

**IGSL Limited  
Ground Investigation  
O'Devaney Gardens, Dublin  
Project No. 9606  
On Behalf Of  
Arup  
Consulting Engineers**

## **FOREWORD**

### **Notes on Site Investigation Procedure**

The following notes should be read in conjunction with the report. Any modifications to the procedures outlined below are indicated in the main text.

#### **GENERAL**

The recommendations made and opinions expressed in the Report are based on the "Boring Records, an examination of samples and results of the site and laboratory tests. No responsibility can be held for conditions which have not been revealed by the boreholes, for example, between borehole positions. Whilst the report may express an opinion on a possible configuration of strata both between borehole positions and below the maximum depth of the investigation, this is for guidance only and no liability can be accepted for its accuracy.

#### **BORING TECHNIQUE**

Unless otherwise stated the 'Shell and Auger' technique of soft ground boring has been employed. Whilst this technique allows the maximum data to be obtained on strata conditions, a degree of mixing of some layered soils, (e.g. thin layers of coarse and fine granular material) is inevitable. Specific attention is drawn to this factor where evidence of such a condition is available.

#### **GROUND WATER**

The ground water conditions entered on the Boring Records are those appertaining at the time of the investigation. The normal rate of boring does not usually permit the recording of an equilibrium water level for any one water strike. Moreover, ground water levels are subject to variations caused by seasonal effects or changes in local drainage conditions. The table of each Boring Record shows the ground water level at the quoted borehole and casing depths, usually at the start of the day's work. The word "none" indicates that ground water was sealed off by the borehole casing.

#### **GAS MONITORING**

Unless otherwise stated gas monitoring is carried out using a GA2000 infra red gas detector. The gases monitored for and levels noted are recorded and plotted on the relevant test data sheets. Unless stated otherwise no monitoring is carried out for gas pressure or to calculate gas flow rates.

#### **ROUTINE SAMPLING**

Undisturbed samples of predominantly cohesive soils are obtained in a 102mm diameter open-drive sampler, complying with the requirements of the British Standard Code of Practice B.S. 5930. Large disturbed samples of granular soils, or of soils in which undisturbed sampling is not possible or appropriate, are taken from the boring tools and sealed into polythene bags. Small disturbed samples are taken at frequent intervals and sealed into 0.5 kg glass jars or polythene bags for subsequent visual classification. Where encountered in sufficient quantity, samples of groundwater are taken.

Unless otherwise stated in the main text, disturbed soil samples may not be at their natural water content.

**REPORT ON A SITE INVESTIGATION  
FOR  
PROPOSED RESIDENTIAL RE-DEVELOPMENT WORKS  
AT  
O'DEVANEY GARDENS, DUBLIN  
ON BEHALF OF  
ARUP,  
CONSULTING ENGINEERS**

**REPORT NO. 9606 / 2**

**MAY 2004**

**I.INTRODUCTION**

The proposed development site is located in O'Devaney Gardens which is situated off the North Circular Road in Dublin.

It is proposed to redevelop this site and construct new multi storey residential developments along with associated commercial and community areas.

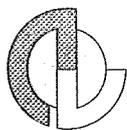
An investigation of sub-soil conditions was ordered by the projects consulting engineers, Arup Ireland, on behalf of their clients, Dublin City Council.

The programme of the investigation included,

- ✓ The construction of eleven exploratory boreholes to establish stratification. During the course of boring in-situ tests were performed at regular intervals and representative soil samples were recovered for visual examination and laboratory analysis.
- ✓ The excavation of twelve trial pits using a CAT 225 back hoe excavator. All pits were logged by an IGSL geotechnical engineer.
- ✓ The carrying out of laboratory soils testing ( Geotechnical ).
- ✓ The carrying out of laboratory soils testing ( Environmental ) at the Alcontrol Geochem testing facilities in Dublin in accordance with the test schedules issued by Arup.

This report has been issued in two Volumes. This document is Volume 2 and details all environmental test results from Geochem Reports 04 – B01713 / 01 ( volume 1 contains all information pertinent to the geotechnical ground investigation ).

Appendix I – **Environmental Test Results**



## CERTIFICATE OF ANALYSIS

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**Client:** Irish Geotechnical Services Ltd (Newbridge)

Unit F  
M7 Business Park  
Naas  
Co. Kildare  
Ireland

**Attention:** John Clancy

**Date:** 10 May, 2004

**Our Reference:** 04-B01713/01

**Your Reference:** 9606 DEVANEY GDS

**Location:**

A total of 5 samples was received for analysis on Tuesday, 20 April 2004. Accredited laboratory tests are defined in the log sheet, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation. We are pleased to enclose our final report, it was a pleasure to be of service to you, and we look forward to our continuing association.

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

Signed

**Ken Scally**

General Manager, Ireland

Compiled By

*Dylan Halpin*  
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Dylan Halpin











Table Of Results

Interim

Validated

Ref Number: 04-B01713/01

Sample Type: SOIL

Client: Irish Geotechnical Services Ltd (Newbridge)

Location:

Client Contact: John Clancy

Date of Receipt: 20/04/2004  
(of first sample)

Client Ref: 9606 DEVANEY GDS

ALcontrol Reference	Sample Identity	Other ID	Detection Method										ICP	ICP	ICP																																
			GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GRAVIMETRIC	GRAVIMETRIC	HPLC				ICP	ICP	ICP																													
			GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GRAVIMETRIC	GRAVIMETRIC	HPLC	ICP	ICP	ICP	ICP																														
			<1ug/kg	<1ug/kg	<1ug/kg	<1ug/kg	<1ug/kg	<1ug/kg	<1ug/kg	<1ug/kg	<0.1%	<350mg/kg	<0.1mg/kg	<1mg/kg	<0.5mg/kg	<1mg/kg	<0.5mg/kg	<1mg/kg																													
			UKAS Accredited																																												
			PCB Congener 52	ug/kg	<1	PCB Congener 101	ug/kg	<1	PCB Congener 118	ug/kg	<1	PCB Congener 153	ug/kg	<1	PCB Congener 138	ug/kg	<1	PCB Congener 180	ug/kg	<1	PCB Total of 7 Congeners	ug/kg	<1	Natural Moisture Content	%	16.4	Total Dissolved Solids in CEN 10:1 Leachate	mg/kg	1090	Total Phenols in CEN 10:1 Leachate	mg/kg	<0.1	Antimony	mg/kg	<1	Arsenic Low Level	mg/kg	<0.5	Barium	mg/kg	56	Cadmium Low Level	mg/kg	1.1	Chromium	mg/kg	22
04-B01713-S0005	3901	UNKNOWN	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	16.4	1090	<0.1	<1	<0.5	56	1.1	22																
04-B01713-S0006	3944	UNKNOWN	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	18.3	990	<0.1	<1	<0.5	117	2.4	34																
04-B01713-S0007	3920	UNKNOWN	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	9.1	1230	<0.1	<1	<0.5	46	1.4	14																
04-B01713-S0008	3926	UNKNOWN	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	21.1	2670	<0.1	<1	<0.5	123	2.3	23																
04-B01713-S0009	3932	UNKNOWN	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	19.5	1520	<0.1	<1	<0.5	114	2.6	28																

Notes : METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL.

NDP = NO DETERMINATION POSSIBLE

NFP = NO FIBRES PRESENT

Checked By Dylan Halpin Dylan Halpin

Table Of Results

Validated

Ref Number: 04-B01713/01

Sample Type: SOIL

Client: Irish Geotechnical Services Ltd (Newbridge)

Location:

Date of Receipt: 20/04/2004

Client Contact: John Clancy

(of first sample)

Client Ref: 9606 DEVANEY GDS

ALcontrol Reference	Sample Identity	Detection Method	Method Detection Limit																	
			ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP								
		UKAS Accredited	<1mg/kg	<1mg/kg	<1mg/kg	<1mg/kg	<1mg/kg	<1mg/kg	<1mg/kg	<1mg/kg	<0.5mg/kg	<0.004mg/kg	<0.01mg/kg	<0.05mg/kg	<0.05mg/kg	<0.1mg/kg	<0.05mg/kg	<0.1mg/kg	<0.05mg/kg	
			Copper	34	18	54	3	54	<0.5	102	NDP	<0.004	0.10	<0.05	<0.05	<0.1	<0.05	<0.1	<0.05	
04-B01713-S0005	3901	UNKNOWN	34	18	54	3	54	<0.5	102	NDP	<0.004	0.10	<0.05	<0.05	<0.1	<0.05	<0.1	<0.05	<0.05	
04-B01713-S0006	3944	UNKNOWN	38	52	54	4	54	<0.5	178	NDP	<0.004	0.06	<0.05	<0.05	<0.1	<0.05	<0.1	<0.05	<0.05	
04-B01713-S0007	3920	UNKNOWN	25	30	30	4	30	<0.5	101	NDP	<0.004	0.10	<0.05	<0.05	<0.1	<0.05	<0.1	<0.05	<0.05	
04-B01713-S0008	3926	UNKNOWN	54	89	52	4	52	<0.5	189	NDP	<0.004	0.08	<0.05	0.10	0.10	0.05	<0.1	0.20	0.20	
04-B01713-S0009	3932	UNKNOWN	46	43	63	4	63	<0.5	187	NDP	<0.004	0.08	<0.05	<0.05	<0.1	<0.05	<0.1	<0.05	0.09	
			Lead	18	54	30	4	52	<0.3	189	NDP	<0.004	0.08	<0.05	0.10	0.10	0.05	<0.1	0.20	
			Mercury Low Level	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	NDP	<0.004	0.08	<0.05	<0.05	<0.1	<0.05	<0.1	<0.05	<0.05
			Molybdenum	3	4	4	4	4	3	4	NDP	<0.004	0.10	<0.05	<0.05	<0.1	<0.05	<0.1	<0.05	
			Nickel	54	54	30	4	52	<0.5	189	NDP	<0.004	0.08	<0.05	<0.05	<0.1	<0.05	<0.1	<0.05	
			Selenium Low Level	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NDP	<0.004	0.08	<0.05	<0.05	<0.1	<0.05	<0.1	<0.05	
			Zinc	102	178	101	4	189	<1mg/kg	<1mg/kg	NDP	<0.004	0.10	<0.05	<0.05	<0.1	<0.05	<0.1	<0.05	
			Dissolved Barium in CEN 10:1 Leachate	<0.5mg/kg	<0.004mg/kg	<0.01mg/kg	<0.05mg/kg	<0.05mg/kg	<0.1mg/kg	<0.05mg/kg	<0.1mg/kg	<0.05mg/kg	<0.05mg/kg							
			Dissolved Cadmium Low in CEN 10:1 Leachate	<0.004mg/kg	<0.01mg/kg	<0.05mg/kg	<0.05mg/kg	<0.1mg/kg	<0.05mg/kg	<0.1mg/kg	<0.05mg/kg	<0.05mg/kg								
			Dissolved Chromium Low in CEN 10:1 Leachate	<0.01mg/kg	<0.01mg/kg	<0.05mg/kg	<0.05mg/kg	<0.1mg/kg	<0.05mg/kg	<0.1mg/kg	<0.05mg/kg	<0.05mg/kg								
			Dissolved Copper Low in CEN 10:1 Leachate	<0.05mg/kg	<0.05mg/kg	<0.05mg/kg	<0.05mg/kg	<0.1mg/kg	<0.05mg/kg	<0.1mg/kg	<0.05mg/kg	<0.05mg/kg								
			Dissolved Lead Low in CEN 10:1 Leachate	<0.05mg/kg	<0.05mg/kg	<0.05mg/kg	<0.05mg/kg	<0.1mg/kg	<0.05mg/kg	<0.1mg/kg	<0.05mg/kg	<0.05mg/kg								
			Dissolved Molybdenum Low in CEN 10:1 Leachate	<0.05mg/kg	<0.05mg/kg	<0.05mg/kg	<0.05mg/kg	<0.1mg/kg	<0.05mg/kg	<0.1mg/kg	<0.05mg/kg	<0.05mg/kg								
			Dissolved Nickel Low in CEN 10:1 Leachate	<0.1mg/kg	<0.1mg/kg	<0.1mg/kg	<0.1mg/kg	<0.1mg/kg	<0.1mg/kg	<0.1mg/kg	<0.1mg/kg	<0.1mg/kg								
			Dissolved Zinc Low in CEN 10:1 Leachate	<0.05mg/kg	<0.05mg/kg	<0.05mg/kg	<0.05mg/kg	<0.1mg/kg	<0.05mg/kg	<0.1mg/kg	<0.05mg/kg	<0.05mg/kg								

Notes : METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL.

NDP = NO DETERMINATION POSSIBLE

NFP = NO FIBRES PRESENT

Checked By Dylan Halpin Dylan Halpin

Table Of Results

Validated

Ref Number: 04-B01713/01

Sample Type: SOIL

Client: Irish Geotechnical Services Ltd (Newbridge)

Location:

Date of Receipt: 20/04/2004

Client Contact: John Clancy

(of first sample)

Client Ref: 9606 DEVANEY GDS

ALcontrol Reference	Sample Identity	Other ID	Detection Method						
			ICP USN	IR	KONE	KONE	KONE	KONE	LECO
			<b>Method Detection Limit</b>						
			<b>UKAS Accredited</b>						
			<0.05mg/kg	<20mg/kg	<10mg/kg	<0.003g/l	<30mg/kg	<0.01%	
			Dissolved Antimony Low in CEN 10:1 Leachate	Dissolved Organic Carbon in CEN 10:1 Leachate	Chloride in CEN 10:1 Leachate	Fluoride in CEN 10:1 Leachate	Soluble Sulphate 2:1 Extract	Sulphate in CEN 10:1 Leachate	Total Organic Carbon**
			mg/kg	mg/kg	mg/kg	mg/kg	g/l	mg/kg	%
04-B01713-S0005	3901	UNKNOWN	<0.05	681	19	2	0.016	55	0.40
04-B01713-S0006	3944	UNKNOWN	<0.05	309	20	3	<0.003	56	0.67
04-B01713-S0007	3920	UNKNOWN	<0.05	303	35	2	0.057	100	1.22
04-B01713-S0008	3926	UNKNOWN	<0.05	251	31	3	0.016	50	1.00
04-B01713-S0009	3932	UNKNOWN	<0.05	103	25	2	0.026	48	0.65

Notes : METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL.

NDP = NO DETERMINATION POSSIBLE

NFP = NO FIBRES PRESENT

Checked By Dylan Halpin Dylan Halpin

Diesel Range Organics/Mineral Oil

by  
G.C.

Client Name Irish Geotechnical Services Ltd Newbridge      Job Number B01713      Separatory Funnel Ext No  
 Client Ref 9606 Devaney GDS      Date Extracted/Prepared 28/04/04      Soxtec Extraction No  
 Sample Matrix Soil      Date Analysed 29/04/04      Column Extraction No

Sample number	Sample Identity	Depth	Diesel Range	Mineral Oil	Interpretation
			Hydrocarbons (mg/kg)	(mg/kg)	
005	3901	-	< 1	< 1	No Identification Possible
006	3944	-	< 1	< 1	No Identification Possible
007	3920	-	< 1	< 1	No Identification Possible
008	3926	-	< 1	< 1	No Identification Possible
009	3932	-	< 1	< 1	No Identification Possible

Checked by ..... *David O'Leary* .....



# Geochem Analytical Services

BTEX (MTBE) Analysis

By  
G.C.

Job No: DUB-04-B01713

Client: Irish Geotechnical Services Ltd (Newbridge)

Client Ref: 9606 DEVANEY GDS

Date Extracted 29/4/4

Date Analysed 29/4/4

Matrix: Soil

Units:  $\mu\text{g}/\text{kg}$

Smpl No	Sample Ref	Depth m/ft	MTBE	Benzene	Toluene	Ethyl Benzene	Total Xylene
S0005	3901	-	<10	<10	<10	<10	<10
S0006	3944	-	<10	<10	<10	<10	<10
S0007	3920	-	<10	<10	<10	<10	<10
S0008	3926	-	<10	<10	<10	<10	<10
S0009	3932	-	<10	<10	<10	<10	<10

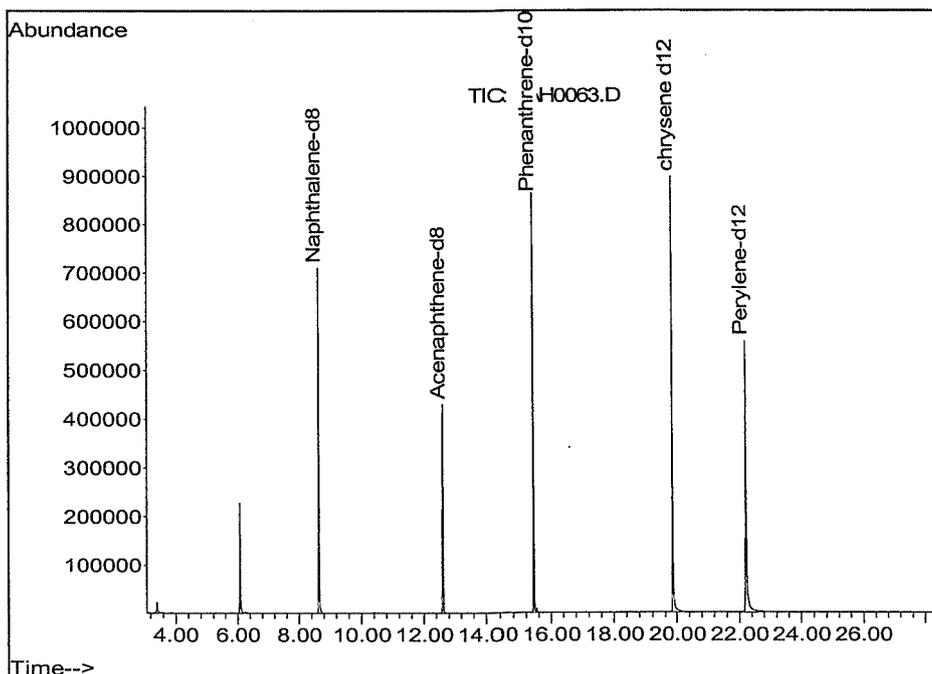
Checked by: G. Kearney

Authorised by: [Signature]

## 16 PAH Analysis

**Sample Identity - B01713-S0005 3901**  
**Client / Sample matrix - Irish Geotechnical Services Ltd/Soil**  
**Units - µg/kg**

CAS Number	Compound	Concentration
91-20-3	Naphthalene	<1
208-96-8	Acenaphthylene	<1
83-32-9	Acenaphthene	<1
86-73-7	Fluorene	<1
85-01-8	Phenanthrene	<1
120-12-7	Anthracene	<1
206-44-0	Fluoranthene	<1
129-00-0	Pyrene	<1
56-55-3	Benzo(a)anthracene	<1
218-01-9	Chrysene	<1
205-99-2	Benzo(b)fluoranthene	<1
207-08-9	Benzo(k)fluoranthene	<1
50-32-8	Benzo(a)pyrene	<1
193-39-5	Indeno(123cd)pyrene	<1
53-70-3	Dibenzo(ah)anthracene	<1
191-24-2	Benzo(ghi)perylene	<1
<b>Total of 16 PAH's</b>		<b>&lt;1</b>



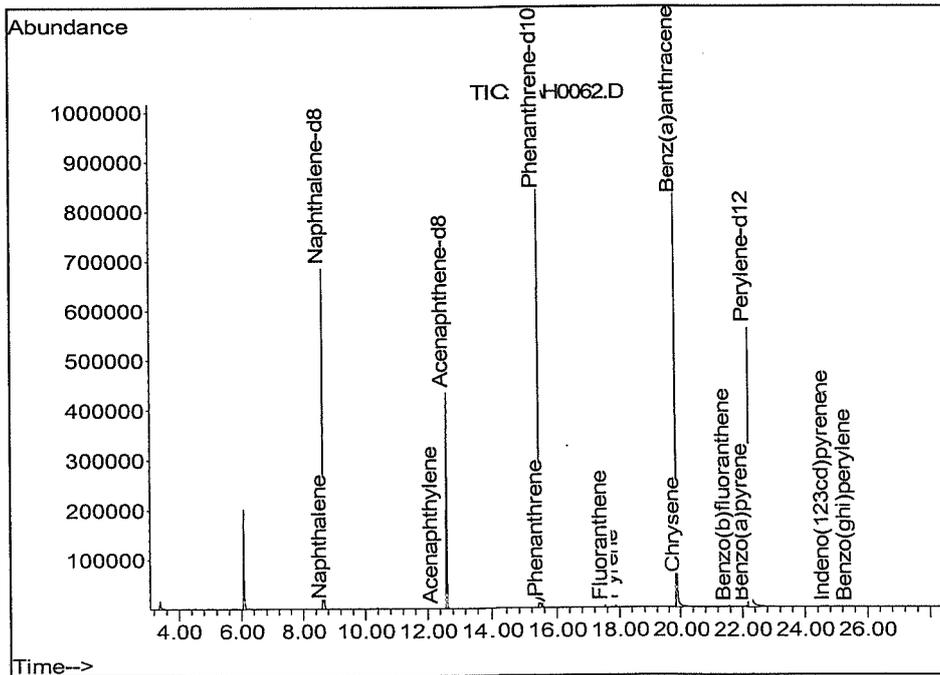
Authorised by: Grainne Durack

Date Extracted : 28/04/04

# 16 PAH Analysis

**Sample Identity - B01713-S0006 3944**  
**Client / Sample matrix - Irish Geotechnical Services Ltd/Soil**  
**Units - µg/kg**

CAS Number	Compound	Concentration
91-20-3	Naphthalene	3
208-96-8	Acenaphthylene	1
83-32-9	Acenaphthene	<1
86-73-7	Fluorene	<1
85-01-8	Phenanthrene	22
120-12-7	Anthracene	3
206-44-0	Fluoranthene	23
129-00-0	Pyrene	20
56-55-3	Benz(a)anthracene	24
218-01-9	Chrysene	22
205-99-2	Benzo(b)fluoranthene	13
207-08-9	Benzo(k)fluoranthene	12
50-32-8	Benzo(a)pyrene	11
193-39-5	Indeno(123cd)pyrene	4
53-70-3	Dibenzo(ah)anthracene	2
191-24-2	Benzo(ghi)perylene	6
<b>Total of 16 PAH's</b>		<b>164</b>



Authorised by: Grainne Durack

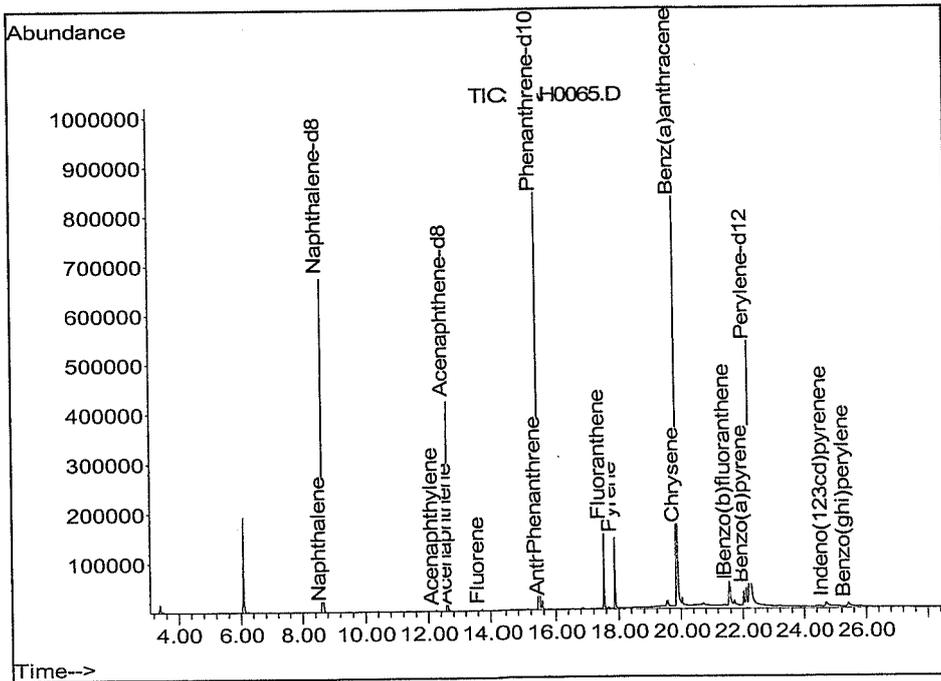
Date Extracted : 28/04/04

## 16 PAH Analysis

**Sample Identity - B01713-S0007 3920**  
**Client / Sample matrix - Irish Geotechnical Services Ltd/Soil**  
**Units - µg/kg**

CAS Number	Compound	Concentration
91-20-3	Naphthalene	25
208-96-8	Acenaphthylene	21
83-32-9	Acenaphthene	30
86-73-7	Fluorene	31
85-01-8	Phenanthrene	419
120-12-7	Anthracene	89
206-44-0	Fluoranthene	<u>782</u>
129-00-0	Pyrene	612
56-55-3	Benz(a)anthracene	317
218-01-9	Chrysene	376
205-99-2	Benzo(b)fluoranthene	<u>410</u>
207-08-9	Benzo(k)fluoranthene	<u>255</u>
50-32-8	Benzo(a)pyrene	<u>262</u>
193-39-5	Indeno(123cd)pyrene	<u>90</u>
53-70-3	Dibenzo(ah)anthracene	36
191-24-2	Benzo(ghi)perylene	<u>112</u>
<b>Total of 16 PAH's</b>		<b>3869</b>

1-911  
-ok



Authorised by: Grainne Durack

Date Extracted : 28/04/04

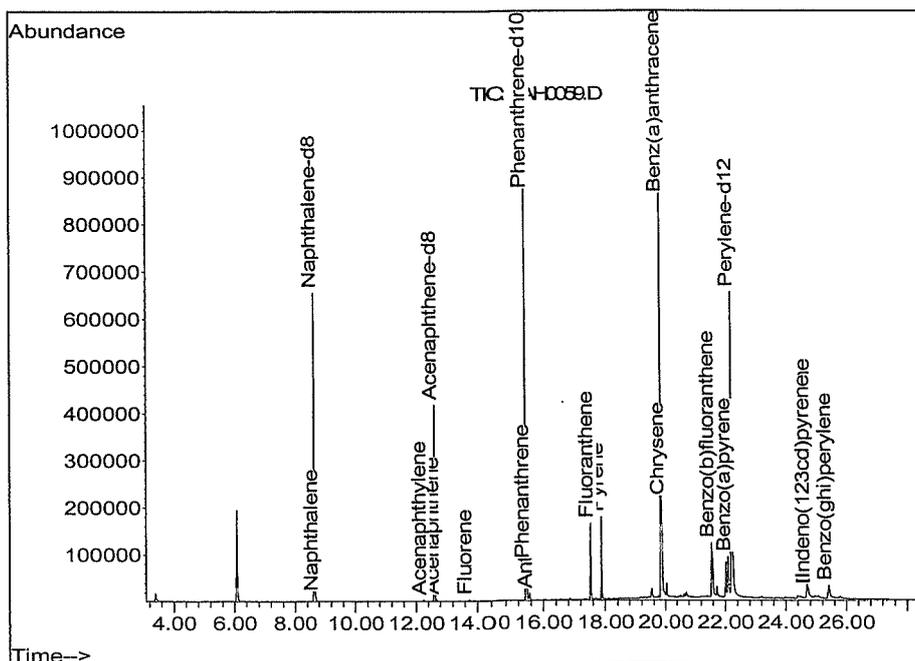
# ALcontrol Geochem

## 16 PAH Analysis

Sample Identity - B01713-S0008 3926  
 Client / Sample matrix - Irish Geotechnical Services Ltd/Soil  
 Units - µg/kg

CAS Number	Compound	Concentration
91-20-3	Naphthalene	27
208-96-8	Acenaphthylene	30
83-32-9	Acenaphthene	32
86-73-7	Fluorene	26
85-01-8	Phenanthrene	356
120-12-7	Anthracene	79
206-44-0	Fluoranthene	896
129-00-0	Pyrene	803
56-55-3	Benz(a)anthracene	554
218-01-9	Chrysene	664
205-99-2	Benzo(b)fluoranthene	644
207-08-9	Benzo(k)fluoranthene	580
50-32-8	Benzo(a)pyrene	665
193-39-5	Indeno(123cd)pyrene	291
53-70-3	Dibenzo(ah)anthracene	102
191-24-2	Benzo(ghi)perylene	392
<b>Total of 16 PAH's</b>		<b>6142</b>

3 4 6  
 =  
 No. Hap...  
 Sandfield!



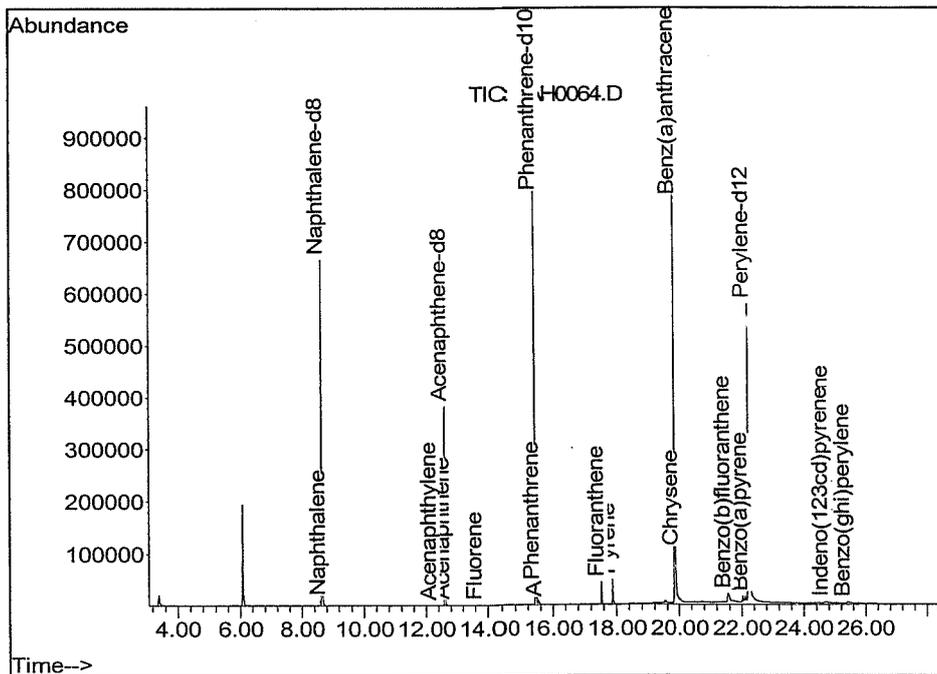
Authorised by: Grainne Durack

Date Extracted : 28/04/04

## 16 PAH Analysis

**Sample Identity - B01713-S0009 3932**  
**Client / Sample matrix - Irish Geotechnical Services Ltd/Soil**  
**Units - µg/kg**

CAS Number	Compound	Concentration
91-20-3	Naphthalene	11
208-96-8	Acenaphthylene	5
83-32-9	Acenaphthene	17
86-73-7	Fluorene	13
85-01-8	Phenanthrene	160
120-12-7	Anthracene	27
206-44-0	Fluoranthene	245
129-00-0	Pyrene	222
56-55-3	Benz(a)anthracene	142
218-01-9	Chrysene	175
205-99-2	Benzo(b)fluoranthene	167
207-08-9	Benzo(k)fluoranthene	128
50-32-8	Benzo(a)pyrene	114
193-39-5	Indeno(123cd)pyrene	37
53-70-3	Dibenzo(ah)anthracene	14
191-24-2	Benzo(ghi)perylene	54
<b>Total of 16 PAH's</b>		<b>1531</b>



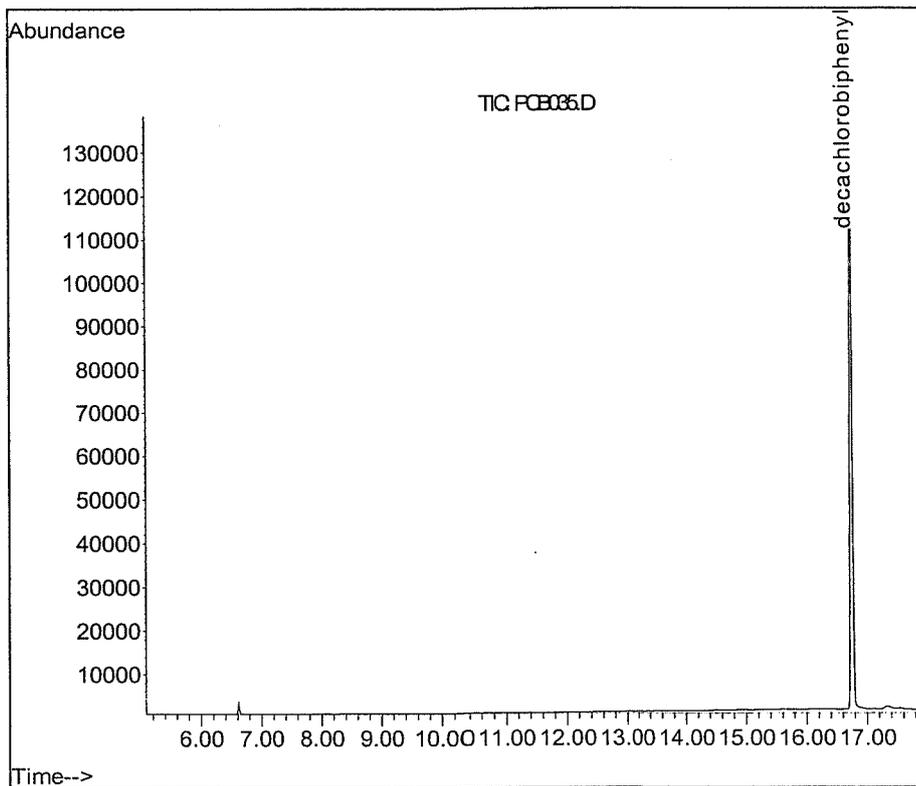
Authorised by: Grainne Durack

Date Extracted : 28/04/04

## EC7 PCB Congeners

Sample Identity - B01713-S0005 3901  
Client / Sample matrix - Irish Geotechnical Services Ltd/S  
Units - µg/kg

CAS Number	Compound	Concentration
7012-37-5	PCB congener 28	<1
35693-99-3	PCB congener 52	<1
37680-73-2	PCB congener 101	<1
31508-00-6	PCB congener 118	<1
35065-27-1	PCB congener 153	<1
35065-28-2	PCB congener 138	<1
35065-29-3	PCB congener 180	<1
<b>Total</b>		<1

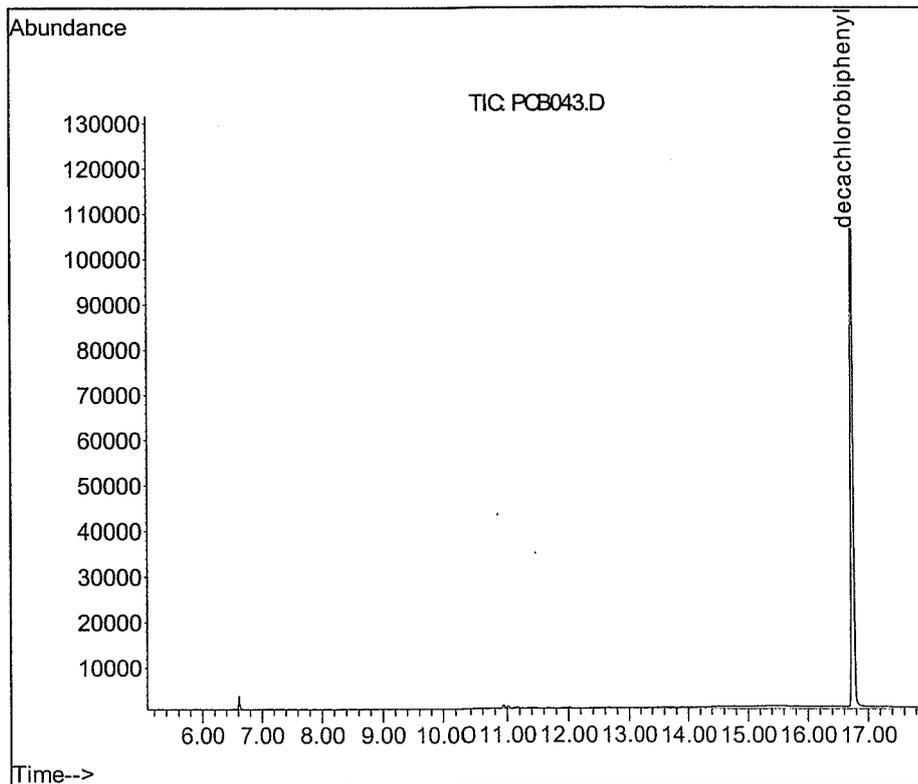


Checked By : Grainne Durack  
Date Extracted : 28/04/04

## EC7 PCB Congeners

Sample Identity - B01713-S0006 3944  
Client / Sample matrix - Irsh Geotechnical Services Ltd/S  
Units - µg/kg

CAS Number	Compound	Concentration
7012-37-5	PCB congener 28	<1
35693-99-3	PCB congener 52	<1
37680-73-2	PCB congener 101	<1
31508-00-6	PCB congener 118	<1
35065-27-1	PCB congener 153	<1
35065-28-2	PCB congener 138	<1
35065-29-3	PCB congener 180	<1
<b>Total</b>		<1

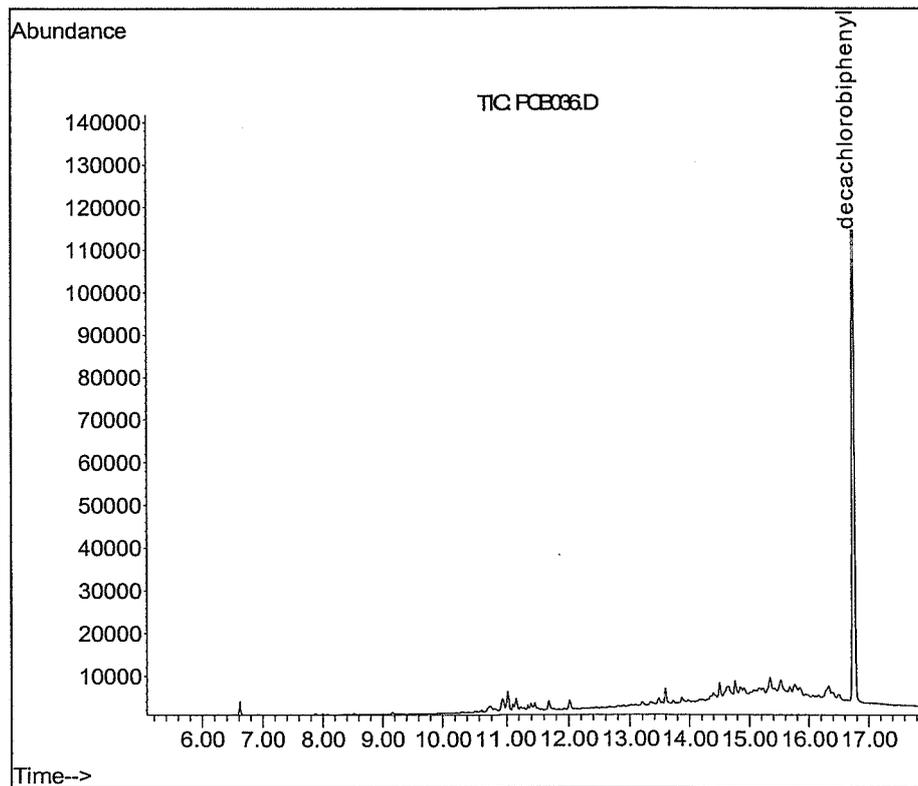


Checked By : Grainne Durack  
Date Extracted : 28/04/04

## EC7 PCB Congeners

Sample Identity - B01713-S0007 3920  
Client / Sample matrix - Irish Geotechnical Services Ltd/S  
Units - µg/kg

CAS Number	Compound	Concentration
7012-37-5	PCB congener 28	<1
35693-99-3	PCB congener 52	<1
37680-73-2	PCB congener 101	<1
31508-00-6	PCB congener 118	<1
35065-27-1	PCB congener 153	<1
35065-28-2	PCB congener 138	<1
35065-29-3	PCB congener 180	<1
<b>Total</b>		<1

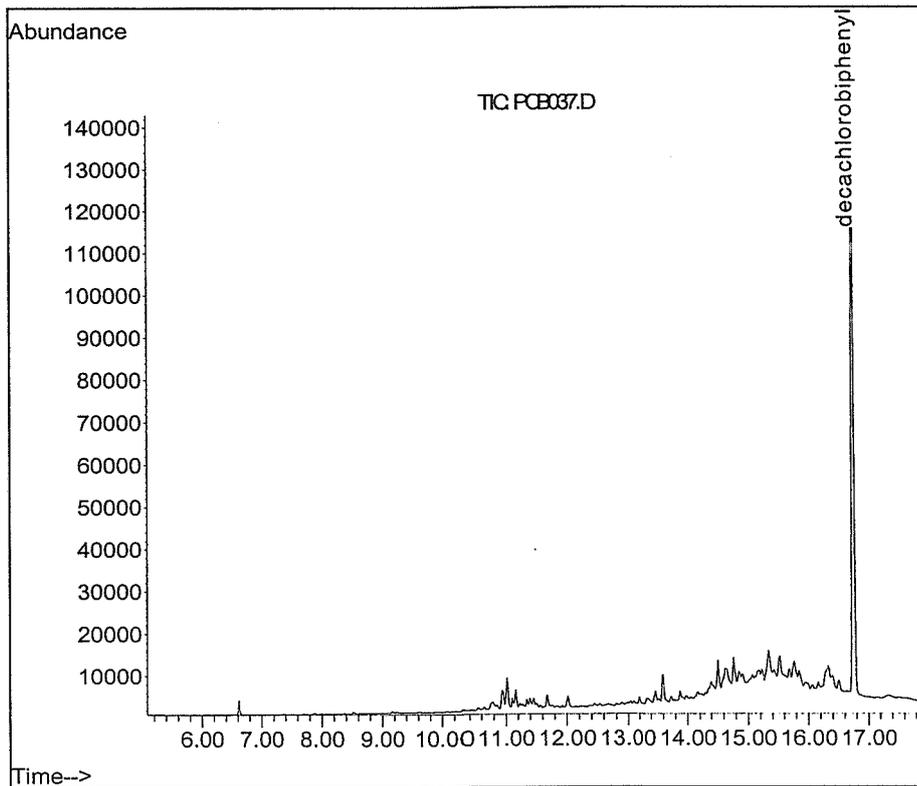


Checked By : \_\_ Grainne Durack \_\_\_\_\_  
Date Extracted :28/04/04 \_\_\_\_\_

## EC7 PCB Congeners

Sample Identity - B01713-S0008 3926  
Client / Sample matrix - Irish Geotechnical Services Ltd/S  
Units -  $\mu\text{g}/\text{kg}$

CAS Number	Compound	Concentration
7012-37-5	PCB congener 28	<1
35693-99-3	PCB congener 52	<1
37680-73-2	PCB congener 101	<1
31508-00-6	PCB congener 118	<1
35065-27-1	PCB congener 153	<1
35065-28-2	PCB congener 138	<1
35065-29-3	PCB congener 180	<1
<b>Total</b>		<1

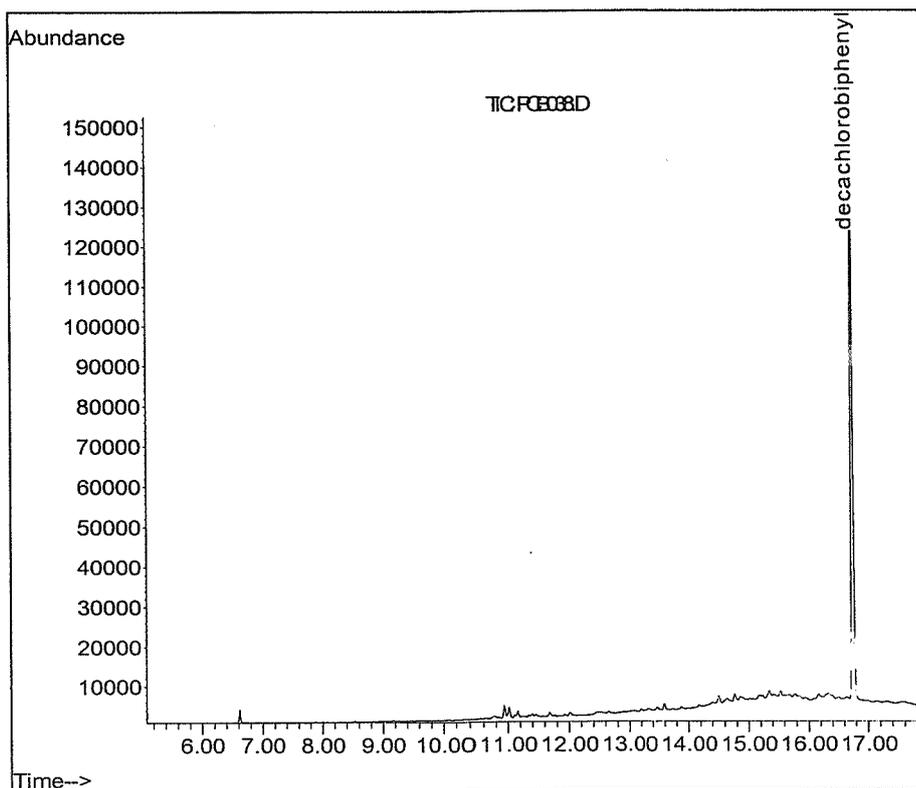


Checked By : Grainne Durack  
Date Extracted : 28/04/04

## EC7 PCB Congeners

Sample Identity - B01713-S0009 3932  
Client / Sample matrix - Irish Geotechnical Services Ltd/S  
Units - µg/kg

CAS Number	Compound	Concentration
7012-37-5	PCB congener 28	<1
35693-99-3	PCB congener 52	<1
37680-73-2	PCB congener 101	<1
31508-00-6	PCB congener 118	<1
35065-27-1	PCB congener 153	<1
35065-28-2	PCB congener 138	<1
35065-29-3	PCB congener 180	<1
<b>Total</b>		<1



Checked By : Grainne Durack  
Date Extracted : 28/04/04

APPENDIX

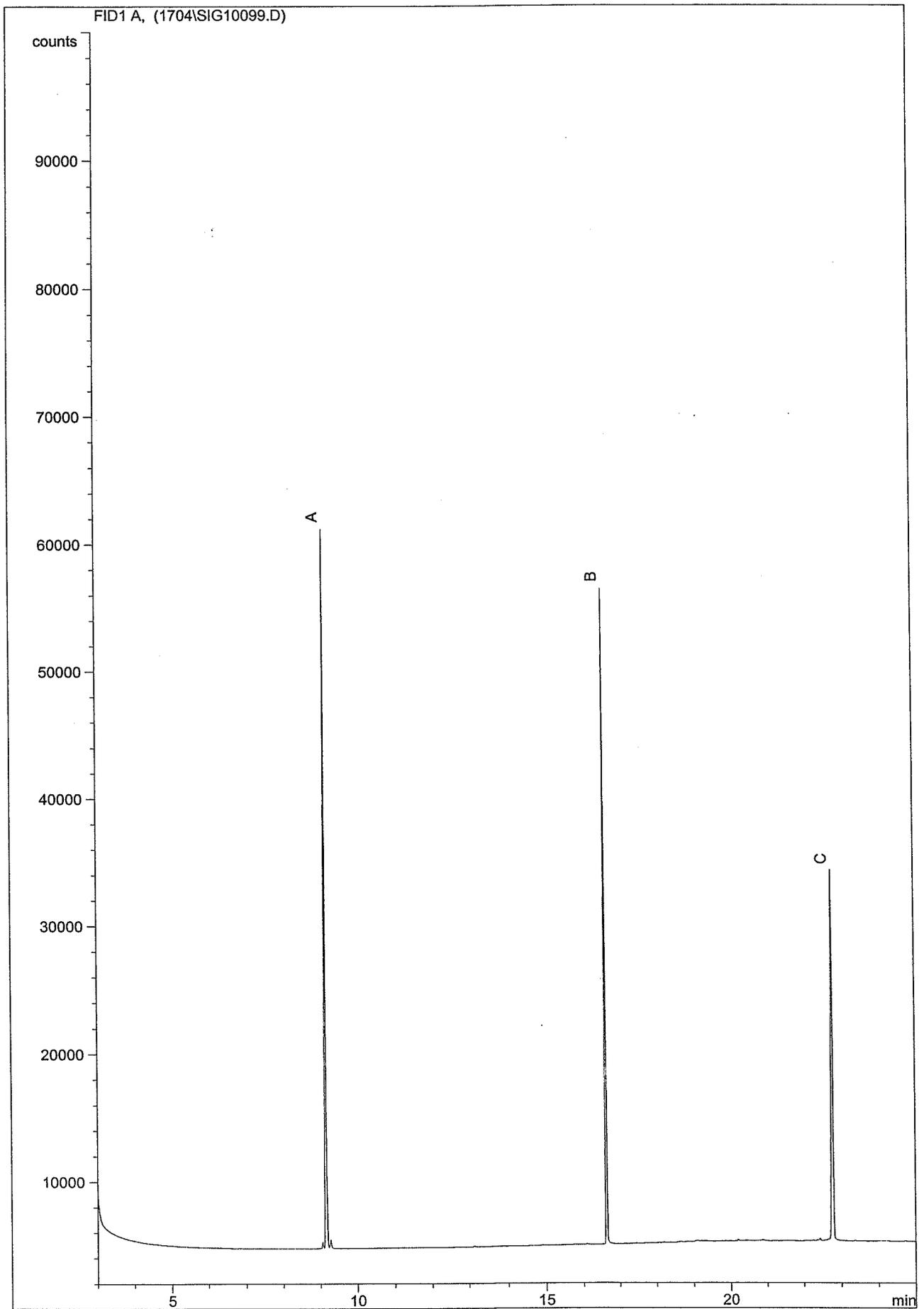
## APPENDIX

1. Results are expressed as mg/kg dry weight (dried at 35°C) on all soil analyses except for the following: NRA Leach tests, flash point, ammoniacal N<sub>2</sub> by the BRE method, VOC, PRO Cyanide and Acid Soluble Sulphide .
2. Samples will be run in duplicate upon request, but an additional charge may be incurred.
3. A sub sample of all samples received will be retained free of charge for one months for soils and one month for waters (sample size permitting), but may then be discarded unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage.
4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.
5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.
6. When requested, an asbestos screen is done in-house on soils and if no fibres are found will be reported as NFD – no fibres detected. If asbestos is detected, then identification and quantification is carried out by ALcontrol Technichem. If a sample is suspected of containing asbestos, then drying and crushing will be suspended on that sample until the asbestos results is known. If asbestos is present, then no analysis requiring dry sample will be undertaken.
7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample – similarly, if a headspace is present in the volatile sample.
8. NDP – No determination possible due to insufficient/unsuitable sample.
9. Metals in water are performed on a filtered sample, and therefore represent dissolved metals – total metals must be requested separately.
10. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

Last updated January 2004

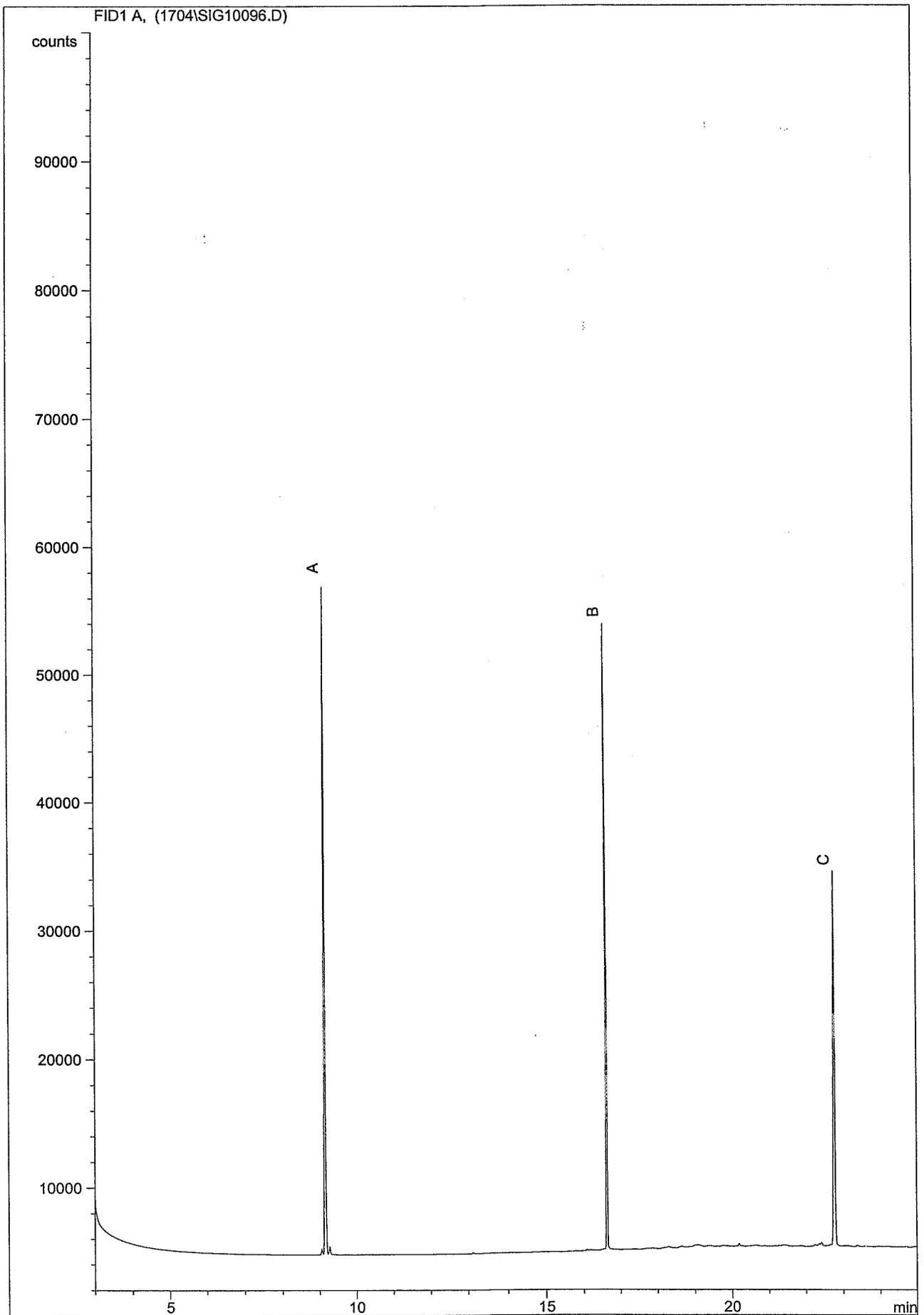
ALcontrol Laboratories Ireland  
Diesel Range Organics Analysis  
By G.C.

1713-5



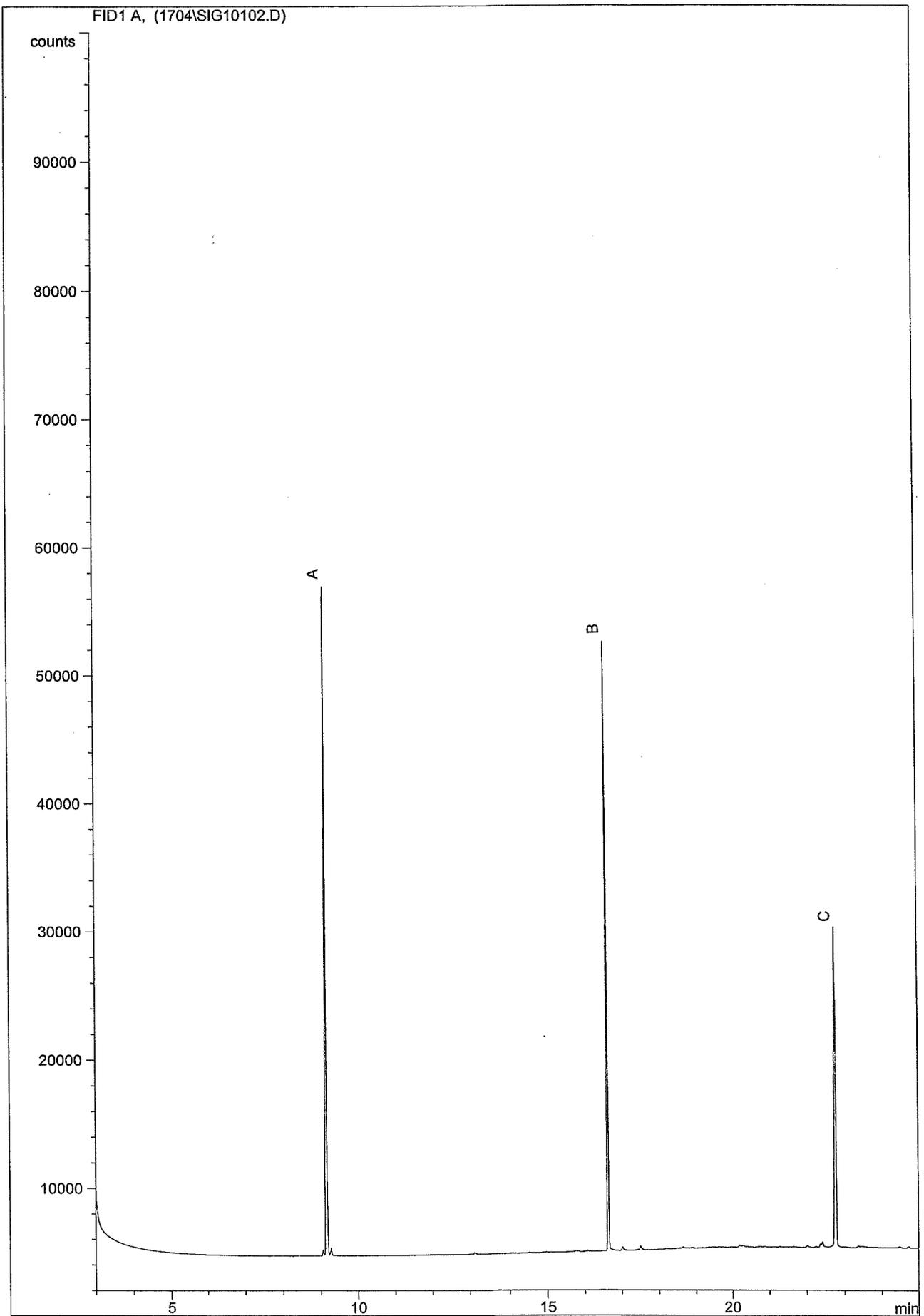
ALcontrol Laboratories Ireland  
Diesel Range Organics Analysis  
By G.C.

1713-6



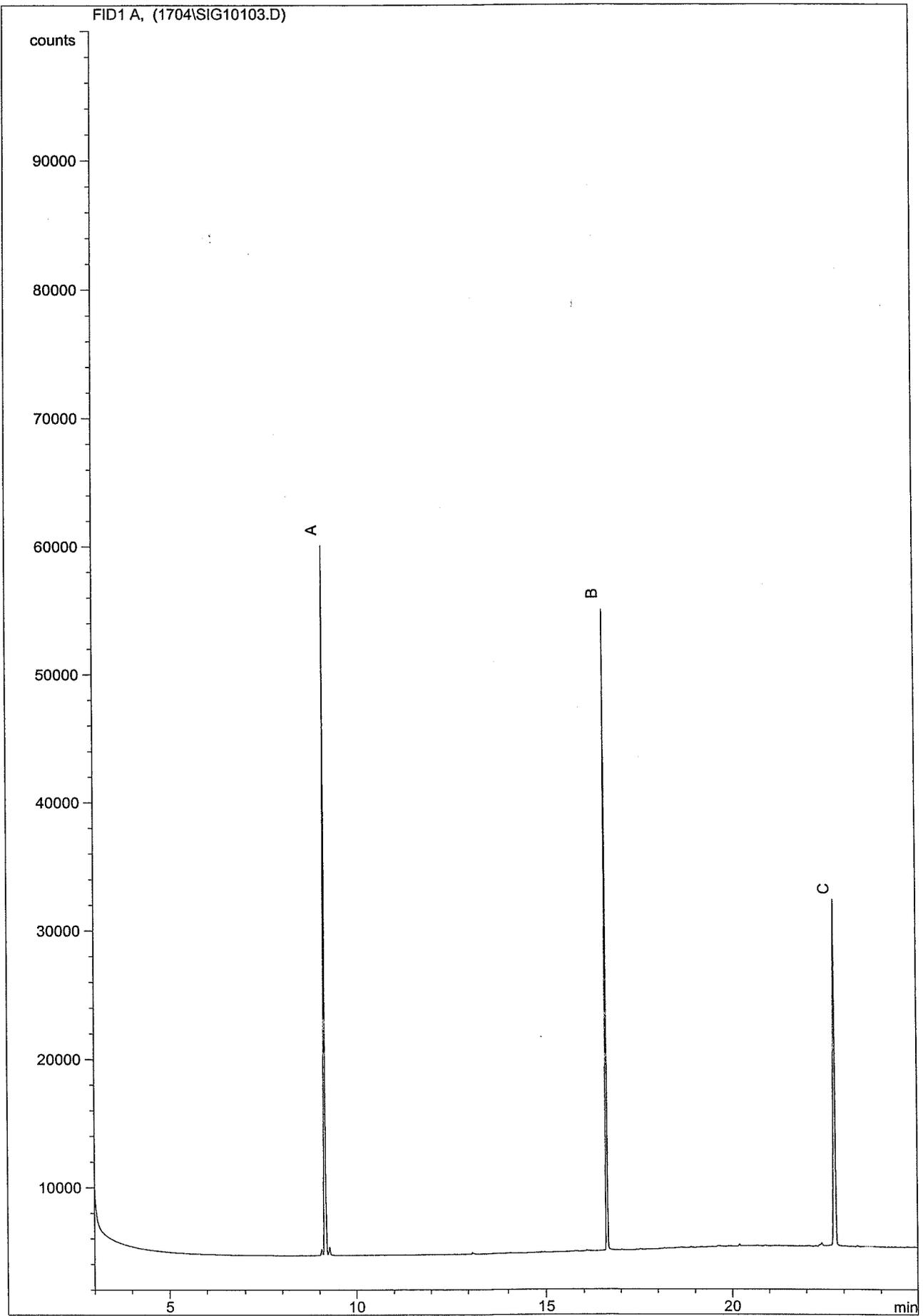
ALcontrol Laboratories Ireland  
Diesel Range Organics Analysis  
By G.C.

1713-8



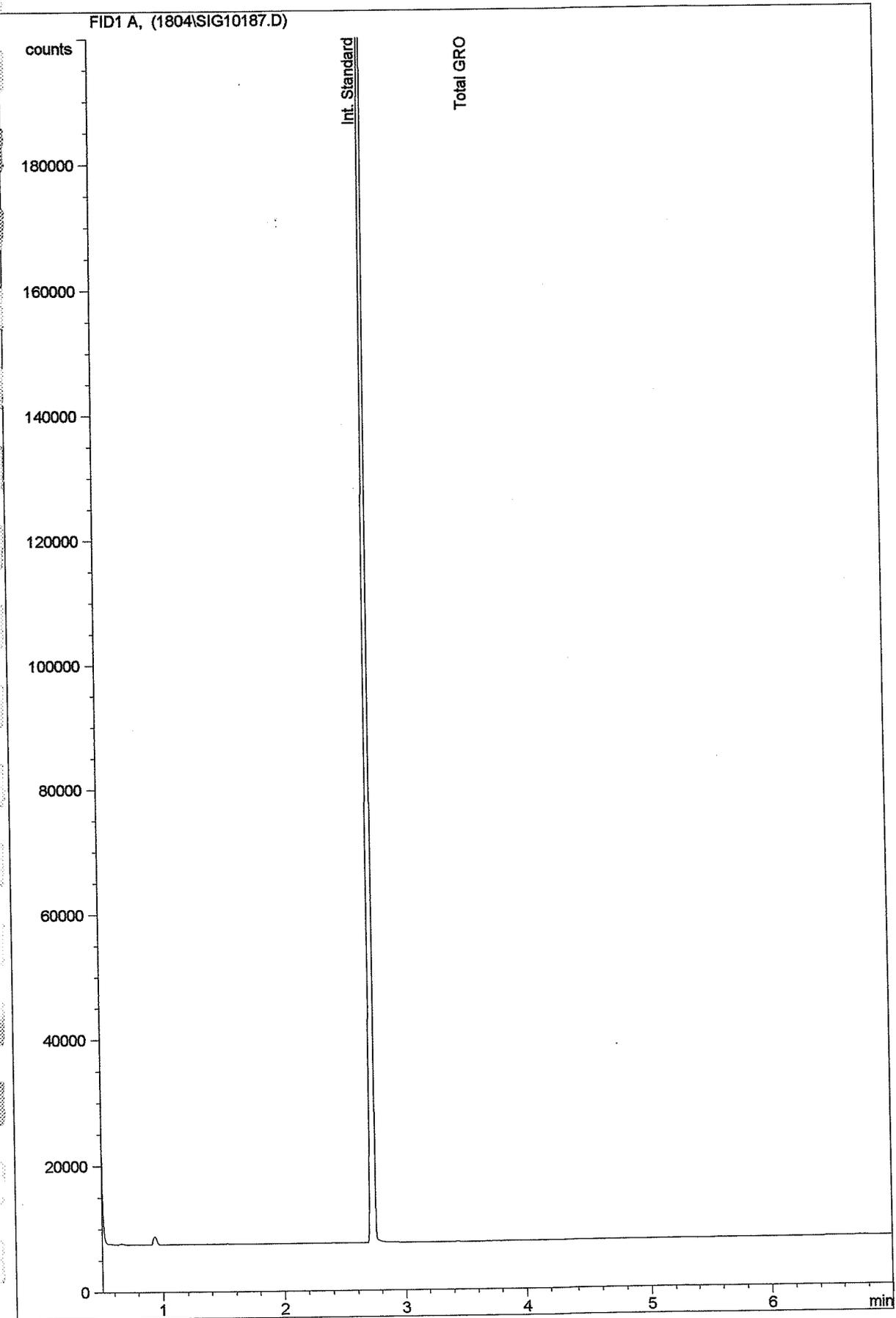
ALcontrol Laboratories Ireland  
Diesel Range Organics Analysis  
By G.C.

1713-9



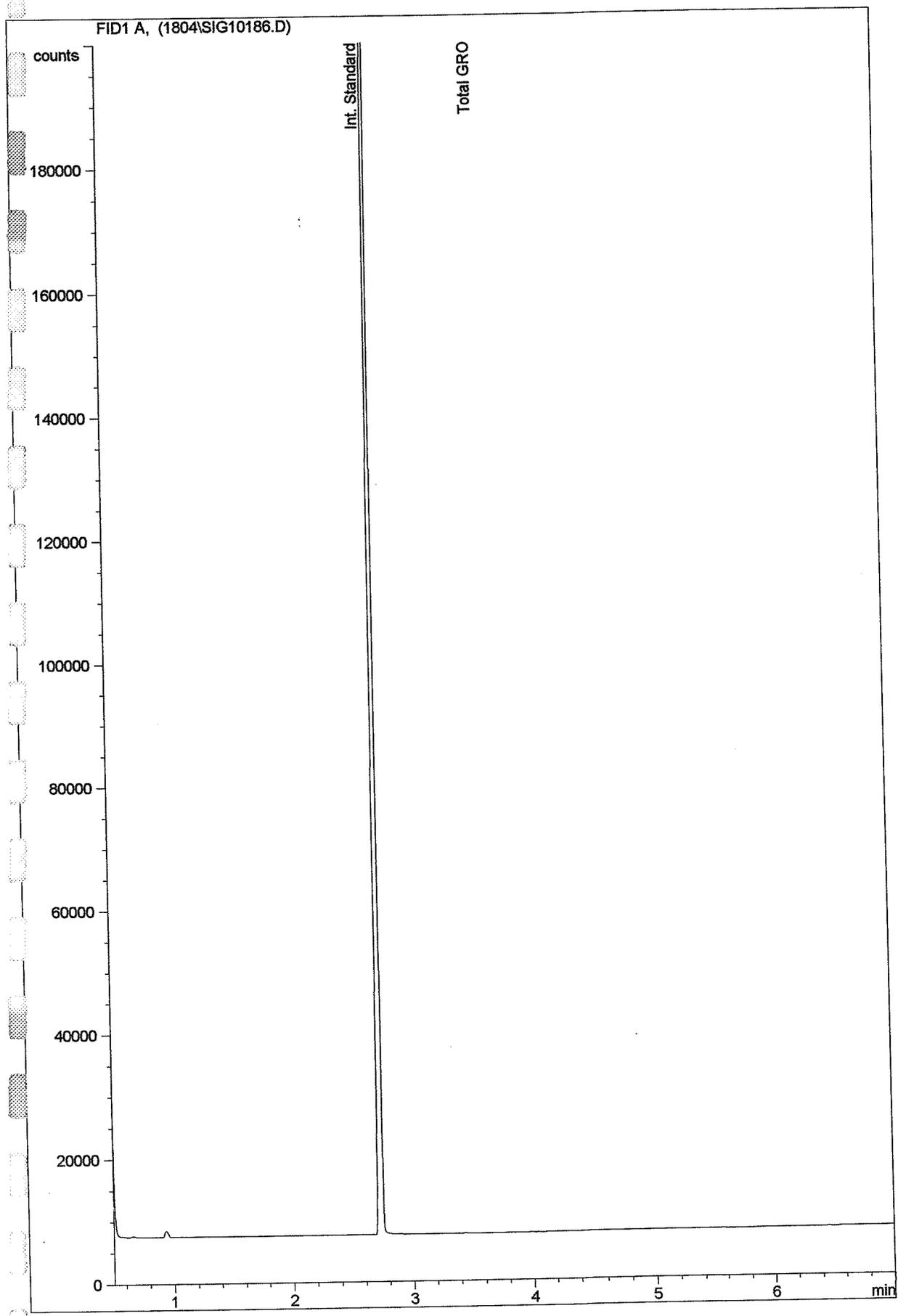
Alcontrol/Geochem Analytical Services  
EPH Range Organics ( C10 - C40 )

Sample Identity: 1713-5  
Date Acquired : 4/29/04  
Units : ppb.



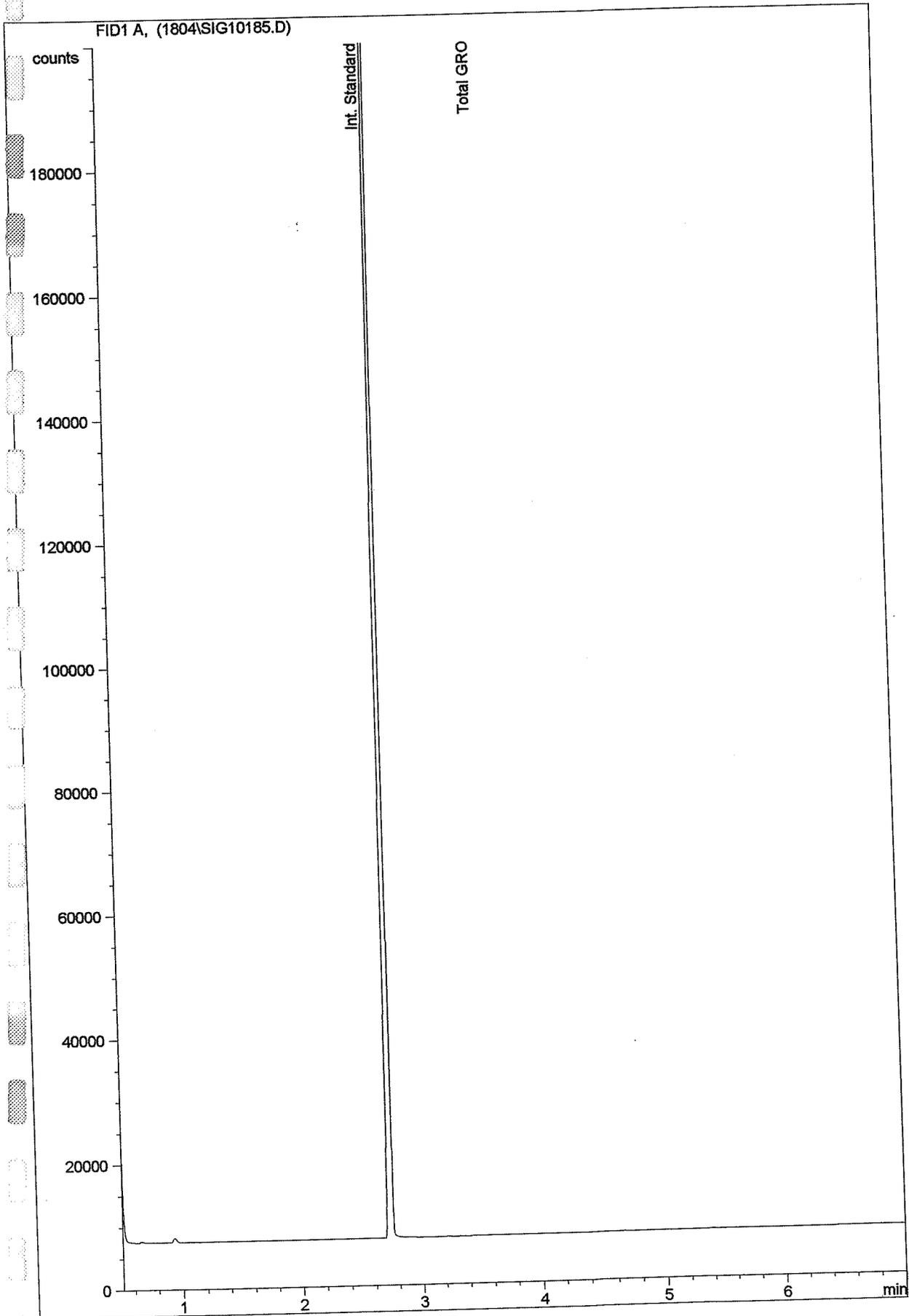
Alcontrol/Geochem Analytical Services  
EPH Range Organics ( C10 - C40 )

Sample Identity: 1713-6  
Date Acquired : 4/29/04  
Units : ppb



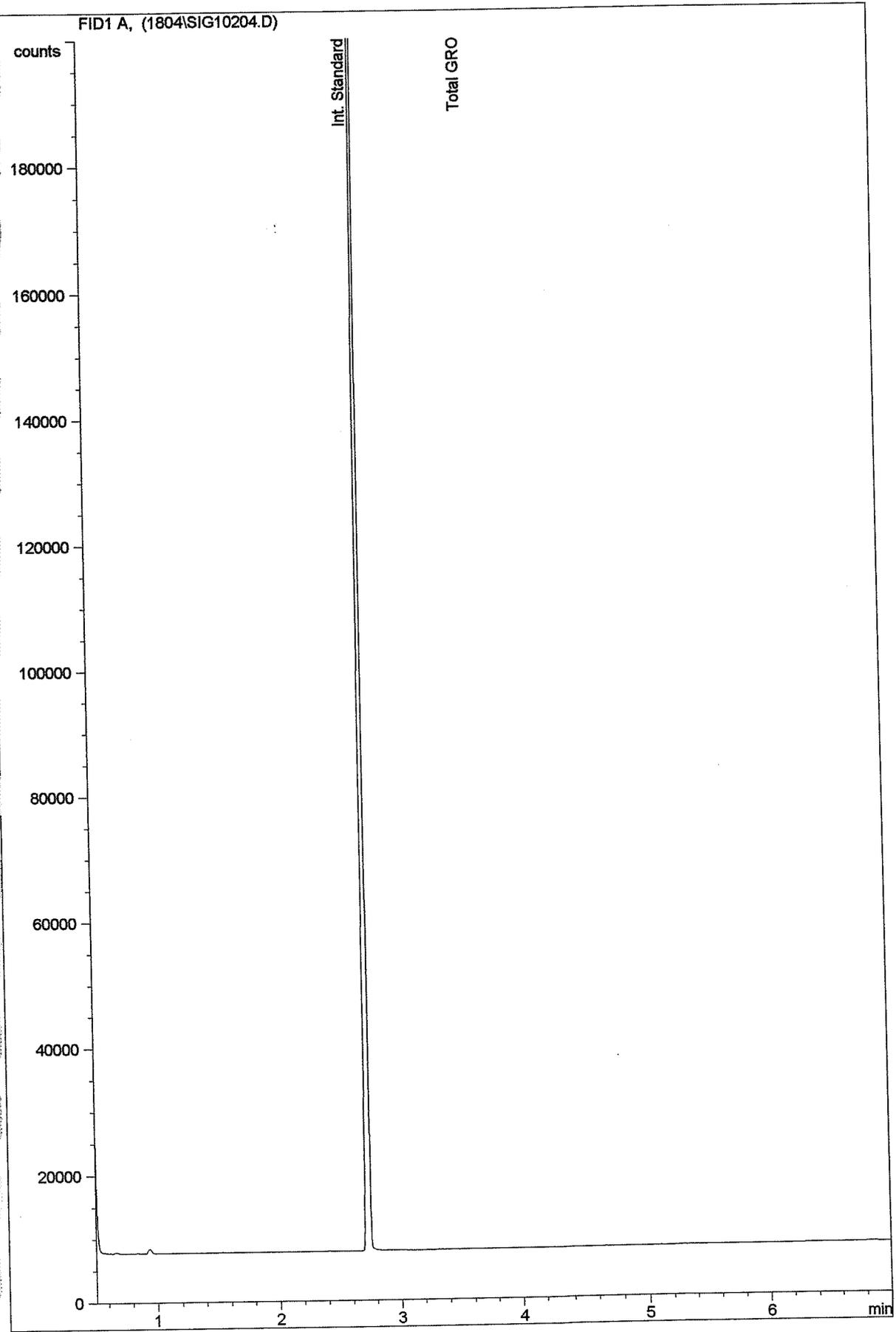
Alcontrol/Geochem Analytical Services  
EPH Range Organics ( C10 - C40 )

Sample Identity: 1713-7  
Date Acquired : 4/29/04  
Units : ppb



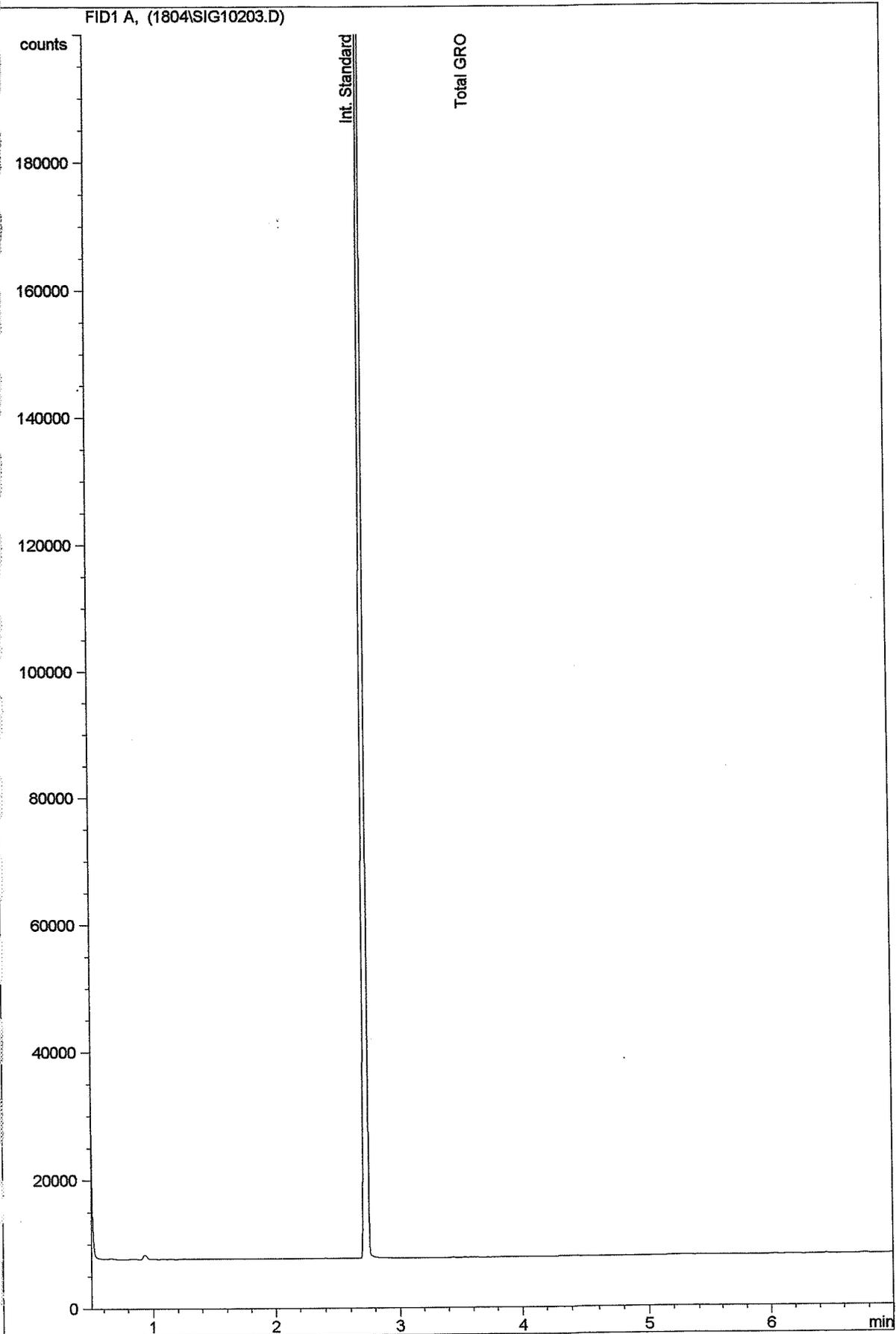
Alcontrol/Geochem Analytical Services  
EPH Range Organics ( C10 - C40 )

Sample Identity: 1713-8  
Date Acquired : 4/29/04  
Units : ppb



Alcontrol/Geochem Analytical Services  
EPH Range Organics ( C10 - C40 )

Sample Identity: 1713-9  
Date Acquired : 4/29/04  
Units : ppb





ALcontrol Laboratories Ireland  
Diesel Range Organics Analysis  
By G.C.

1713-7

