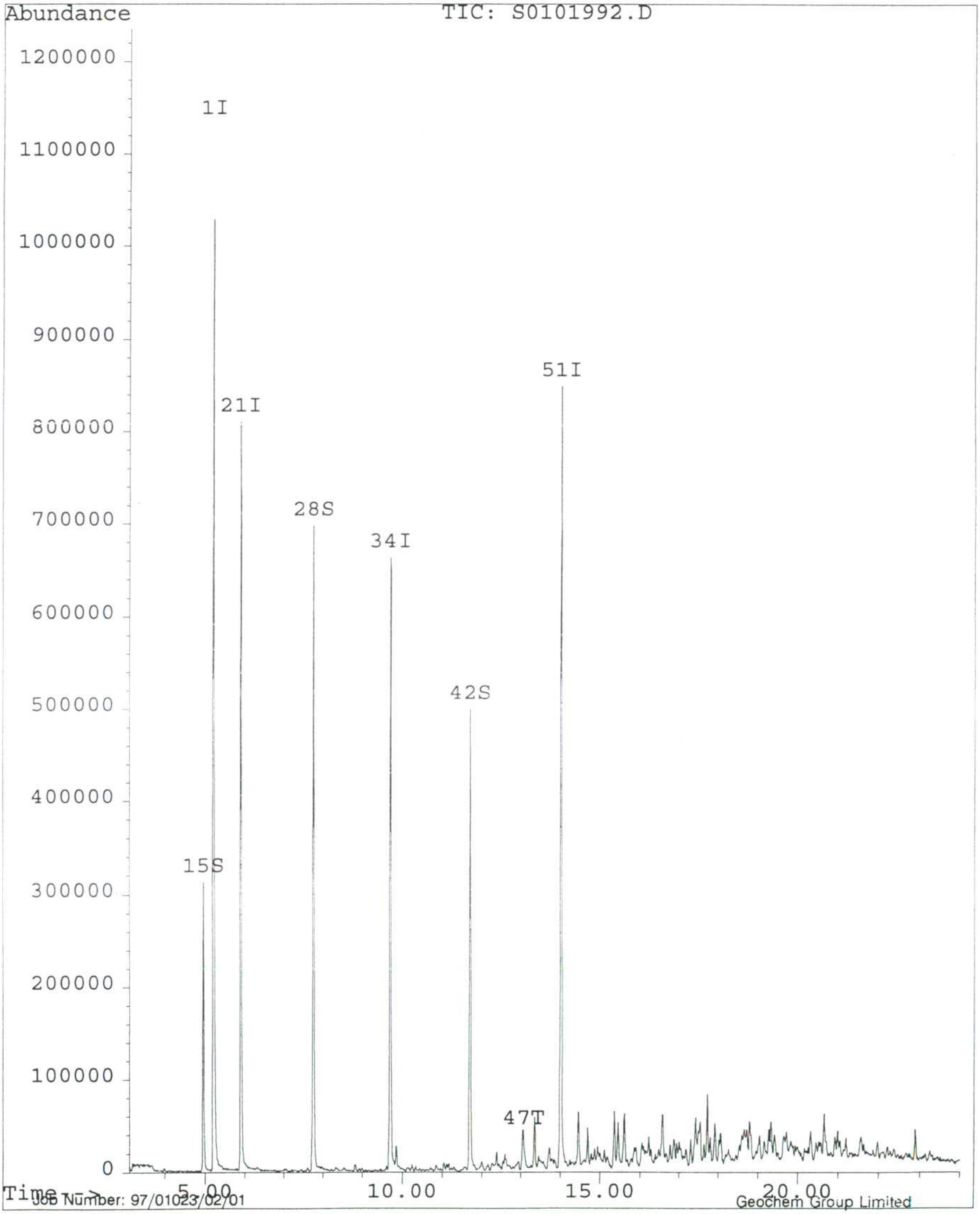
```
File          : C:\HPCHEM\1\DATA\S6301395.D
Operator      : Geochem Analytical Services
Acquired      : 20 May 97   9:58 am using AcqMethod VOLENV
Instrument :    5971 MSD
Sample Name: 1023/6-331
Misc Info    : Aspinwall & Company
Vial Number: 63
```



File   : C:\HPCHEM\1\DATA\120597\S9901991.D
Operator   : Geochem Analytical Services
Acquired   : 13 May 97   2:53 am using AcqMethod 60VOCHS
Instrument :   MSD Vols5
Sample Name: 1023-335
Misc Info   :
Vial Number: 22



```
File        : C:\HPCHEM\1\DATA\120597\S0101992.D
Operator    : Geochem Analytical Services
Acquired    : 13 May 97   3:28 am using AcqMethod 60VOCHS
Instrument :   MSD Vols5
Sample Name: 1023-350
Misc Info   :
Vial Number: 23
```



GEOCHEM ANALYTICAL SERVICES

Polynuclear Aromatic Hydrocarbons
By
G.C.M.S.

NAMAS
TESTING
No. 1291

Sample Matrix:	Soil
Our Reference:	97/1023/02/01
Date Sample Received:	25/4/97
Date Extracted/Prepared:	23/5/97
Extraction procedure:	Microwave
Column Extraction:	No
Date Analysed:	29/5/97
GC-MS Mode:	SIM
Internal Standard:	External

	Sample No.	105				
	Client Ref.	TP50 0.10				
	P.Q.L.	10				
CAS Number	Units	µg/kg				
91-20-3	Naphthalene	1038				
208-96-8	Acenaphthylene	662				
83-32-9	Acenaphthene	1826				
86-73-7	Fluorene	2069				
85-01-8	Phenanthrene	20548				
120-12-7	Anthracene	5306				
206-44-0	Fluoranthene	29922				
129-00-0	Pyrene	26112				
56-55-3	Benz[a]anthracene	13440				
218-01-9	Chrysene	13706				
205-99-2	Benzo[b]fluoranthene	10216				
207-08-9	Benzo[k]fluoranthene	11084				
50-32-8	Benzo[a]pyrene	13828				
191-24-2	Benzo[g,h,i]perylene	10155				
53-70-3	Dibenz[a,h]anthracene	1729				
193-39-5	Indeno[1,2,3-cd]pyrene	7950				
	Total P.A.H.	169591				

Approved by:..

GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Polynuclear Aromatic Hydrocarbons
By
G.C.M.S.

NAMAS
TESTING
No. 1291

Sample Matrix:	Soil
Our Reference:	97/1023/02/01
Date Sample Received:	30/4/97
Date Extracted/Prepared:	23/5/97
Extraction procedure:	Microwave
Column Extraction:	No
Date Analysed:	29/5/97
GC-MS Mode:	SIM
Internal Standard:	External

	Sample No.	194	217			
	Client Ref.	TP27 0.30	TP93 0.90			
	P.Q.L.	10	10			
CAS Number	Units	μg/kg	μg/kg			
91-20-3	Naphthalene	420	33			
208-96-8	Acenaphthylene	971	23			
83-32-9	Acenaphthene	7962	15			
86-73-7	Fluorene	6387	45			
85-01-8	Phenanthrene	59407	172			
120-12-7	Anthracene	17965	47			
206-44-0	Fluoranthene	79957	606			
129-00-0	Pyrene	62879	575			
56-55-3	Benz[a]anthracene	30171	314			
218-01-9	Chrysene	29060	382			
205-99-2	Benzo[b]fluoranthene	23944	431			
207-08-9	Benzo[k]fluoranthene	23059	401			
50-32-8	Benzo[a]pyrene	29689	485			
191-24-2	Benzo[g,h,i]perylene	22750	548			
53-70-3	Dibenz[a,h]anthracene	3879	82			
193-39-5	Indeno[1,2,3-cd]pyrene	16990	463			
	Total P.A.H.	415490	4623			

Approved by:...

GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Polynuclear Aromatic Hydrocarbons
By
G.C.M.S.

NAMAS
TESTING
No. 1291

Sample Matrix: Soil
Our Reference: 97/1023/02/01
Date Sample Received: 1/5/97
Date Extracted/Prepared: 23/5/97
Extraction procedure: Microwave
Column Extraction: No
Date Analysed: 29/5/97
GC-MS Mode: SIM
Internal Standard: External

	Sample No.	256	261	285		
	Client Ref.	TP14 0.40	TP16 0.10	TP91		
	P.Q.L.	10	10	10		
CAS Number	Units	µg/kg	µg/kg	µg/kg		
91-20-3	Naphthalene	116	75	412		
208-96-8	Acenaphthylene	67	12	10		
83-32-9	Acenaphthene	102	<10	11		
86-73-7	Fluorene	103	14	118		
85-01-8	Phenanthrene	1418	44	132		
120-12-7	Anthracene	328	13	<10		
206-44-0	Fluoranthene	4212	132	67		
129-00-0	Pyrene	3710	120	44		
56-55-3	Benz[a]anthracene	1721	68	16		
218-01-9	Chrysene	2069	107	31		
205-99-2	Benzo[b]fluoranthene	1839	94	28		
207-08-9	Benzo[k]fluoranthene	1802	84	22		
50-32-8	Benzo[a]pyrene	2201	102	15		
191-24-2	Benzo[g,h,i]perylene	1774	93	29		
53-70-3	Dibenz[a,h]anthracene	304	20	<10		
193-39-5	Indeno[1,2,3-cd]pyrene	1504	92	26		
	Total P.A.H.	23271	1071	961		

Approved by:..

GEOCHEM

GEOCHEM ANALYTICAL SERVICES

Polynuclear Aromatic Hydrocarbons
By
G.C.M.S.

NAMAS
TESTING
No. 1291

Sample Matrix:	Soil
Our Reference:	97/1023/02/01
Date Sample Received:	2+6/5/1997
Date Extracted/Prepared:	23/5/97
Extraction procedure:	Microwave
Column Extraction:	No
Date Analysed:	29/5/97
GC-MS Mode:	SIM
Internal Standard:	External

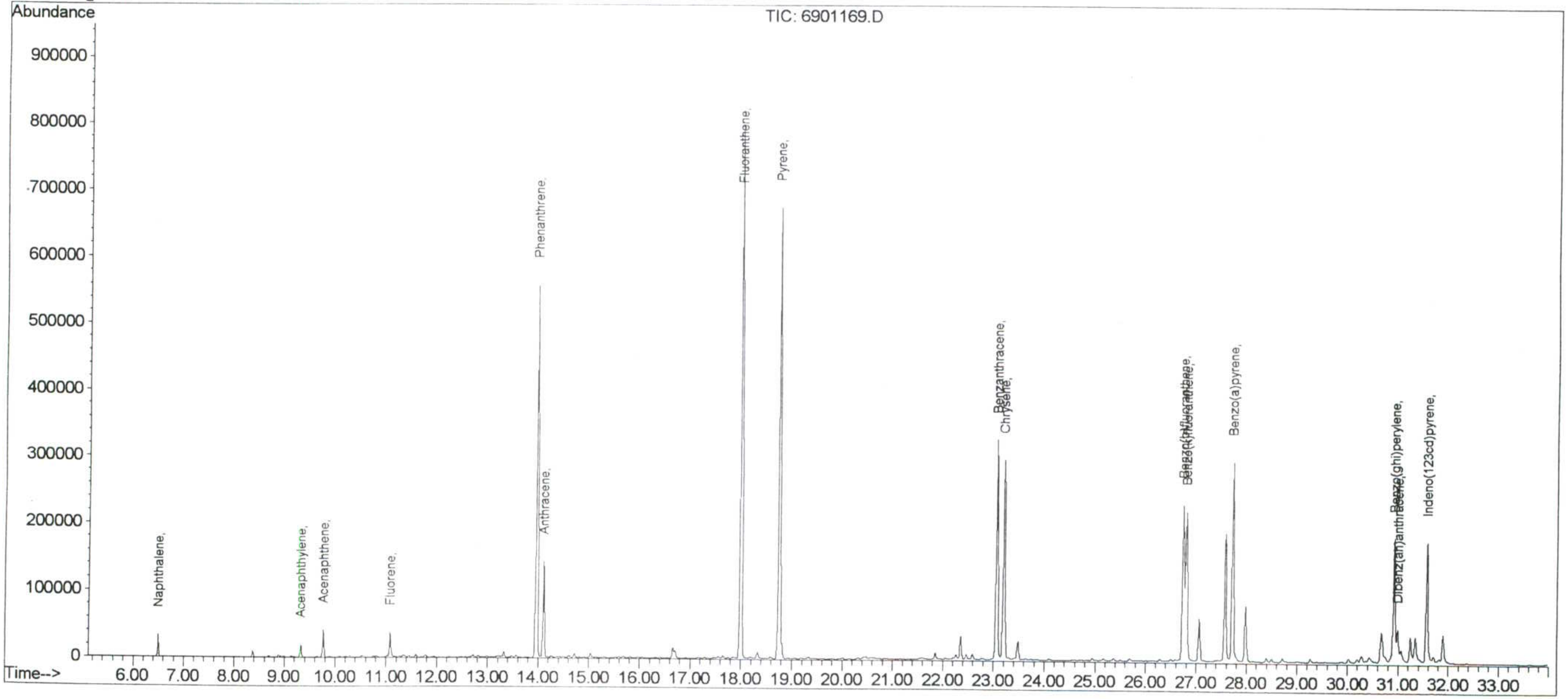
	Sample No.	313	336			
	Client Ref.	TP142 0.20	TP35 0.50			
	P.Q.L.	10	10			
CAS Number	Units	µg/kg	µg/kg			
91-20-3	Naphthalene	214	103			
208-96-8	Acenaphthylene	26	12			
83-32-9	Acenaphthene	80	45			
86-73-7	Fluorene	197	96			
85-01-8	Phenanthrene	637	851			
120-12-7	Anthracene	64	157			
206-44-0	Fluoranthene	141	913			
129-00-0	Pyrene	104	712			
56-55-3	Benz[a]anthracene	26	294			
218-01-9	Chrysene	61	326			
205-99-2	Benzo[b]fluoranthene	50	240			
207-08-9	Benzo[k]fluoranthene	31	240			
50-32-8	Benzo[a]pyrene	39	293			
191-24-2	Benzo[g,h,i]perylene	53	233			
53-70-3	Dibenz[a,h]anthracene	13	40			
193-39-5	Indeno[1,2,3-cd]pyrene	54	186			
	Total P.A.H.	1788	4740			

Approved by:..

Quantitation Report

```
Data File : C:\HPCHEM\1\DATA\290597\6901169.D            Vial: 69
Acq On    : 29 May 1997  19:00                       Operator: Geochem Analytical Services
Sample    : 1023-105 PAH                             Inst    : GC/MSD 59
Misc      : Aspinwall & Co                           Multiplr: 1.00
                                                Sample Amount: 0.00
MS Integration Params: EVENTS.E
Quant Time: May 30 10:35 1997                Quant Results File: PAH5973.RES

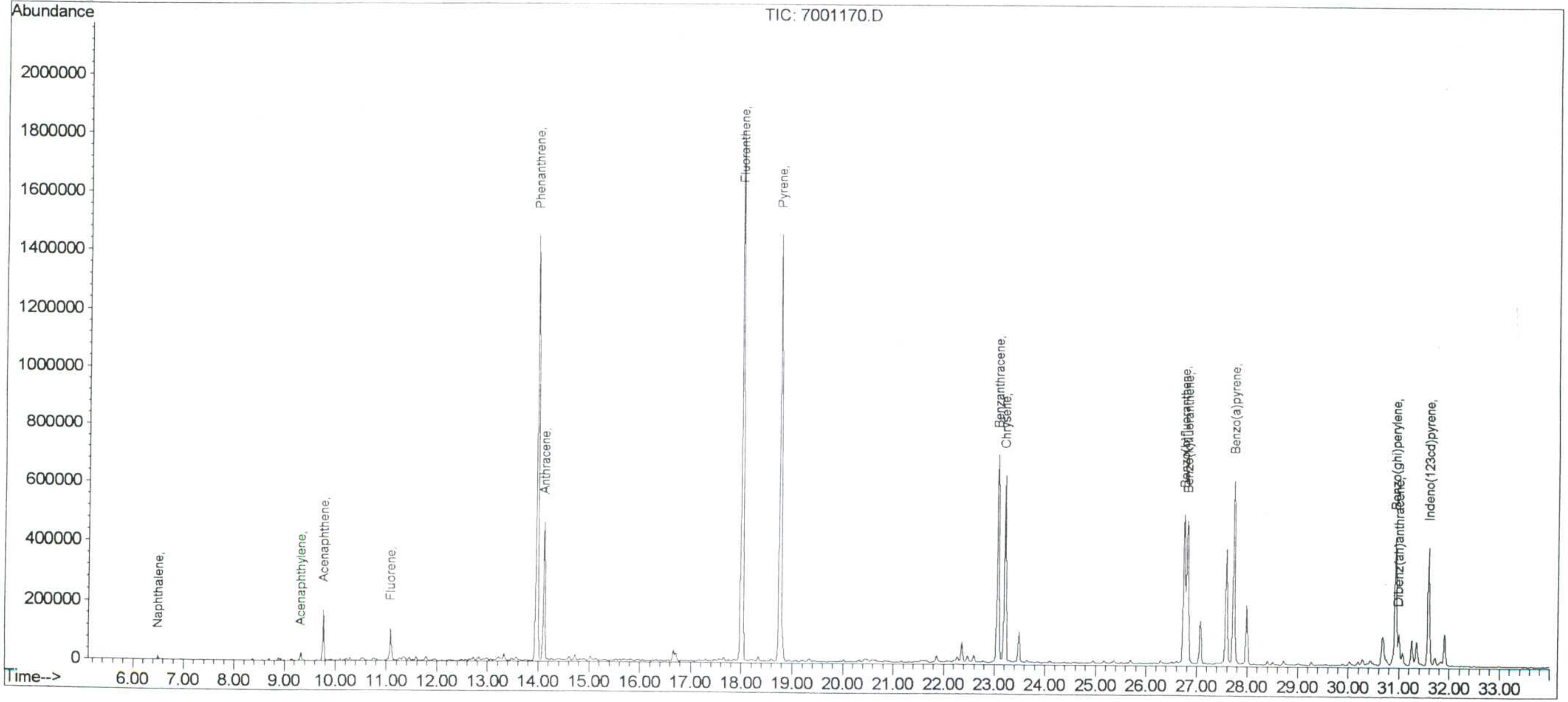
Method         : C:\HPCHEM\1\METHODS\PAH5973.M (Chemstation Integrator)
Title          : Poly Aromatic Hydrocarbons
Last Update    : Fri May 30 10:24:27 1997
Response via   : Initial Calibration
```



Quantitation Report

```
Data File : C:\HPCHEM\1\DATA\290597\7001170.D              Vial: 70
Acq On    : 29 May 1997  19:47                         Operator: Geochem Analytical Services
Sample    : 1023-194 PAH                               Inst    : GC/MSD 59
Misc      : Aspinwall & Co                             Multiplr: 1.00
                                                  Sample Amount: 0.00
MS Integration Params: EVENTS.E
Quant Time: May 30 10:35 1997                 Quant Results File: PAH5973.RES

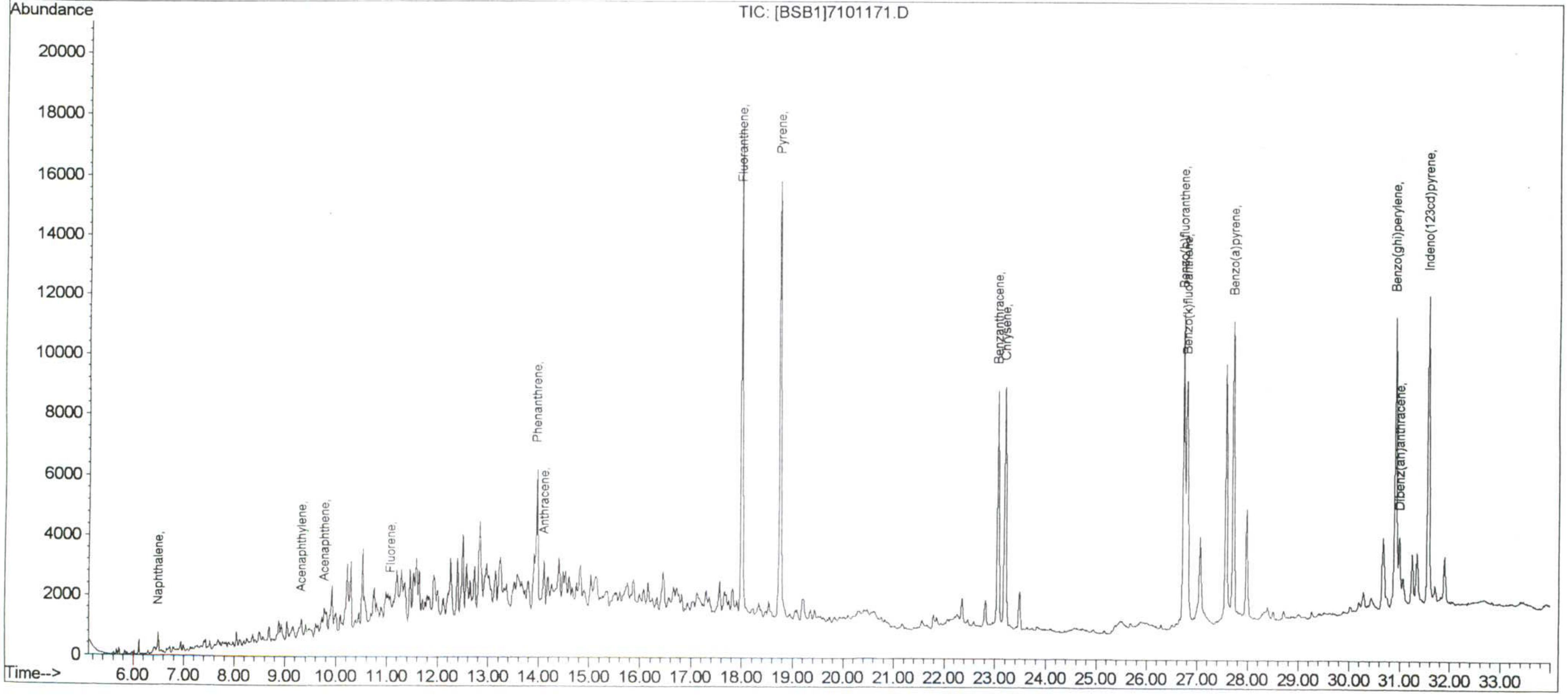
Method         : C:\HPCHEM\1\METHODS\PAH5973.M (Chemstation Integrator)
Title          : Poly Aromatic Hydrocarbons
Last Update    : Fri May 30 10:24:27 1997
Response via   : Initial Calibration
```



Quantitation Report

```
Data File : C:\HPCHEM\1\DATA\290597\BSB\7101171.D        Vial: 71
Acq On    : 29 May 1997  20:33                      Operator: [BSB1]Geochem Analytical Serv
Sample    : 1023-217 PAH                            Inst    : GC/MSD 59
Misc      : Aspinwall & Co                          Multiplr: 1.00
                                               Sample Amount: 0.00
MS Integration Params: EVENTS.E
Quant Time: May 30 10:37 1997                Quant Results File: PAH5973.RES

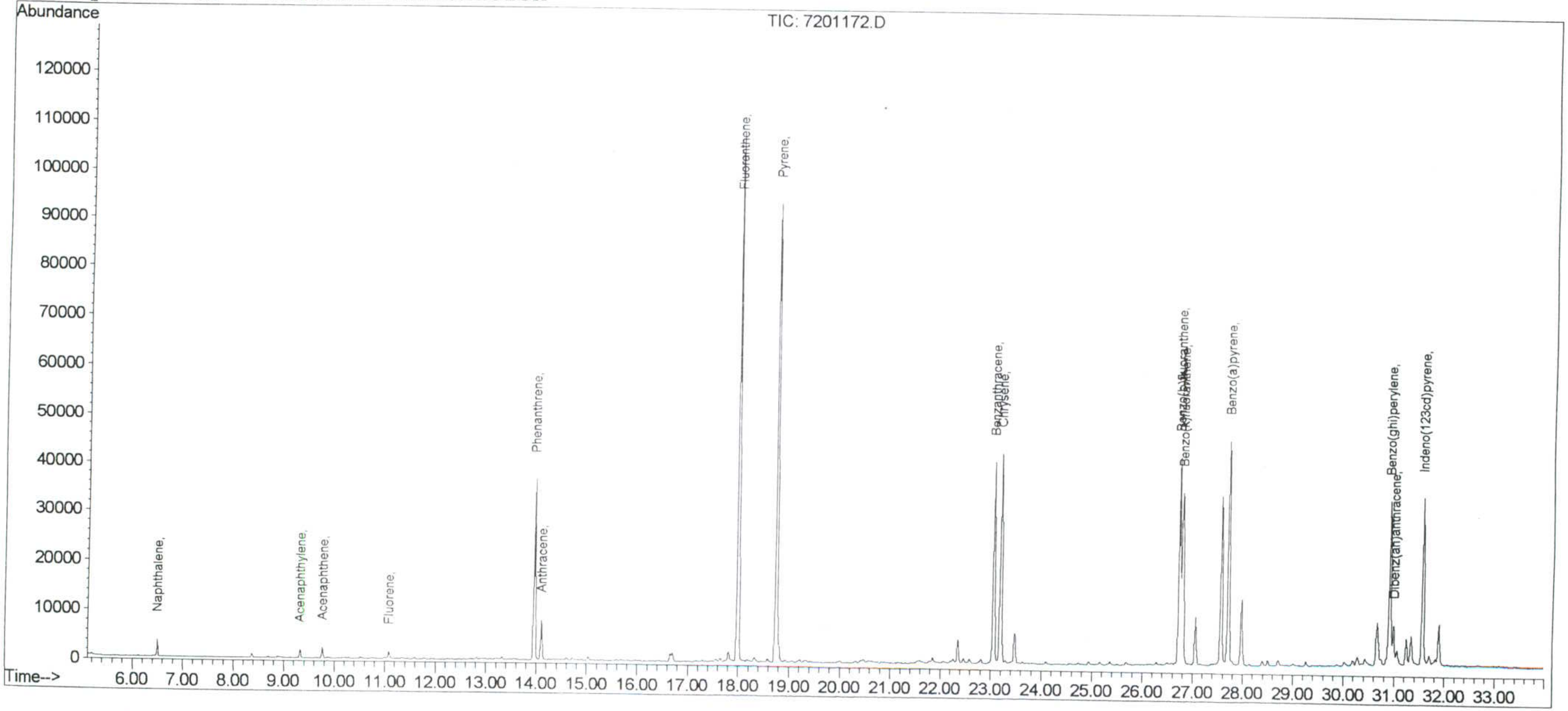
Method        : C:\HPCHEM\1\METHODS\PAH5973.M (Chemstation Integrator)
Title         : Poly Aromatic Hydrocarbons
Last Update   : Fri May 30 10:24:27 1997
Response via  : Initial Calibration
```



Quantitation Report

```
Data File : C:\HPCHEM\1\DATA\290597\7201172.D              Vial: 72
Acq On    : 29 May 1997  21:20                         Operator: Geochem Analytical Services
Sample    : 1023-256 PAH                               Inst    : GC/MSD 59
Misc      : Aspinwall & Co                             Multiplr: 1.00
                                                  Sample Amount: 0.00
MS Integration Params: EVENTS.E
Quant Time: May 30 10:35 1997                  Quant Results File: PAH5973.RES

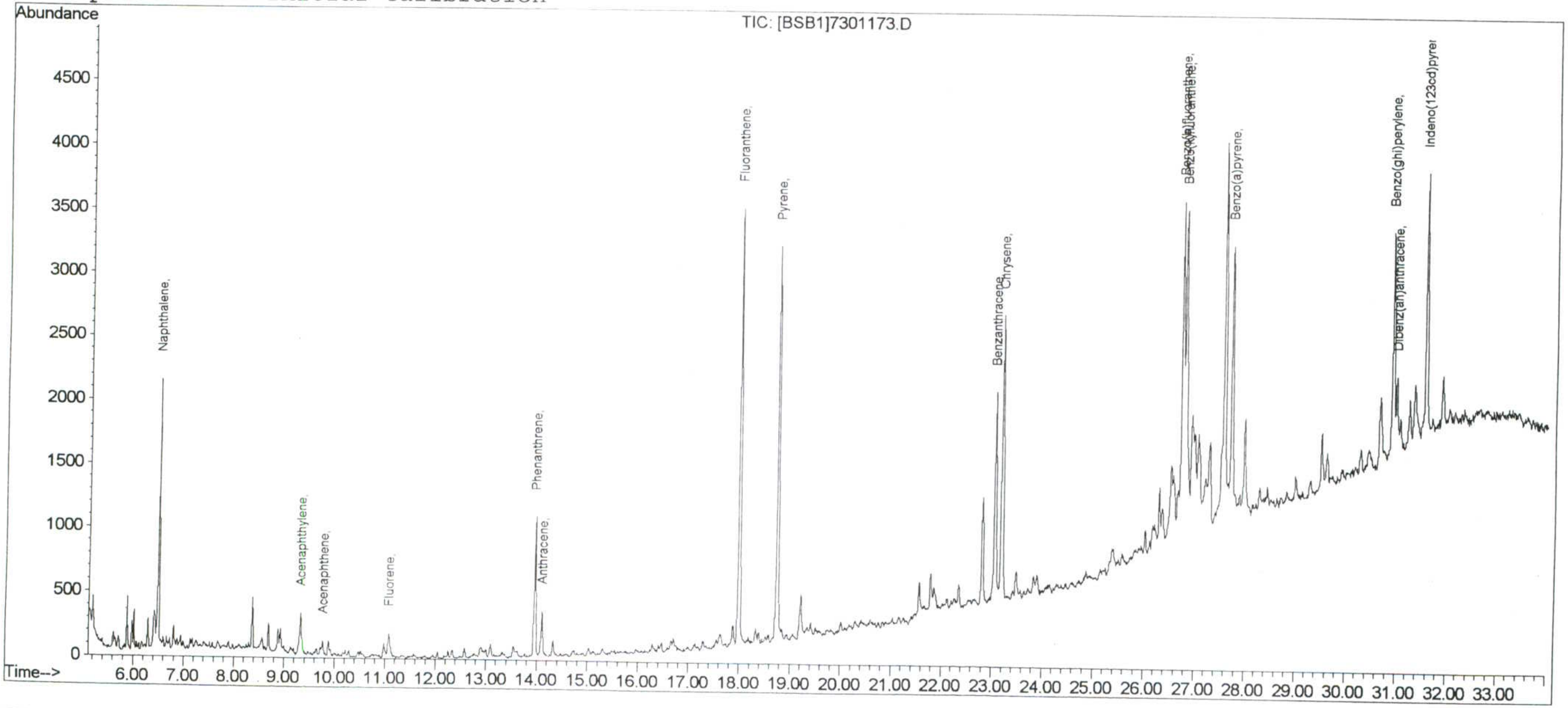
Method         : C:\HPCHEM\1\METHODS\PAH5973.M (Chemstation Integrator)
Title          : Poly Aromatic Hydrocarbons
Last Update    : Fri May 30 10:24:27 1997
Response via   : Initial Calibration
```



```
                              Quantitation Report

Data File : C:\HPCHEM\1\DATA\290597\BSB\7301173.D         Vial: 73
Acq On    : 29 May 1997  22:07                        Operator: [BSB1]Geochem Analytical Serv
Sample    : 1023-261 PAH                              Inst    : GC/MSD 59
Misc      : Aspinwall & Co                            Multiplr: 1.00
                                                 Sample Amount: 0.00
MS Integration Params: EVENTS.E
Quant Time: May 30 10:37 1997                Quant Results File: PAH5973.RES

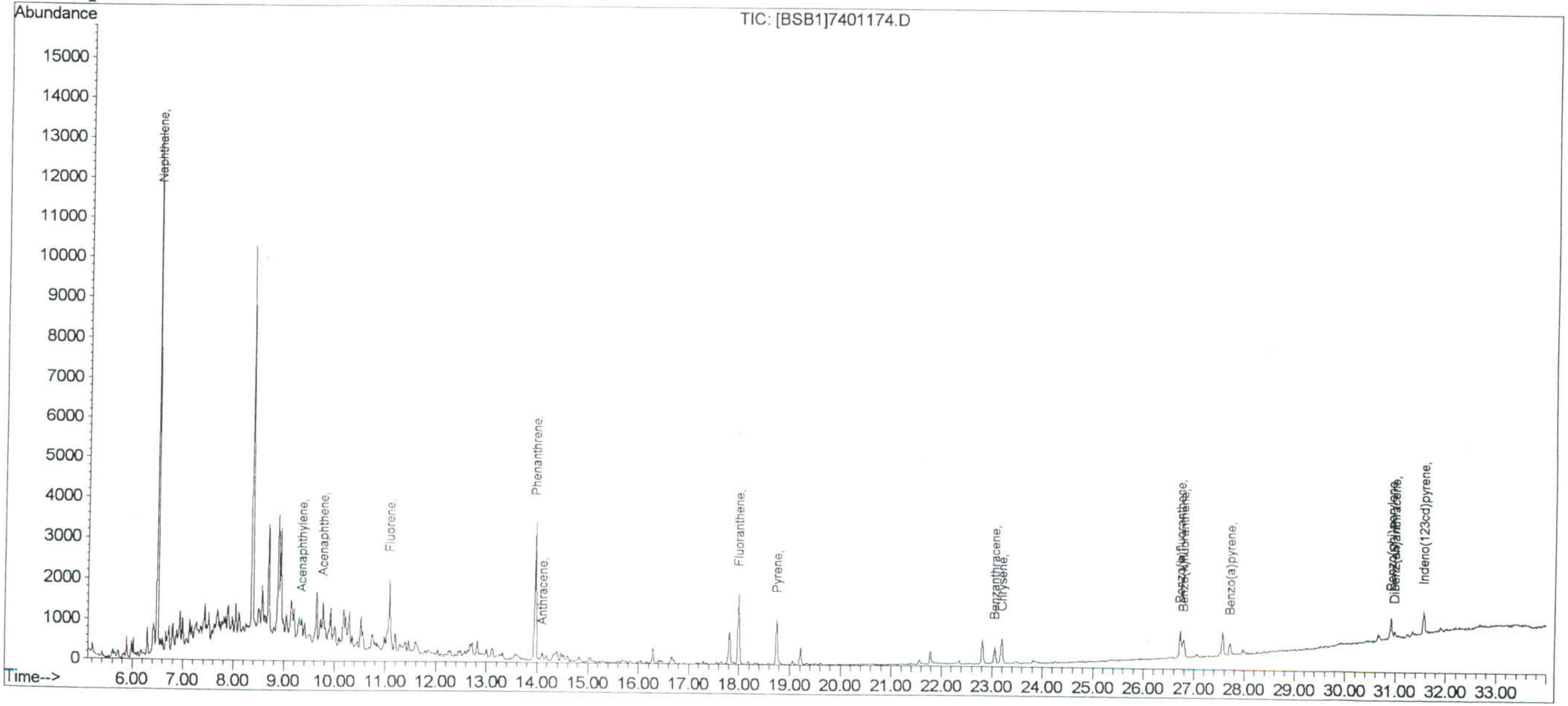
Method         : C:\HPCHEM\1\METHODS\PAH5973.M (Chemstation Integrator)
Title          : Poly Aromatic Hydrocarbons
Last Update    : Fri May 30 10:24:27 1997
Response via   : Initial Calibration
```



Quantitation Report

```
Data File : C:\HPCHEM\1\DATA\290597\BSB\7401174.D          Vial: 74
Acq On    : 29 May 1997  22:53                        Operator: [BSB1]Geochem Analytical Serv
Sample    : 1023-285 PAH                              Inst    : GC/MSD 59
Misc      : Aspinwall & Co                            Multiplr: 1.00
                                                 Sample Amount: 0.00
MS Integration Params: EVENTS.E
Quant Time: May 30 10:37 1997                 Quant Results File: PAH5973.RES

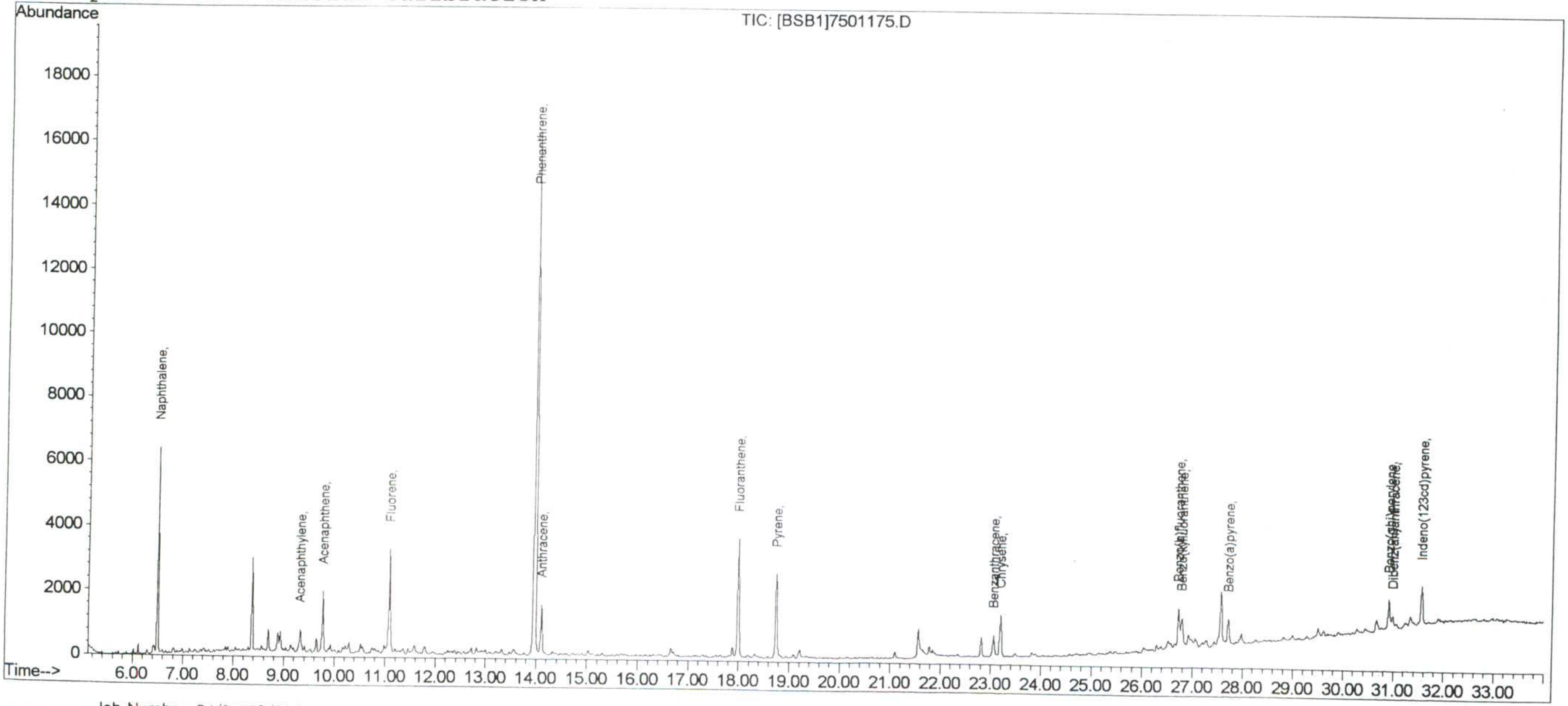
Method         : C:\HPCHEM\1\METHODS\PAH5973.M (Chemstation Integrator)
Title          : Poly Aromatic Hydrocarbons
Last Update    : Fri May 30 10:24:27 1997
Response via   : Initial Calibration
```



Quantitation Report

```
Data File : C:\HPCHEM\1\DATA\290597\BSB\7501175.D          Vial: 75
Acq On    : 29 May 1997  23:39                          Operator: [BSB1]Geochem Analytical Serv
Sample    : 1023-313 PAH                                Inst    : GC/MSD 59
Misc      : Aspinwall & Co                              Multiplr: 1.00
                                                   Sample Amount: 0.00
MS Integration Params: EVENTS.E
Quant Time: May 30 10:38 1997                     Quant Results File: PAH5973.RES

Method         : C:\HPCHEM\1\METHODS\PAH5973.M (Chemstation Integrator)
Title          : Poly Aromatic Hydrocarbons
Last Update    : Fri May 30 10:24:27 1997
Response via   : Initial Calibration
```

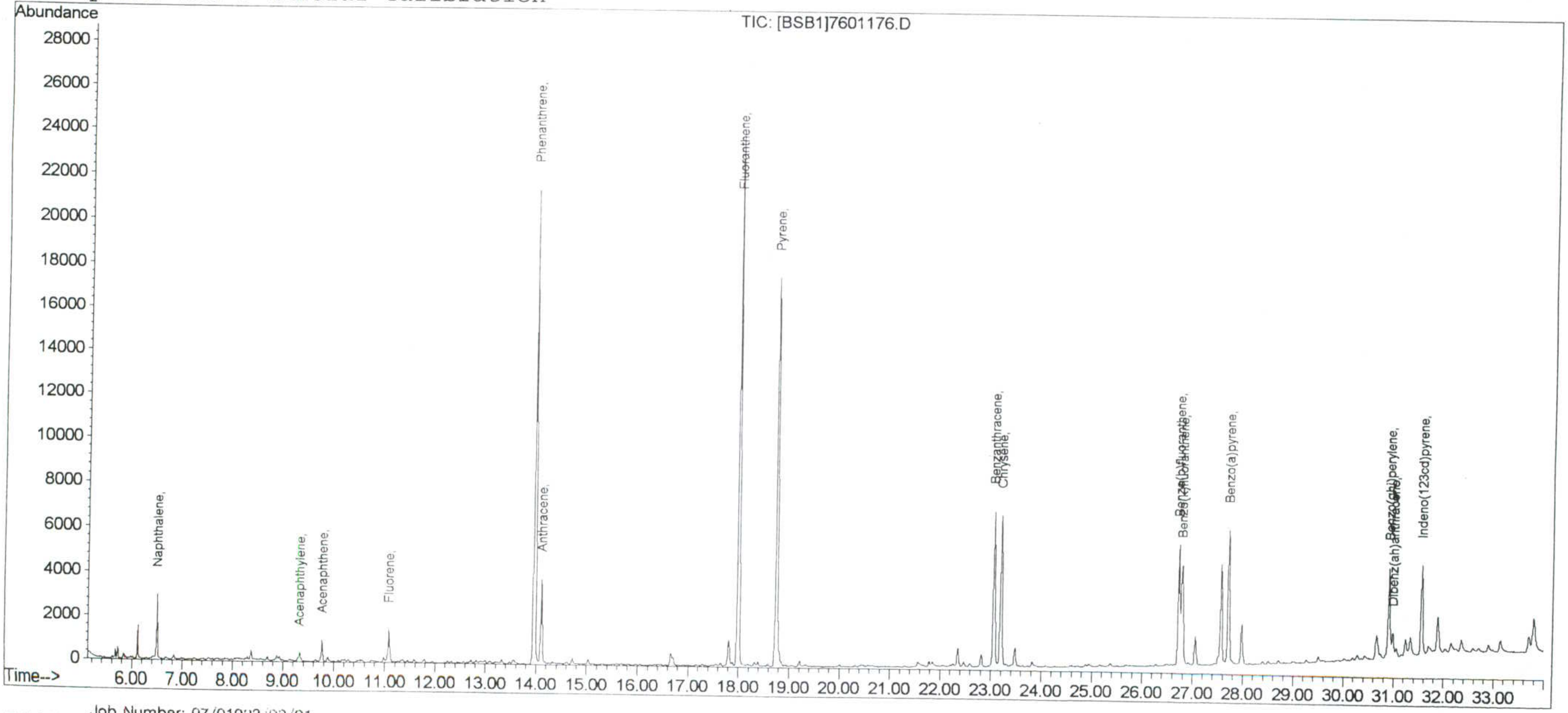


Job Number: 97/01023/02/01

Quantitation Report

```
Data File : C:\HPCHEM\1\DATA\290597\BSB\7601176.D          Vial: 76
Acq On    : 30 May 1997   00:25                        Operator: [BSB1]Geochem Analytical Serv
Sample    : 1023-336 PAH                               Inst    : GC/MSD 59
Misc      : Aspinwall & Co                             Multiplr: 1.00
                                                  Sample Amount: 0.00
MS Integration Params: EVENTS.E
Quant Time: May 30 10:38 1997                  Quant Results File: PAH5973.RES

Method          : C:\HPCHEM\1\METHODS\PAH5973.M (Chemstation Integrator)
Title           : Poly Aromatic Hydrocarbons
Last Update     : Fri May 30 10:24:27 1997
Response via    : Initial Calibration
```



CHEM ANALYTICAL SERVICE
TABLE OF RESULTS

NAMAS
TESTING
No. 1291

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 23/04/97
(of first sample)

Sample Type : WATER
Location : RAF UPPER HEYFORD
Client Contact : S.HOBBS
Client Ref. No. : MD3333A

☐ Preliminary
☑ Validated
☐ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Arsenic	Boron	Calcium	Cadmium	Chromium	Copper	Mercury	Magnesium	Nickel	Lead	Selenium	Zinc	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Method			ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	TLC	TLC	TLC	TLC
Detection Limits			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<1	<1	<1	<1
299	TP 38 W	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	1	<1	3	1
300	TP 91 W	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	2	1	25	3
333	TP138	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	5	1	2	6
334	TP138	UNKNOWN	0.69	<0.05	139.00	1.32	0.64	0.87	<0.05	3.07	1.10	3.15	<0.1	1.30	-	-	-	-
357	TP 106	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	1	<1	6	1

Printed on 19 June 1997

Checked by .... Alison Ball

GEO

( )CHEM ANALYTICAL SERVICE
TABLE OF RESULTS

NAMAS
TESTING
No. 1291

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 23/04/97
(of first sample)

Sample Type : WATER
Location : RAF UPPER HEYFORD
Client Contact : S.HOBBS
Client Ref. No. : MD3333A

☐ Preliminary
☑ Validated
☐ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	COD On Unfiltered Sample	BOD in unfiltered water	Ammoniacal Nitrogen in Water	Potassium	Sodium	DCM/MeOH Extract	Tot. Org. Carbon in Water	Chloride (soluble)	Nitrate (soluble)	Phosphate (soluble)	Sulphate (soluble)	Electrical Conductivity	pH Value in Water	Alkalinity Total	Bicarbonate
		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ms/cm		ppm(CaCO	ppm
		Detection Method	Spectro	ATU	Colour	Flame P	Flame P	Gravi	IR	KONE	KONE	KONE	KONE	Meter	Meter	Titrat	Titre
		Detection Limits	<10	<0.5	<0.01	<3	<3	<1	<1	<5	<0.5	<0.01	<3	<0.004	<0.01	<1	<1
299	TP 38 W	UNKNOWN	-	-	-	-	-	4	-	-	-	-	-	0.818	7.11	-	-
300	TP 91 W	UNKNOWN	-	-	-	-	-	28	-	-	-	-	-	0.808	6.88	-	-
333	TP138	UNKNOWN	-	-	-	-	-	8	6	-	-	-	-	-	-	-	-
334	TP138	UNKNOWN	701	83.6	0.05	<3	11	-	-	20	7.1	0.03	27	0.526	7.93	340	340
357	TP 106	UNKNOWN	-	-	-	-	-	7	-	-	-	-	-	0.692	7.48	-	-

Printed on 19 June 1997

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Appendix 8

Results of Chemical Testing - Boreholes

CHEM ANALYTICAL SERVICE
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 23/04/97
(of first sample)

Sample Type : WATER
Location : RAF UPPER HEYFORD
Client Contact : S.HOBBS
Client Ref. No. : MD3333A

TESTING
No. 1291

☐ Preliminary
☑ Validated
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		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		Detection Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	TLC	TLC	TLC	TLC
		Detection Limits	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<1	<1	<1	<1
Sample Number	Sample Identity	Depth (m)	Arsenic	Boron	Calcium	Cadmium	Chromium	Copper	Mercury	Magnesium	Nickel	Lead	Selenium	Zinc	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC
294	BH 3B	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	3	<1
295	BH 3B	UNKNOWN	2.28	<0.05	164.00	<0.05	<0.05	0.13	<0.05	2.13	0.21	0.11	<0.1	0.55	-	-	-	-
296	BH 3B	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
297	BH 3B	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
298	BH 3B	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
358	BH 2	25	-	-	-	-	-	-	-	-	-	-	-	-	1	2	15	3
363	BH1A	38	-	-	-	-	-	-	-	-	-	-	-	-	2	<1	1	2
364	BH1A	38	<0.05	0.12	178.20	<0.05	<0.05	<0.05	.14	11.97	<0.05	0.06	<0.1	<0.05	-	-	-	-
365	BH1A	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
366	BH1A	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
367	BH1A	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
368	BH1B	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
369	BH1B (bailed)	15	-	-	-	-	-	-	-	-	-	-	-	-	1	<1	1	1
370	BH1B	15	<0.05	<0.05	197.80	<0.05	<0.05	<0.05	.08	2.87	<0.05	<0.05	<0.1	<0.05	<1	<1	2	<1
371	BH1B	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Printed on 19 June 1997

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)CHEM ANALYTICAL SERVICE
TABLE OF RESULTS

NAMAS TESTING No. 1291

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 23/04/97
(of first sample)

Sample Type : WATER
Location : RAF UPPER HEYFORD
Client Contact : S.HOBBS
Client Ref. No. : MD3333A

☐ Preliminary
☑ Validated
☐ NAMAS Accredited

			Arsenic	Boron	Calcium	Cadmium	Chromium	Copper	Mercury	Magnesium	Nickel	Lead	Selenium	Zinc	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC
		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		Detection Method	ICP	ICP	ICP	ICP	ICP	CP	ICP	ICP	ICP	ICP	ICP	ICP	TLC	TLC	TLC	TLC
		Detection Limits	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<1	<1	<1	<1
Sample Number	**Sample Identity**	**Depth (m)**																
372	BH1B	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
373	BH1B	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
374	BH2	25	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	3	<1
375	BH2	25	0.71	0.37	115.30	<0.05	<0.05	<0.05	<0.05	8.13	<0.05	<0.05	<0.1	<0.05	-	-	-	-
376	BH2	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
377	BH2	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
378	BH2	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
379	BH3A	4	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	2	<1
380	BH3A	4	<0.05	<0.05	124.40	<0.05	<0.05	<0.05	<0.05	2.46	<0.05	0.06	<0.1	<0.05	-	-	-	-
381	BH3A	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
382	BH3A	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
383	BH3A	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
384	BH4	13	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1
385	BH4 (bailed)	13	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1
386	BH4	13	<0.05	<0.05	113.40	<0.05	<0.05	<0.05	.06	6.58	<0.05	<0.05	<0.1	<0.05	-	-	-	-
387	BH4	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
388	BH4	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
389	BH4	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
390	BH5	3	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	1	<1
391	BH5 (bailed)	3	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1

Printed on 19 June 1997

Checked by ....Ball........ Alison Ball

GEO(

ƆCHEM ANALYTICAL SERVICE

TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 23/04/97
(of first sample)

Sample Type : WATER
Location : RAF UPPER HEYFORD
Client Contact : S.HOBBS
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☑ Validated
☐ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	Arsenic	Boron	Calcium	Cadmium	Chromium	Copper	Mercury	Magnesium	Nickel	Lead	Selenium	Zinc	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC
		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		Detection Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	TLC	TLC	TLC	TLC
		Detection Limits	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<1	<1	<1	<1
392	BH5	3	<0.05	0.22	141.80	0.22	0.07	<0.05	<0.05	2.71	<0.05	0.23	<0.1	0.15	-	-	-	-
393	BH5	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
394	BH5	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
395	BH5	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
396	BH6	12	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1
397	BH6	12	<0.05	0.08	152.50	0.10	<0.05	<0.05	.09	9.31	<0.05	<0.05	<0.1	0.06	-	-	-	-
398	BH6	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
399	BH6	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
400	BH6	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
401	BH7	4	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1
402	BH7 (bailed)	4	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1
403	BH7	4	<0.05	<0.05	135.00	<0.05	<0.05	<0.05	<0.05	2.78	<0.05	0.09	<0.1	0.08	-	-	-	-
404	BH7	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
405	BH7	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
406	BH7	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
407	SPRING B	SURFACE	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1
408	SPRING D	SURFACE	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1
409	SPRING I	SURFACE	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1
410	SPRING I	SURFACE	<0.05	<0.05	57.53	<0.05	<0.05	<0.05	<0.05	1.37	<0.05	0.07	<0.1	0.10	-	-	-	-
411	SPRING I	SURFACE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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( )CHEM ANALYTICAL SERVICE

TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 23/04/97
(of first sample)

Sample Type : WATER
Location : RAF UPPER HEYFORD
Client Contact : S.HOBBS
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☑ Validated
☐ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	COD On Unfiltered Sample	BOD in unfiltered water	Ammoniacal Nitrogen in Water	Potassium	Sodium	DCM/MeOH Extract	Tot. Org. Carbon in Water	Chloride (soluble)	Nitrate (soluble)	Phosphate (soluble)	Sulphate (soluble)	Electrical Conductivity	pH Value in Water	Alkalinity Total	Bicarbonate
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ms/cm		ppm(CaCO	ppm
Detection Method			Spectro	ATU	Colour	Flame P	Flame P	Gravi	IR	KONE	KONE	KONE	KONE	Meter	Meter	Titrat	Titre
Detection Limits			<10	<0.5	<0.01	<3	<3	<1	<1	<5	<0.5	<0.01	<3	<0.004	<0.01	<1	<1
294	BH 3B	UNKNOWN	-	-	-	-	-	3	5	-	-	-	-	-	-	-	-
295	BH 3B	UNKNOWN	-	-	-	<3	12	-	-	13	14.1	0.18	42	0.614	7.21	400	400
296	BH 3B	UNKNOWN	-	-	0.08	-	-	-	-	-	-	-	-	-	-	-	
297	BH 3B	UNKNOWN	10	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	
298	BH 3B	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
358	BH 2	25	-	-	-	-	-	18	-	-	-	-	-	0.990	10.74	-	-
363	BH1A	38	-	-	-	-	-	3	2	-	-	-	-	-	-	-	-
364	BH1A	38	-	-	-	6	40	-	-	30	23.3	0.12	101	0.645	7.27	480	480
365	BH1A	38	-	-	0.04	-	-	-	-	-	-	-	-	-	-	-	-
366	BH1A	38	478	11.1	-	-	-	-	-	-	-	-	-	-	-	-	-
367	BH1A	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
368	BH1B	15	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-
369	BH1B (bailed)	15	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
370	BH1B	15	-	-	-	<3	12	-	-	19	93.4	0.06	56	0.549	7.25	330	330
371	BH1B	15	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-

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CHEM ANALYTICAL SERVICE
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 23/04/97
(of first sample)

Sample Type : WATER
Location : RAF UPPER HEYFORD
Client Contact : S.HOBBS
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☑ Validated
☐ NAMAS Accredited

		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ms/cm		ppm(CaCO	ppm
		Detection Method	Spectro	ATU	Colour	Flame P	Flame P	Gravi	IR	KONE	KONE	KONE	KONE	Meter	Meter	Titrat	Titre
		Detection Limits	<10	<0.5	<0.01	<3	<3	<1	<1	<5	<0.5	<0.01	<3	<0.004	<0.01	<1	<1
Sample Number	**Sample Identity**	**Depth (m)**	COD On Unfiltered Sample	BOD in unfiltered water	Ammoniacal Nitrogen In Water	Potassium	Sodium	DCM/MeOH Extract	Tot. Org. Carbon In Water	Chloride (soluble)	Nitrate (soluble)	Phosphate (soluble)	Sulphate (soluble)	Electrical Conductivity	pH Value In Water	Alkalinity Total	Bicarbonate
372	BH1B	15	<10	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
373	BH1B	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
374	BH2	25	-	-	-	-	-	3	7	-	-	-	-	-	-	-	-
375	BH2	25	-	-	-	7	96	-	-	46	52.6	0.63	324	1.029	8.11	90	90
376	BH2	25	-	-	0.26	-	-	-	-	-	-	-	-	-	-	-	-
377	BH2	25	30	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-
378	BH2	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
379	BH3A	4	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-
380	BH3A	4	-	-	-	<3	14	-	-	13	41.3	0.07	53	0.572	7.38	480	480
381	BH3A	4	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
382	BH3A	4	14	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-
383	BH3A	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
384	BH4	13	-	-	-	-	-	<1	9	-	-	-	-	-	-	-	-
385	BH4 (bailed)	13	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
386	BH4	13	-	-	-	3	21	-	-	15	<0.5	0.03	58	0.557	7.43	280	280
387	BH4	13	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
388	BH4	13	<10	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
389	BH4	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
390	BH5	3	-	-	-	-	-	1	5	-	-	-	-	-	-	-	-
391	BH5 (bailed)	3	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-

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OCHEM ANALYTICAL SERVICE
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 23/04/97
(of first sample)

Sample Type : WATER
Location : RAF UPPER HEYFORD
Client Contact : S.HOBBS
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☑ Validated
▨ NAMAS Accredited

		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ms/cm		ppm(CaCO	ppm
		Detection Method	Spectro	ATU	Colour	Flame P	Flame P	Gravi	IR	KONE	KONE	KONE	KONE	Meter	Meter	Titrat	Titre
		Detection Limits	<10	<0.5	<0.01	<3	<3	<1	<1	<5	<0,5	<0.01	<3	<0.004	<0.01	<1	<1
Sample Number	Sample Identity	Depth (m)	COD On Unfiltered Sample	BOD in unfiltered water	Ammoniacal Nitrogen In Water	Potassium	Sodium	DCM/MeOH Extract	Tot. Org. Carbon In Water	Chloride (soluble)	Nitrate (soluble)	Phosphate (soluble)	Sulphate (soluble)	Electrical Conductivity	pH Value In Water	Alkalinity Total	Bicarbonate
392	BH5	3	-	-	-	<3	14	-	-	53	<0,5	0.02	29	0.624	7.21	300	300
393	BH5	3	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-
394	BH5	3	<10	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
395	BH5	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
396	BH6	12	-	-	-	-	-	<1	6	-	-	-	-	-	-	-	-
397	BH6	12	-	-	-	5	19	-	-	5	<0.5	0.11	82	0.602	7.32	1400	1400
398	BH6	12	-	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-
399	BH6	12	77	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-
400	BH6	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
401	BH7	4	-	-	-	-	-	<1	5	-	-	-	-	-	-	-	-
402	BH7 (bailed)	4	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
403	BH7	4	-	-	-	<3	12	-	-	10	<0.5	0.02	10	0.587	7.14	400	400
404	BH7	4	-	-	0.04	-	-	-	-	-	-	-	-	-	-	-	-
405	BH7	4	<10	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
406	BH7	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
407	SPRING B	SURFACE	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
408	SPRING D	SURFACE	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
409	SPRING I	SURFACE	-	-	-	-	-	<1	6	-	-	-	-	-	-	-	-
410	SPRING I	SURFACE	-	-	-	<3	13	-	-	17	4.7	0.04	17	0.362	7.87	550	550
411	SPRING I	SURFACE	-	-	0.04	-	-	-	-	-	-	-	-	-	-	-	-

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GEOCHEM ANALYTICAL SERVICES

Diesel Range Organics
by
G.C.

NAMAS TESTING No. 1291

Client Ref:= MD3333A/2847
Sample Matrix= Water
Job Number:= 97/1023/02/01

Date Sample Received:= 24/4/97
Date Extracted/Prepared:= 6/6/97
Date Analysed:= 7/6/97

Separatory Funnel Ext:= Yes
Soxtec Extraction:= No
Column Extraction:= Yes

Internal Standard:= A :- 2,2,4,4,6,8,8, HEPTAMETHYLNONANE B :- 1-CHLOROOCTADECANE C :- SQUALANE

Sample number	Sample Identity	Depth	Total Soluble Extract (mg/litre)	Diesel Range Hydrocarbons (µg/litre)	Interpretation
090	SPRING D	-	<1	17	No Identification Possible
095	SPRING L	-	<1	31	No Identification Possible
100	SPRING M	-	<1	< 10	No Identification Possible
154	SPRING B	-	1	< 10	No Identification Possible
159	SPRING C2	-	1	24	No Identification Possible
164	SPRING G1	-	1	< 10	No Identification Possible
169	SPRING P1	-	1	< 10	No Identification Possible
174	SPRING R2	-	2	< 10	No Identification Possible
294	BH 3B	-	3	< 10	No Identification Possible
363	BH 1A	-	3	< 10	No Identification Possible
368	BH 1B	-	2	< 10	No Identification Possible
369	BH 1B(bailed)	-	2	< 10	No Identification Possible
374	BH 2	-	2	77	No Identification Possible
379	BH 3A	-	2	< 10	No Identification Possible
384	BH 4	-	<1	< 10	No Identification Possible
385	BH 4(bailed)	-	<1	< 10	No Identification Possible
390	BH 5	-	1	10	No Identification Possible
391	BH 5(bailed)	-	<1	< 10	No Identification Possible
396	BH 6	-	<1	17	No Identification Possible
401	BH 7	-	<1	< 10	No Identification Possible

Checked by

GEOCHEM ANALYTICAL SERVICES

Diesel Range Organics
by
G.C.

NAMAS
TESTING
No. 1291

Client Ref:= MD3333A/2847
Sample Matrix= Water
Job Number:= 97/1023/02/01

Date Sample Received:= 24/4/97
Date Extracted/Prepared:= 6/6/97
Date Analysed:= 7/6/97

Separatory Funnel Ext:= Yes
Soxtec Extraction:= No
Column Extraction:= Yes

Internal Standard:= A :- 2,2,4,4,6,8,8, HEPTAMETHYLNONANE B :- 1-CHLOROOCTADECANE C :- SQUALANE

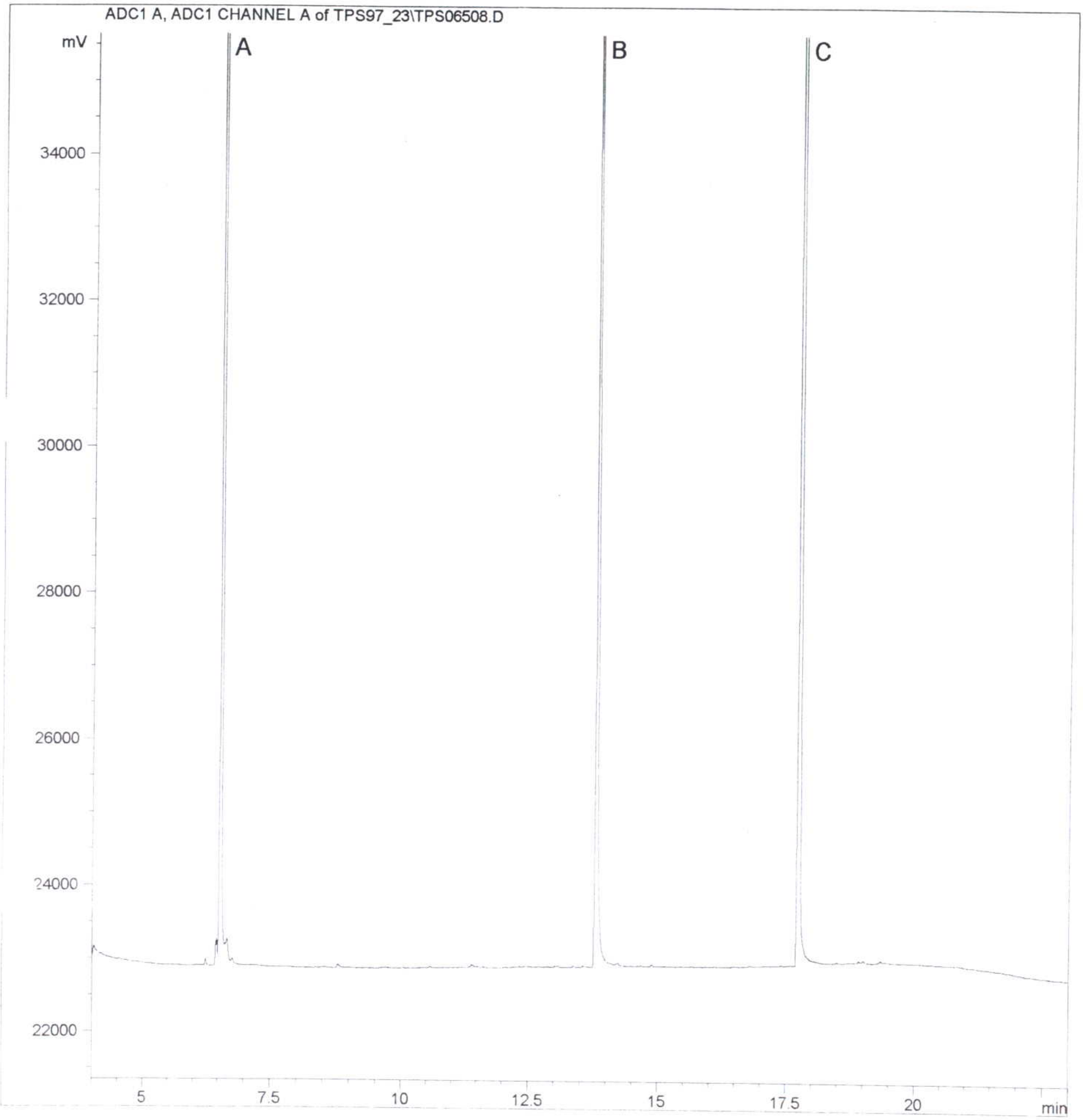
Sample number	Sample Identity	Depth	Total Soluble Extract (mg/litre)	Diesel Range Hydrocarbons (µg/litre)	Interpretation
402	BH 7(bailed)	-	<1	< 10	No Identification Possible

Checked by

GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis
By G.C.

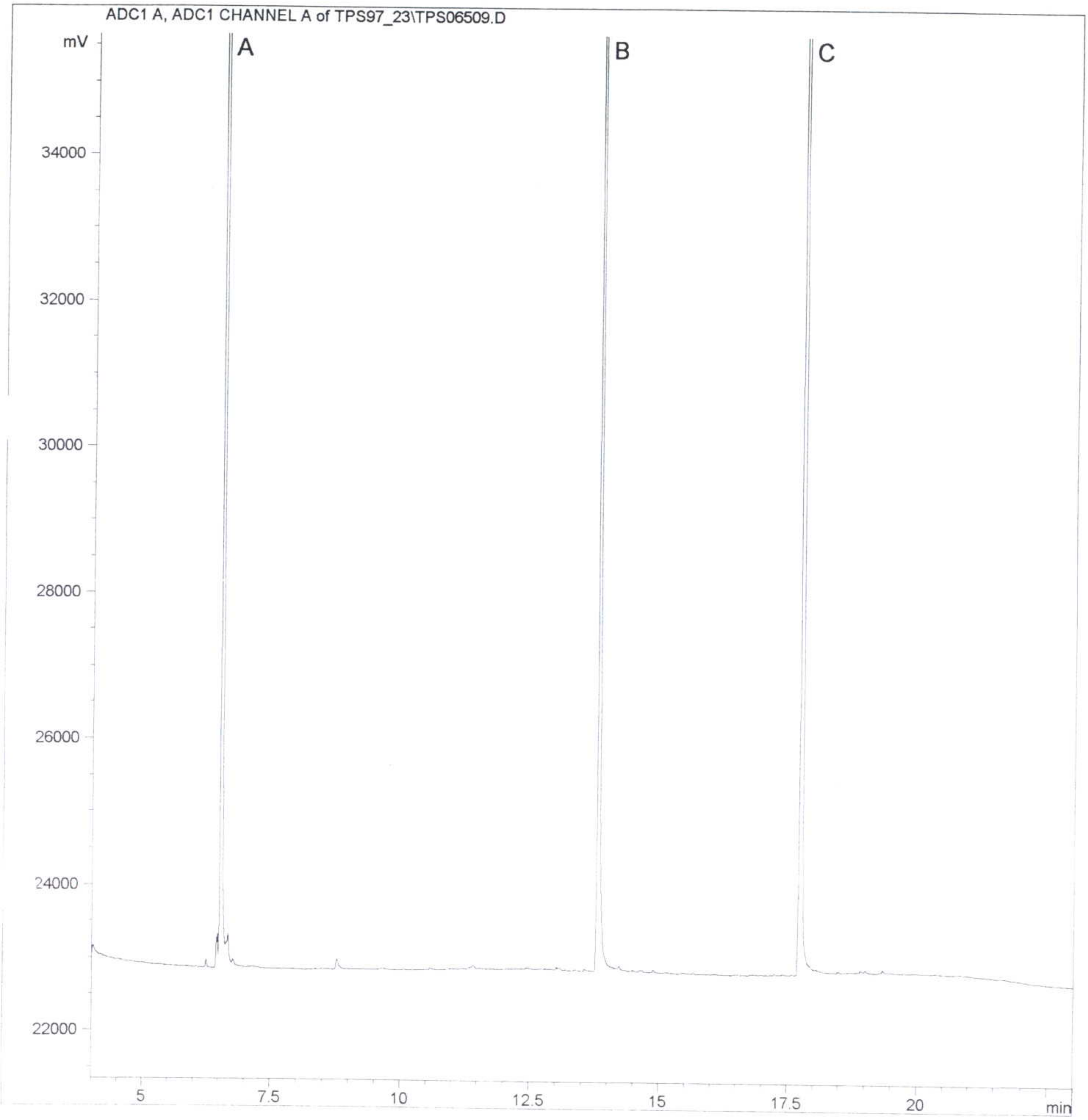
1023-294

TESTING
No. 1291



Job Number: 97/01023/02/01

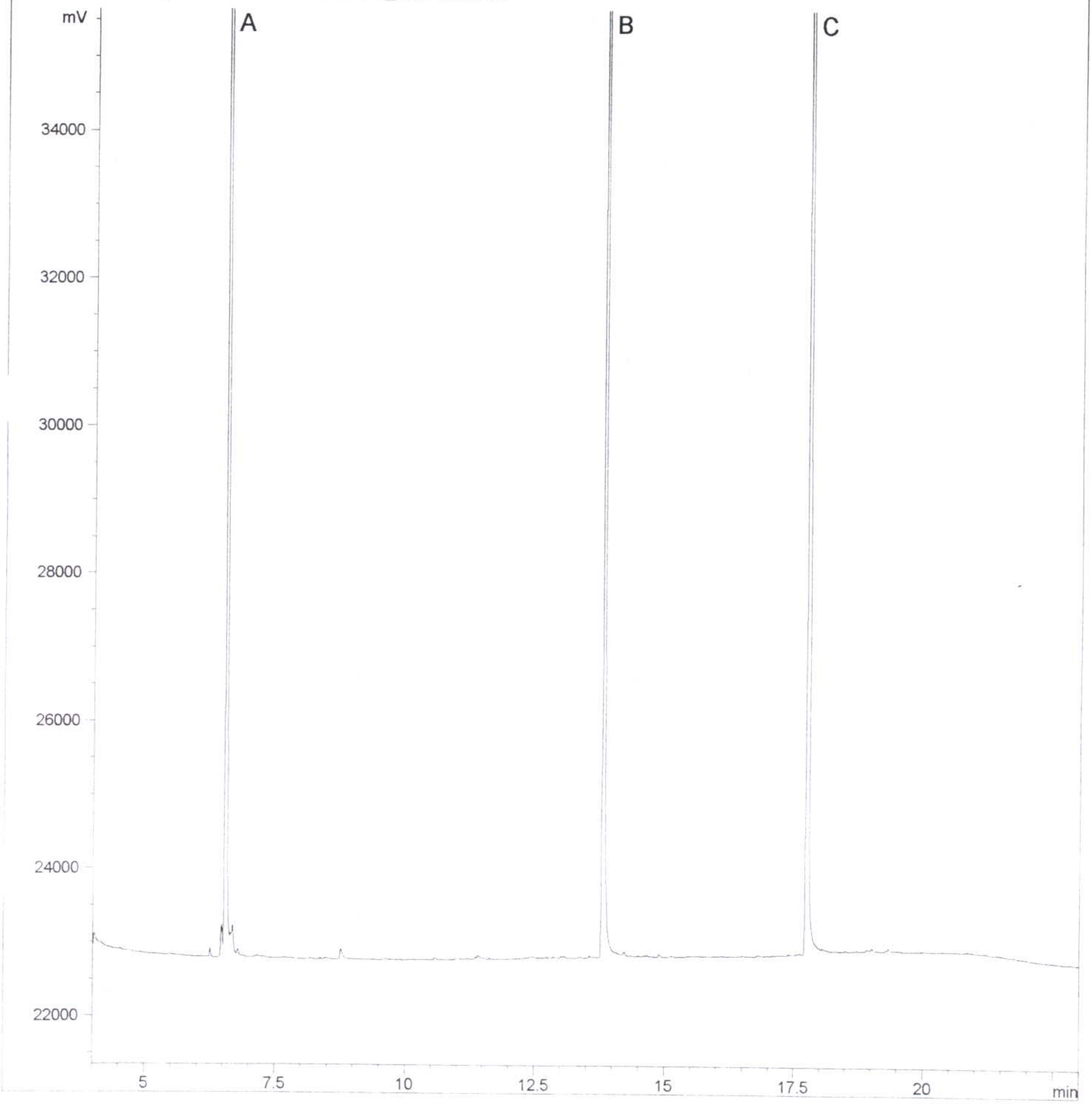
1023-363



Job Number: 97/01023/02/01

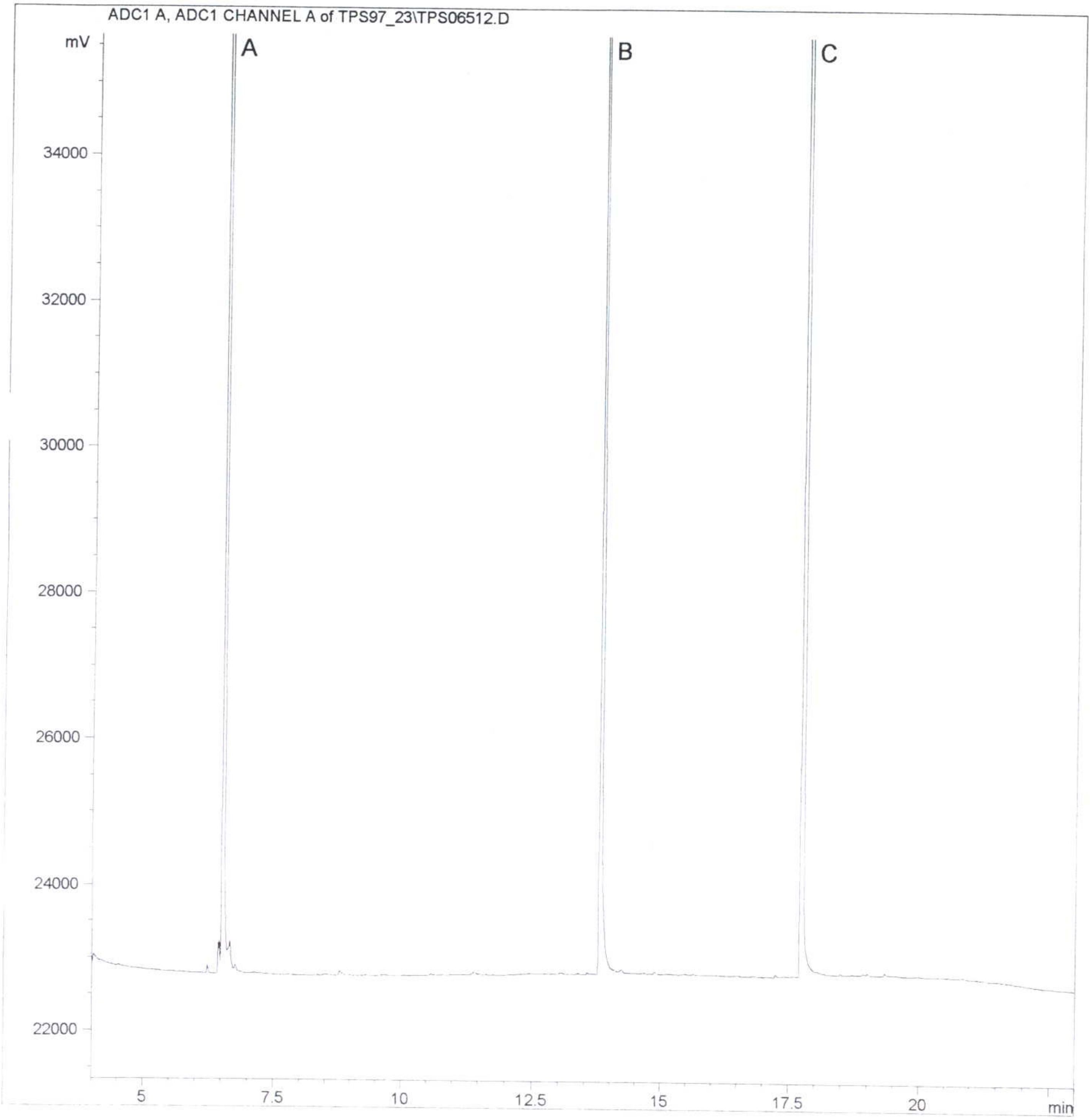
1023-368

ADC1 A, ADC1 CHANNEL A of TPS97_23\TPS06511.D

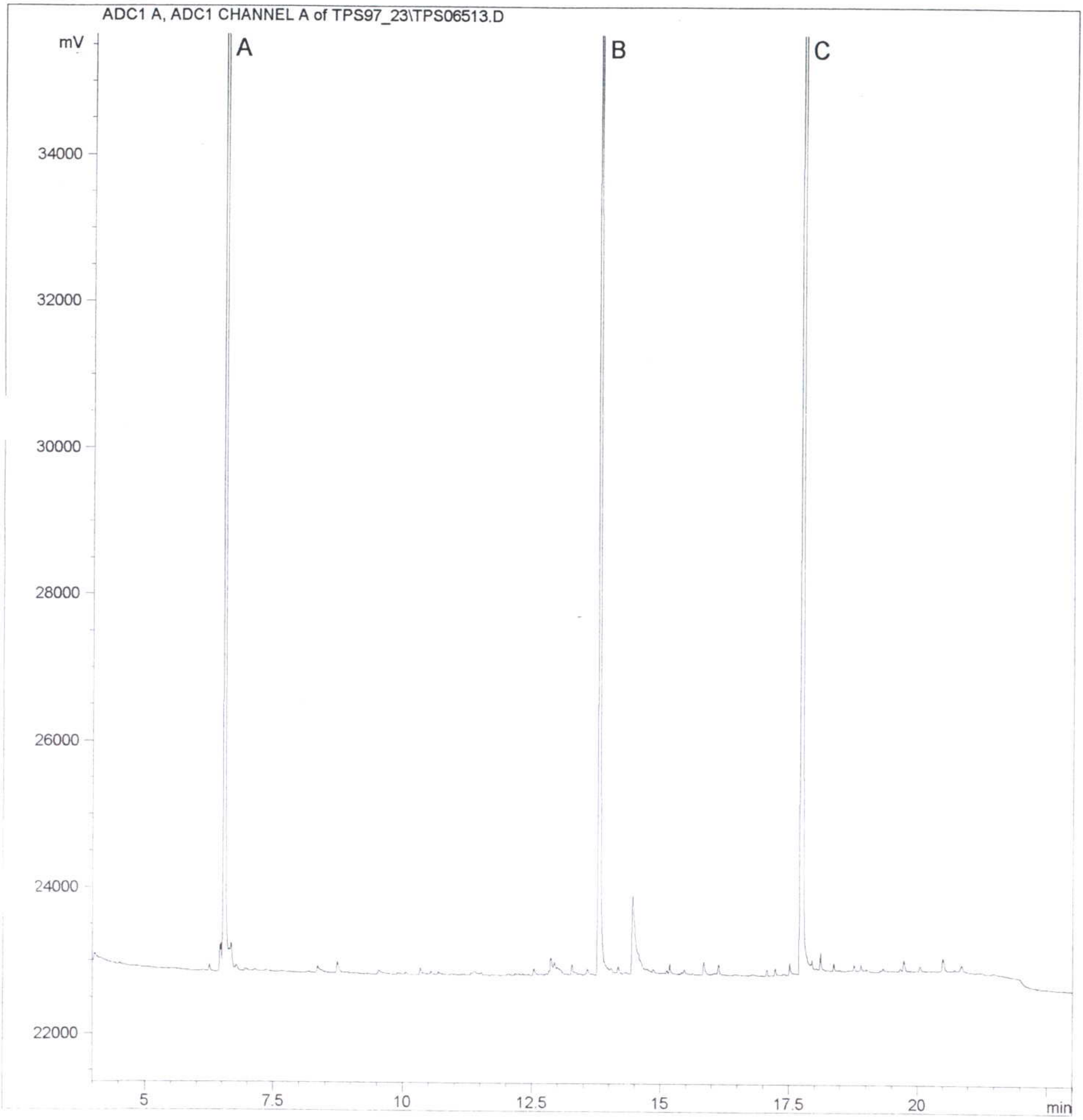


GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis
By G.C.

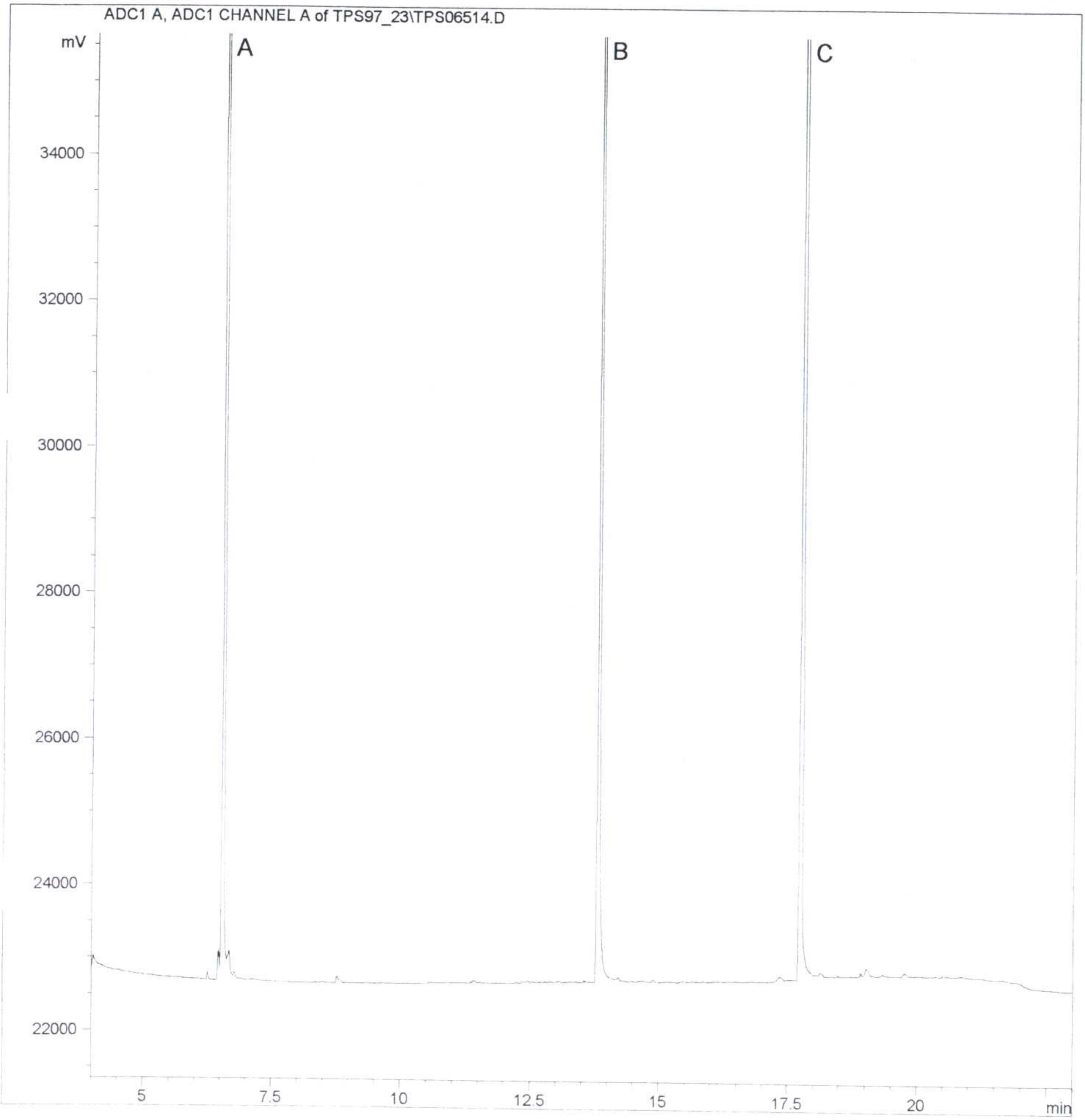
1023-369



1023-374


ADC1 A, ADC1 CHANNEL A of TPS97_23\TPS06513.D
mV
A
B
C
34000
32000
30000
28000
26000
24000
22000
5
7.5
10
12.5
15
17.5
20
min

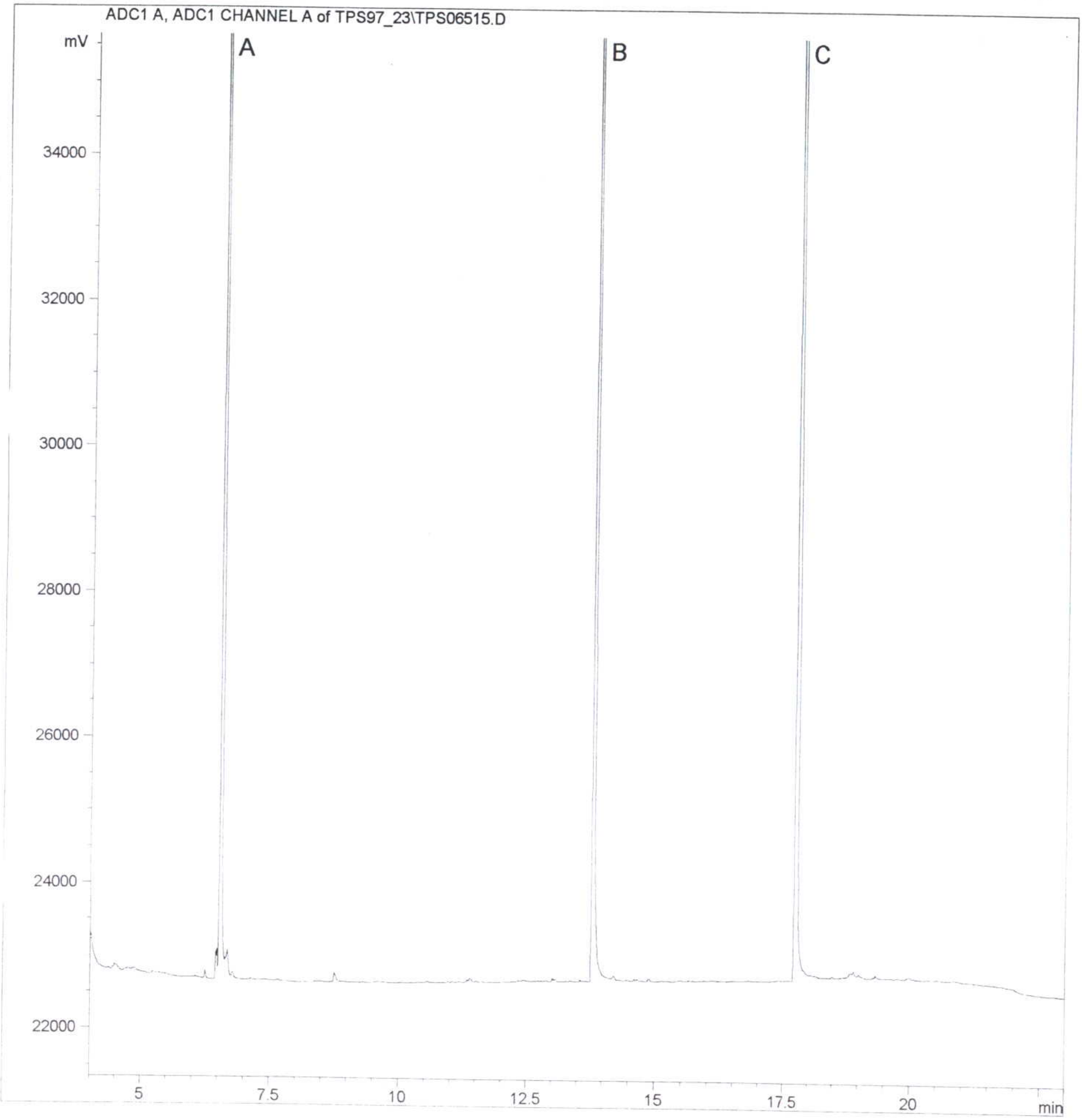
1023-379


ADC1 A, ADC1 CHANNEL A of TPS97_23\TPS06514.D
mV
34000
32000
30000
28000
26000
24000
22000
A
B
C
5
7.5
10
12.5
15
17.5
20
min

GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis
By G.C.

1023-384

NAMAS
TESTING
No. 1291

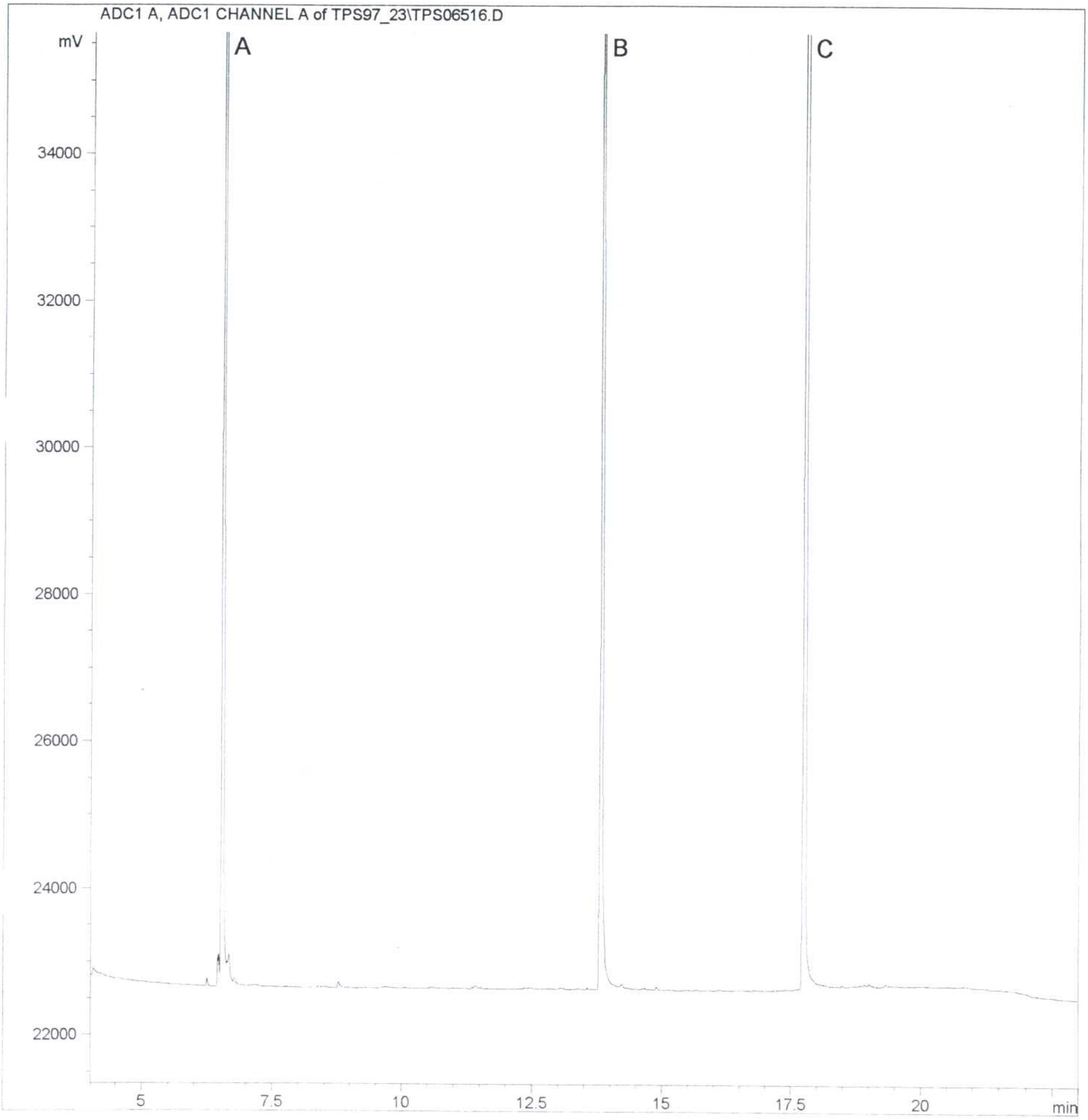


Job Number: 97/01023/02/01

GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis
By G.C.

1023-385

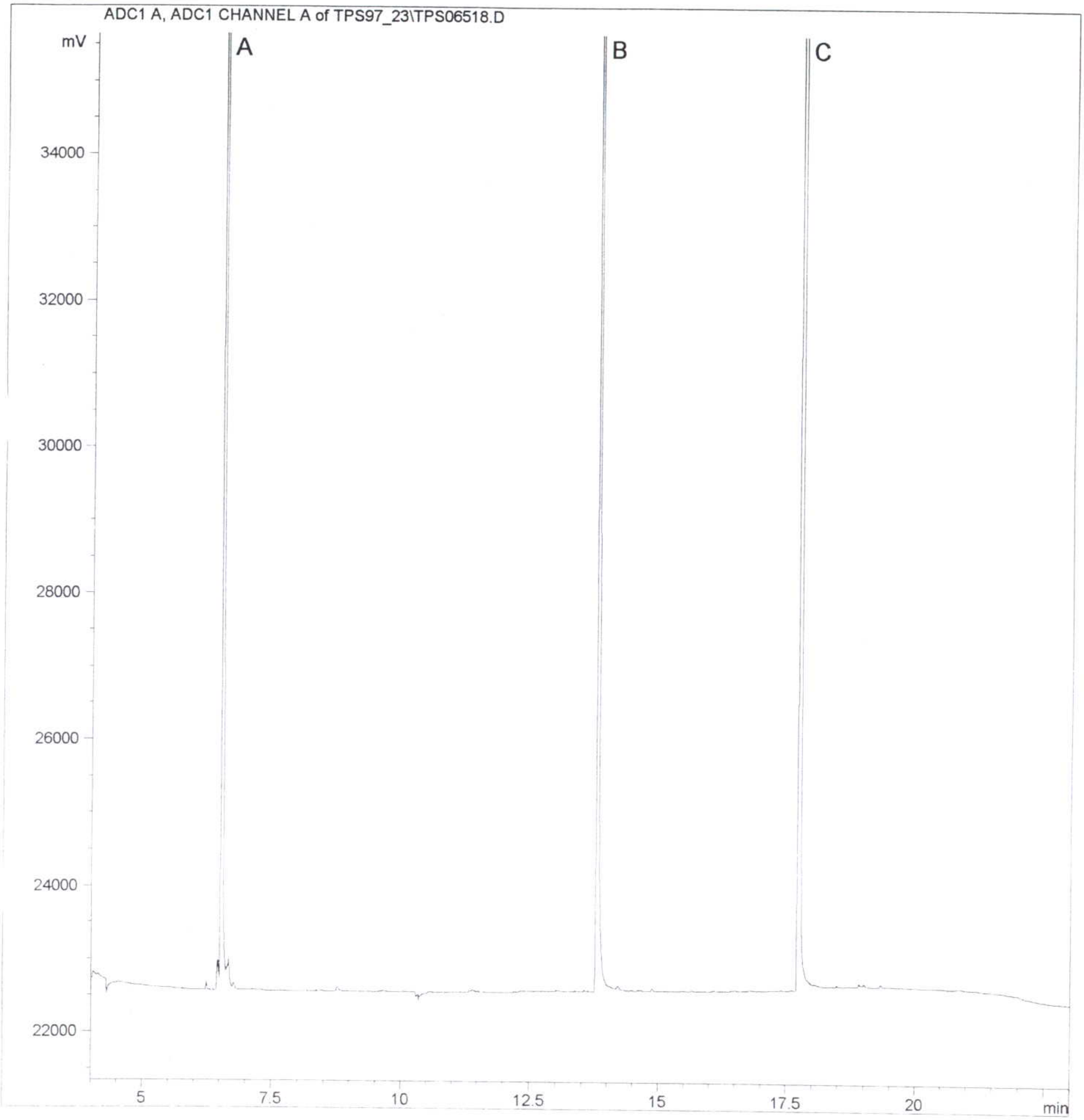
NAMAS
TESTING
No. 1291



GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis
By G.C.

1023-390

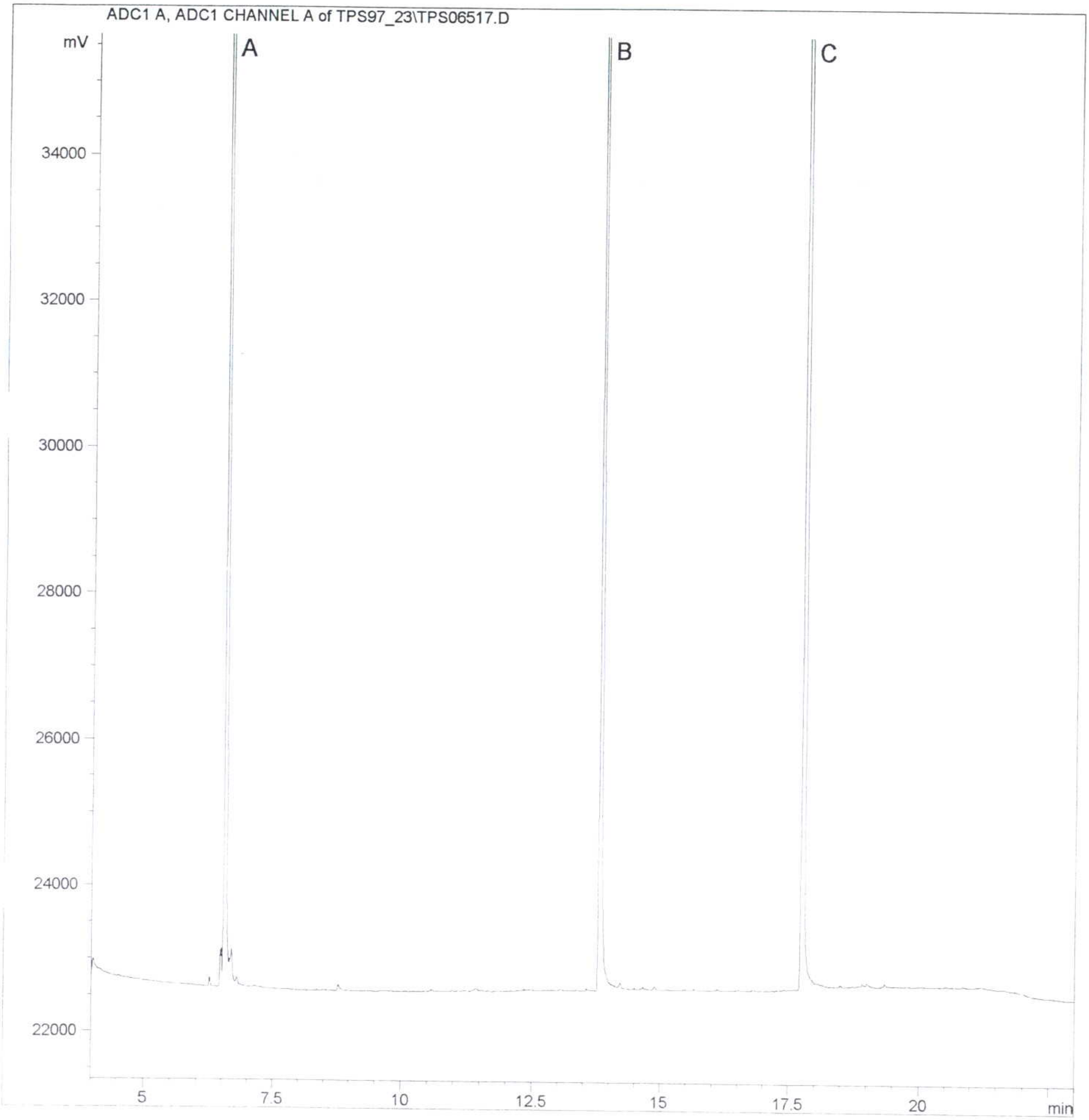
NAMAS
TESTING
No. 1291



GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis
By G.C.

1023-391

NAMAS
TESTING
No. 1291

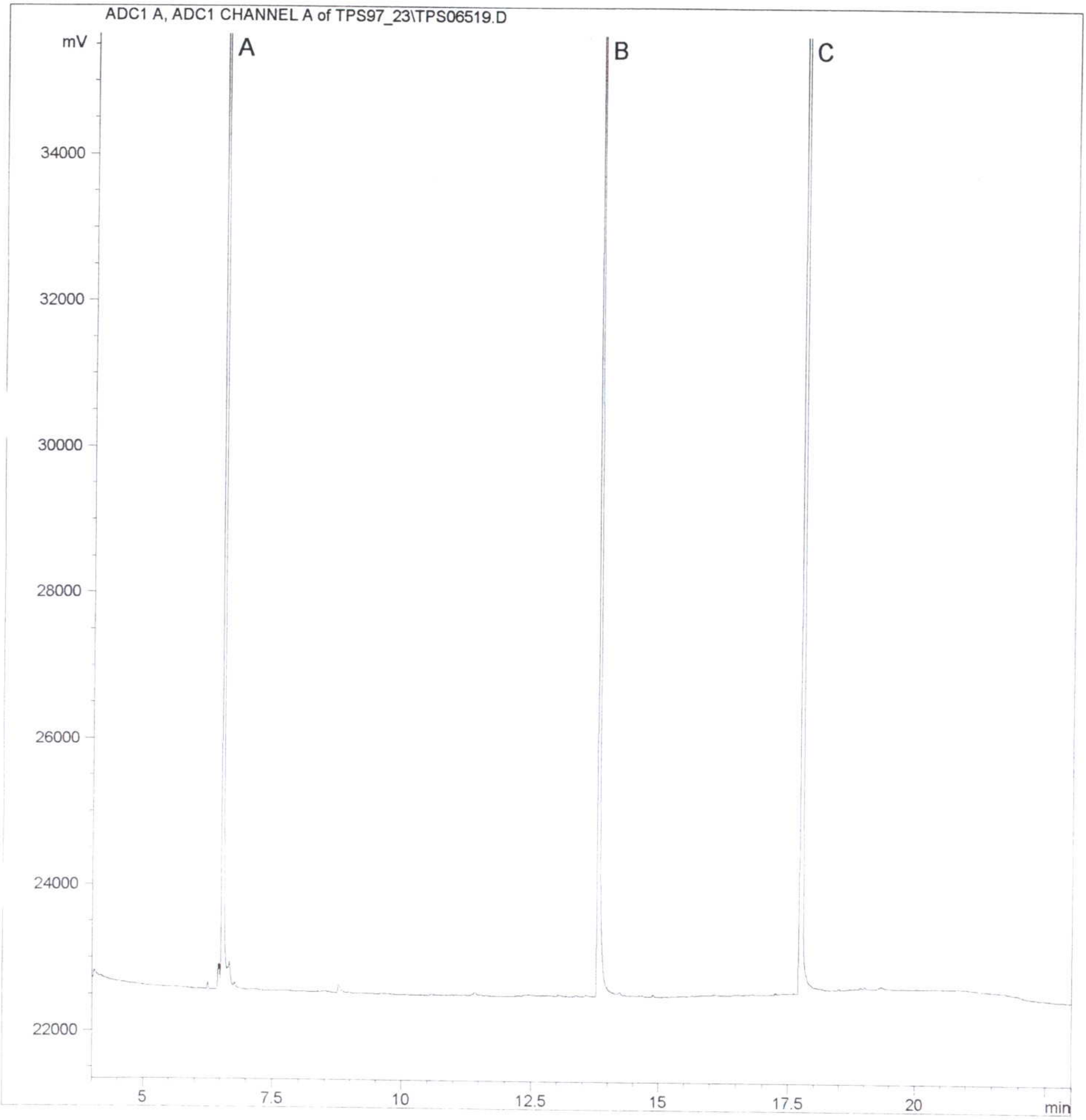


Job Number: 97/01023/02/01

GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis
By G.C.

1023-396

NAMAS TESTING No. 1291

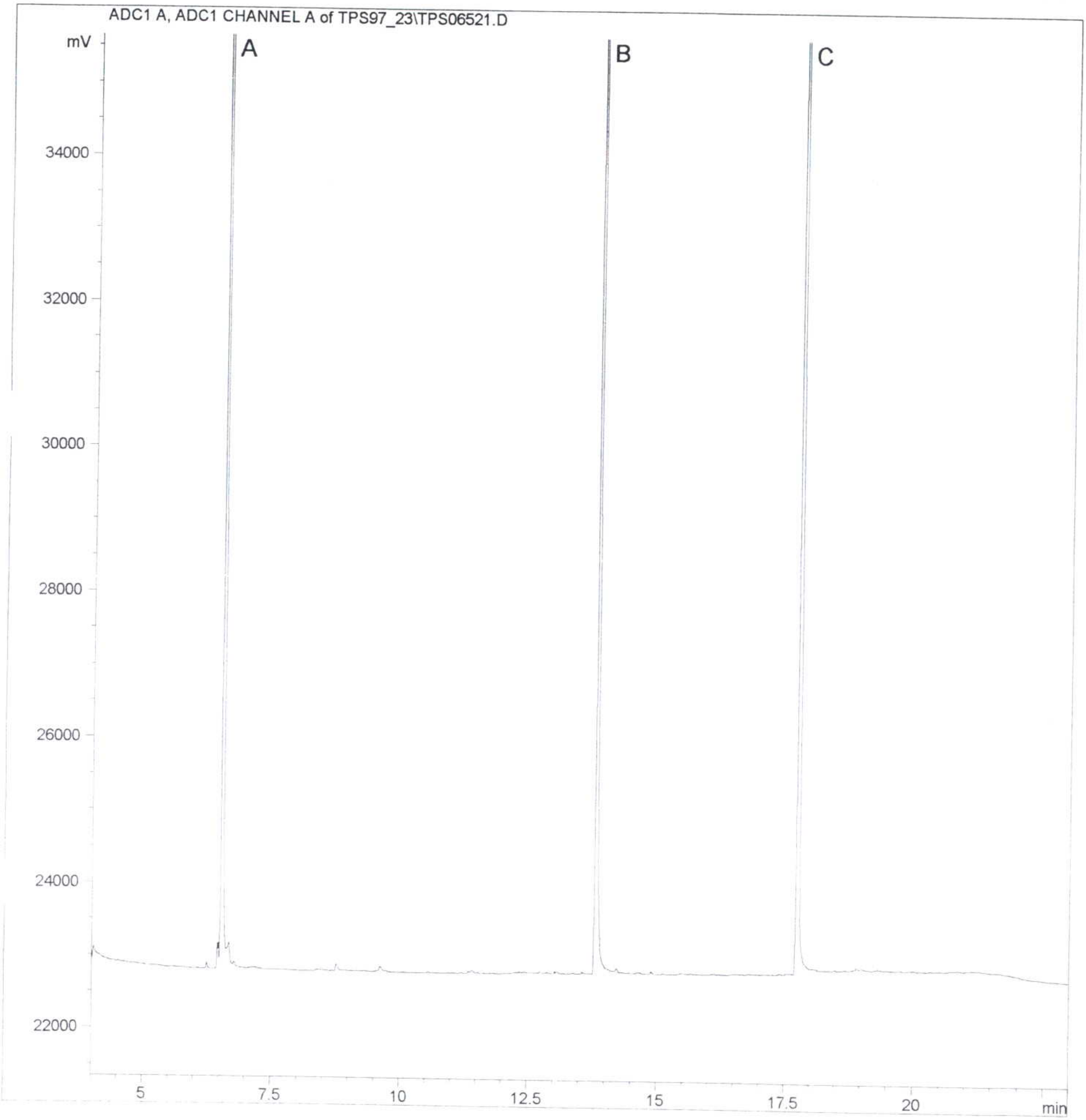


Job Number: 97/01023/02/01

GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis
By G.C.

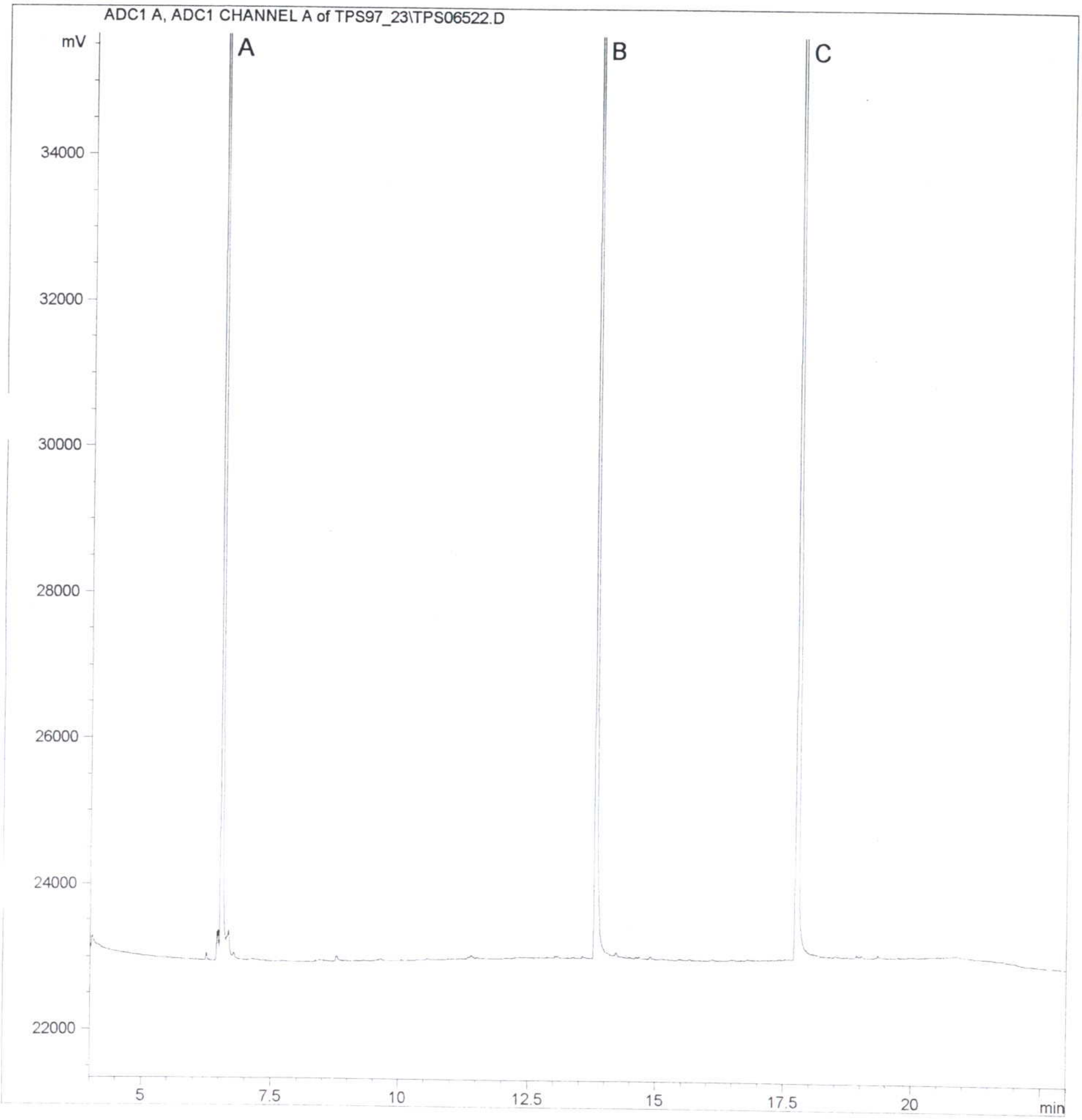
1023-401

TESTING
No. 1291



Job Number: 97/01023/02/01

1023-402


ADC1 A, ADC1 CHANNEL A of TPS97_23\TPS06522.D
mV
34000
32000
30000
28000
26000
24000
22000
A
B
C
5
7.5
10
12.5
15
17.5
20
min

Appendix 9

Results of Chemical Testing - Springs

)CHEM ANALYTICAL SERVICE

TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 23/04/97
(of first sample)

Sample Type : WATER
Location : RAF UPPER HEYFORD
Client Contact : S.HOBBS
Client Ref. No. : MD3333A

NAMAS TESTING No. 1291

☐ Preliminary
☑ Validated
☐ NAMAS Accredited

		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		Detection Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	TLC	TLC	TLC	TLC
		Detection Limits	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<1	<1	<1	<1
Sample Number	Sample Identity	Depth (m)	Arsenic	Boron	Calcium	Cadmium	Chromium	Copper	Mercury	Magnesium	Nickel	Lead	Selenium	Zinc	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC
90	SPRING D	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1
91	SPRING D	UNKNOWN	<0.05	<0.05	298.00	<0.05	<0.05	<0.05	<0.05	3.69	<0.05	<0.05	<0.1	<0.05	-	-	-	-
92	SPRING D	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
93	SPRING D	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
94	SPRING D	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
95	SPRING L	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1
96	SPRING L	UNKNOWN	<0.05	<0.05	184.00	<0.05	<0.05	<0.05	<0.05	2.96	<0.05	<0.05	<0.1	<0.05	-	-	-	-
97	SPRING L	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
98	SPRING L	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
99	SPRING L	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	SPRING M	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1
101	SPRING M	UNKNOWN	<0.05	<0.05	177.00	<0.05	<0.05	<0.05	<0.05	2.05	<0.05	<0.05	<0.1	<0.05	-	-	-	-
102	SPRING M	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
103	SPRING M	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
104	SPRING M	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
154	SPRING B	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	1	<1
155	SPRING B	UNKNOWN	<0.05	<0.05	173.00	<0.05	<0.05	<0.05	<0.05	2.26	<0.05	<0.05	<0.1	<0.05	-	-	-	-
156	SPRING B	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
157	SPRING B	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
158	SPRING B	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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CHEM ANALYTICAL SERVICE
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 23/04/97
(of first sample)

Sample Type : WATER
Location : RAF UPPER HEYFORD
Client Contact : S.HOBBS
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☑ Validated
☐ NAMAS Accredited

		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		Detection Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	TLC	TLC	TLC	TLC
		Detection Limits	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<1	<1	<1	<1
Sample Number	**Sample Identity**	**Depth (m)**	Arsenic	Boron	Calcium	Cadmium	Chromium	Copper	Mercury	Magnesium	Nickel	Lead	Selenium	Zinc	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC
159	SPRING C2	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
160	SPRING C2	UNKNOWN	<0.05	<0.05	228.00	<0.05	<0.05	<0.05	<0.05	2.95	<0.05	<0.05	<0.1	<0.05	<1	<1	1	<1
161	SPRING C2	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
162	SPRING C2	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
163	SPRING C2	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
164	SPRING G1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
165	SPRING G1	UNKNOWN	<0.05	<0.05	248.00	<0.05	<0.05	<0.05	<0.05	3.33	<0.05	<0.05	<0.1	<0.05	<1	<1	1	<1
166	SPRING G1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
167	SPRING G1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
168	SPRING G1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
169	SPRING P1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
170	SPRING P1	UNKNOWN	<0.05	<0.05	215.00	<0.05	<0.05	<0.05	<0.05	3.72	<0.05	<0.05	<0.1	<0.05	<1	<1	1	<1
171	SPRING P1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
172	SPRING P1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
173	SPRING P1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
174	SPRING R2	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
175	SPRING R2	UNKNOWN	<0.05	<0.05	246.00	<0.05	<0.05	<0.05	<0.05	3.19	<0.05	<0.05	<0.1	<0.05	<1	<1	2	<1
176	SPRING R2	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
177	SPRING R2	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
178	SPRING R2	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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CHEM ANALYTICAL SERVICE
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 23/04/97
(of first sample)

Sample Type : WATER
Location : RAF UPPER HEYFORD
Client Contact : S.HOBBS
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☑ Validated
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		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		Detection Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	TLC	TLC	TLC	TLC
		Detection Limits	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<1	<1	<1	<1
Sample Number	Sample Identity	Depth (m)	Arsenic	Boron	Calcium	Cadmium	Chromium	Copper	Mercury	Magnesium	Nickel	Lead	Selenium	Zinc	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC
407	SPRING B	SURFACE	-	-	-	-	-	-	-	-	-	-	-	-				
408	SPRING D	SURFACE	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1
409	SPRING I	SURFACE	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1
410	SPRING I	SURFACE	<0.05	<0.05	57.53	<0.05	<0.05	<0.05	<0.05	1.37	<0.05	0.07	<0.1	0.10	<1	<1	<1	<1
411	SPRING I	SURFACE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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CHEM ANALYTICAL SERVICE
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 23/04/97
(of first sample)

Sample Type : WATER
Location : RAF UPPER HEYFORD
Client Contact : S.HOBBS
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
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Sample Number	Sample Identity	Depth (m)	Arsenic	Boron	Calcium	Cadmium	Chromium	Copper	Mercury	Magnesium	Nickel	Lead	Selenium	Zinc	Min. Oil / Paraffin	Total Non-Volatile Aromatics	NSO / Resins	TPH By TLC
		Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		Detection Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	TLC	TLC	TLC	TLC
		Detection Limits	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<1	<1	<1	<1
412	SPRING I	SURFACE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
413	SPRING I	SURFACE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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ƆCHEM ANALYTICAL SERVICE
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 23/04/97
(of first sample)

Sample Type : WATER
Location : RAF UPPER HEYFORD
Client Contact : S.HOBBS
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☑ Validated
☐ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	COD On Unfiltered Sample	BOD in unfiltered water	Ammoniacal Nitrogen In Water	Potassium	Sodium	DCM/MeOH Extract	Tot. Org. Carbon In Water	Chloride (soluble)	Nitrate (soluble)	Phosphate (soluble)	Sulphate (soluble)	Electrical Conductivity	pH Value In Water	Alkalinity Total	Bicarbonate
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ms/cm		ppm(CaCO	ppm
Detection Method			Spectro	ATU	Colour	Flame P	Flame P	Gravi	IR	KONE	KONE	KONE	KONE	Meter	Meter	Titrat	Titre
Detection Limits			<10	<0.5	<0.01	<3	<3	<1	<1	<5	<0.5	<0.01	<3	<0.004	<0.01	<1	<1
90	SPRING D	UNKNOWN	-	-	-	-	-	.53	3	-	-	-	-	-	-	-	-
91	SPRING D	UNKNOWN	-	-	-	10	18	-	-	54	97.2	<0.01	69	0.919	7.79	300	300
92	SPRING D	UNKNOWN	-	-	0.05	-	-	-	-	-	-	-	-	-	-	-	-
93	SPRING D	UNKNOWN	<10	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
94	SPRING D	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
95	SPRING L	UNKNOWN	-	-	-	-	-	.33	3	-	-	-	-	-	-	-	-
96	SPRING L	UNKNOWN	-	-	-	<3	20	-	-	64	3.8	0.07	27	0.654	7.76	260	260
97	SPRING L	UNKNOWN	-	-	0.05	-	-	-	-	-	-	-	-	-	-	-	-
98	SPRING L	UNKNOWN	<10	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
99	SPRING L	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	SPRING M	UNKNOWN	-	-	-	-	-	.46	3	-	-	-	-	-	-	-	-
101	SPRING M	UNKNOWN	-	-	-	<3	16	-	-	35	31.0	0.01	47	0.667	7.36	250	250
102	SPRING M	UNKNOWN	-	-	0.09	-	-	-	-	-	-	-	-	-	-	-	-
103	SPRING M	UNKNOWN	<10	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
104	SPRING M	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
154	SPRING B	UNKNOWN	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-
155	SPRING B	UNKNOWN	-	-	-	<3	16	-	-	25	27.5	0.02	44	0.685	7.52	300	300
156	SPRING B	UNKNOWN	-	-	0.49	-	-	-	-	-	-	-	-	-	-	-	-
157	SPRING B	UNKNOWN	<10	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
158	SPRING B	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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)CHEM ANALYTICAL SERVICES
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 23/04/97
(of first sample)

Sample Type : WATER
Location : RAF UPPER HEYFORD
Client Contact : S.HOBBS
Client Ref. No. : MD3333A

TESTING
No. 1291

☐ Preliminary
☑ Validated
☐ NAMAS Accredited

Sample Number	Sample Identity	Depth (m)	COD On Unfiltered Sample	BOD in unfiltered water	Ammoniacal Nitrogen In Water	Potassium	Sodium	DCM/MeOH Extract	Tot. Org. Carbon In Water	Chloride (soluble)	Nitrate (soluble)	Phosphate (soluble)	Sulphate (soluble)	Electrical Conductivity	pH Value In Water	Alkalinity Total	Bicarbonate
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ms/cm		ppm(CaCO	ppm
Detection Method			Spectro	ATU	Colour	Flame P	Flame P	Gravi	IR	KONE	KONE	KONE	KONE	Meter	Meter	Titrat	Titre
Detection Limits			<10	<0.5	<0.01	<3	<3	<1	<1	<5	<0.5	<0.01	<3	<0.004	<0.01	<1	<1
159	SPRING C2	UNKNOWN	-	-	-	-	-	1	3	-	-	-	-	-	-	-	-
160	SPRING C2	UNKNOWN	-	-	-	<3	24	-	-	59	119.1	0.02	35	0.858	7.72	233	233
161	SPRING C2	UNKNOWN	-	-	0.95	-	-	-	-	-	-	-	-	-	-	-	-
162	SPRING C2	UNKNOWN	<10	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
163	SPRING C2	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
164	SPRING G1	UNKNOWN	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-
165	SPRING G1	UNKNOWN	-	-	-	<3	15	-	-	28	30.1	0.02	71	0.791	7.83	400	400
166	SPRING G1	UNKNOWN	-	-	0.61	-	-	-	-	-	-	-	-	-	-	-	-
167	SPRING G1	UNKNOWN	<10	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
168	SPRING G1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
169	SPRING P1	UNKNOWN	-	-	-	-	-	1	3	-	-	-	-	-	-	-	-
170	SPRING P1	UNKNOWN	-	-	-	8	22	-	-	34	36.0	0.02	77	0.796	7.94	367	367
171	SPRING P1	UNKNOWN	-	-	0.08	-	-	-	-	-	-	-	-	-	-	-	-
172	SPRING P1	UNKNOWN	<10	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
173	SPRING P1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
174	SPRING R2	UNKNOWN	-	-	-	-	-	2	1	-	-	-	-	-	-	-	-
175	SPRING R2	UNKNOWN	-	-	-	<3	12	-	-	18	17.1	<0.01	69	0.798	7.32	433	433
176	SPRING R2	UNKNOWN	-	-	0.18	-	-	-	-	-	-	-	-	-	-	-	-
177	SPRING R2	UNKNOWN	<10	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
178	SPRING R2	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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CHEM ANALYTICAL SERVICE
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 23/04/97
(of first sample)

Sample Type : WATER
Location : RAF UPPER HEYFORD
Client Contact : S.HOBBS
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☑ Validated
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Sample Number	Sample Identity	Depth (m)	COD On Unfiltered Sample	BOD in unfiltered water	Ammoniacal Nitrogen In Water	Potassium	Sodium	DCM/MeOH Extract	Tot. Org. Carbon In Water	Chloride (soluble)	Nitrate (soluble)	Phosphate (soluble)	Sulphate (soluble)	Electrical Conductivity	pH Value In Water	Alkalinity Total	Bicarbonate
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ms/cm		ppm(CaCO	ppm
Detection Method			Spectro	ATU	Colour	Flame P	Flame P	Gravi	IR	KONE	KONE	KONE	KONE	Meter	Meter	Titrat	Titre
Detection Limits			<10	<0.5	<0.01	<3	<3	<1	<1	<5	<0.5	<0.01	<3	<0.004	<0.01	<1	<1
407	SPRING B	SURFACE	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
408	SPRING D	SURFACE	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
409	SPRING I	SURFACE	-	-	-	-	-	<1	6	-	-	-	-	-	-	-	-
410	SPRING I	SURFACE	-	-	-	<3	13	-	-	17	4.7	0.04	17	0.362	7.87	550	550
411	SPRING I	SURFACE	-	-	0.04	-	-	-	-	-	-	-	-	-	-	-	-

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CHEM ANALYTICAL SERVICE
TABLE OF RESULTS

Job Number : 97/01023/02/01
Client : ASPINWALL & COMPANY
Date of Receipt : 23/04/97
(of first sample)

Sample Type : WATER
Location : RAF UPPER HEYFORD
Client Contact : S.HOBBS
Client Ref. No. : MD3333A

NAMAS
TESTING
No. 1291

☐ Preliminary
☑ Validated
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Sample Number	Sample Identity	Depth (m)	COD On Unfiltered Sample	BOD in unfiltered water	Ammoniacal Nitrogen In Water	Potassium	Sodium	DCM/MeOH Extract	Tot. Org. Carbon In Water	Chloride (soluble)	Nitrate (soluble)	Phosphate (soluble)	Sulphate (soluble)	Electrical Conductivity	pH Value In Water	Alkalinity Total	Bicarbonate
Units			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ms/cm		ppm(CaCO	ppm
Detection Method			Spectro	ATU	Colour	Flame P	Flame P	Gravi	IR	KONE	KONE	KONE	KONE	Meter	Meter	Titrat	Titre
Detection Limits			<10	<0.5	<0.01	<3	<3	<1	<1	<5	<0.5	<0.01	<3	<0.004	<0.01	<1	<1
412	SPRING I	SURFACE	<10	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
413	SPRING I	SURFACE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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GEOCHEM ANALYTICAL SERVICES

Diesel Range Organics
by
G.C.

NAMAS
TESTING
No. 1291

Client Ref:= MD3333A/2847
Sample Matrix= Water
Job Number:= 97/1023/02/01

Date Sample Received:= 24/4/97
Date Extracted/Prepared:= 6/6/97
Date Analysed:= 7/6/97

Separatory Funnel Ext:= Yes
Soxtec Extraction:= No
Column Extraction:= Yes

Internal Standard:= A :- 2,2,4,4,6,8,8, HEPTAMETHYLNONANE B :- 1-CHLOROOCTADECANE C :- SQUALANE

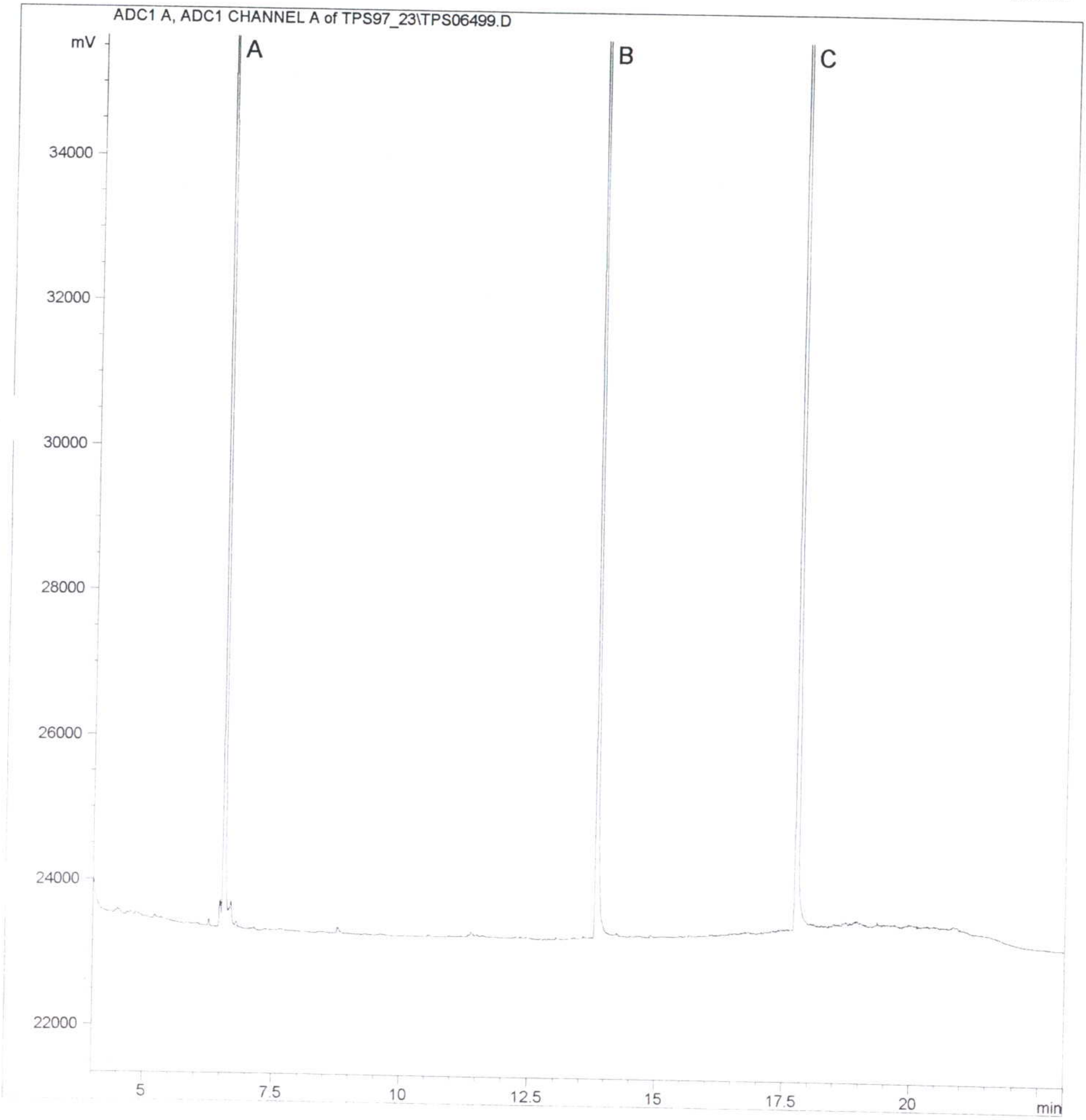
Sample number	Sample Identity	Depth	Total Soluble Extract (mg/litre)	Diesel Range Hydrocarbons (µg/litre)	Interpretation
090	SPRING D	-	<1	17	No Identification Possible
095	SPRING L	-	<1	31	No Identification Possible
100	SPRING M	-	<1	< 10	No Identification Possible
154	SPRING B	-	1	< 10	No Identification Possible
159	SPRING C2	-	1	24	No Identification Possible
164	SPRING G1	-	1	< 10	No Identification Possible
169	SPRING P1	-	1	< 10	No Identification Possible
174	SPRING R2	-	2	< 10	No Identification Possible
294	BH 3B	-	3	< 10	No Identification Possible
363	BH 1A	-	3	< 10	No Identification Possible
368	BH 1B	-	2	< 10	No Identification Possible
369	BH 1B(bailed)	-	2	< 10	No Identification Possible
374	BH 2	-	2	77	No Identification Possible
379	BH 3A	-	2	< 10	No Identification Possible
384	BH 4	-	<1	< 10	No Identification Possible
385	BH 4(bailed)	-	<1	< 10	No Identification Possible
390	BH 5	-	1	10	No Identification Possible
391	BH 5(bailed)	-	<1	< 10	No Identification Possible
396	BH 6	-	<1	17	No Identification Possible
401	BH 7	-	<1	< 10	No Identification Possible

Checked by

GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis
By G.C.

1023-090

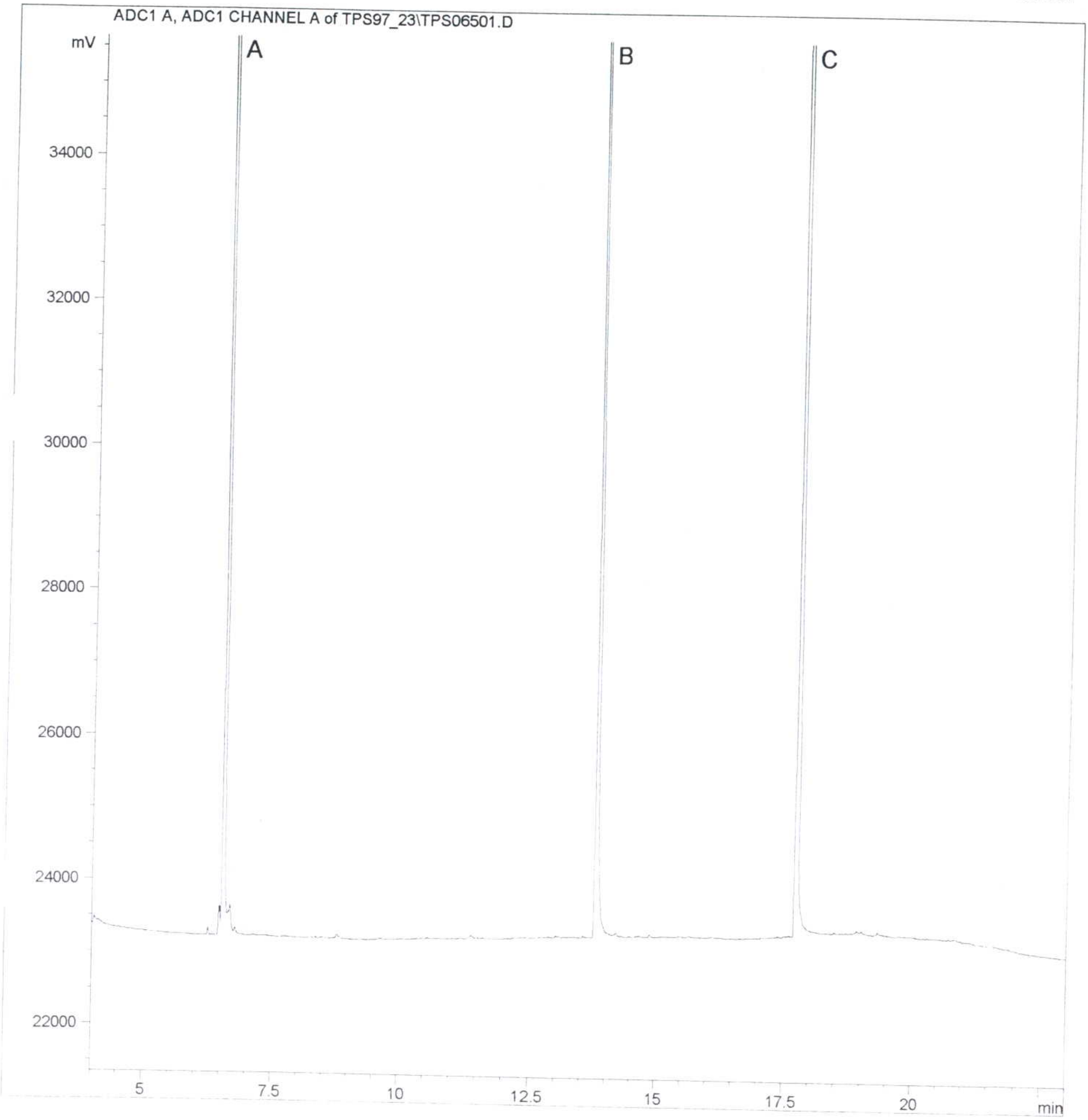
NAMAS TESTING No. 1291



GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis By G.C.

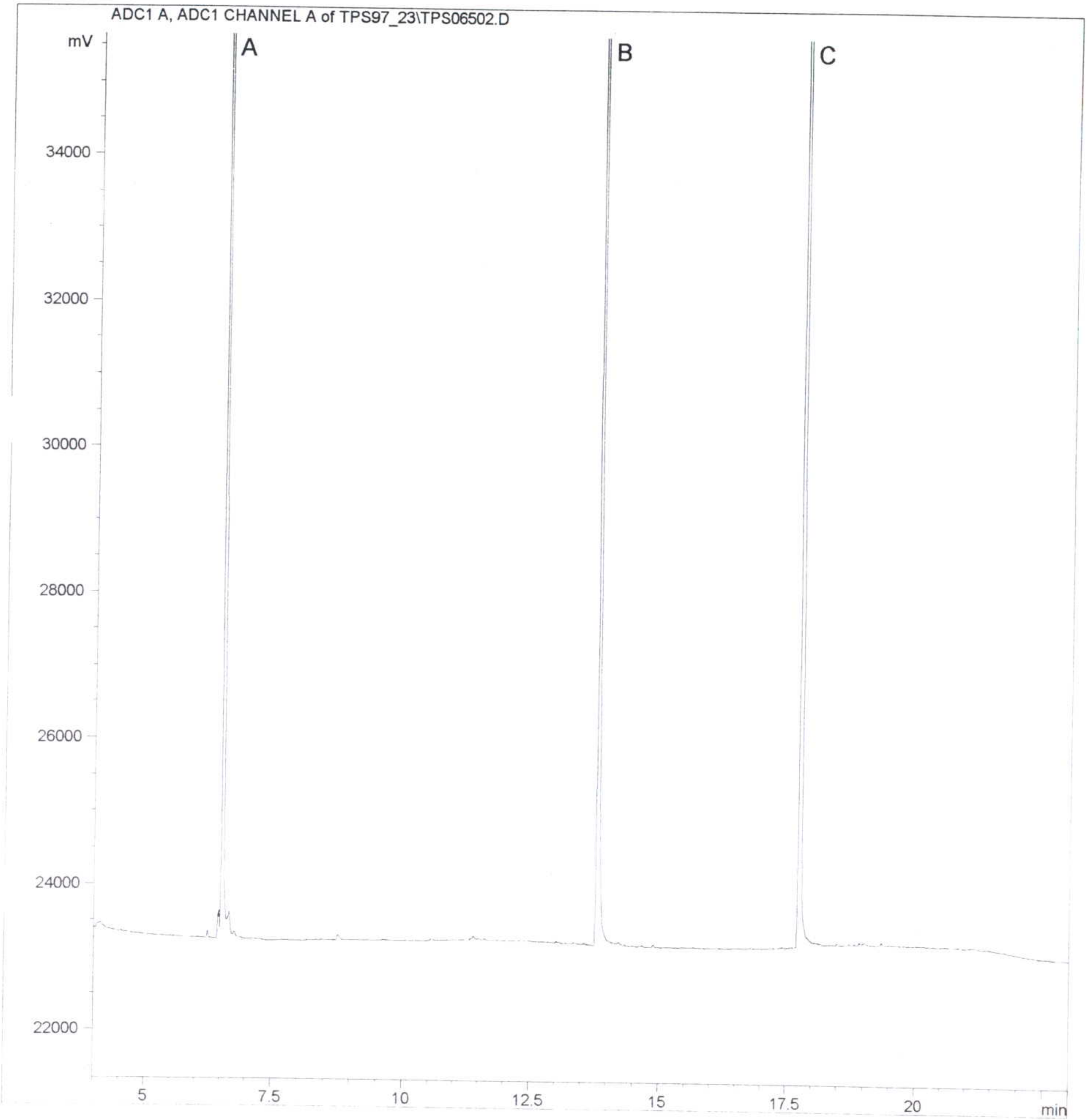
1023-095

NAMAS TESTING No. 1291



Job Number: 97/01023/02/01

1023-100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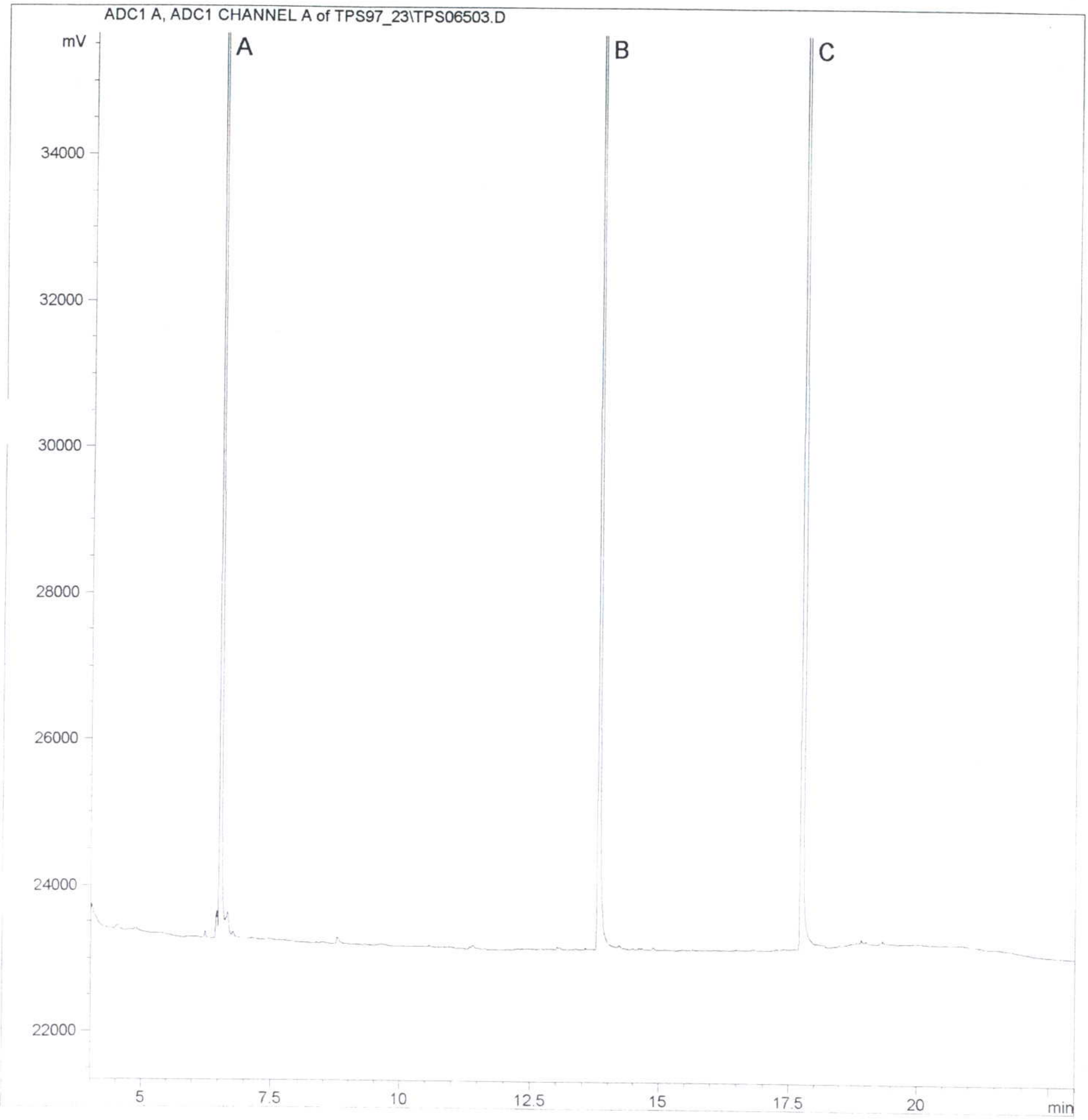
32000
30000
28000
26000
24000
22000
A
B
C
5
7.5
10
12.5
15
17.5
20
min

GEOCHEM

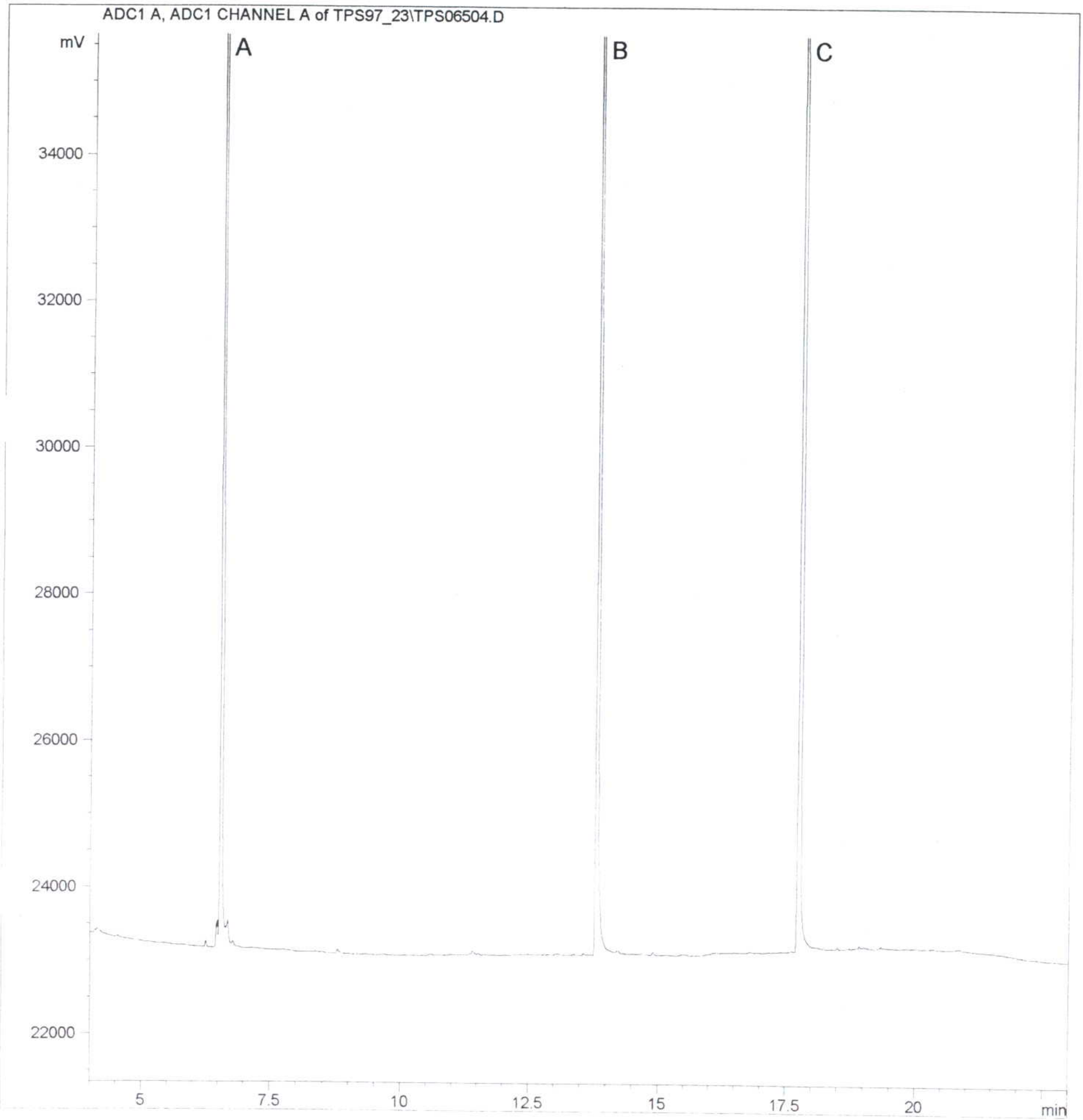
GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis By G.C.

1023-154

NAMAS
TESTING
No. 1291



1023-159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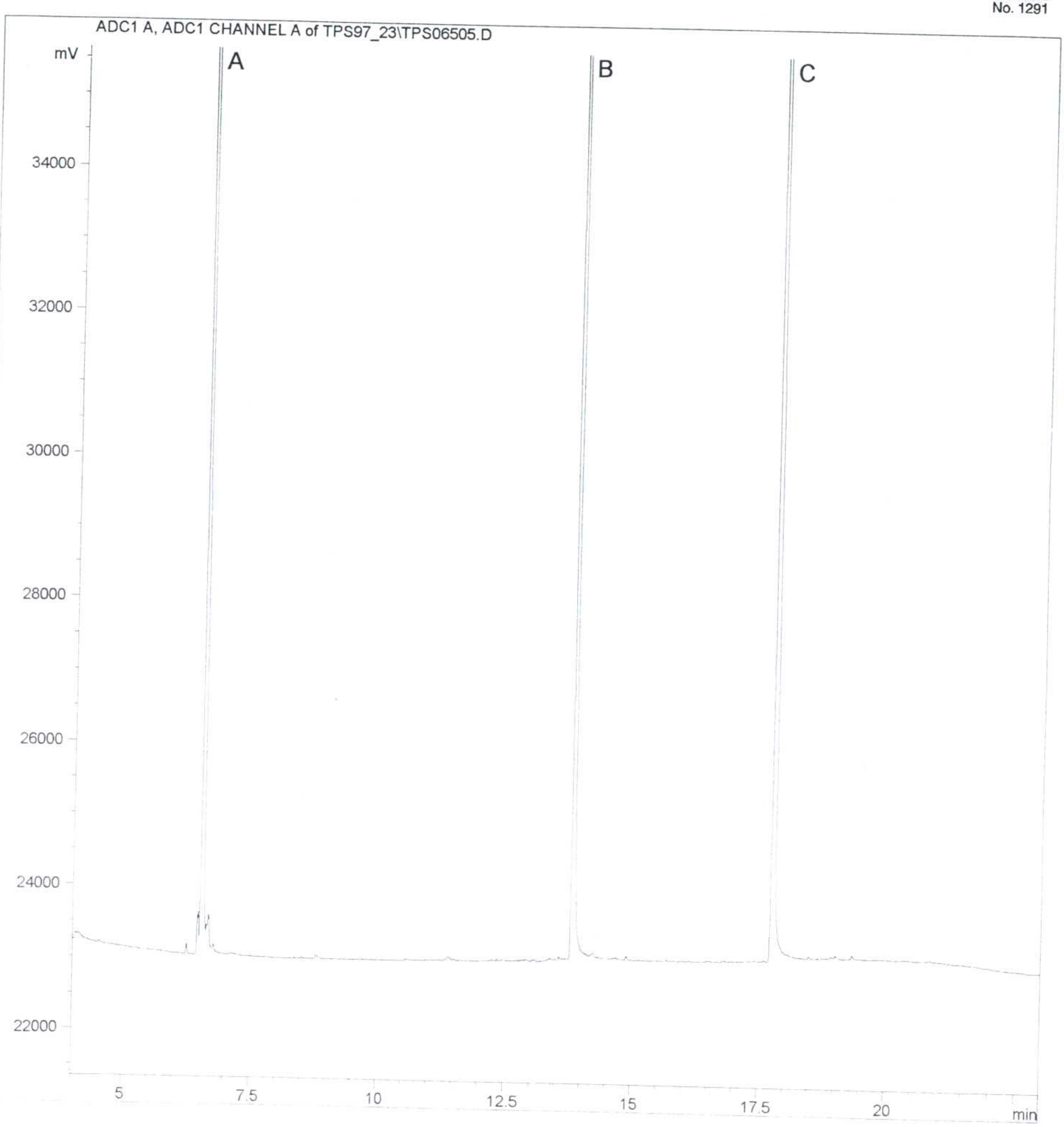
34000
32000
30000
28000
26000
24000
22000
A
B
C
5
7.5
10
12.5
15
17.5
20
min

GEOCHEM

GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis
By G.C.

1023-164

NAMAS
TESTING
No. 1291

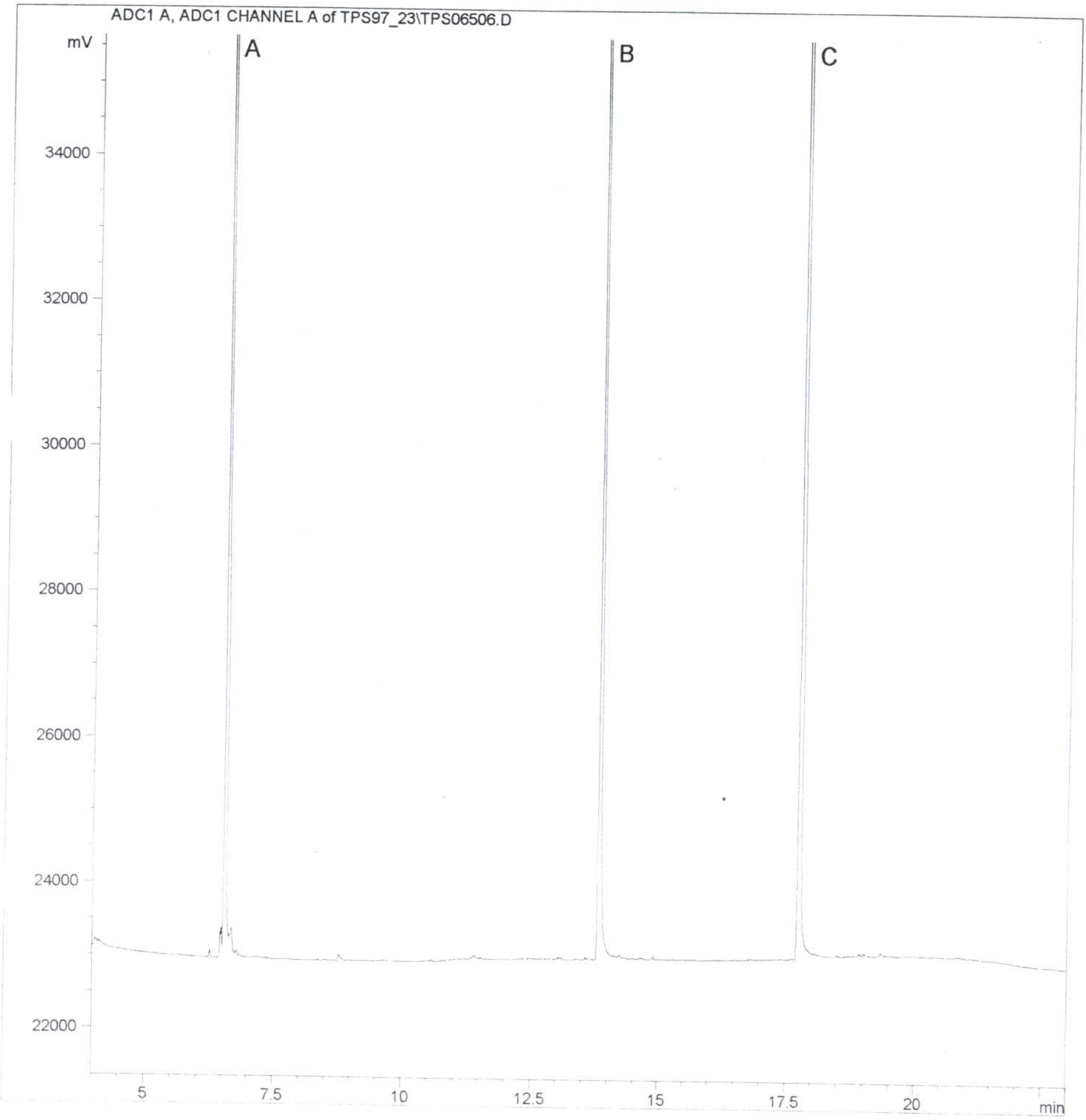


Job Number: 97/01023/02/01

GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis
By G.C.

1023-169

NAMAS
TESTING
No. 1291

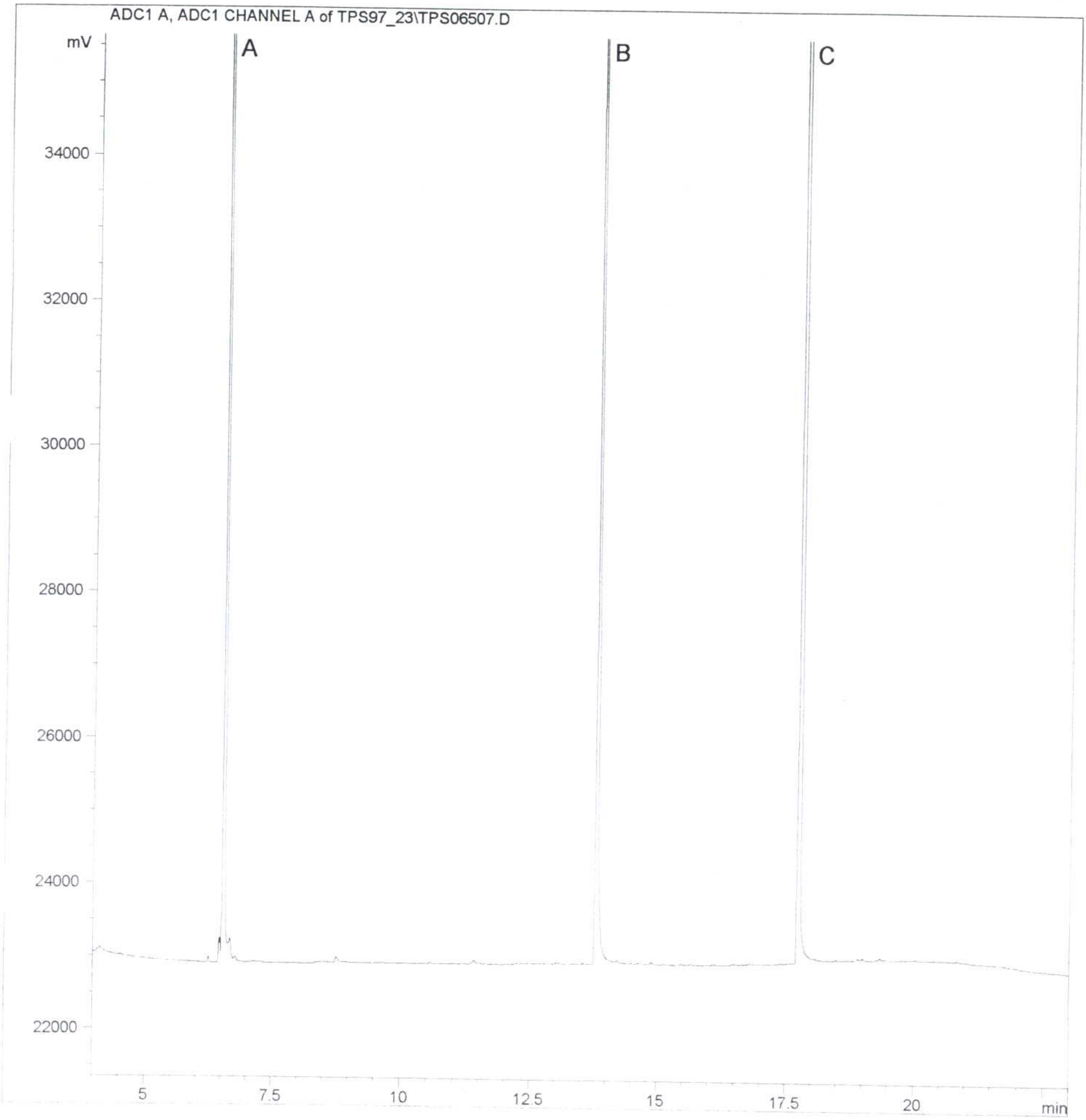


Job Number: 97/01023/02/01

GEOCHEM ANALYTICAL SERVICES
Diesel Range Organics Analysis
By G.C.

1023-174

NAMAS TESTING No. 1291



Job Number: 97/01023/02/01

3 MAY 2008 SURFACE WATER AND GROUNDWATER MONITORING RESULTS (ENVIROS)

Validated ☑
Preliminary ☐

ALcontrol Laboratories Analytical Services
Table Of Results

\# ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 08/08457/02/01
Client: Enviros Consulting Ltd
Client Ref. No.: NR0250002

Matrix: LIQUID
Location: Not Specified
Client Contact: Craig Smith

Sample Identity	BH3A	BH3B	BH4	BH4D	BH7	BH8	BH9	BH10		**Method Code**	**LoD/Units**
Depth (m)	2.5	2.0	12.0	25.0	3.0	3.0	3.5	2.9			
Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID			
Sampled Date	06.05.08	06.05.08	06.05.08	06.05.08	06.05.08	06.05.08	05.05.08	06.05.08			
Sample Received Date	07.05.08	07.05.08	07.05.08	07.05.08	07.05.08	07.05.08	07.05.08	07.05.08			
Batch	1	1	1	1	1	1	1	1			
Sample Number(s)	**1-10**	**11-20**	**21-30**	**31-39**	**40-49**	**50-58**	**59-67**	**68-76**			
Calcium Dissolved (ICP-MS)	130000	120000	110000	110000	130000	150000	150000	140000		TM152#	<160 ug/l

Date 09.06.2008

ALcontrol Laboratories Analytical Services
Table Of Results - Appendix

Job Number:	08/08457/02/01
Client:	Enviros Consulting Ltd
Client Ref. No.:	NR0250002

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample ¹	Surrogate Corrected
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS	✓		NA	

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

ALcontrol Laboratories Analytical Services
Table Of Results - Appendix

Job Number: 08/08457/02/01
Client: Enviros Consulting Ltd
Client Ref. No.: NR0250002

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
1	14.4

Validated ☑

Preliminary ☐

ALcontrol Laboratories Analytical Services
Table Of Results

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 08/08457/02/01
Matrix: LIQUID
Client: Enviros Consulting Ltd
Location: Not Specified
Client Ref. No.: NR0250002
Client Contact: Craig Smith

Sample Identity	BH3A	BH3B	BH4	BH4D	BH7	BH8	BH9	BH10		**Method Code**	**LoD/Units**
Depth (m)	2.5	2.0	12.0	25.0	3.0	3.0	3.5	2.9			
Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID			
Sampled Date	06.05.08	06.05.08	06.05.08	06.05.08	06.05.08	06.05.08	05.05.08	06.05.08			
Sample Received Date	07.05.08	07.05.08	07.05.08	07.05.08	07.05.08	07.05.08	07.05.08	07.05.08			
Batch	1	1	1	1	1	1	1	1			
Sample Number(s)	**1-10**	**11-20**	**21-30**	**31-39**	**40-49**	**50-58**	**59-67**	**68-76**			
Arsenic Dissolved (ICP-MS)	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75		TM152#	<0.75 ug/l
Boron Dissolved (ICP-MS)	52	45	230	230	46	52	45	42		TM152#	<20 ug/l
Cadmium Dissolved (ICP-MS)	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22		TM152#	<0.22 ug/l
Chromium Dissolved (ICP-MS)	<1	<1	<1	<1	<1	<1	<1	<1		TM152#	<1 ug/l
Copper Dissolved (ICP-MS)	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6		TM152#	<1.6 ug/l
Lead Dissolved (ICP-MS)	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4		TM152#	<0.4 ug/l
Magnesium Dissolved (ICP-MS)	2900	1900	11000	11000	2900	3700	3300	2900		TM152#	<40 ug/l
Nickel Dissolved (ICP-MS)	1.9	2.2	1.8	<1.5	2.8	2.2	<1.5	2.2		TM152#	<1.5 ug/l
Selenium Dissolved (ICP-MS)	<1	<1	<1	<1	<1	<1	<1	<1		TM152#	<1 ug/l
Zinc Dissolved (ICP-MS)	15	8	13	18	10	6	<5	13		TM152#	<5 ug/l
Mercury Dissolved (CVAF)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		TM183#	<0.01 ug/l
Carbonate Alkalinity as CaCO3	<2	<2	<2	<2	<2	<2	<2	<2		TM043#	<2 mg/l
BOD	<1	<1	4	3	<1	<1	2	2		TM045#	<1 mg/l
COD	<5	26	54	52	79	170	27	44		TM107#	<5 mg/l
Conductivity (at 25 deg.C)	0.65	0.55	0.60	0.60	0.63	0.69	0.66	0.64		TM120#	<0.014 mS/c
Potassium Dissolved	0.9	0.9	3.8	3.8	0.5	0.6	0.5	0.6		TM083	<0.2 mg/l
Sodium Dissolved	7.4	6.5	12	11	6.5	6.5	6.2	6.5		TM083	<0.2 mg/l
Nitrate as NO3	30	25	10	12	13	1.6	1.8	11		TM102#	<0.3 mg/l
Sulphate (soluble)	36	19	46	47	6	9	7	4		TM098#	<3 mg/l
Chloride	13	7	10	10	7	6	6	6		TM097#	<1 mg/l
Phosphate (Ortho as PO4)	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08		TM100#	<0.08 mg/l
Ammoniacal Nitrogen as N	<0.2	<0.2	0.3	0.3	<0.2	<0.2	<0.2	<0.2		TM099#	<0.2 mg/l
Total Organic Carbon	4	3	3	3	3	3	4	3		TM090#	<3 mg/l
Resorcinol Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		TM062	<0.5 ug/l
Catechol Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		TM062	<0.5 ug/l
Phenol Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		TM062	<0.5 ug/l
Cresols Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		TM062	<0.5 ug/l
Xylenols Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		TM062	<0.5 ug/l
1 Napthol Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		TM062	<0.5 ug/l
2.3.5 Trimethyl-Phenol Low Leve	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		TM062	<0.5 ug/l
2-Isopropyl Phenol Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		TM062	<0.5 ug/l

Date 06.06.2008

Validated ☑
Preliminary ☐

ALcontrol Laboratories Analytical Services
Table Of Results

$^{\#}$ ISO 17025 accredited
^{M} MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 08/08457/02/01
Client: Enviros Consulting Ltd
Client Ref. No.: NR0250002

Matrix: LIQUID
Location: Not Specified
Client Contact: Craig Smith

Sample Identity	BH3A	BH3B	BH4	BH4D	BH7	BH8	BH9	BH10		**Method Code**	**LoD/Units**
Depth (m)	2.5	2.0	12.0	25.0	3.0	3.0	3.5	2.9			
Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID			
Sampled Date	06.05.08	06.05.08	06.05.08	06.05.08	06.05.08	06.05.08	05.05.08	06.05.08			
Sample Received Date	07.05.08	07.05.08	07.05.08	07.05.08	07.05.08	07.05.08	07.05.08	07.05.08			
Batch	1	1	1	1	1	1	1	1			
Sample Number(s)	**1-10**	**11-20**	**21-30**	**31-39**	**40-49**	**50-58**	**59-67**	**68-76**			
Phenols Low Level Total of 8 Speciated	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		TM062	<0.5 ug/l
pH Value	7.31	7.46	7.50	7.40	7.18	7.18	7.13	7.21		TM133$^{\#}$	<1.00 pH Units
Solvent Extract	1	2	2	2	1	2	<1	2		TM078$^{\#}$	<1 mg/l
EPH (DRO) (C10-C40) Aqueous	<10	<10	<10	<10	120	110	<10	28		TM172$^{\#}$	<10 ug/l
Mineral Oil Aqueous	<10	<10	<10	<10	<10	87	<10	16		TM172$^{\#}$	<10 ug/l
GRO (C4-C10)	<10	<10	<10	<10	<10	<10	<10	<10		TM089$^{\#}$	<10 ug/l
GRO (C10-C12)	<10	<10	<10	<10	<10	<10	<10	<10		TM089$^{\#}$	<10 ug/l
Benzene	<10	<10	<10	<10	<10	<10	<10	<10		TM089$^{\#}$	<10 ug/l
Toluene	<10	<10	<10	<10	<10	<10	<10	<10		TM089$^{\#}$	<10 ug/l
Ethyl benzene	<10	<10	<10	<10	<10	<10	<10	<10		TM089$^{\#}$	<10 ug/l
m & p Xylene	<10	<10	<10	<10	<10	<10	<10	<10		TM089$^{\#}$	<10 ug/l
o Xylene	<10	<10	<10	<10	<10	<10	<10	<10		TM089$^{\#}$	<10 ug/l
Sum m&p and o Xylene	<10	<10	<10	<10	<10	<10	<10	<10		TM089$^{\#}$	<10 ug/l
Sum of BTEX	<10	<10	<10	<10	<10	<10	<10	<10		TM089$^{\#}$	<10 ug/l
MTBE	<10	<10	<10	<10	<10	<10	<10	<10		TM089$^{\#}$	<10 ug/l

Date 06.06.2008

ALcontrol Laboratories Analytical Services
Table Of Results - Appendix

Job Number: 08/08457/02/01
Client: Enviros Consulting Ltd
Client Ref. No.: NR0250002

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples	✓		NA	
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999	Determination of BOD5 (ATU) by Oxygen Meter	✓		NA	
TM062	MEWAM BOOK 124 1988.HMSO/ Method 17.7, Second Site property, March 2003	Determination of Phenolic compounds by HPLC with electro-chemical detection			NA	
TM078	Modified: US EPA Method 3535	Solid phase extraction of waters	✓		NA	
TM083	Method 3111, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 7610	Determination of Sodium and Potassium by Flame Photometer			NA	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)			NA	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓		NA	
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water	✓		NA	
TM097	Modified: US EPA Method 325.1 & 325.2	Determination of Chloride using the Kone Analyser	✓		NA	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser	✓		NA	
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser	✓		NA	
TM100	BS 2690: Part 105:1983	Determination of Phosphate using the Kone Analyser	✓		NA	
TM102	Method 4500H, AWWA/APHA, 20th Ed., 1999	Determination of Total Oxidised Nitrogen using the Kone Analyser	✓		NA	
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit	✓		NA	

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

ALcontrol Laboratories Analytical Services
Table Of Results - Appendix

Job Number: 08/08457/02/01
Client: Enviros Consulting Ltd
Client Ref. No.: NR0250002

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to $1.03x10^{-7}$

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter	✓		NA	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter	✓		NA	
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS	✓		NA	
TM172		EPH in Waters	✓		NA	
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry	✓		NA	

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

ALcontrol Laboratories Analytical Services
Table Of Results - Appendix

Job Number: 08/08457/02/01
Client: Enviros Consulting Ltd
Client Ref. No.: NR0250002

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
1	14.4

Validated ☑
Preliminary ☐

ALcontrol Laboratories Analytical Services
Table Of Results

$^{\#}$ ISO 17025 accredited
^{M} MCERTS accredited
* Subcontracted test
» Shown on prev. report

Job Number: 08/08558/02/01
Client: Enviros Consulting Ltd
Client Ref. No.: NR0250002

Matrix: LIQUID
Location: Not Specified
Client Contact: Craig Smith

Sample Identity	BH 1A	BH 1B	BH 2	BH 5	BH 6	BH11	STREAM B	STREAM I	STREAM M	**Method Code**	**LoD/Units**
Depth (m)	37.00	14.00	22.00	2.50	10.00	3.0		-			
Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID		
Sampled Date	06.05.08	07.05.08	06.05.08	07.05.08	07.05.08	07.05.08	08.05.08	07.05.08	08.05.08		
Sample Received Date	08.05.08	08.05.08	08.05.08	08.05.08	08.05.08	09.05.08	09.05.08	08.05.08	09.05.08		
Batch	1	1	1	1	1	3	2	1	2		
Sample Number(s)	**1-9**	**10-18**	**20-28**	**29-37**	**39-47**	**98-106**	**80-88**	**53-61**	**89-97**		
Arsenic Dissolved (ICP-MS)	<0.75	0.88	2.7	<0.75	<0.75	<0.75	0.95	1.2	<0.75	TM152$^{\#}$	<0.75 ug/l
Boron Dissolved (ICP-MS)	190	100	490	110	110	71	43	160	51	TM152$^{\#}$	<20 ug/l
Cadmium Dissolved (ICP-MS)	<0.22	<0.22	<0.22	<0.22	<0.22	0.38	<0.22	<0.22	<0.22	TM152$^{\#}$	<0.22 ug/l
Calcium Dissolved (ICP-MS)	190000	140000	120000	120000	130000	130000	130000	99000	140000	TM152$^{\#}$	<160 ug/l
Chromium Dissolved (ICP-MS)	2	4	2	3	<1	3	2	1	<1	TM152$^{\#}$	<1 ug/l
Copper Dissolved (ICP-MS)	2.3	3.9	<1.6	2.6	1.7	3.6	<1.6	1.8	<1.6	TM152$^{\#}$	<1.6 ug/l
Lead Dissolved (ICP-MS)	<0.4	0.5	<0.4	<0.4	<0.4	1.9	<0.4	<0.4	<0.4	TM152$^{\#}$	<0.4 ug/l
Magnesium Dissolved (ICP-MS)	11000	2800	8100	1900	7100	2900	2200	2900	2500	TM152$^{\#}$	<40 ug/l
Nickel Dissolved (ICP-MS)	6.7	2.4	5.5	2.1	3.3	2.8	<1.5	2.4	2.3	TM152$^{\#}$	<1.5 ug/l
Selenium Dissolved (ICP-MS)	<1	<1	<1	<1	<1	<1	2	1	<1	TM152$^{\#}$	<1 ug/l
Zinc Dissolved (ICP-MS)	210	22	15	10	21	<5	14	14	12	TM152$^{\#}$	<5 ug/l
Mercury Dissolved (CVAF)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	TM183$^{\#}$	<0.01 ug/l
Carbonate Alkalinity as CaCO3	<2	210	<2	<2	<2	<2	70	<2	40	TM043$^{\#}$	<2 mg/l
BOD	<1	<1	4	2	<1	2	<1	1	<1	TM045$^{\#}$	<1 mg/l
COD	200	29	200	65	<5	310	<5	5	<5	TM107$^{\#}$	<5 mg/l
Conductivity (at 25 deg.C)	1.0	0.69	0.71	0.60	0.67	0.62	0.61	0.55	0.61	TM120$^{\#}$	<0.014 mS/cm
Potassium Dissolved	2.6	2.0	5.7	1.7	4.2	0.8	1.2	2.3	0.9	TM083	<0.2 mg/l
Sodium Dissolved	30	7.4	41	13	8.9	6.0	6.0	13	8.4	TM083	<0.2 mg/l
Nitrate as NO3	22	46	<0.3	2.8	<0.3	0.4	17	5.4	9.7	TM102$^{\#}$	<0.3 mg/l
Sulphate (soluble)	120	34	67	12	47	9	23	17	23	TM098$^{\#}$	<3 mg/l
Chloride	64	20	12	25	11	6	10	19	14	TM097$^{\#}$	<1 mg/l
Phosphate (Ortho as PO4)	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	TM100$^{\#}$	<0.08 mg/l
Ammoniacal Nitrogen as N	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	TM099$^{\#}$	<0.2 mg/l
Total Organic Carbon	<3	<3	6	4	4	3	3	4	3	TM090$^{\#}$	<3 mg/l
Resorcinol Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l
Catechol Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l
Phenol Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l
Cresols Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l
Xylenols Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l
1 Napthol Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l
2.3.5 Trimethyl-Phenol Low Leve	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l

Date 05.06.2008

Validated ☑

Preliminary ☐

ALcontrol Laboratories Analytical Services
Table Of Results

$^{\#}$	ISO 17025 accredited
^{M}	MCERTS accredited
*	Subcontracted test
»	Shown on prev. report

Job Number: 08/08558/02/01
Matrix: LIQUID
Client: Enviros Consulting Ltd
Location: Not Specified
Client Ref. No.: NR0250002
Client Contact: Craig Smith

Sample Identity	BH 1A	BH 1B	BH 2	BH 5	BH 6	BH11	STREAM B	STREAM I	STREAM M	**Method Code**	**LoD/Units**
Depth (m)	37.00	14.00	22.00	2.50	10.00	3.0		-			
Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID		
Sampled Date	06.05.08	07.05.08	06.05.08	07.05.08	07.05.08	07.05.08	08.05.08	07.05.08	08.05.08		
Sample Received Date	08.05.08	08.05.08	08.05.08	08.05.08	08.05.08	09.05.08	09.05.08	08.05.08	09.05.08		
Batch	1	1	1	1	1	3	2	1	2		
Sample Number(s)	**1-9**	**10-18**	**20-28**	**29-37**	**39-47**	**98-106**	**80-88**	**53-61**	**89-97**		
2-Isopropyl Phenol Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l
Phenols Low Level Total of 8 Speciated	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l
pH Value	7.27	7.38	7.44	7.44	7.41	7.24	7.83	8.08	7.74	TM133$^{\#}$	<1.00 pH Units
Solvent Extract	1	2	<1	1	1	<1	<1	1	<1	TM078$^{\#}$	<1 mg/l
EPH (DRO) (C10-C40) Aqueous	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM172$^{\#}$	<10 ug/l
Mineral Oil Aqueous	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM172$^{\#}$	<10 ug/l
GRO (C4-C10)	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
GRO (C10-C12)	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
Benzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
Toluene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
Ethyl benzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
m & p Xylene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
o Xylene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
Sum m&p and o Xylene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
Sum of BTEX	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
MTBE	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l

Date 05.06.2008

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ALcontrol Laboratories Analytical Services
Table Of Results

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* Subcontracted test
» Shown on prev. report

Job Number:	08/08558/02/01	**Matrix:**	LIQUID
Client:	Enviros Consulting Ltd	**Location:**	Not Specified
Client Ref. No.:	NR0250002	**Client Contact:**	Craig Smith

Sample Identity	STREAM P	STREAM R	STREAM C	STREAM D	STREAMF	STREAMG	STREAMT	STREAM U	STREAM Y	**Method Code**	**LoD/Units**
Depth (m)	-	-									
Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID		
Sampled Date	07.05.08	07.05.08	08.05.08	08.05.08	08.05.08	08.05.08	08.05.08	08.05.08	08.05.08		
Sample Received Date	08.05.08	08.05.08	09.05.08	09.05.08	09.05.08	09.05.08	09.05.08	09.05.08	09.05.08		
Batch	1	1	3	3	3	3	3	3	3		
Sample Number(s)	**62-70**	**71-79**	**107-115**	**116-124**	**125-133**	**134-141,177**	**142-150**	**151-159**	**160-168**		
Arsenic Dissolved (ICP-MS)	<0.75	<0.75	0.77	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	TM152#	<0.75 ug/l
Boron Dissolved (ICP-MS)	150	120	60	82	73	110	92	110	92	TM152#	<20 ug/l
Cadmium Dissolved (ICP-MS)	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	TM152#	<0.22 ug/l
Calcium Dissolved (ICP-MS)	140000	160000	160000	170000	160000	150000	99000	210000	170000	TM152#	<160 ug/l
Chromium Dissolved (ICP-MS)	1	4	2	4	4	4	4	6	3	TM152#	<1 ug/l
Copper Dissolved (ICP-MS)	2.3	2.8	2.0	3.2	1.7	2.3	2.5	3.1	2.1	TM152#	<1.6 ug/l
Lead Dissolved (ICP-MS)	<0.4	<0.4	1.6	1.7	1.5	1.5	1.4	1.4	1.7	TM152#	<0.4 ug/l
Magnesium Dissolved (ICP-MS)	3800	3500	3300	3600	2600	3600	2400	4300	3600	TM152#	<40 ug/l
Nickel Dissolved (ICP-MS)	1.9	2.2	2.0	2.4	1.5	2.0	2.3	3.7	2.4	TM152#	<1.5 ug/l
Selenium Dissolved (ICP-MS)	<1	<1	2	<1	<1	<1	<1	<1	<1	TM152#	<1 ug/l
Zinc Dissolved (ICP-MS)	14	12	<5	<5	<5	<5	<5	<5	<5	TM152#	<5 ug/l
Mercury Dissolved (CVAF)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	TM183#	<0.01 ug/l
Carbonate Alkalinity as CaCO3	<2	<2	<2	<2	<2	<2	<2	<2	<2	TM043#	<2 mg/l
BOD	1	<1	<1	<1	<1	<1	<1	1	<1	TM045#	<1 mg/l
COD	7	<5	<5	5	<5	16	<5	9	<5	TM107#	<5 mg/l
Conductivity (at 25 deg.C)	0.74	0.78	0.90	0.84	0.76	0.78	0.64	0.56	0.90	TM120#	<0.014 mS/cm
Potassium Dissolved	4.7	1.5	1.2	6.8	1.5	2.4	1.5	2.4	1.2	TM083	<0.2 mg/l
Sodium Dissolved	12	9.3	23	11	9.3	13	22	23	23	TM083	<0.2 mg/l
Nitrate as NO3	39	30	150	76	52	32	3.9	4.4	150	TM102#	<0.3 mg/l
Sulphate (soluble)	53	54	36	51	41	58	15	17	37	TM098#	<3 mg/l
Chloride	22	20	45	27	23	22	32	30	46	TM097#	<1 mg/l
Phosphate (Ortho as PO4)	<0.08	<0.08	<0.08	<0.08	<0.08	0.15	<0.08	<0.08	<0.08	TM100#	<0.08 mg/l
Ammoniacal Nitrogen as N	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	TM099#	<0.2 mg/l
Total Organic Carbon	3	3	<3	3	<3	<3	3	6	3	TM090#	<3 mg/l
Resorcinol Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l
Catechol Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l
Phenol Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l
Cresols Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l
Xylenols Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l
1 Napthol Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l
2.3.5 Trimethyl-Phenol Low Leve	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l

Date 05.06.2008

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ALcontrol Laboratories Analytical Services
Table Of Results

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* Subcontracted test
» Shown on prev. report

Job Number: 08/08558/02/01 **Matrix:** LIQUID
Client: Enviros Consulting Ltd **Location:** Not Specified
Client Ref. No.: NR0250002 **Client Contact:** Craig Smith

Sample Identity	STREAM P	STREAM R	STREAM C	STREAM D	STREAMF	STREAMG	STREAMT	STREAM U	STREAM Y	**Method Code**	**LoD/Units**
Depth (m)	-	-									
Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID		
Sampled Date	07.05.08	07.05.08	08.05.08	08.05.08	08.05.08	08.05.08	08.05.08	08.05.08	08.05.08		
Sample Received Date	08.05.08	08.05.08	09.05.08	09.05.08	09.05.08	09.05.08	09.05.08	09.05.08	09.05.08		
Batch	1	1	3	3	3	3	3	3	3		
Sample Number(s)	**62-70**	**71-79**	**107-115**	**116-124**	**125-133**	**134-141,177**	**142-150**	**151-159**	**160-168**		
2-Isopropyl Phenol Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l
Phenols Low Level Total of 8 Speciated	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	TM062	<0.5 ug/l
pH Value	7.97	7.68	7.57	7.62	7.74	7.93	7.73	8.10	7.57	TM133$^{\#}$	<1.00 pH Units
Solvent Extract	2	2	<1	1	<1	<1	<1	<1	<1	TM078$^{\#}$	<1 mg/l
EPH (DRO) (C10-C40) Aqueous	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM172$^{\#}$	<10 ug/l
Mineral Oil Aqueous	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM172$^{\#}$	<10 ug/l
GRO (C4-C10)	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
GRO (C10-C12)	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
Benzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
Toluene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
Ethyl benzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
m & p Xylene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
o Xylene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
Sum m&p and o Xylene	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
Sum of BTEX	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l
MTBE	<10	<10	<10	<10	<10	<10	<10	<10	<10	TM089$^{\#}$	<10 ug/l

Date 05.06.2008

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ALcontrol Laboratories Analytical Services
Table Of Results

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Job Number: 08/08558/02/01
Client: Enviros Consulting Ltd
Client Ref. No.: NR0250002
Matrix: LIQUID
Location: Not Specified
Client Contact: Craig Smith

Sample Identity	STREAMZ									**Method Code**	**LoD/Units**
Depth (m)											
Sample Type	LIQUID										
Sampled Date	08.05.08										
Sample Received Date	09.05.08										
Batch	3										
Sample Number(s)	**169-176**										
Arsenic Dissolved (ICP-MS)	-									TM152#	<0.75 ug/l
Boron Dissolved (ICP-MS)	-									TM152#	<20 ug/l
Cadmium Dissolved (ICP-MS)	-									TM152#	<0.22 ug/l
Calcium Dissolved (ICP-MS)	-									TM152#	<160 ug/l
Chromium Dissolved (ICP-MS)	-									TM152#	<1 ug/l
Copper Dissolved (ICP-MS)	-									TM152#	<1.6 ug/l
Lead Dissolved (ICP-MS)	-									TM152#	<0.4 ug/l
Magnesium Dissolved (ICP-MS)	-									TM152#	<40 ug/l
Nickel Dissolved (ICP-MS)	-									TM152#	<1.5 ug/l
Selenium Dissolved (ICP-MS)	-									TM152#	<1 ug/l
Zinc Dissolved (ICP-MS)	-									TM152#	<5 ug/l
Mercury Dissolved (CVAF)	-									TM183#	<0.01 ug/l
Carbonate Alkalinity as CaCO3	-									TM043#	<2 mg/l
BOD	-									TM045#	<1 mg/l
COD	-									TM107#	<5 mg/l
Conductivity (at 25 deg.C)	-									TM120#	<0.014 mS/c
Potassium Dissolved	-									TM083	<0.2 mg/l
Sodium Dissolved	-									TM083	<0.2 mg/l
Nitrate as NO3	-									TM102#	<0.3 mg/l
Sulphate (soluble)	-									TM098#	<3 mg/l
Chloride	-									TM097#	<1 mg/l
Phosphate (Ortho as PO4)	-									TM100#	<0.08 mg/l
Ammoniacal Nitrogen as N	-									TM099#	<0.2 mg/l
Total Organic Carbon	-									TM090#	<3 mg/l
Resorcinol Low Level	<0.5									TM062	<0.5 ug/l
Catechol Low Level	<0.5									TM062	<0.5 ug/l
Phenol Low Level	<0.5									TM062	<0.5 ug/l
Cresols Low Level	<0.5									TM062	<0.5 ug/l
Xylenols Low Level	<0.5									TM062	<0.5 ug/l
1 Napthol Low Level	<0.5									TM062	<0.5 ug/l
2.3.5 Trimethyl-Phenol Low Leve	<0.5									TM062	<0.5 ug/l

Date 05.06.2008

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ALcontrol Laboratories Analytical Services
Table Of Results

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Job Number: 08/08558/02/01
Client: Enviros Consulting Ltd
Client Ref. No.: NR0250002

Matrix: LIQUID
Location: Not Specified
Client Contact: Craig Smith

Sample Identity	STREAMZ									**Method Code**	**LoD/Units**
Depth (m)											
Sample Type	LIQUID										
Sampled Date	08.05.08										
Sample Received Date	09.05.08										
Batch	3										
Sample Number(s)	**169-176**										
2-Isopropyl Phenol Low Level	<0.5									TM062	<0.5 ug/l
Phenols Low Level Total of 8 Speciated	<0.5									TM062	<0.5 ug/l
pH Value	-									TM133#	<1.00 pH Units
Solvent Extract	-									TM078#	<1 mg/l
EPH (DRO) (C10-C40) Aqueous	<10									TM172#	<10 ug/l
Mineral Oil Aqueous	<10									TM172#	<10 ug/l
GRO (C4-C10)	<10									TM089#	<10 ug/l
GRO (C10-C12)	<10									TM089#	<10 ug/l
Benzene	<10									TM089#	<10 ug/l
Toluene	<10									TM089#	<10 ug/l
Ethyl benzene	<10									TM089#	<10 ug/l
m & p Xylene	<10									TM089#	<10 ug/l
o Xylene	<10									TM089#	<10 ug/l
Sum m&p and o Xylene	<10									TM089#	<10 ug/l
Sum of BTEX	<10									TM089#	<10 ug/l
MTBE	<10									TM089#	<10 ug/l

Date 05.06.2008

ALcontrol Laboratories Analytical Services
Table Of Results - Appendix

Job Number:	08/08558/02/01
Client:	Enviros Consulting Ltd
Client Ref. No.:	NR0250002

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to $1.03x10^{-7}$

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample ¹	Surrogate Corrected
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples	✓		NA	
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999	Determination of BOD5 (ATU) by Oxygen Meter	✓		NA	
TM062	MEWAM BOOK 124 1988.HMSO/ Method 17.7, Second Site property, March 2003	Determination of Phenolic compounds by HPLC with electro-chemical detection			NA	
TM078	Modified: US EPA Method 3535	Solid phase extraction of waters	✓		NA	
TM083	Method 3111, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 7610	Determination of Sodium and Potassium by Flame Photometer			NA	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)			NA	
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)	✓		NA	
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water	✓		NA	
TM097	Modified: US EPA Method 325.1 & 325.2	Determination of Chloride using the Kone Analyser	✓		NA	
TM098	Method 4500E, AWWA/APHA, 20th Ed., 1999	Determination of Sulphate using the Kone Analyser	✓		NA	
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser	✓		NA	
TM100	BS 2690: Part 105:1983	Determination of Phosphate using the Kone Analyser	✓		NA	
TM102	Method 4500H, AWWA/APHA, 20th Ed., 1999	Determination of Total Oxidised Nitrogen using the Kone Analyser	✓		NA	
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit	✓		NA	

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

ALcontrol Laboratories Analytical Services
Table Of Results - Appendix

Job Number: 08/08558/02/01
Client: Enviros Consulting Ltd
Client Ref. No.: NR0250002

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10^{-7}

NDP	No Determination Possible	*	Subcontracted test
NFD	No Fibres Detected	»	Result previously reported (Incremental reports only)
#	ISO 17025 accredited	M	MCERTS Accredited
PFD	Possible Fibres Detected	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

Method No.	Reference	Description	ISO 17025 Accredited	MCERTS Accredited	Wet/Dry Sample [1]	Surrogate Corrected
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter	✓		NA	
TM133	BS 1377: Part 3 1990	Determination of pH in Soil and Water using the GLpH pH Meter	✓		NA	
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS	✓		NA	
TM172		EPH in Waters	✓		NA	
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry	✓		NA	

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

ALcontrol Laboratories Analytical Services
Table Of Results - Appendix

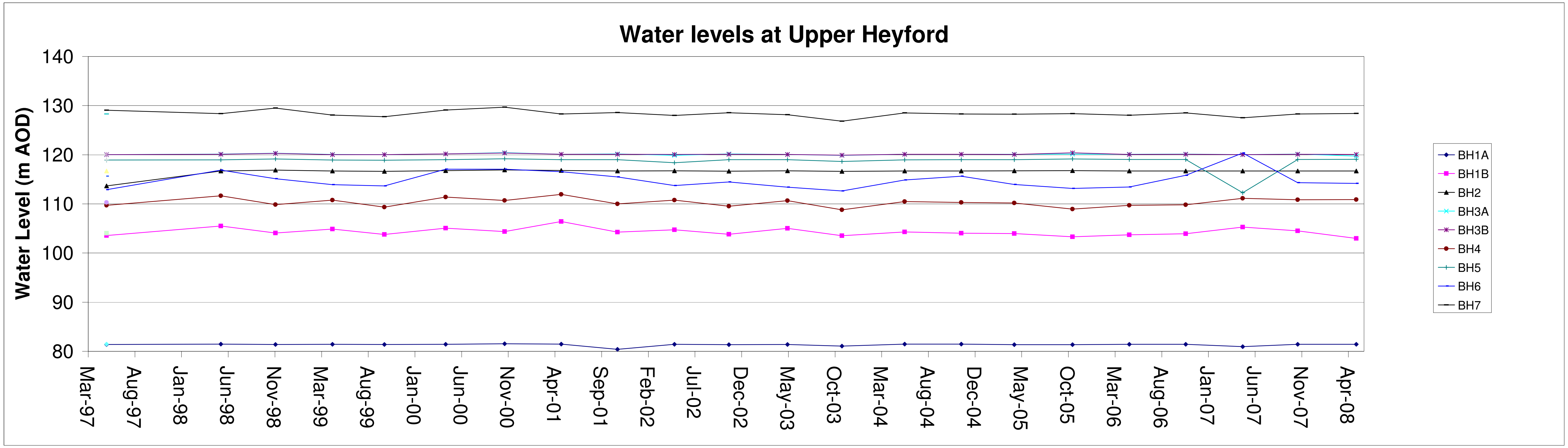
Job Number: 08/08558/02/01
Client: Enviros Consulting Ltd
Client Ref. No.: NR0250002

Summary of Coolbox temperatures

Batch No.	Coolbox Temperature (°C)
1	13.0
2	8.6
3	16

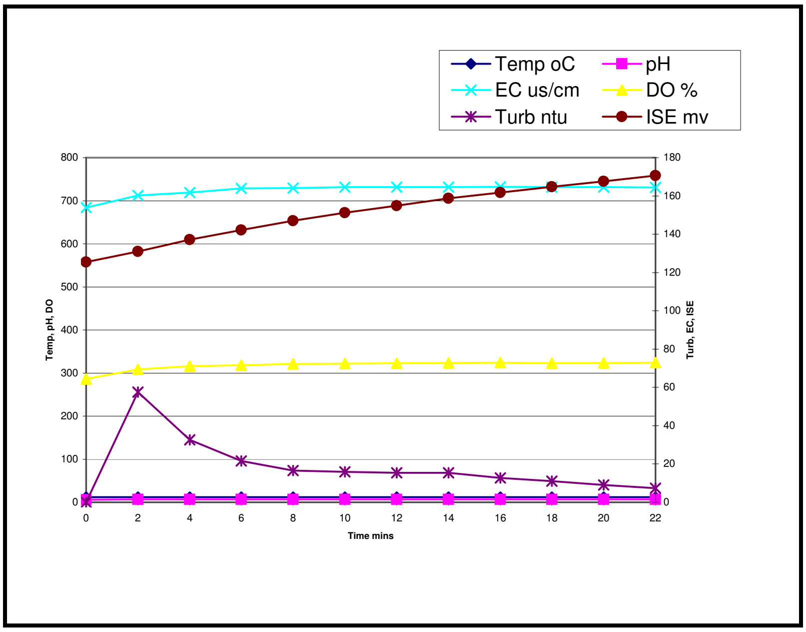
Water Levels at Upper Heyford

Location	Ground Elevation	09-May-97	11-May-98	03-Nov-98	05-May-99	19-Oct-99	03-May-00	08-Nov-00	09-May-01	06-Nov-01	08-May-02	30-Oct-02	06-May-03	28-Oct-03	17-May-04	15-Nov-04	04-May-05	07-Nov-05	09-May-06	06-Nov-06	08-May-07	01-Nov-07	07-May-08
	m AOD	m AOD	m AOD	m AOD	m AOD	m AOD	m AOD	m AOD	m AOD	m AOD	m AOD	m AOD	m AOD	m AOD	m AOD	m AOD	m AOD	m AOD	m AOD	mAOD	mAOD	mAOD	mAOD
BH1A	116.42	81.40	81.46	81.40	81.42	81.38	81.42	81.52	81.46	80.42	81.42	81.35	81.38	81.07	81.47	81.46	81.37	81.34	81.42	81.42	80.96	81.42	81.42
BH1B	116.42	103.57	105.51	104.08	104.87	103.77	105.05	104.37	106.41	104.27	104.72	103.80	105.02	103.52	104.29	104.02	103.97	103.32	103.70	103.94	105.29	104.52	102.97
BH2	137.98	113.67	116.70	116.88	116.68	116.64	116.78	116.93	116.82	116.70	116.73	116.65	116.73	116.63	116.68	116.68	116.73	116.78	116.68	116.71	116.68	116.70	116.68
BH3A	121.71	120.04	120.12	120.32	120.07	120.03	120.16	120.41	120.11	120.16	119.86	120.16	120.07	119.86	120.11	120.11	120.11	120.12	120.10	120.13	120.02	120.14	119.73
BH3B	121.71	120.03	120.09	120.29	120.03	120.03	120.16	120.37	120.08	120.11	120.06	120.11	120.06	119.91	120.09	120.09	120.07	120.39	120.07	120.11	120.01	120.08	120.06
BH4	121.88	109.72	111.63	109.86	110.78	109.33	111.40	110.68	111.93	110.00	110.78	109.51	110.65	108.80	110.47	110.28	110.18	108.93	109.72	109.83	111.13	110.83	110.88
BH5	120.20	118.92	118.97	119.13	118.94	118.90	119.00	119.17	119.00	119.00	118.38	119.00	119.00	118.65	118.96	119.00	119.01	119.15	119.05	119.04	112.26	119.05	119.08
BH6	121.56	112.88	116.86	115.11	113.91	113.66	117.05	117.06	116.56	115.48	113.75	114.46	113.42	112.65	114.86	115.64	113.96	113.16	113.44	115.81	120.34	114.32	114.16
BH7	131.01	129.07	128.38	129.50	128.06	127.76	129.09	129.69	128.28	128.58	128.01	128.54	128.13	126.83	128.50	128.29	128.25	128.36	128.03	128.51	127.51	128.28	128.39



Borehole 1B

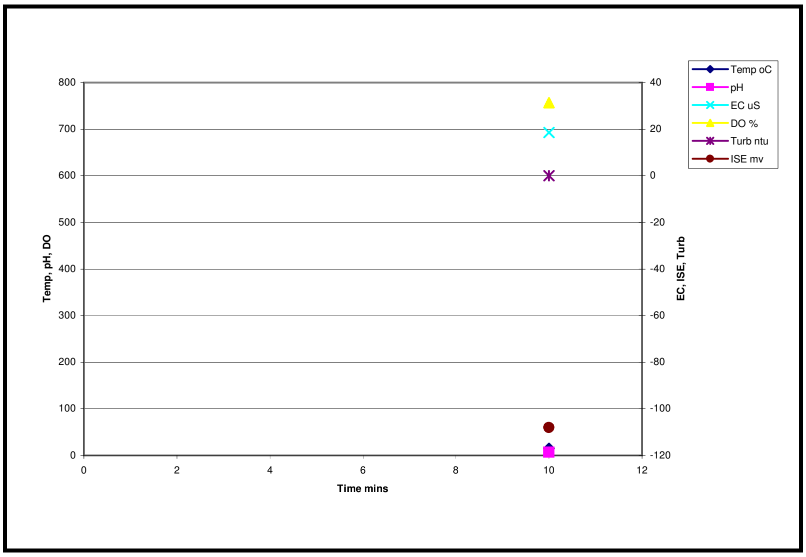
Time	Temp oC	pH	EC us/cm	DO %	ISE mv	Turb ntu
0	12.0	6.16	683.7	64.4	125.5	-O
2	11.8	6.35	712.3	69.4	131.0	57.5
4	11.9	6.43	718.6	71.1	137.1	32.6
6	12.0	6.47	728.4	71.6	142.2	21.6
8	12.1	6.50	729.1	72.2	147.1	16.5
10	11.9	6.51	731.3	72.4	151.2	15.9
12	11.9	6.53	731.3	72.6	154.9	15.4
14	12.0	6.54	731.3	72.7	158.7	15.4
16	12.1	6.55	732.6	72.9	161.8	12.7
18	12.0	6.56	731.3	72.6	164.7	11.1
20	12.0	6.56	731.3	72.8	167.7	9.1
22	12.1	6.56	730.5	72.9	170.6	7.3



Borehole 2

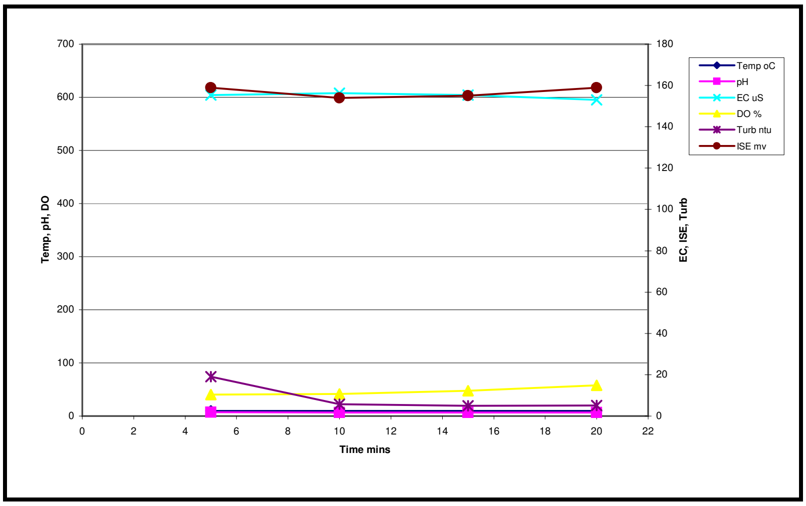
Time	Temp oC	pH	EC uS	DO %	ISE mv	Turb ntu
10	15	6.91	693.0	31.3	-108	>120

BH dried up



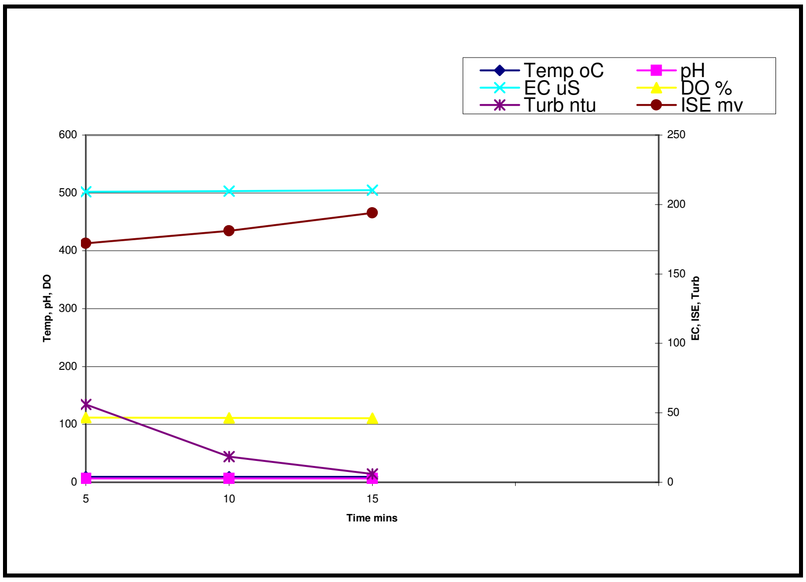
Borehole 3A

Time	Temp oC	pH	EC uS	DO %	ISE mv	Turb ntu
5	9.8	7.30	604.0	10.4	159.0	19.0
10	9.8	6.81	608.0	10.7	154.0	5.7
15	9.8	6.73	604.0	12.2	155.0	5.0
20	9.8	6.69	595.0	14.9	159.0	5.1



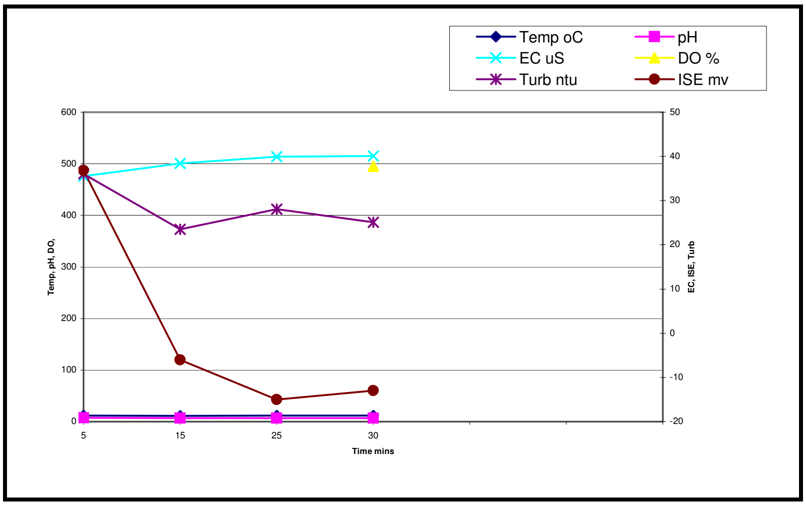
Borehole 3B

Time	Temp oC	pH	EC uS	DO %	ISE mv	Turb ntu
5	9.4	6.74	502.0	46.5	172.0	56.0
10	9.4	6.74	503.0	46.3	181.0	18.4
15	9.4	6.74	505.0	46.2	194.0	6.1



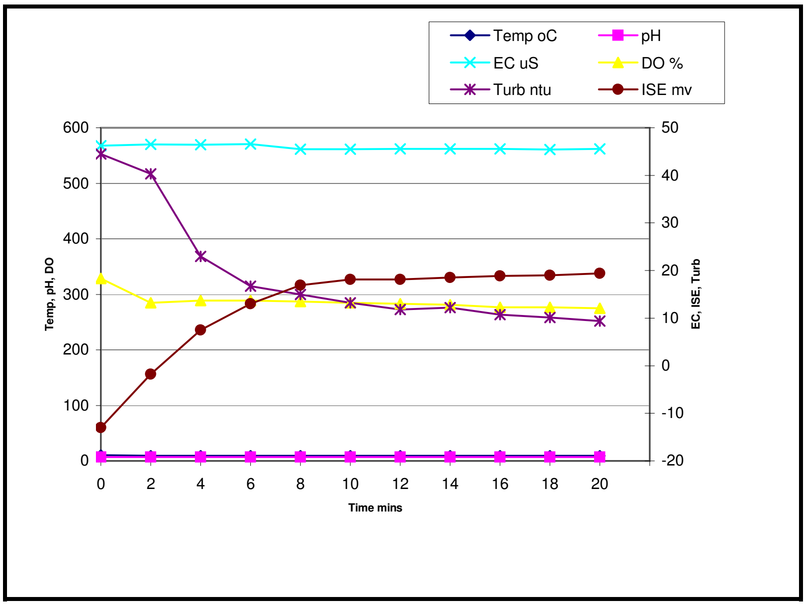
Borehole 4

Time	Temp oC	pH	EC uS	DO %	ISE mv	Turb ntu
5	11.6	7.40	476.0		36.8	36.0
15	11.3	6.79	501.0		-6.0	23.5
25	11.5	6.75	514.0		-15.0	28.1
30	11.5	6.78	515.0	37.8	-13.0	25.1



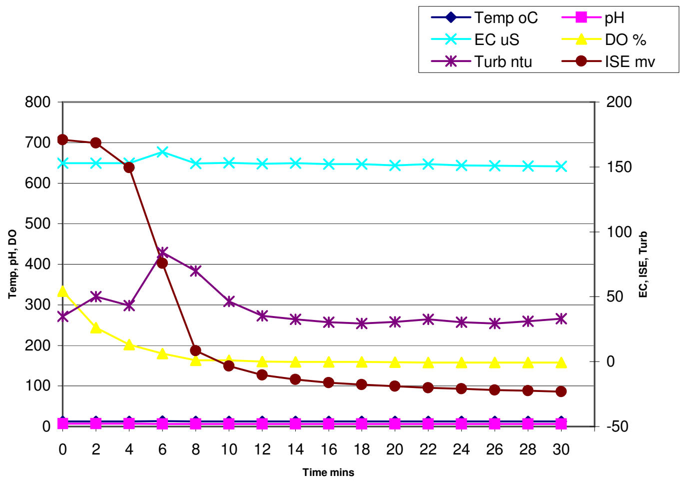
Borehole 5

Time	Temp oC	pH	EC uS	DO %	ISE mv	Turb ntu
0	10.2	6.73	567.8	18.3	-13.0	44.5
2	9.5	6.65	570.3	13.2	-1.8	40.3
4	9.5	6.66	569.6	13.7	7.5	23.0
6	9.4	6.66	570.4	13.7	13.0	16.7
8	9.4	6.66	561.4	13.5	16.9	15.0
10	9.5	6.67	561.5	13.2	18.1	13.2
12	9.5	6.67	562.2	13.0	18.1	11.8
14	9.4	6.67	562.2	12.8	18.5	12.2
16	9.4	6.67	562.2	12.3	18.9	10.7
18	9.4	6.68	560.7	12.3	19.0	10.1
20	9.4	6.68	562.2	12.1	19.4	9.4



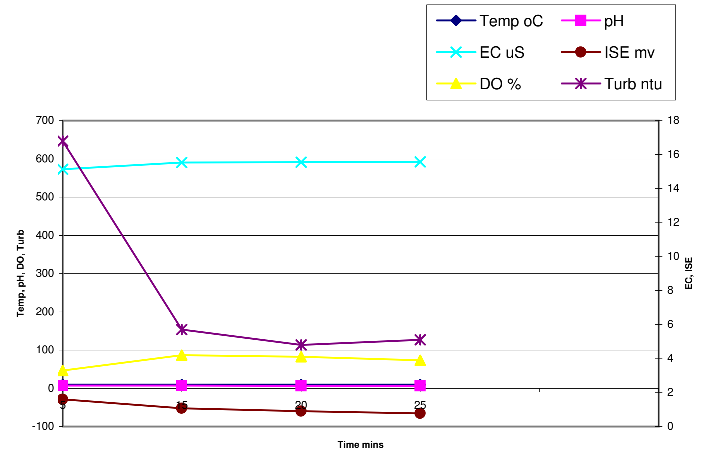
Borehole 6

Time	Temp oC	pH	EC uS	DO %	ISE mv	Turb ntu
0	13.0	6.93	649.5	54.2	171.0	34.8
2	12.7	6.79	649.4	26.2	168.5	50.2
4	13.0	6.72	649.5	13.2	149.4	43.1
6	13.4	6.67	676.9	6.1	75.7	84.0
8	12.3	6.62	648.5	1.1	8.5	69.7
10	12.5	6.62	649.8	1.0	-3.4	46.5
12	12.6	6.61	647.4	0.0	-10.2	35.4
14	12.6	6.61	649.3	-0.2	-13.8	32.6
16	12.7	6.60	646.8	-0.3	-16.1	30.4
18	12.7	6.60	646.8	-0.3	-17.7	29.5
20	12.8	6.60	644.0	-0.4	-19.0	30.6
22	12.8	6.60	646.8	-0.6	-20.2	32.7
24	12.8	6.60	643.4	-0.6	-21.0	30.4
26	12.8	6.60	642.7	-0.7	-22.0	29.3
28	12.8	6.60	642.1	-0.6	-22.4	31.2
30	12.7	6.60	641.8	-0.7	-23.2	33.0

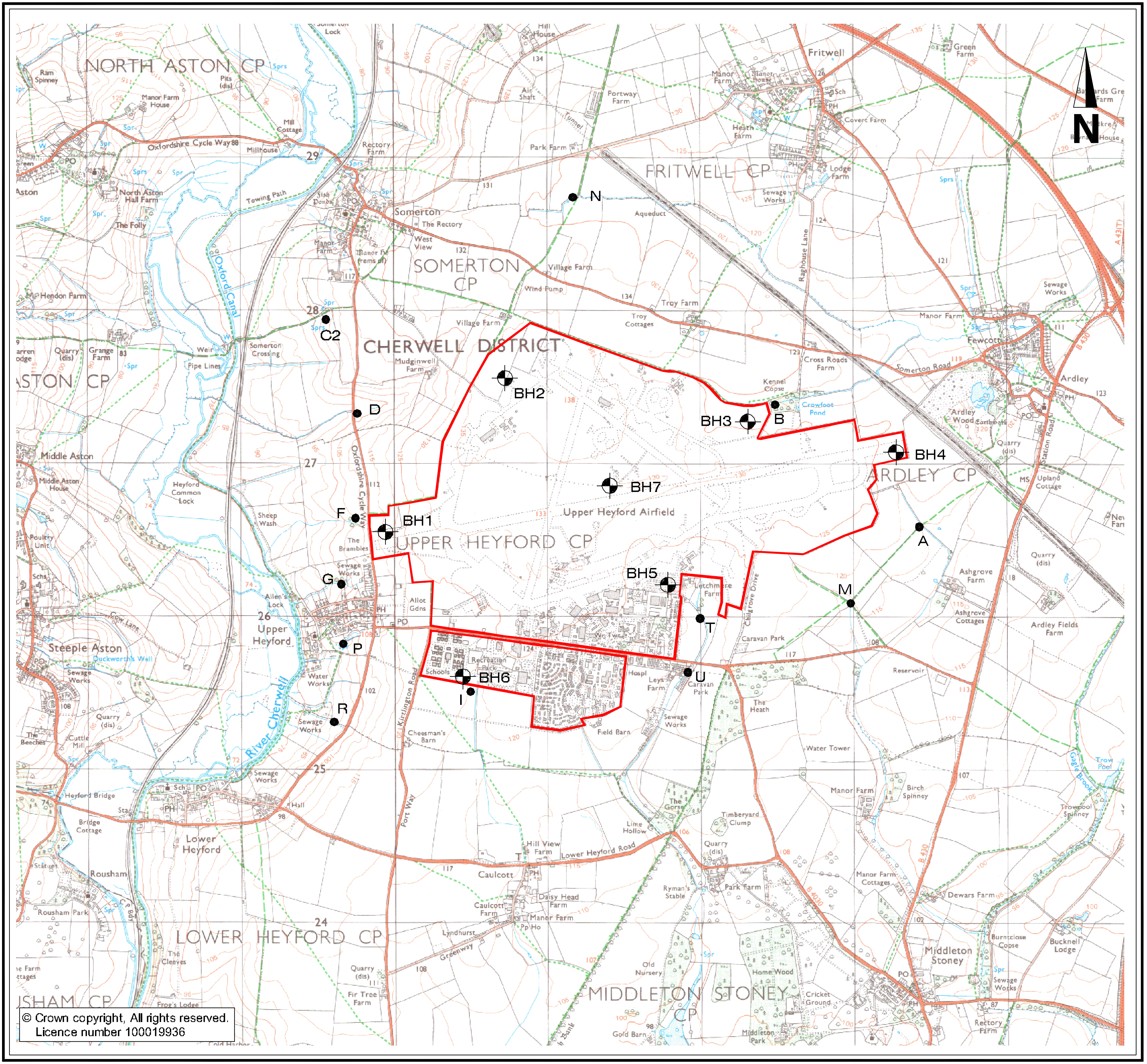


Borehole 7

Time	Temp oC	pH	EC uS	DO %	ISE mv	Turb ntu
5	9.9	7.21	573.0	3.3	-29.0	16.8
15	9.9	6.75	590.0	4.2	-52.0	5.7
20	9.9	6.68	591.0	4.1	-60.0	4.8
25	9.9	6.64	592.0	3.9	-66.0	5.1



Analyte	UKAS Accredited	LoD/ Units	BH4	BH4D	% Difference	STREAM C2	STREAM Y	% Difference	UK Drinking Water Standards	Other Standards (Old UK DWS/ WHO)
Arsenic	Y	<1 ug/l	<0.75	<0.75	-	0.77	<0.75	-1.3	*10*	
Boron	Y	<10 ug/l	230	230	0.0	60	92	21.1	*1000*	
Cadmium	Y	<0.4 ug/l	<0.22	<0.22	-	<0.22	<0.22	-	*5*	
Calcium	Y	<5 ug/l	110000	110000	0.0	160000	170000	3.0		*250000*
Chromium	Y	<1 ug/l	<1	<1	-	2	3	20.0	*50*	
Copper	Y	<1 ug/l	<1.6	<1.6	-	2.0	2.1	2.4	*2000*	
Lead	Y	<1 ug/l	<0.4	<0.4	-	1.6	1.7	3.0	*25*	
Magnesium	Y	<5 ug/l	11000	11000	0.0	3300	3600	4.3		*50000*
Nickel	Y	<1 ug/l	1.8	<1.5	-9.1	2.0	2.4	9.1	*20*	
Selenium	Y	<1 ug/l	<1	<1	-	2	<1	-33.3	*10*	
Zinc	Y	<3 ug/l	13	18	16.1	<5	<5	-		*5000*
Mercury	Y	<0.05 ug/l	<0.01	<0.01	-	<0.01	<0.01	-	*1*	
Alkalinity Total as CaCO3	Y	<2 mg/l	<2	<2	-	<2	<2	-		
BOD	Y	<1 mg/l	4	3	-14.3	<1	<1	-		
COD	Y	<10 mg/l	54	52	-1.9	<5	<5	-		
Electricity Conductivity (at 25 deg C)	Y	<0.014 mS/cm	0.60	0.60	0.0	0.90	0.90	0.0	*2.5*	
Potassium	Y	<0.2 mg/l	3.8	3.8	0.0	1.2	1.2	0.0		*12*
Sodium	Y	<0.2 mg/l	12	11	-4.3	23	23	0.0	*200*	
Nitrate	Y	<0.3 mg/l	10	12	9.1	150	150	0.0	*50*	
Sulphate (soluble)	Y	<3 mg/l	46	47	1.1	36	37	1.4	*250*	
Chloride	Y	<1 mg/l	10	10	0.0	45	46	1.1	*250*	
Phosphate (Ortho as PO4)	Y	<0.08 mg/l	<0.08	<0.08	-	<0.08	<0.08	-		
Ammoniacal Nitrogen as N	Y	<0.2 mg/l	0.3	0.3	0.0	<0.2	<0.2	-	*0.5*	
Total Organic Carbon (TOC)	Y	<1 mg/l	3	3	0.0	<3	3	0.0		
Resorcinol Low Level	Y	<0.5 ug/l	<0.5	<0.5	-	<0.5	<0.5	-		
Catechol Low Level	Y	<0.5 ug/l	<0.5	<0.5	-	<0.5	<0.5	-		
Phenol Low Level	Y	<0.5 ug/l	<0.5	<0.5	-	<0.5	<0.5	-		
Cresols Low Level	Y	<0.5 ug/l	<0.5	<0.5	-	<0.5	<0.5	-		
Xylenols Low Level	Y	<0.5 ug/l	<0.5	<0.5	-	<0.5	<0.5	-		
1 Napthol Low Level	Y	<0.5 ug/l	<0.5	<0.5	-	<0.5	<0.5	-		
Trimethyl-Phenol Low Level	Y	<0.5 ug/l	<0.5	<0.5	-	<0.5	<0.5	-		
2-Isopropyl Phenol Low Level	Y	<0.5 ug/l	<0.5	<0.5	-	<0.5	<0.5	-		
Total Phenols Low Level	Y	<0.5 ug/l	2.3	1.9	-	<0.5	<0.5	-		
pH Value	Y	<1.00 pH Units	7.50	7.40	-0.7	7.57	7.57	0.0		
Solvent Extractable Matter	Y	<1 mg/l	1	2	33.3	<1	<1	-		
EPH (DRO) (C10-C40)	N	<10 ug/l	<10	<10	-	<10	<10	-		
EPH (Mineral Oil)	N	<10 ug/l	<10	<10	-	<10	<10	-		
GRO (C4-C10)	Y	<10 ug/l	<10	<10	-	<10	<10	-		
GRO (C10-C12)	Y	<10 ug/l	<10	<10	-	<10	<10	-		
Benzene	Y	<10 ug/l	<10	<10	-	<10	<10	-	*1*	
Toluene	Y	<10 ug/l	<10	<10	-	<10	<10	-		*700*
Ethyl benzene	Y	<10 ug/l	<10	<10	-	<10	<10	-		*300*
m & p Xylene	Y	<10 ug/l	<10	<10	-	<10	<10	-		*500*
o Xylene	Y	<10 ug/l	<10	<10	-	<10	<10	-		*500*
MTBE	Y	<10 ug/l	<10	<10	-	<10	<10	-		



Plot date 09/12/03

File name JSM0223B

KEY:

⌖	Borehole locations
●	Surface water sampling locations

G is downstream of springs G1, G2 & G3
T is downstream of springs /outfalls K & L
P is downstream of springs P1 & P2
A, F & N will only be sampled if flowing

REV. *DESCRIPTION* *DATE*

NORTH OXFORDSHIRE CONSORTIUM

REDEVELOPMENT OF UPPER HEYFORD

FIGURE 1

BOREHOLE AND SURFACE SAMPLING LOCATIONS

SCALE NTS
NR0250002A

CONTENT SLH
DRAWN JSM

CHECKED
DATE JUNE 2006

ENVIROS

KEY:

⊕	Existing Borehole
⊕	Additional Borehole

REV.	*DESCRIPTION*	*DATE*

NORTH OXFORDSHIRE
CONSORTIUM

REDEVELOPMENT OF
UPPER HEYFORD

FIGURE 2

PLAN OF ADDITIONAL BOREHOLES

SCALE	NTS	*CAN*	NR0250002A
CONTENT	HDM	*DRAWN*	MIB
CHECKED		*DATE*	JUNE 2006

ENVIROS

Ref: I:\DG\CADTEAM\new-cans\NR025\0002A\

Plot date: Jun 12, 2007 - 1:47pm

File name: MIB1212d.dwg

4 CORRESPONDENCE WITH THE ENVIRONMENT AGENCY

creating a better place

Environment
Agency

Dr D. Anderson
Environs Consulting Ltd
Culham Science Centre
Abingdon
Oxfordshire
OX14 3DB

PINS ref: APP/C3105/A/08/2080594
Our ref: WA/2008/105141/01-L01
LPA ref: 08/00716/OUT

Date: 04 September 2008

RECEIVED - 8 SEP 2008

Dear Dr Anderson

OUTLINE APPLICATION FOR NEW SETTLEMENT OF 1075 DWELLINGS, TOGETHER WITH ASSOCIATED WORKS AND FACILITIES INCLUDING EMPLOYMENT USES, COMMUNITY USES, SCHOOL, PLAYING FIELDS AND OTHER PHYSICAL AND SOCIAL INFRASRUCTURE.
HEYFORD PARK, CAMP ROAD, UPPER HEYFORD

Thank you for the answers to our questions about the POL System/ POL 19 at RAF Upper Heyford contained in your letter dated 28 August 2008. The answers provide some of the information that was missing from the Environmental Statements and POL Statement. We have reviewed the Travers Morgan 1994 and the ERM 1997 reports and our interpretation is that the ring main was flushed through and water filled and not cleaned. There is also ambiguity as to whether POL 5 was still operational after the POL system was cleaned.

Your letter of 28 August and the reports have brought further areas of concern to our attention that have not been addressed in the POL or Environmental Statements. Namely that numerous fuel spills associated with the POL System have occurred on site; that there are no records of whether the old pipe work was removed when the main aviation fuel distribution ring was replaced in the late 1980s; a further distribution ring (redundant) extended to the northern boundary and that the tanks not connected to the POL were used to store waste fuel. We therefore still feel that the risk to Controlled Waters from the POL System, whether it is from the connected ring of tanks and pipe work, isolated tank stations or redundant pipe work, has not been fully addressed. We are also concerned about contamination caused by fire fighting chemicals that are likely to have been used on site.

The major development in terms of construction is of the settlement area that is disconnected from the Airfield and therefore the POL System. The outline application incorporates the airfield, but because of its conservation status of historic interest, many buildings will undergo a change of use rather than demolition and re-

Cont/d..

construction. The current development proposal is to leave the POL tanks and pipe work in situ and we believe that the POL System (parts of which are already over 50 years old) is likely to deteriorate. In the answer to question nine of our letter dated 12 August 2008 it appears that only parts of the site may be investigated and remediated and this therefore does not allay our concerns over the site wide POL System in general. The risk of land being redeveloped within the planning process, falling back into the Part IIA contaminated land regime, has not been fully addressed.

Your letter of 28 August 2008 states the intention for a full land contamination assessment of the POL System to be carried out. No mention of contamination assessment of the full POL System has been made in the POL Statement or the Environmental Statements provided with the 07/02991/OUT and 08/00716/OUT planning applications. Only localised contamination has been addressed, therefore we would like to see these statements amended to incorporate a remediation strategy for the entire POL System.

Given the age of the tanks, we also expect to see plans (for subsequent agreement), for replacement of tanks at and other controls to meet current industry standards at POL 19. I refer you to the DEFRA Groundwater Protection Code: Petrol Stations and other Fuel Dispensing Facilities involving Underground Storage Tanks.

Based on the information supplied to date, we are still unable to withdraw our objection to the 08/00716/OUT application. We would, however, still like to try and resolve this matter before the public inquiry and I will summarise our position /concerns regarding the POL System:-

Pre-development discussions about the RAF Upper Heyford base were based on the premise that the POL System was included in the Conservation Area of Historic Interest. We need to know if the pipe work as well as the fuel tanks within the POL structures are considered to be features specifically identified to be of historic significance.

It is our preference that all tanks and pipe work of the POL System be removed and appropriate investigation and remediation undertaken. If tanks were to be retained as part of the Conservation Area then we expected tanks to be isolated by removing all pipe work. We need to know if the current development plans include the removal of tanks and pipe work for all or any part of the POL System.

If plans do not include the removal of the POL System then we would like to see a commitment to investigating and remediating the POL System prior to or concurrent with the development of the settlement area and should the Inspector be minded to approve this planning application then we will recommend conditions.

If you have any questions please don't hesitate to contact me.

Cont/d..

Yours sincerely

creating a better place

Environment
Agency

M.R. Kidd.

Michelle Kidd
Planning Liaison Officer

Direct dial 01491 828455
Direct fax 01491 834703
Direct e-mail michelle.kidd@environment-agency.gov.uk

cc The Planning Inspectorate,
Cherwell District Council,
Pegasus Planning Group

End

ENVIROS

TODAY'S BUSINESS TOMORROW'S WORLD

YOUR REF:
OUR REF: NR0250003 /dua/120908
CONTACT NAME: Duncan Anderson
DIRECT DIAL: 01235 468808
DIRECT FAX: 01235 468828
E-MAIL: duncan.anderson@enviros.com

Michelle Kidd
Planning Liason Officer
Environment Agency (Thames West)
Red Kite House
Howbery Park
Wallingford
OX10 8BD

12 September 2008

Dear Ms Kidd,

Re: OUTLINE PLANNING APPLICATION, HEYFORD PARK, CAMP ROAD, UPPER HEYFORD RESPONSE TO ENVIRONMENT AGENCY OBJECTION

Thank you for your letter dated 4th September 2008 (ref WA/2008/105141/01-L01) relating to the POL system at Heyford Park. We look forward to discussing the POL system in more detail at our forthcoming meeting on Monday 15th September, but in the meantime we would like to respond to your latest letter. The following letter therefore seeks to clarify further queries you have raised (following your review of reports by Travers Morgan 1994 and ERM 1997).

POL 5

Your letter states that there is ambiguity as to whether POL 5 was still operational after the POL system was cleaned. Your query presumably arises from the statement in the Travers Morgan report; 'all fuel installations, except the kerbside pump stations 5 and 19 are presently free of fuel, clean and filled with water'. However, a status report commissioned by the Defence Estate Organisation and written by the Airfields and Bulk Fuels Group in 1996 (summarised in ERM 1996) confirms that POL 5 was cleaned and water filled in 1993. Since the latter report was written two years after the Travers Morgan report, we do not consider there to be any ambiguity in relation to POL 5. We have had recent discussions with the member of staff at Defence Estates who commissioned the 1996 status report and she has confirmed that only POL 19 has continued to operate since cleaning.

Fuel Spills

Your letter states that numerous fuel spills associated with the POL system have occurred on site. Fuel spills were reported in both the Travers Morgan and ERM reports. The spills were later investigated by Aspinwall (1997) and the results of this investigation were reported in the Environmental Statement (2007). The following text briefly summarises the spills reported and demonstrates that this potential contamination has been investigated and that no significant residual contamination remain at the spill sites.

Travers Morgan 1994

The report stated that major fuel spillages at the site were rare and were dealt with via the system of oil water interceptors. It was further confirmed that all pressurised pipework was subjected to a rigorous testing policy and hence the potential for major leakage was minimised through careful routine monitoring. The Environmental Technician for the base confirmed that the following leaks had occurred:

- Fuel spill at POL 23 – majority of fuel recovered from associated interceptor and soil was remediated to ‘Dutch A’ standard.
- Minor spill at POL 17.
- Fuel spill at POL 19 – majority of fuel recovered through the drainage system.

The Environmental Technician confirmed that the NRA were involved and informed of environmental problems at the base.

ERM Desk Study 1996

The report states that there have been a number of fuel spill incidents at the base. The following spills were reported:

- Fuel leaks and spills at POL 17 – contamination was cleaned to ‘above standards’
- Unleaded fuel leak at POL 19 – majority of fuel recovered from associated interceptor. Unknown volume of impacted soil was removed from site by the USAF.
- Fuel spill at POL 21 – some contaminated soil removed
- Fuel spill at POL 23 – 3,500 gallon spillage
- On site aircraft incident – all contaminated soil from the incident were disposed off site

Aspinwall Factual and Interpretative Reports 1997

A targeted investigation was carried out by Aspinwall in 1997, based on possible sources of contamination identified in ERM’s 1997 report. In addition to other potential contamination sources, the investigation targeted identified fuel spillage areas including POL 17, 19, 21 and 23. The targeted investigation comprised a soil vapour survey and the collection of soil samples for analysis from trial pits. Some water samples were also collected from trial pits to provide a preliminary indication of contamination. Deep groundwater monitoring boreholes were also installed across the site to assess groundwater quality in the underlying aquifer (and these continue to be monitored on biannual basis). A summary of the results of this investigation are reported and discussed in the Environmental Statement (2007).

In summary therefore, we consider that investigations completed to date have adequately assessed spill areas and not identified any significant residual contamination that requires further assessment at this outline planning stage. Furthermore, groundwater monitoring, which has been generally completed on a twice annual basis continually since 1999, indicates that there have been no significant releases to the underlying aquifer which suggests a lack of gross contamination at the site. However, further investigation and assessment of previously identified areas of contamination will be required at the detailed design stage.

Old pipework

The main aviation fuel distribution ring was almost entirely replaced between 1987 and 1989. It has not been confirmed whether the old pipework was removed prior to installing the new pipework. However, it is highly unlikely that all fuel would not have been removed from the old pipework even if the pipework was left in situ. As indicated in our previous letter, all pipework of the former aviation fuel ring will be located at the detailed design stage. The contents will be sampled and assessed (including a risk assessment relating to any original pipework located) and an appropriate remedial solution will be implemented.

Storage of waste fuel

Waste fuel was stored at POL 17 (isolated from the main ring), but records provided confirm that all tanks at this POL were cleaned and filled with water. This has been confirmed by recent testing of two of the tanks, in which <10 and 20 µg/l of TPH were recorded respectively. As stated in our previous letter and the POL Statement (6th February 2008), all POL tanks will be sampled and tested at the detailed design stage in order to provide an optimum remedial solution for each tank (some preliminary tank testing has taken place as reported in the POL Statement).

Risk to Controlled Water from the POL System

Your letter states that the Environment Agency 'still feel that the risk to controlled waters from the POL System, whether it is from the connected ring of tanks and pipework, isolated tank stations or redundant pipework, has not been fully assessed'. As required by current guidance, a preliminary assessment of risk to controlled waters has been carried out (reported in the Environmental Statement 2007) and a preliminary remediation strategy has been outlined (POL Statement 2008). Whilst records indicate that the POL System has been cleaned and water filled, preliminary testing indicates that residual levels of hydrocarbons remain, and our preliminary remedial strategy involves the removal and / or treatment of water in the system. At the detailed design stage, further investigation work will be carried out, after which a further assessment of environmental risk associated with the POL will be completed, followed by the development of the preliminary strategy into a detailed remediation strategy and ultimately remediation. The potential risk to controlled waters from the POL System will therefore be addressed in accordance with environmental and planning guidance / legislation. Meanwhile, the groundwater quality in the underlying aquifer continues to be assessed through biannual monitoring of boreholes located across the site and by monitoring of springs and streams around the site.

Fire Fighting Chemicals

Fire fighting chemicals may have been used in the fire practise pond (ERM 1996). The fire practice area was investigated in the Aspinwall investigation (1997) by completing a soil vapour survey around the area and by excavating a number of trial pits in close proximity to the pond, with assessment of soil samples for a comprehensive range of inorganic and organic substances. The possible requirement for further investigation and assessment of this area will be considered at the detailed design stage.

Other points raised in Environment Agency Letter (4th September 2008)

1. Your interpretation of our previous response (letter dated 28th August 2008) is that 'only parts of the site may be investigated and remediated'. We can confirm that all potential contaminant sources within the wider site will be investigated, not just in the development area. This includes the entire POL System and is necessary to assess the risk posed to controlled waters.

2. Your letter suggests that 'only localised contamination has been addressed' and you would like to see statements amended to incorporate a remediation strategy for the entire POL system. We reiterate that the remediation strategy (currently at preliminary stage) will address the potential risk posed by the whole of the POL System, not just localised areas. For the purpose of clarity, we can include this clarification in our forthcoming Supplementary Statement to be sent to the Planning Inspectorate (see comments below).

3. Your letter states that you would expect to see plans for replacement of tanks and other agreements to meet current industry standards at POL 19. We have made enquiries to our client in relation to this matter and will provide further information in due course.

4. In relation to English Heritage's requirements, our understanding is that they would like the visible parts of the POL to remain. We do not believe they have any interest in underground pipework.

5. Subject to further investigation and assessment, our preliminary remediation strategy is to remove water from the POL System, to clean residual hydrocarbons from the pipe and tank surfaces, but to ultimately leave the pipes and tanks in place (albeit that some local sections of pipe may need to be removed within the development area where these constrain development activities such as foundation construction). Clearly, at the detail design stage and post remediation, we will need to demonstrate that the remaining pipework and tanks will not / do not pose an unacceptable risk to the environment (including controlled waters). As per the last paragraph in your letter, we confirm our commitment to investigate and remediate the POL System prior to or concurrent with the development of the settlement area. Planning conditions recommended by the Environment Agency would clearly provide an effective method of monitoring this commitment.

We look forward to discussing these points in more detail with you next week and we are confident we can demonstrate that environmental risk at the site will be addressed in accordance with planning requirements such that you will be able to remove your current objection.

Please note that we will be submitting a Supplementary Statement to the Planning Inspectorate by the 24th September 2008. Correspondence relating to this further statement is attached.

Yours sincerely
For Enviros Consulting Limited

Reviewed and Approved by:

Dr Duncan Anderson
Senior Consultant

Dr Steve Hobbs
Director

<u>Encl</u>: Planning Inspectorate letter 21 August 2008, Enviros letter to Planning Inspectorate 3rd September 2008

ENVIROS

TODAY'S BUSINESS TOMORROW'S WORLD

YOUR REF:
OUR REF: NR0250003 /dua/280808
CONTACT NAME: Duncan Anderson
DIRECT DIAL: 01235 468808
DIRECT FAX: 01235 468828
E-MAIL: duncan.anderson@enviros.com

Michelle Kidd
Planning Liason Officer
Environment Agency (Thames West)
Red Kite House
Howbery Park
Wallingford
OX10 8BD

28 August 2008

Dear Ms Kidd,

Re: OUTLINE PLANNING APPLICATION, HEYFORD PARK, CAMP ROAD, UPPER HEYFORD RESPONSE TO ENVIRONMENT AGENCY OBJECTION

Further to your letters dated 18th July (ref WA/2008/104144/01-L01) and 12th August 2008 (ref WA/2008/104144/01-L02); we write to address your queries and concerns on behalf of our client, the North Oxfordshire Consortium (NOC). Your first letter stated that the Environment Agency (EA) 'object to the application as submitted because the applicant has not supplied adequate information to demonstrate that the risks posed to groundwater can be safely managed'. The letter further indicated that the EA consider that 'the proposed development poses an unacceptable risk of causing a detrimental impact to groundwater quality'. The letter raised specific concerns in relation to the Petrol, Oil and Lubricant (POL) system and in particular to POL 19. In particular, the letter indicated that, 'the POL system may still be in operation and may remain in operation through the approval of this application'. The letter therefore raised concerns that the POL system may pose a risk to groundwater. The letter stated that, in order to address the objection, the applicant would need to demonstrate:

- whether the POL system has been used since it was cleaned;
- whether POL 19 has been isolated from the wider system; and
- how the petrol station structure at 89a (location of POL19) currently receives and intends to receive its fuel supply.

Your second letter asked nine specific questions in relation to POL system, many of which were also discussed in the first letter. Pegasus responded to this letter on the 15th August, confirming that Enviros would contact the EA in response to the questions posed.

This letter addresses the specific queries raised in both EA letters and also demonstrates that our client proposes to develop the site in accordance with good practice and current guidance (including PPS23, CLR 11 and the EA Groundwater Protection Policies and Practices). The information presented below is based on a review of reports, site plans, walk over surveys and interviews with site staff.

POL system

The 505 hectare former RAF Upper Heyford was occupied by the 20th Fighter Wing of the USAF (82 no. F111 swing-wing bombers) between the mid 1950s and 1993. A POL system comprising two distribution rings of connected underground and semi-buried tanks and approximately 13km of underground pipework provided fuel for operations at the base. Additional tanks not connected to the ring were also present at the base.

Aviation fuel was pumped to the POL ring system from a local distribution point at Islip, six miles south (the fuel was pumped from Southampton via Basingstoke to Islip). A system of valves and pumps at the base controlled the points of discharge independently of Islip. Tanks not connected to the distribution rings were filled by tanker and were used to store diesel, petrol and waste fuel. The main aviation fuel distribution ring was almost entirely replaced between 1987 and 1989 and now comprises 150mm diameter plastic coated steel pipe. It has not been confirmed whether the old pipework was removed prior to installing the new pipework. A further fuel distribution ring which extends to the northern boundary was made redundant ‘several years’ prior to 1994.

The POL system operated until the early 1990s and was cleaned (fuel removed) and filled with water in 1993 and 1994. It is also reported that the pipelines / ring main connecting the POL facilities was flushed through and filled with water. The system was also completely disconnected from the national fuel pipeline, and valves were installed on the southern edge of the site to allow the National Pipeline Agency to inspect the pipe from Islip.

The POL ring system has not been used since it was cleaned. However, POL 19 which was never connected to the POL ring system remains in partial use today.

POL 19

POL 19 was constructed in the 1950s for the storage of petrol and diesel. All available plans indicate that POL 19 was not connected to the POL ring system which is consistent with the fact that the former stored diesel and petrol while the later contained aviation fuel. The facility contained six underground storage tanks, each with a volume of 54.5m^3. Two of the tanks were decommissioned and filled with concrete in the early 1990s. In 1996, the remaining four tanks were being used for the storage of diesel (2 tanks) and unleaded petrol (2 tanks) for use by a vehicle distribution company.

POL 19 was visited by Enviros on Thursday 9th August 2008 to investigate current operations. Paragon currently operates the POL. Since 1997, a further tank has been decommissioned and filled with foam. Three tanks remain in use, two storing diesel and one unleaded petrol. There are four refuelling points, one of which has been foam filled, corresponding to the decommissioned tank. Two of the refuelling points receive diesel and one receives unleaded petrol. Fuel is currently delivered to the facility by tanker and is dispensed to the three standpipes. To the best of our knowledge this method of delivery is set to continue in the future. Paragon has stated that the three tanks in use are filled to a maximum of 50,000 litres (i.e. the tanks are never filled to the full capacity of 54,500 litres). The refuelling area contains volume gauges for each tank and readings are recorded daily by Paragon.

All original pipework (brown in colour) was observed to be disconnected and blanked off and there is no evidence of connection of the tanks to a wider fuel system (e.g. POL ring). The three tanks in use and the fourth foam filled tank are connected to silver coloured pipes (assumed new pipes since military use of the site). Observation of the six manhole entrances to the tanks confirms that two of the tanks are concrete filled and one tank is foam filled.

There are five vehicle dispense points, each fitted with an automatic cut off system. Dispense volumes are compared daily with tank volume readings and computer records are maintained by Paragon. The company report that leakages from the tanks have not been recorded. We understand that daily dispense and tank volume records will continue to be kept, and therefore any tank leakages will be quickly identified.

Further investigation, assessment and remedial design

In accordance with the requirements of PPS23 and the guidance in CLR11, a phased approach is proposed for the continued investigation and assessment of the POL system. The preliminary remedial strategy for the POL system was outlined in POL Statement dated 6th February 2008. This document also indicated that sampling and testing of additional tanks will be undertaken at the detailed design stage in order to determine the optimum solution for each tank. Testing of water in the pipework will also be carried out, together with an assessment of the location of underground pipework and the status of valves in the system. Following this investigation work, a further assessment of environmental risk associated with the POL will be completed, followed by the development of the preliminary strategy into a detailed remediation strategy and ultimately remediation.

Answers to questions in 12th August 2008 letter

(1) MOD personnel confirmed that the pipework was cleaned and water filled (ERM report 1997).

(2) POL 19 has been used (and is currently being used) for the supply of petroleum hydrocarbon fuels since the cleaning of the POL system.

(3) POL 19 is currently being used to supply diesel and petrol to a vehicle distribution company.

(4) Building 89a houses the controls for the refuelling area and the computer that controls the refuelling pumps.

(5) Records indicate that POL 19 has always been isolated from the wider POL system (Travers Morgan 1994, ERM 1997).

(6) Defence Estates and NOC have confirmed that only POL 19 has continued to operate since the time of cleaning.

(7) Fuel is supplied by tanker to POL 19.

(8) The location of POL tanks is well understood. However, there are some uncertainties as to the exact location of underground pipework, which is to be addressed at the detailed design stage. Measures will be included in the detailed remediation strategy to ensure that minor works do not damage the POL infrastructure.

(9) As outlined in the POL Statement and discussed above, a staged investigation and assessment approach will be undertaken with respect to the POL system and other potential contaminative uses at the site. Based on this information, a detailed remedial strategy will be developed which will include any necessary remediation to ensure that development of the site or parts of the site does not pose an unacceptable risk to human health or the environment.

Concluding comments

The POL ring system has not operated since it was cleaned and filled with water in the early 1990s. The system has also been isolated from the regional supply pipe from Islip. The only POL facility known to be in continued operation is POL 19. There is no evidence that POL 19 was ever connected to the wider POL system (former aviation fuel ring) and this is consistent with the different fuel types (diesel and petrol) stored at the facility. Three of the tanks at POL 19 have been decommissioned, while three remain in use. The tanks are used to store diesel (2 tanks) and unleaded petrol (1 tank) for Paragon's vehicle fleet. Fuel is delivered by tanker to three standpipes connected to the tanks. It is understood that fuel will continue to be delivered and received in this manner. Daily records are maintained of the tank and dispense volumes and the company report no identified tank leaks. POL 19 therefore continues to operate independently of the wider POL system.

In accordance with planning requirements and current guidance, a phased approach to the investigation and assessment of the POL is proposed. The preliminary remediation strategy was outlined in the POL Statement and this will be developed into a detailed remediation strategy following additional investigation at the detailed design stage.

We trust that this letter adequately addresses the concerns raised in your recent letters, such that the EA objection can be removed. However, should you require further clarification, please do not hesitate to contact us or should you require a meeting, we would be happy to meet at your office in Wallingford.

Yours sincerely
For Enviros Consulting Limited

Dr Duncan Anderson
Senior Consultant

Reviewed and Approved by:

Heidi Hutchings
Consulting Group Manager

Jenny Barker

From	Green, Sarah [sarah green@environment-agency gov uk]
Sent:	18 July 2008 11 03
To	Jenny Barker
Cc	Kidd, Michelle, Davies, Gillian
Subject	RE Upper Heyford POL & SUDS
Attachments.	WA104144 doc, WA103250_02 doc

Hi Jenny,

please find attached our response to the 2008 application - hopefully this clarfies our position and my apologies for the delay in commenting on this, if you need to discuss further please give me a call

I've also attached a letter I've sent to PINS in relation to the appeal notifying them that we've objected to the latest application for their consideration

sarah

Sarah Green
Planning Liaison Technical Specialist
Tel 01491 828485

Environment Agency (Thames West)
Red Kite House
Howbery Park
Wallingford
OX10 8BD

www environment-agency gov uk

Would you like advice on environmental issues and opportunities for your development ?
Refer to "Building a Better Environment – a guide for developers" available to download from our website

The guide received a commendation from the RTPI 2007 Planning Awards

---

From: Jenny Barker [mailto.Jenny.Barker@Cherwell-DC gov uk]
Sent: 18 July 2008 10·43
To: Kidd, Michelle, Davies, Gillian, Green, Sarah
Cc: SimManley; Simon Downs, David Hanger
Subject: Upper Heyford POL & SUDS

Click here to report this email as spam

Following our recent meeting I have received the attached letter from NOC which refers to the EA having no objection I would be grateful if you could clarify the position

<<05191847 tif>>
With regard to surface water drainage When we met I rasied concerns regarding the potential conflict between drainage features and other elements of the application such as play features, school pitches and retained trees The question was asked why should such features have precedents over the requirements for drainage features I think the answer is that the play features and school pitches and retained trees are all shown on parameter plans accompanying the planning application whilst the drainage plan only appears in

the Environmental Statement which has the role of identifying significant environmental effects not defining the development for which planning permission is sought

Jenny Barker
Senior Planning Officer (Major Developments)
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World Environment Day 2008 - Time for a new routine Take part in our campaign by telling us what one thing you will do to stand up to climate change Visit our website to tell us and find out more www environment-agency gov uk/wed

Ms Jenny Barker
Cherwell District Council
Planning & Development Services
Bodicote House
White Post Road
Bodicote
Banbury
OX15 4AA

Our ref: WA/2008/104144/01-L01
Your ref: 08/00716/OUT

Date: 18 July 2008

Dear Ms Barker

OUTLINE APPLICATION FOR NEW SETTLEMENT OF 1075 DWELLINGS, TOGETHER WITH ASSOCIATED WORKS AND FACILITIES INCLUDING EMPLOYMENT USES, COMMUNITY USES, SCHOOL, PLAYING FIELDS AND OTHER PHYSICAL AND SOCIAL INFRASRUCTURE

HEYFORD PARK, CAMP ROAD, UPPER HEYFORD

Thank you for your letter of consultation on this planning application   Please accept my apologies for the delay in responding

We OBJECT to the application as submitted because the applicant has not supplied adequate information to demonstrate that the risks posed to ground water can be safely managed   We recommend that planning permission should be refused on this basis

Reason
Government policy as set out in PPS23 notes the key role that the planning system plays in determining the location of development which may give rise to pollution, either directly or indirectly, and in ensuring that other uses and developments are not, as far as possible, affected by major existing or potential sources of pollution

Our approach to groundwater protection is set out in our recently revised policy 'The Environment Agency, Groundwater Protection Policies and Practices' (2007) In implementing our policy we will oppose development proposals that may pollute groundwater especially where the risks of pollution is high and the groundwater asset is of high value   We also seek to ensure that applicants provide adequate information to demonstrate that the risks posed by development to such groundwater

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Email enquires@environment-agency gov uk
www environment-agency gov uk

Cont/d

assets can be safely managed In this instance the applicant has failed to provide this information

In this case we consider that the proposed development poses an unacceptable risk of causing a detrimental impact to groundwater quality

The site is located over a major aquifer and has many areas of already identified contamination that may potentially be a threat to groundwater quality Of primary concern is the site wide POL (Petrol, Oil and Lubricant) system that includes numerous tanks (28, possibly 34 tanks) and a 13 Km network of pipe-work that the applicant is intending to retain in situ

Our position on development at this site has changed since we commented on a previous application ref 07/02991/OUT because new information has come to light that raises serious questions about that adequacy of the Environmental Statement and conflicting information that has been presented by the applicant
This was highlighted in our letter to the Planning Inspectorate on 20 May 2008

The 2007 Environmental Statement contained information that suggested the POL system had been cleaned, and our response was made on the understanding that this had been carried out, and the POL system was either no longer operational or had been cleaned to an acceptable standard However, the 2008 Environmental Statement contains information to suggest that the applicant is pursuing approval for change of use of structure 89a (this is in the same location as POL19) to a petrol pumping station, a use which we have recently been made aware has been subject to a number of temporary approvals, the latest having expired in June 2008 and which a further temporary approval for 5 years is also being sought through a separate planning application

As such, it appears that the POL system may still be in operation and intended to remain in operation through approval of this application We are concerned that deterioration of the POL system may result in substances leaking into groundwater causing pollution which we find unacceptable because our monitoring records show that groundwater quality to date is generally good
The Environmental Statement fails to address this risk

In order to address our objection, the applicant will need to demonstrate,

- whether the POL system has been used since it was cleaned in 1990 and,
- whether POL 19 has been isolated from the wider system and,
- how the petrol station at structure 89a currently receives and how it is intended to receive its fuel supply

This information should be requested under Regulation 19 of The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999

Yours sincerely

Michelle Kidd
Planning Liaison Officer

Direct dial 01491 828455
Direct fax 01491 834703
Direct e-mail michelle kidd@environment-agency gov uk

cc Pegasus Planning Group Llp

Sian Evans
Planning Inspectorate
Room 4/04 Kite Wing
Temple Quay House
2 The Square, Temple Quay
Bristol
BS1 6PN

Our ref: WA/2007/103250/02-L01
Your ref: APP/C3105/A/08/2069312

Date: 18 July 2008

Dear Ms Evans,

APPEAL AGAINST NON-DETERMINATION FOR NEW SETTLEMENT OF 1075 DWELLINGS, TOGETHER WITH ASSOCIATED WORKS AND FACILITIES INCLUDING EMPLOYMENT USES, COMMUNITY USES, SCHOOL, PLAYING FIELDS AND OTHER PHYSICAL AND SOCIAL INFRASRUCTURE

HEYFORD PARK, CAMP ROAD, UPPER HEYFORD

Further to my letter to you of 20 May 2008 in relation to this appeal, I would like to provide further comments in relation to this proposal that I feel it is necessary for the Inspector to be made aware of

In my previous letter to you, I raised a concern we have regarding contaminated land and potential contamination of groundwater as a result of this proposal We have since reviewed and responded to Cherwell District Council on a separate outline planning application, virtually identical to this scheme ref 08/00716/OUT, that we have objected to as we do not consider the applicant has assessed the potential risk of pollution sufficiently. Please find attached my response to Cherwell District Council that explains why we are objecting in more detail

If I can offer any further assistance to help the Inspector in coming to his/her decision on this appeal, please do not hesitate to contact me

Yours sincerely

Michelle Kidd
Planning Liaison Officer

Direct dial 01491 828455
Direct fax 01491 834703
Direct e-mail michelle kidd@environment-agency gov uk

cc Cherwell District Council

Environment Agency
Red Kite House, Howbery Park, Crowmarsh Gifford, Oxon, Wallingford, OX10 8BD
Customer services line 08708 506 506
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www environment-agency gov uk

creating a better place

Environment
Agency

Mr. M. Dobson
Pegasus Planning Group Llp
6-20 Spitalgate Lane
Cirencester
Gloucestershire
GL7 2DE

Our ref: WA/2008/104144/01-L02
PINS ref: APP/C3105/A/08/2080594
LPA ref: 08/00716/OUT
Date: 12 August 2008

RECEIVED
15 AUG 2008

Dear Mr. Dobson

OUTLINE APPLICATION FOR NEW SETTLEMENT OF 1075 DWELLINGS, TOGETHER WITH ASSOCIATED WORKS AND FACILITIES INCLUDING EMPLOYMENT USES, COMMUNITY USES, SCHOOL, PLAYING FIELDS AND OTHER PHYSICAL AND SOCIAL INFRASTRUCTURE.
HEYFORD PARK, CAMP ROAD, UPPER HEYFORD

With regard to the forthcoming appeal (Ref: APP/C3105/A/08/2080594/NWF) concerning the above site and planning application, we are writing to request further information that if supplied, may allow us to withdraw our objection outlined in our letter to Cherwell District Council dated 18 July 2008 (Ref WA/2008/104144/01-L01).

Our objection is based on the unacceptable risk to groundwater as there is insufficient evidence to demonstrate that the risks posed to groundwater can be safely managed. The current proposal is for the POL system (Petrol, Oil and lubricants) - a 13 Km pipe network with 28, (possibly 34) above and underground tanks to be left in situ. We are concerned that over time this POL system may deteriorate and could leak, thus causing contamination of controlled waters. Since we now understand that part of the POL System (POL 19) is being used currently as a petrol filling station, our major concern is that if POL 19 was not isolated from the system, there could have been migration of petroleum hydrocarbons back into the entire POL System.

Conflicting information has been provided with the 2007 and 2008 applications regarding the POL System and we have listed these below. We have then asked a number of questions, which if answered satisfactorily, may allow us to risk assess this site.

a) Environmental Statement 12.4.3. – September 2007 states that the POL System tanks were cleaned and filled with water.

Environment Agency
Red Kite House Howbery Park, Wallingford, Oxfordshire, OX10 8BD.
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www.environment-agency.gov.uk

Cont/d..

b) Environmental Statement 12.4.3. – September 2007 states that POL 19 was not drained , cleaned or filled and in 1999 was in use by QEK for storage and supply of diesel and petrol. No documentation to confirm either a specification of the cleaning and filling or certificates of completion has been located to date.

c) Environmental Statement 12.4.5. – September 2007 states that there are three basic types of tank in the POL System. The third type are four sites where petrol or diesel was stored and these tanks number either 6 or 12 underground tanks.

d) POL Statement – Revision B - 6 Feb 2008 states that the POL System was cleaned and filled with water. POL 19 is listed on the cleaning schedule as being cleaned by Huntington Tank Cleaning Ltd.

e) POL Statement – Revision B - 6 Feb 2008 states that the on-site POL is completely disconnected from the national fuel pipeline.

f) Schedule RD-4af Building Significances; and Retention and Proposed Use Class (June 2008) - Plan reference 89A is listed as a Petrol pump booth 'to be retained' however the Supporting Planning Statement (June 2008) and the Environmental Statement dated February 2008 refers to 'Change of use for Structure 89a to a petrol pump station'.

Questions:-

1) Was the pipe work (as well as the tanks), cleaned?
2) Has POL 19 been used for the supply of petroleum hydrocarbon fuels since the cleaning of the POL system?
3) Is Building 89a part of POL 19 and is Building 89a/POL 19 currently being used for the distribution or supply of petroleum hydrocarbon fuels?
4) Is Building 89a a petrol pump booth or a petrol pump station?
5) Is POL 19 isolated from the 13 km POL System that crosses the entire airfield complex and was it isolated at the time of cleaning?
6) If POL 19 has been used since cleaning are there other POL Stations on the site that have also been used since cleaning?
7) How does the filling station at POL 19 /Building 89a receive its fuel and is it supplied by tanker or is another part of the POL pipe work used to supply fuel to POL 19 / Building 89a?
8) There appears to be uncertainty (point above) in the tank inventory. How therefore are you proposing to protect the POL tanks and pipe work during minor developments of the airfield such as fencing or the installation of site service ducts?
9) Under PPS23, land being redeveloped within the planning process should not fall back into the Part IIA contaminated land regime. What assurances can you make to ensure that this does not happen?

It would be appreciated if the answers to these questions are returned to us by Monday 18 August 2008 in order for us to try and resolve this matter before the public inquiry.

If you have any questions please don't hesitate to contact me.

Cont/d..

Yours sincerely

Environment Agency

creating a better place

M.R. Kidd.

Michelle Kidd
Planning Liaison Officer

Direct dial 01491 828455
Direct fax 01491 834703
Direct e-mail michelle.kidd@environment-agency.gov.uk

cc Cherwell District Council,
ARUP

End

5 ASSESSMENT OF THE POL SYSTEM

1. INFORMATION SOURCES

A comprehensive review audit of all available information on the former POL system has been undertaken. The NOC offices at Heyford Park were visited on five occasions (14th, 17th and 23rd April, 29th and 30th May 2008) to review information held by NOC. Information provided by NOC included; tank operation manuals, tank inspection and maintenance records, POL plans and consultants' reports. Anecdotal information was obtained from discussions with a number of NOC staff during these visits. A site walkover of the former POL system at Heyford Park was carried out on 17th and 23rd April and an active military air base was visited on May 1st to observe an operational POL system.

These information sources are described in brief in the section below. Relevant information from all of these documents has been incorporated into this assessment.

Tank Operation Manuals

USAF / NATO Bulk Storage Operations Manuals for four of the POL (published by the British Pipeline Agency and the Department of the Environment) are held by the NOC. There is a specific manual for each of; POL 23A, 23B, 24 and 25 (A and B). The manuals describe the operation of these large (maximum operating capacities 1836 – 4487 m^3) NATO semi buried steel tanks. The manuals contain a description of JP4 fuel (although JP8 was used at the time of closure of Upper Heyford), including Health and Safety considerations, a description of the facility and operational details. The manuals also include plans of the site layout, the components of the facility (storage tank, pump pit and filter separator) and operational diagrams (control panels and fuel flow diagrams).

Tank Inspection and Maintenance Records

The records are held by NOC and include POL location plans, inspection certificates, work requests / instructions and service / maintenance sheets. Inspection certificates are titled 'certificate for approval of a bulk fuel installation' and the section 'certified that the installation is fit in all respects' is signed and dated 1984. These certificates include a record of the type and size of tanks and the fuel type used. The work requests / instructions include orders to; remove fuel (to Cleansing Services Group) and to clean tanks (to Hunting Tank Cleaning Ltd). Records exist for the following POL; 1, 2, 3, 5, 6, 7, 8, 10, 11, 13, 14, 16, 17, 19, 20, 21, 22, 23 and 24.

Site Disposal – Stage 1 Survey, Travers Morgan, 1994

This report documents a survey / inventory of the site carried out for Defence Land Agents in 1994. Relevant sections of the report comprise a brief description of the POL Liquid Fuel Installations (including Figure 12, a plan of the POL system), an outline of contaminated land issues and a review of surface water drainage.

Land Quality Assessment Phase 1, ERM, 1997

A phase 1 desk study was undertaken by ERM for the Defence Estates Organisation in 1997. The report outlines 'previously identified sources of contamination' and describes the POL system. Details of each POL are listed, including tank volume, fuel type and cleaning history.

Land Quality Assessment Factual Report, Aspinwall, 1997

This report provides a detailed description of the site setting (geology and hydrogeology) and the results of a targeted intrusive investigation (based on findings of ERM desk study). The investigation comprised; soil vapour surveys in POL areas (including along the POL supply ring), trial pitting for soil sampling in engineering / maintenance and POL areas, borehole drilling for groundwater monitoring along the perimeter of the site (6 No. boreholes) and in the centre of the site (1 No. borehole) and spring and outfall sampling around the site.

Land Quality Assessment Interpretative Report, Aspinwall, 1997

This report discusses the results of the previous Aspinwall intrusive investigation. The investigation identified hydrocarbon contamination in soil at POL storage locations 20 and 21. The results of spring and groundwater sampling indicated that the underlying aquifer was not being affected by contamination recorded in the overlying soils.

Appendices to Environmental Statement, Volume 2, the Barton Willmore Planning Partnership, 1999

This report includes a section on baseline conditions (Appendix GH1; based on Aspinwall 1997 reports), using information from the earlier Aspinwall reports and a section on fuel facilities and associated pipelines (Appendix G381 – Buchanan Consulting Engineers). The latter contains a detailed description of the POL (including Drawing No. G381/27) and a discussion of potential remedial options. A further section outlines proposals for further groundwater monitoring (Appendix GH8).

Heyford Park: POL Statement, Arup, 6th February 2008

This statement comprises supplementary information for Cherwell District Council on the POL System. The document briefly summarises the POL system and includes a layout plan (Drawing No. CU_002) and a summary table that details tank numbers, capacities, fuel types and cleaning records. Chemical analysis results of water samples from six of the tanks are presented and outline remedial options are discussed.

POL Plans (NOC data room)

A number of POL plans are held in a data room by NOC. The plans date from the 1950s to 1980s and comprise sectional, plan and engineering drawings of the POL their components (tanks, pipes, pumps, valves, electric cables).

Master Plan, Sanitary Sewerage System

A Sewerage layout plan dated 1980 and produced by the Department of the Air Force is held by NOC. The plan shows the layout of sewerage pipework at the base, and the layout of the sewerage treatment works south of Camp Road. This has been used to assess possible tank drawdown discharge locations to sewer.

2. OVERVIEW OF POL

Overview

The 505 hectare former RAF Upper Heyford was occupied by the 20th Fighter Wing of the USAF (82 no. F111 swing-wing bombers) between the mid 1950s and 1993. A POL system comprising two distribution rings of connected underground and semi-buried tanks and approximately 13km of underground pipework provided fuel for operations at the base. Additional tanks not connected to the ring were also present at the base. The total capacity of the POL system was reported as approximately 30 million litres.

Aviation fuel was pumped to the POL ring system from a local distribution point at Islip, six miles south (the fuel was pumped from Southampton to Islip). A system of valves and pumps at the base controlled the points of discharge independently of Islip (i.e. fuel flow to each POL was controlled by a valve between the distribution ring and the POL and fuel flow to and from the tank (s) within each POL was controlled by additional valves and pumps). Tanks not connected to the distribution rings were filled by tanker.

The main aviation fuel distribution ring was almost entirely replaced between 1987 and 1989 and comprises a 150mm diameter plastic coated steel pipe (it is assumed the old pipework was removed prior to installing the new pipework, but this has not been verified). A small section of pipe beneath the runway at its eastern crossing was not replaced at this time. A further fuel distribution ring which extends to the northern boundary was made redundant ‘several years’ prior to 1994.

The POL system (tanks and pipelines) was reportedly cleaned (fuel removed) and filled with water in 1993 and 1994 (note - POL 19 remains in use). The system is now completely disconnected from the national fuel pipeline, and valves have been installed on the southern edge of the site to allow the National Pipeline Agency to inspect the pipe from Islip.

The types of POL tanks present at the site are summarised as follows:

1. Large capacity tanks connected to the aviation fuel distribution rings; NATO specification circular semi-buried storage tanks constructed from epoxy coated steel (POL numbers 23A, 23B, 24, 25A and 25B) and other circular semi-buried storage tanks (POL numbers 21A, 21B, 21C and 22). The NATO specification tanks were constructed in the 1970s and are semi-buried steel lined tanks encased in concrete and mounded with earth. The age of the other circular semi-buried storage tanks (POL numbers 21A, 21B, 21C and 22) is uncertain, but an as built drawing of POL 21 suggests they may have been installed by 1961. The tanks have capacities of between 763m^3 and 4,754m^3; the NATO specification tanks being the largest. The tanks stored JP-8 aviation fuel.

2. Smaller capacity buried tanks connected to the aviation fuel distribution rings and designed to directly refuel aircraft via hydrants (POL numbers 3, 6, 7, 8, 9, 10, 11, 13, 14 and 16). These tanks were constructed in the 1950s and / or 1960s and were single or twin steel tanks of 190m^3 to 380m^3 encased in a concrete pit and covered by a concrete slab. The tanks were connected to hydrants on the airfield via control pits. The tanks stored JP-8 aviation fuel but only No’s 3, 7, 8 and 10 were reported as operational (not known whether this means the other POL were never operational or just at the time of base closure).

3. Kerbside pump stations which provided fuel for road vehicles (POL numbers 1 and 19).

4. Clusters of 6 or 12 No. steel underground tanks not connected to the aviation fuel distribution rings and used to store petrol and diesel (POL numbers 2, 17 and 20). Each tank has a capacity of approximately 55m^3. These tanks were constructed in the 1940s.

5. Other tanks located on the site include four small 15-23m^3 diesel / petrol tanks (POL 4 and 12) and two 378m^3 underground storage tanks (POL 5) connected to the distribution ring.

In addition to the POL system there are a number of small, isolated heating oil tanks and a former petrol station located south of Camp Road.

Environmental Risk Associated with the POL System

Heyford Park is located over a Major Aquifer that is utilised for supply and is surrounded by a number of high quality watercourses. The site is therefore highly sensitive with respect to controlled waters. The environmental risk posed by the POL system relates to both historic spills (many of which have been identified and investigated) and leakage from existing tanks and pipework which contain water contaminated with hydrocarbons.

The following are considered to pose a potentially unacceptable risk to controlled waters (and therefore should be targeted in any future assessment):

- The entire POL system of tanks and associated pipework which is likely to contain variable concentrations of hydrocarbon contamination in water;

- Refuelling areas of POL; dispensers / filling stations and hydrants where spillage was likely; and

- Oil water interceptors and soakaways.

Visual / olfactory evidence of hydrocarbon contamination (e.g. vegetation die back) was not observed during the walkover survey.

Options for Management / Mitigation of Environmental Risk Associated with POL System

Possible options for managing the environmental risk posed by the POL system have been reviewed at this preliminary stage and include:

- Draining down the water in the POL system and leaving all POL infrastructure in place, but empty;

- Draining down the water in the POL system and backfilling (e.g. with demolition materials); or

- Removing the POL system completely.

It is unlikely that one option would be suitable for the entire system which comprises four or five different tank types, filtration and pump houses, substantial lengths of below ground pipeline and short lengths of above ground pipeline.

3. DETAILED INVENTORY OF POL SYSTEM

AVIATION FUEL ENTRY POINT (FROM ISLIP)

Aviation fuel entered the south-west corner of the site from Islip. The fuel was passed through a ‘fuel entry compound’; comprising a filter pit, surge compressor, line strainer and several valves (based on knowledge of active air base, fuel may have been blended in the fuel entry compound). The fuel then passed to valve pit No. 1 located to the north-west of the compound. Valve pit No. 1 has three valves; two on the main / southern distribution ring and one on pipework from the fuel entry compound.

TYPE 1 TANKS – LARGE CAPACITY CIRCULAR SEMI-BURIED STORAGE TANKS (INCLUDING NATO SPECIFICATION TANKS)

POL Site (Facility No.)	**Capacity m3 (fuel)**		**Description including current condition**
POL 21 21A (392) 21B (394) 21C (393)	736 (JP-8) 736 (JP-8) 1453 (JP-8)		Located in south-west of site close to aviation fuel entry point (from Islip) and off main / southern distribution ring. Large grass covered earth mound containing three semi-buried steel lined tanks encased in reinforced concrete. The date of construction is unknown, but an as built drawing of POL 21 suggests the three may have been installed by 1961. Aviation fuel was delivered to the tanks from a pipe connected to the distribution ring; controlled by valve in valve pit No. 2. A further six valves controlled fuel delivery to and from the tanks. Drawings indicate that the main fuel delivery pipework to POL 21 was replaced in approximately 1961 (unknown whether original pipework remains in the ground). Certificate of approval for bulk fuel installation dated 1983; tanks described as ‘uncoated’. Tanks cleaned and filled with water in 1993 (records of instruction to Hunting Tank Cleaning Ltd 1992). Fuel spill recorded in May 1990, some soil removed. Arup collected water samples from POL 21A, 21B and 21C; 85, 11 and 17 mg/l TPH recorded respectively. Current description - locked valve pit located on western side of mound; valve pit 2. A second large manhole is located to the east of the mound (No. 3). Pipework and valve complex to west of mound with six pipes into mound and three pipes exiting, two of which are capped off (according to drawings, pipe to Valve Pit 2 is in place, pipes to POL 2 and fuel entry compound are capped off). Additional pipe running east-west just north of mound also capped off. Pump electrics derelict / non operational. Concrete roof above each tank with locked access manhole to ‘pump room’, additional ‘unlabelled manhole’ and vertical tube with hatch (dip hatch). Ventilation ducts also present on the mound. No visual / odour indications of contamination during walkover survey. A storm water manhole is located on the western side of the mound, possibly connected to an interceptor just south of Camp Road. The nearest foul sewer is located to the east of the POL at facility 294.
POL 22 (395)	1457 (JP-8)		Located off northern section of northern distribution ring. Large grass covered earth mound containing semi-buried steel lined tank encased in reinforced concrete. The date of construction is unknown, but an as built drawing of POL 22 suggests the tank may have been installed by 1961. Certificate of approval for bulk fuel installation dated 1983; tanks described as ‘epoxy coated’. Tanks cleaned and filled with water in 1993 (records of instruction to Hunting Tank Cleaning Ltd 1992).

			Site not visited during walkover survey.
POL 23 23A (285) 23B (269)	4440 (JP-8) 1947 (JP-8)		Located in north of site off northern section of main / southern distribution ring and southern section of northern distribution ring. Two large grass covered earth mounds; NATO specification circular semi-buried storage tanks constructed from epoxy coated steel. Each tank contains a pump pit, ventilation ducts, an access manhole and a dip hatch. The facility also has an oil water interceptor, an electrical switch room, filtering facilities and filling stations. Constructed to NATO Specification in the 1970s. Aviation fuel was delivered to the tanks from a pipe connected to the distribution ring; controlled by valve in valve pit No. 20, with a further two vales (valve pits 23A and 23B) controlling distribution to each tank. Instruction to Cleansing Services Group Ltd to skim off oil contaminated water, 1992. Tanks cleaned and filled with water in 1993. Fuel spill recorded in 1992. Current description – POL in derelict condition, pump electrics derelict / non operational, filtering facility building in very poor condition. Cut off pipework observed in filtering facilities, both inside building and external. Manhole observed which could be valve pit 23B. No visual / odour indications of contamination during walkover survey.
POL 24 (269)	4754 (JP-8)		Located in west of site off western section of main / southern distribution ring. Large grass covered earth mound; NATO specification circular semi-buried storage tank constructed from epoxy coated steel. Tank contains a pump pit, ventilation ducts, an access manhole and a dip / monitoring hatch. The facility also has an oil water interceptor, an electrical switch room, filtering facility and filling stations. The interceptor drained to a soakaway and a further two soakaways were located off the POL road. Constructed to NATO Specification in the 1970s. Aviation fuel was delivered to the tanks from a pipe connected to the distribution ring; controlled by valve in valve pit No. 24A. Certificate of approval for bulk fuel installation dated 1983; tanks described as ‘epoxy coated’. Tanks cleaned and filled with water in 1994 (records of instruction to Hunting Tank Cleaning Ltd 1994). Arup collected a water sample from this tank and recorded 0.55 mg/l TPH. Current description – POL in derelict condition, pump electrics derelict / non operational, filtering facility building in very poor condition. Cut off pipework observed in filtering facility. Valve pit 24A located. No visual / odour indications of contamination during walkover survey.
POL 25 25A (376) 25B (377)	4508 (JP-8) 4503 (JP-8)		Located in south-east of site off the south-east section of main / southern distribution ring. Two large grass covered earth mounds; NATO specification circular semi-buried storage tanks constructed from epoxy coated steel. Each tank contains a pump pit, ventilation ducts, an access manhole and a dip / monitoring hatch. The facility also has an oil water interceptor, an electrical switch room, filtering facilities and filling stations. The interceptor drained to a soakaway and a further soakaway was located off the POL road. Constructed to NATO Specification in the 1970s.

			Aviation fuel was delivered to the tanks from a pipe connected to the distribution ring; controlled by valve in valve pit No. 25A. Tanks cleaned and filled with water in 1994. Current description – POL in derelict condition, pump electrics derelict / non operational, filtering facility building in very poor condition. Disconnected pipework and evidence of filter decommissioning (in 1993) observed in filtering facility. Manhole observed which could be Valve Pit 25A (POL Plan), west of POL 25A. No visual / odour indications of contamination during walkover survey.

TYPE 2 TANKS – SMALLER CAPACITY BURIED STORAGE TANKS (HYDRANTS) CONNECTED TO FUEL DISTRIBUTION RINGS			
POL Site (Facility No.)	**Capacity m3 (fuel)**		**Description including current condition**
POL 3 (275)	2 X 378 (JP-8)		Located in the south-west of the site, connected to POL 21. Two buried tanks connected to four control pits on the edge of the runway, in turn connected to four hydrants on the runway. Designed to directly refuel aircraft, but anecdotal evidence suggests that this did not take place and instead tankers were filled at these POLs with refuelling in hangars. Constructed in the 1950s and / or 1960s and encased in a concrete pit and covered by a concrete slab. POL 3 reported as having been operational. Tanks cleaned and filled with water in 1993. Current description – POL in derelict condition, pump electrics derelict / non operational, filtering facility decommissioned. Fuel entry pipe from POL 21 disconnected. No visual / odour indications of contamination during walkover survey.
POL 6 (382)	1 X 189 (JP-8)		Located in the south-east of the site, close to POL 25. Single buried tank, constructed in the 1950s and / or 1960s and encased in a concrete pit and covered by a concrete slab. Reported as having never been operational / not operational at time of base closure. Tank cleaned and filled with water in 1993. Site not visited during walkover survey.
POL 7 (385)	1 X 189 (JP-8)		Located in the south-east of the site, off the south-east section of the main / southern distribution ring. Single buried tank, constructed in the 1950s and / or 1960s and encased in a concrete pit and covered by a concrete slab. Drawing shows oil / water interceptor adjacent to POL building (in ground). POL 7 was reported as operational. Tank cleaned and filled with water in 1993. Current description – POL in derelict condition, pump electrics derelict / non operational, filtering facility decommissioned ('inactive" typed on filtration unit). Pipework disconnected. No visual / odour indications of contamination during walkover survey.
POL 8 (386)			

	1 X 189 (JP-8)		Located in the south-east of the site, off the south-east section of the main / southern distribution ring. Single buried tank, constructed in the 1950s and / or 1960s and encased in a concrete pit and covered by a concrete slab. POL 8 was reported as operational. Tank cleaned and filled with water in 1993. Current description – POL in derelict condition, pump electrics derelict / non operational, filtering facility decommissioned (1993). Pipework disconnected. No visual / odour indications of contamination during walkover survey.
POL 9 (215)	2 X 189 (JP-8)		Located in the north of the site, close to the northern site boundary and off the northern distribution ring. Two buried tanks, constructed in the 1950s and / or 1960s and encased in a concrete pit and covered by a concrete slab. Tank cleaned and filled with water in 1993. Arup collected a water sample from one of these tanks and recorded 0.34 – 0.51 mg/l TPH. Current description – POL in derelict condition, pump electrics derelict / non operational. Pipework disconnected both at possible fuel entry point and in filtration section of the POL. No visual / odour indications of contamination during walkover survey.
POL 10 (219)	2 X 189 (JP-8)		Located in the north of the site off the northern distribution ring. Two buried tanks, constructed in the 1950s and / or 1960s and encased in a concrete pit and covered by a concrete slab. Drawing shows oil / water separator adjacent to POL building (in ground). Tank cleaned and filled with water in 1993. Arup collected a water sample from one of these tanks and recorded 0.28 mg/l TPH. Current description – POL in derelict condition, pump electrics derelict / non operational. Pipework disconnected between tanks and interceptor. No visual / odour indications of contamination during walkover survey.
POL 11 (229)	1 X 189 (JP-8)		Located in the north of the site, off the northern distribution ring. Single buried tank, constructed in the 1950s and / or 1960s and encased in a concrete pit and covered by a concrete slab. Reported as having never been operational / not operational at time of base closure. Drawing shows oil / water separator adjacent to POL building (in ground). Tank cleaned and filled with water in 1993. Site not visited during walkover survey.
POL 13 (283)	1 X 189 (JP-8)		Located in the north of the site, off POL 23. Single buried tank, constructed in the 1950s and / or 1960s and encased in a concrete pit and covered by a concrete slab. Tank cleaned and filled with water in 1993. Current description – POL in derelict condition, pump electrics derelict / non operational. Pipework disconnected. No visual / odour indications of contamination during walkover survey.

POL 14 (284)	2 X 189		Located in the north of the site, off the northern distribution ring. Two buried tanks, constructed in the 1950s and / or 1960s and encased in a concrete pit and covered by a concrete slab. Tank cleaned and filled with water in 1993. Site not visited during walkover survey.
POL 16 (242)	1 X 189 (JP-8)		Located in the north of the site, off the northern distribution ring. Single buried tank, constructed in the 1950s and / or 1960s and encased in a concrete pit and covered by a concrete slab. Reported as having never been operational / not operational at time of base closure. Site not visited during walkover survey.

TYPE 3 TANKS – KERBSIDE PUMP STATIONS PROVIDING FUEL FOR ROAD VEHICLES

POL Site (Facility No.)	**Capacity m3 (fuel)**		**Description including current condition**
POL 1 (270)	142 (Diesel)		Located in west of site close to POL 24 (not connected to distribution ring). Single buried tank, construction similar to Type 2 tanks. Note – reported as used for diesel, drawing shows pipework connecting to two hydrants on tarmac. Tank cleaned and filled with water in 1993. Current description – POL in derelict condition, pump electrics derelict / non operational. Pipework disconnected. No visual / odour indications of contamination during walkover survey.
POL 19 (614)	6 X 54 (Unleaded Petrol, Diesel) (3 tanks remain in use; 2 diesel & 1 unleaded petrol)		Located in the south of the site, just south of but not connected to the main / southern distribution ring. Constructed in 1950 for the storage of petroleum and diesel. Reported in 1997 that tanks 1 and 6 were filled with concrete, while the other tanks remained in use; tanks 2 and 3 with diesel, tanks 4 and 5 with unleaded petrol. One of these tanks has since been decommissioned (foam filled). Three tanks currently in use, operated by Paragon Fleet Solutions (2 No. diesel and 1 No. unleaded petrol). Operator confirmed tank volumes checked daily and regular pressure testing conducted. Unleaded fuel spill in 1993, emulsified product recovered from interceptor. Offset fill pipe excavated and removed with unknown quantity of soil. Following incident, all tanks were taken out of service and 2 No. were decommissioned (concrete filled). Records suggest that the remaining 4 No. tanks were cleaned before being brought back into use (instructions to Hunting Tank Cleaning Ltd 1993 and 1994; prepare and clean tanks).

TYPE 4 TANKS – CLUSTERS OF 6 OR 12 NO. STEEL UNDERGROUND TANKS NOT CONNECTED TO THE AVIATION FUEL DISTRIBUTION RINGS			
POL Site (Facility No.)	**Capacity m3 (fuel)**		**Description including current condition**
POL 2 (254)	6 X 188 (Diesel)		Located in south-west of site close to POL 21. Six buried unlined steel tanks, constructed in the 1940s. Tanks cleaned and filled with water in 1993. Current description – POL in derelict condition, pump electrics derelict / non operational. Pipework disconnected. In addition to six buried tanks, unknown mound structure in north of site with ventilation stacks and stepped access into basement buildings in the mound. No visual / odour indications of contamination during walkover survey. According to drawings, POL 2 was connected to fuel system connected to both POL 21 and southern / main distribution ring. Pipe to POL from POL 21 noted as disconnected (see POL 21 above). However, connection to POL 21 not consistent with storing diesel and it is considered that either POL 2 previously stored aviation fuel or it was never connected to the southern / main distribution ring. The former is perhaps more likely as further drawing shows pipework from POL 2 connected to hydrants.
POL 17 (245)	12 X 55 (Fuel Waste)		Located in north-west of site, close to but not connected to northern aviation fuel distribution ring. Twelve buried unlined steel tanks, constructed in the 1940s, form POL 17. Reported in 1997 that tanks 7, 8, 9, 10 and 11 cleaned and water filled, tank 12 formerly contained lead product but was filled with concrete and tanks 1, 2, 3, 4, 5 and 6 were still operational. Subsequent records confirm that tanks 1, 2, 3, 4, 5 and 6 were cleaned, degassed and filled with water (order May 1994, work carried out by Hunting Tank Cleaning). Enviros sampled water from 2 No tanks in August 2008 and recorded 0.01 mg/l TPH in Tank 3 and 0.020 mg/l TPH in Tank 6. Current description – no longer in operation, POL in derelict condition, pump electrics derelict / non operational. Pipework disconnected. No visual / odour indications of contamination during walkover survey.
POL 20 (375)	12 X 56 (Diesel, Mogas		Located in south-east of site, just south of, but not connected to main / southern aviation fuel distribution ring. Twelve buried unlined steel tanks, constructed in the 1940s. Reported in 1997 that all tanks, with exception of 5 and 9, were cleaned and filled with water. Tank 5 reported to contain Mogas and tank 9 reported to contain diesel. Enviros tested water from tank 9 in August 2008 and recorded 19 mg/l TPH (confirms that the tank has been water filled but some residual fuel remains). Current description – no longer in operation, POL in derelict condition, pump electrics derelict / non operational. Pipework disconnected. No visual / odour indications of contamination during walkover survey.
ADDITIONAL POL ('TYPE' / CATEGORY UNCERTAIN)			

POL Site (Facility No.)	Capacity m3 (fuel)		Description including current condition
POL 4	2 X 22.7 (petrol and diesel)		Underground storage tank, condition unknown.
POL 5 (385)	2 X 378 (Mogas)		Located in south-west of site connected to main / southern aviation distribution ring. Two buried tanks, cleaned and filled with water in 1993. Site not visited during walkover survey.
POL 12	2 X 15.1 (petrol and diesel)		Underground storage tank, condition unknown.
POL 15	Unknown (unknown)		Underground storage tank, condition unknown.

POL PIPEWORK

The POL system reportedly contains approximately 13km of pipework, most of which is underground. The pipework comprises two connected distribution rings; the southern and northern distribution rings, and pipework within each POL. The main / southern aviation fuel distribution ring was almost entirely replaced between 1987 and 1989 and comprises a 150mm diameter plastic coated steel pipe (it is assumed the old pipework was removed prior to installing the new pipework, but this is not known). A small section of pipe beneath the runway at its eastern crossing was not replaced at this time. The northern fuel distribution ring which extends to the northern boundary was made redundant ‘several years’ prior to 1994. All POL pipelines were reportedly flushed through and water filled as part of the site decommissioning.

4. OPERATION OF THE POL SYSTEM

To better understand how the POL system functioned when Upper Heyford was operational, an operational air base with a comparable POL system was visited on 1st May 2008 by Duncan Anderson of Enviros.

Operational base system outline

The POL system at the air base visited comprised a distribution ring with an off site piped supply of aviation fuel and a number of 'bulk fuel installations' (BFI). The BFI are large NATO specification grass covered semi-buried tanks, similar to POL 21, 23, 24 and 25 at Heyford Park (Type 1). Hydrants (Type 2), as found at Heyford Park, were not present at this air base. Instead, fuel is taken from the BFI to the aircraft by tanker.

Aviation fuel is pumped from an off site source and is blended in a fuel entry compound prior to entry into the distribution ring. A three way valve pit is located adjacent to each BFI and the valves are left closed when not receiving fuel. Two of the valves control fuel movement in the distribution ring and the third controls fuel to the BFI. Underground pipework was marked on a site plan but not on the ground.

The BFI visited comprised a large grass covered mound housing two tanks. Fuel passes from the valve pit to a 'pump / filter house'. Fuel enters through a pipe in the floor of the building and following filtration passes to the tanks (valve controlled) through pipes in the side of the building. Fuel passes back from the tanks via the pump house to dispensers located kerbside (again valve controlled).

The BFI also contained a 'control room' with computerised gauges to monitor fuel levels in the tanks. A manual dip hatch, located above each tank, was also used for level monitoring and for sampling. Manhole covers above the tanks were pointed out as the best points of access, should the system ever require pumping out (circular manholes providing access to the tank via step ladder). Drain down of the tanks is typically achieved by pumping into tankers at the dispensers, but it is also possible to transfer fuel between BFIs via the distribution line (through valve selection).

In ground oil water interceptors are present adjacent to the dispense area to collect any spillages.

Similarities to and implications for Heyford Park

The POL at this operational air base is similar to the newest phase of POL at Heyford Park. The following similarities were noted:

- At both bases, fuel is / was supplied by pipe from off site to a ring pipework distribution system.
- The operational air base also had a plan showing the POL pipework layout, but the location of the pipes was not marked on the ground and hence the precise location was not clear. The situation is the same at Heyford Park where the location of pipework is not denoted on the ground.
- The position of a valve pit next to a POL is the same at both locations, and it is considered likely that the valve pits at Heyford Park (not accessed) will

contain three valves as at this airbase (such an arrangement is shown on the Heyford Park POL Plan – i.e. two valves controlling flow around the distribution ring and one valve controlling flow to the POL). The implication is therefore that each POL connected to the distribution ring at Heyford Park can be isolated from the external pipework by closing a valve. Even if the valves at Heyford Park are no longer operable (ie rusted); it should be possible to determine whether they are closed or open (length of thread visible).

- The BFI visited at the operational air base bore many similarities to the newer largest NATO specification tanks at Heyford Park (POL 21, 23, 24, 25); large grass covered mound housing tanks, similar road layout to dispensers, filtration facility building, electrical switch room. It is therefore considered that the operation of these two systems is likely to be very similar and there is therefore readily available knowledge regarding procedures necessary to drain down the tanks.

- The filtering facility building (or filtering / pump house) at the operational base contained valve control for fuel entering the BFI, fuel entering the tanks and fuel passing to the dispensers. At the operational air base, all pipework was connected. Hence, at Heyford Park, disconnected pipework indicates that the system has at least in part been isolated. The presence of disconnected pipework in POLs 23, 24 and 25 coming out of the floor of the building, suggests that either the external supply (from distribution ring via valve pit) or the supply to the dispensers has been cut off. This means that drain down of the system at Heyford Park will need to be completed from individual tanks rather than from the whole system.

- In addition to a computerised system, the dip hatches above the tanks are used at the operational base to measure fuel levels. These dip hatches are also used to collect fuel samples. Similar dip hatches are present above the tanks at Heyford Park and hence if serviceable could be used for the same purpose.

- At both bases, there is manhole access into the tanks which at Heyford Park could be used for pumping out of the tanks. The manhole would also provide access for the sampling of sludge, if present in the tank, and could possibly be used for backfilling.

- Both bases have oil water interceptors to collect spillage from the dispense areas. Whilst the interceptors are designed to collect fuel spilt, these are clearly high risk areas for contamination, particularly in the event of damage to pipework / interceptor or malfunction of the system.

- Clearly, drain down of tanks at the operational base is achieved via the dispensers, however, fuel can also be transferred between BFIs via the distribution line. Discussions with staff at the base indicate that drain down of pipework through the return of fuel to the off site pumping station is unlikely to prove viable; pumps on base would probably not be capable and it is unlikely that the Oil Pipeline Agency (OPA) would accept returned fuel for quality reasons. Hence, at Heyford Park, where the dispensers are no longer operable, options for drain down include direct pumping out of the tanks or transfer of water via existing pipelines (assuming valves are operable; would need to be under gravity or with the use of additional pumps as existing pumps are unlikely to function).

Operation of the POL System at Heyford Park

Based on information in the preceding chapters and the visit to the operational air base, the operation of the POL system at Heyford Park is summarised as follows:

- Isolated tanks (not on distribution ring) contained fuels for motor vehicles (POL 1, 19, 20) and waste fuels (POL 17). Fuel would have been taken to and removed from these POLs by tanker.
- The base had two connected aviation fuel distribution rings (southern / main ring and northern ring) with fuel supplied by pipe from Islip. Fuel entering the site was controlled by pumping from Islip, while discharge around the base was controlled independently by a system of valves.
- Two main types of POL are connected to the aviation fuel distribution rings; Type 1 tanks (large capacity semi-buried steel tanks – POL 21, 22, 23, 24, 25) and Type 2 tanks (smaller capacity buried tanks / hydrants – POL 3, 6, 7, 8, 9, 10, 11, 13, 14, 16).
- The fuel supply to each POL was controlled by a valve (i.e. valve pit with three way valve system between distribution ring and each POL). Based on a similar operational base, it is likely that each POL was closed off from the distribution rings except when additional fuel was required (i.e. each POL was isolated from supply through closure of a valve or valves).
- Supply to tanks within each POL was controlled by additional valves in the filtering facility. The discharge of fuel from the tanks to the dispense points was also controlled by valves.
- At Type 1 POL tanks, fuel was dispensed to tankers. The Type 2 POL or hydrants were designed to refuel aircraft directly but anecdotal evidence suggests that this method of refuelling was rarely used and tankers also collected fuel from the hydrants.

Current condition of the POL System at Heyford Park

The POL system has not operated since 1993 / 1994 and was partially decommissioned in 1993 and 1994. Decommissioning comprised the removal of fuel from tanks and pipework and replacement with water, the deactivation of filtration system and the disconnection of the external fuel supply from Islip. There is also evidence that much of the pipework at the POL has been disconnected / capped off. The pump and other electrics are also derelict / non operational. External valves are rusted and it is considered unlikely that they could be turned. Valves in the valve pits could not be accessed and hence there condition is not known.