

9. ANALYSIS CERTIFICATES, GROUNDWATER AND SURFACE WATER

Our Ref: Redcar

Your Ref: C00520017

Date: 15/06/04

Ms B Thompson

**Enviros** 

Sanderson House

Station Road

Horsforth

Leeds

Dear Ms Thompson,



### **TES Bretby**

PO Box 100 Ashby Road Burton-upon-Trent Staffordshire DE15 0XD

Telephone: 01283 554400 Facsimile: 01283 554422

E-mail:

enquiries@tes-bretby co uk

## Water Analysis Report - Redcar.

Please find attached water analysis results for samples from the above site

The work was carried out in accordance with Mowlem Environmental Sciences Group Standard Terms and Conditions of Contract.

If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely for TES Bretby

J Elstub

Project Co-ordinator

01283 554500



## TEST REPORT WATER SAMPLE ANALYSIS



1252

## Combined Report TES Report No. Redcar

Site: Redcar

Enviros Sanderson House Station Road Horsforth Leeds LS18 5NT

The 24 Samples described in this report were scheduled for analysis by TES Bretby between 04/05/04 and 12/05/04. The analysis was completed by Tuesday, 15 June 2004.

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby laboratories.

The following tables are contained in this report:

Table 1 Main Analysis Results
Tables of TPH Interpretation Results (3 Pages)
Tables of TPH Chromatograms (24 Pages)
Table of Report Notes (1 Page)

On behalf of TES Bretby:

J Elstub

Project Co-ordinator

Date of Issue: 15/06/04

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results.

= TES Bretby = Report Number Control Page

Sheet

	Method Codes	. college	WSI M3	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	l/gm	1 1	mg/l	mg/l	mg/l	l/gm	mg/i
	Detection Limits:	imits:		0.06		0001	00001	O OO O	CHINISW	WSW C		CPWAIER	-	CPMSW	—†-	ICTSCN28	ISESW24	GROHSA
	HKAS Accredited		201	200	100.0	100.0	00000	0.00	0.00	0.002		co.u	0	0.001	0.001	0.1	0.2	0.1
		eniren .	, Aes	yes	Ves	yes	yes	yes	yes	yes	yes	yes	ves	yes	yes	yes	yes	yes
ត្ត	Client Sample Description	Sample Date	pH units	Total Sulphur as SO4 (Dissolved)	Nickel as Ni (Dissolved)	Chromium as Cr (Dissolved)	Cadmium as Cd (Dissolved)	Copper as Cu (Dissolved)	Lead as Pb (Dissolved)	Zinc as Zn (Dissolved)	Arsenic as As (Dissolved)	Boron as B (Dissolved)	Mercury as Hg (Dissolved)	Selenium as Se (Dissolved)	Vanadium as V (Dissolved)	Cyanide (Total) as CN	Sulphide (Free) as S	Gasoline Range Organics
Ιİ	11AB1 2	29-Apr-04	8.7	1120	0.002	<0.001	<0.0001	<0.001	<0.001	0.005	0.003	0.32	<0.0001	0.003	0.008	<0.1	<0.2	0.97
	11AB2 2	29-Apr-04	7.1	1250	0.007	200.0	0.0002	0.001	<0.001	0.019	0.002	0.54	<0.0001	0.002	0.004	0.1	<0.2	\$0.1
	12AB2 z	29-Apr-04	7.5	696	0.003	0.001	<0.0001	0.001	<0.001	0.009	0.003	0.59	0.0003	0.003	0.001	0.1	<0.2	0.1
		28-Apr-04	10.3	457	0.002	<0.001	<0.0001	0.004	<0.001	<0.002	0.010	0.08	0.0001	0.005	0.142	1.0	<0.2	20.1
	13AB2	30-Apr-04	10.5	1410	0.004	<0.001	<0.0001	0.002	<0.001	<0.002	0.026	<0.05	<0.0001	0.005	0.089	6.1	<0.2	<0.1
	13CB1 2	29-Apr-04	7.7	1210	0.004	0.001	<0.0001	<0.001	<0.001	0.007	0.001	0.42	<0.0001	0.007	0.001	40.1	0.4	<0.1
	14AB2 2	28-Apr-04	8.6	450	0,001	<0.001	<0.0001	0.001	<0.001	<0.002	0.007	0.30	<0.0001	0.004	0.029	0.1	<0.2	<0.1
		27-Apr-04	7.1	193	0.007	0.003	0.0018	<0.001	<0.001	0.014	0.002	0.55	<0.0001	0,002	0.002	40.1	0.4	<0.1
		28-Apr-04	7.3	2260	0.004	0.005	<0.0001	0.008	<0.001	0.012	0.008	3.20	<0.0001	0.031	0.004	6.1	<0.2	60.1
		28-Apr-04	7.7	2180	0.007	0,001	<0.0001	0.003	<0.001	900.0	0.002	1.05	<0.0001	0.003	0.001	<0.1	<0.2	<0.1
		28-Apr-04	7.5	1540	0.003	<0.001	<0.0001	0.002	<0.001	0.004	0.003	0.65	<0.0001	0.002	0.003	0.1	<0.2	40.1
		36-Apr-04	10.4	567	0.007	<0.001	<0.0001	0.003	<0.001	<0.002	0.015	0.07	<0.0001	0.007	0.061	40.1	0.9	<0.1
		30-Apr-04	12.2	68.1	<0.001	0.055	<0.0001	0.001	<0.001	<0.0002	<0.001	<0.05	<0.0001	<0.001	0.019	<0.1	<0.2	<0.1
		29-Apr-04	11.0	1990	0.003	<0.001	<0.0001	0.004	<0.001	0.004	0.004	<0.05	0.0001	0.002	0.165	\$0.1	<0.2	<0.1
		29-Apr-04	7.1	975	0.004	0,001	0.0002	0.004	<0.001	0.023	0.002	0.56	0.0005	0.007	0.003	<0.1	<0.2	<0.1
		29-Apr-04	7.5	1280	0.011	0.002	<0.0001	0.001	<0.001	0.012	0.003	0.37	<0.0001	0.003	0.003	<0.1	<0.2	<0.1
		04-May-04	7.4	1100	0.004	<0.001	<0.0001	0.002	<0.001	0.013	0.002	0.68	<0.0001	0.003	<0.001	40.1	<0.2	<0.1
		04-May-04	4.7	1190	900.0	<0.001	<0.0001	0.002	<0.001	0.017	0.002	0.77	<0.0001	0.003	<0.001	40.1	<0.2	<0.1
		04-May-04	7.4	656	0.004	<0.001	<0.0001	0.001	<0.001	0.003	0.001	0.40	<0.0001	0.002	<0.001	<0.1	<0.2	<0.1
	FAS4	04-May-04	7.2	924	0.004	<0.001	0.0001	0.001	<0.001	0.027	0.001	0.59	<0.0001	0.002	<0.001	40.1	<0.2	40.1
ļ	TES Bretby		Client Name	ıme	Enviros							5	/ater Sa	ample /	Water Sample Analysis	un.	<b>"</b> 3	G
ā.	PO Box 100, Brelby Business Park,	*	Contact		Ms B Thompson	npson							Con	Combined Report	ort			<u> </u>
ឆ័	Burton-on-Trent, Staffordshire, DE15 0XD	7E15 0XD										Date Printed	ited		15 June	ne 2004	ر سا	<b>₹</b>
ř :	Tel +44 (0) 1283 554400					œ	Redcal	<b>.</b>				Report Number	umber				UKA V	AS
u.T	Fax +44 (0) 1283 554422	•				•	5	_				Table Number	mber		***	-	1252	25
	WW.								***************************************			Page Number	nber			1 of 6		

		Units:		mo//	ľuu	[/2]	1/011	1 1/00	// // // // // // // // // // // // //		Territoria de la constitución de	
	Method	Method Codes :	TPHFID	CNWFREE	SFAPI	BTEXHSA	BTEXHSA	BTEXHSA	BTEXHSA			
	Detection Limits:	Limits:	1 1	0.1	0.05	5	5	2	10			
	UKAS Accredited	redited :	ves	2	İ	ves	ves	ves	NP C			
			3	2		3	, ves	, Ada	VGS			
TES ID Number EX/	Client Sample Description	Sample Date	трн GC	Cyanide (Free) as CN	Phenol Index as C6H5OH	Benzene	Toluene	Ethyl Benzene	Xylenes			
0410349	11AB1	29-Apr-04	<0.1	40.1	<0.05	<5	< <del>5</del>	45	<10			
0410350	11AB2	29-Apr-04	<0.1	0.1	<0.05	₽	\$	₽	<10	- Andrews - Andr		W W W W W W W W W W W W W W W W W W W
0410273	12AB2	29-Apr-04	0.26	0.1	<0.05	Ą	\$	\$	<10			
0410360	12881	28-Apr-04	0.31	<0.1	<0.05	٨	\$	8	<10			
0410635	13AB2	36-Apr-04	0.59	<0.1	<0.05	45	\$	\$	<10			
0410351	13CB1	29-Apr-04	<0.1	£:0>	<0.05	\$	\$	\$	<10			
0410356	14AB2	28-Apr-04	0.36	<0.1	<0.05	\$	\$	\$	<10			
0410241	1481	27-Apr-04	2.82	<0.1	<0.05	\$	<5	\$	<10			***************************************
0410357	15AB1	28-Apr-04	<0.1	<0.1	<0.05	€5	₽	\$5	<10			A district
0410358	15AB2	28-Apr-04	0.45	<0.1	<0.05	\$	\$5	\$	<10			
0410359	15AB3	28-Apr-04	<0.1	<0.1	<0.05	\$	\$5	\$	<10			
0410634	16AB2	30-Apr-84	0.72	<0.1	<0.05	\$	<5	Ą	<10	***************************************		THE PARTY OF THE P
0410633	16881	30-Apr-04	<0.1	<0.1	<0.05	₹2	\$>	<5	<10			
0410274	17AB3	29-Apr-04	0.75	<0.1	<0.05	\$	\$	\$	<10			
0410275	17881	29-Apr-04	0.63	<0.1	<0.05	\$	<5	\$	<10			White the same of
0410276	17CB2	29-Apr-04	<0.2	<0.1	<0.05	<5	\$	\$	<10			
0410646	FAS1	04-May-04	0.22	<0.1	<0.05	Ą	<5	Ą	<10			
0410636	FAS2	04-May-04	<0.1	<0.1	<0.05	\$	<5	\$	<10	William I		
0410645	FAS3	04-May-04	<0.1	<0.1	<0.05	<5	<5	\$5	<10			
0410637	FAS4	04-May-04	<0.1	<0.1	<0.05	<5	\$	ςς.	<10		400	- Alliander and
TES	TES Bretby		Client Name	зте	Enviros					Water S	Water Sample Analysis	-3
	PO Box 100, Bretby Business Park,	Park	Contact		Ms B Thompson	nosdi				Ö	Combined Report	
Bretby	Burton-on-Trent, Staffordshire, DE15 0XD	, DE15 0XD								Date Printed	15 June 2004	
	Tel +44 (0) 1283 554400					Ω	Redear			Report Number		UKAS
	Fax +44 (0) 1283 554422									Table Number		1252
700000000						***************************************				Page Number	2 of 6	

mg/l	PAHFID	0.01	Ves	S Benzo(ghi)perylene	<0.01	<0.01	<0.01	<0.01	40.01	<0.0>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	l co	<u>ا</u> الرا	رخ اسا	A S	2	
∥ l/gm	PAHFID	0.01	ves	S) Dibenzo(ah)anthracene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	*3	( -		       ス	1252	
l/bm	PAHFID	10.0	ves	ମ୍ମ Indeno(123-cd)pyrene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<b>'</b> 0		ne 2004			3 of 6
mg/f	PAHFID	0.01	ves	မွာ Benzo(a)pyrene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Analysi	ort	15 June			
l/gm	PAHFID	0.01	yes	Benzo(k)fluoranthene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ample 4	Combined Report				
l/gm	PAHFID	0.01	ves	Benzo(b)fluoranthene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Water Sample Analysis	S	ted	umber	mber	nber
l/bm	PAHFID	0.01	yes	Chrysene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	5		Date Printed	Report Number	Table Number	Page Number
l/gm	PAHFID	0.01	ves	Benzo(a)anthracene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01					www.ww.	***************************************
mg/l	PAHFID	0.01	yes	Pyrene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01						
l/b̃ш	PAHFID	0.01	yes	Fluoranthene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01						
mg/l	PAHFID	0.01	yes	Anthracene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				ì.	<b></b>	
l/gm	PAHFID	0.01	yes	Phenanthrene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				Rodoar	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	
l/gm	PAHFID	0.01	yes	Fluorene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		nosdu		L	#	
ı/bm	PAHFID	0.01	yes	Acenaphthene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Enviros	Ms B Thompson				
l/gm	PAHFID	0.01	yes	Acenaphthylene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01 0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ame	***************************************				
l/om	PAMFID	0.01	yes	Naphthalene	<0.01	<0.01	<0.01	<0.01	<0,01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	Client Name	Contact				
Units:	Method Codes :	Detection Limits:	credited:	Sample Date	29-Apr-04	29-Apr-04	29-Apr-04	28-Apr-04	30-Apr-04	29-Apr-04	28-Apr-04	27-Apr-04	28-Apr-04	28-Apr-04	28-Apr-04	30-Apr-04	30-Apr-04	29-Apr-04	29-Apr-04	29-Apr-04	04-May-04	04-May-04	04-May-04	04-May-04		ss Park,	re, DE15 0XD			
	Metho	Detectio	UKAS Accredited	y Se	11AB1	11AB2	12AB2	12881	13AB2	13CB1	14AB2	1481	15AB1	15AB2	15AB3	16AB2	16BB1	17AB3	17881	17CB2	FAS1	FAS2	FAS3	FAS4	TES Bretby	PO Box 100, Brelby Business Park,	Burton-on-Treat, Staffordshire, DE15 0XD		Fax +44 (0) 1283 554422	
	-	***			0410349	0410350	0410273	0410360	0410635	0410351	0410356	0410241	0410357	0410358	0410359	0410634	0410633	0410274	0410275	0410276	0410646	0410636	0410645	0410637	TES		Bretby			

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/om	Ö	ļ	L	Gasoline Range Organics	<0.1	\$0.1	65	0	1	_												<b>.</b> Ç	(	*	KAS	1252	į }
l/am	ISESW24	0.2	yes	Sulphide (Free) as S	<0.2	<0.2	<0>	<0.2										, , , , , , , , , , , , , , , , , , , ,				,		ر اسا	/5 <sup>1</sup>	4	
J/DW	ICTSCN28	0.1	yes	Cyanide (Total) as CN	<0.1	<0.1	0,1	\$0.1														S	•	15 June 2004		-	4 of 6
1/011	ICPMSW	0.001	yes	Vanadium as V (Dissolved)	0.001	0.001	0.002	0.002														Analysi	port	15 J			
ma/l	ICPMSW	0.001	yes	Selenium as Se (Dissolved)	0.004	0.011	0.011	0.015													· ·	ample	Combined Report			7444WA	
mg/l	=			Mercury as Hg (Dissolved)	<0.0001	<0.0001	<0.0001	<0.0001														Water Sample Analysis	Con	ited	umber	mber	mber
//bm	ICPWATER	0.05	yes	Boron as B (Dissolved)	0.97	79'0	0.68	0.60														۸		Date Printed	Report Number	Table Number	Page Number
l/gm	₹	0.001	yes	Arsenic as As (Dissolved)	0.002	0.004	0.006	0.004																			
l/gm	ICPMSW	0.002	yes	Zinc as Zn (Dissolved)	0.036	0.057	0.050	0.023																			
mg/i	CPMSW	0.001	yes	Lead as Pb (Dissolved)	<0.001	<0.001	<0.001	<0.001																			
l/gm	ICPMSW	0,001	yes	Copper as Cu (Dissolved)	0.002	0.001	0.003	<0.001																	<b>.</b>	***	
l/gm	ICPMSW	0.0001	yes	Cadmium as Cd (Dissolved)	<0.0001	<0.0001	<0.0001	<0.0001																	Rodear	3	
mg/I	CPMSW	0.001	yes	Chromium as Cr (Dissolved)	<0.001	<0.001	<0.001	<0.001				~~~~										40	трѕоп				
l/bm		0.001	yes	Nickel as Ni (Dissolved)	0.004	0.002	0.002	0.002														Enviros	Ms B Thompson				
l/gm	ICPWATER	0.06	yes	Total Sulphur as SO4 (Dissolved)	1070	1190	1200	1050														атте					
	WSLM3	۱	yes	pH units	6.9	6.7	5.1	6.6														Client Name	Contact				
Units:	Codes:	Detection Limits:	credited :	Sample Date	04-May-04	04-May-04	04-May-04	04-May-04															s Park,	e, DE15 0XD	7		
	Methor	Detection	UKAS Accredited	Client Sample Description	FAS5	FAS6	FAS7	FAS8				A PARTY OF THE PAR			•				***************************************			TES Brethv			Tel +44 (0) 1283 554400	Fax +44 (0) 1283 554422	- And the state of
				TES ID Number EX/	0410638	0410647	0410639	0410640														TES		Bretby			

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***************************************																		Water Sample Analysis	Combined Report	15 June 2004			5 of 6
													The same of the sa					Water Sa	Сош	Date Printed	Report Number	Table Number	Page Number
l/6n	STEXHSA	10	yes	Xylenes	<10	<10	<10	<10					4444										
l/6n l/6n	BTEXHSA	2	yes	Ethyl Benzene	\$	\$	\$	\$													L.		
l/gu	BTEXHSA	5	yes	Toluene	\$	\$	49	\$													Rodra		
l/6n	BTEXHSA	5	yes	Benzene	<5	Ą	\$	\$											nosdu		CX		
∥g/l	SFAPI		- 1	Phenol Index as C6H5OH	<0.05	<0.05	<0.05	<0.05										Enviros	Ms B Thompson				
mg/l	CNWFREE	0.1	OU	Cyanide (Free) as CN	<0.1	-0°	6,	40.1		******								 аше					
l/gm	- 1		yes	TPH GC	<0.11	0.21	<0.1	<0.1										Client Name	Contact				
Units :	d Codes :	in Limits:	credited:	Sample Date	04-May-04	04-May-04	04-May-04	04-May-04											ss Park,	ire, DE15 0XD			
	Metho	Defectio	UKAS Ac	Client Sample Description	FAS5	FAS6	FAS7	FAS8						T-AAAAAA MIIINAAAAAAA AAAAAAAA AAAAAAAAAAA			A THE STATE OF THE	TES TES Bretby			Tel +44 (0) 1283 554400	Fax +44 (0) 1283 554422	***************************************
			-	TES ID Number EX/	0410638	0410647	0410639	0410640		*********								7		Bretby			

l/gm	PAHFID	0.01	yes	Benzo(ghi)perylene	<0.01	<0.01	<0.01	<0.01															Q.	دک	Α 	JKAS	1252	
mg/i	PAHFID	0.01	yes	Dibenzo(ah)anthracene	<0.01	<0.01	<0.01	<0.01													,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							·
mg/l	PAHFID	0.01	yes	Indeno(123-cd)pyrene	<0.01	<0.01	<0.01	<0.01		***************************************													<u>.s</u>		15 June 2004		1	6 of 6
l/gm	PAHFID	0.01	yes	Benzo(a)pyrene	<0.01	<0.01	<0.01	<0.01		***************************************													Water Sample Analysis	port	15 J			
l/gm	PAHFID	0.01	yes	Benzo(k)fluoranthene	<0.01	c0.01	<0.01	<0.01															ample	Combined Report				
l/gm	PAHFID	0.01	yes	Benzo(b)fluoranthene	<0.01	<0.01	<0.01	<0.01						 									Nater S	ပိ	nted	Number	umber	ımber
l/gm	PAHFID	0.01	yes	Chrysene	<0.01	<0.01	<0.01	<0.01																	Date Printed	Report Number	Table Number	Page Number
l/gm	PAHFID	0.01	yes	Benzo(a)anthracene	<0.01	<0.01	<0.01	<0.01																				
l/gm	PAHFID	0.01	se À	Pyrene	<0.01	<0.01	<0.01	<0.01								***************************************												
l/gm	PAHFID	0.01	yes	Fluoranthene	<0.01	<0.01	<0.01	<0.01											***************************************									
l/bu	PAHFID	0.01	ýes	Anthracene	<0.01	<0.01	<0.01	<0.01																		1		
l/gm	PAHFID	0.01	yes	Phenanthrene	<0.01	<0.01	<0.01	<0.01			***************************************																Reacar	
l/gm	PAHFID	0.01	yes	Fluorene	<0.01	<0.01	<0.01	<0.01															v v	nosduc		***		
l/gm	PAHFID	0.01	yes	Acenaphthene	<0.01	<0.01	<0.01	<0.01														************	Enviros	Ms B Thompson				
mg/l	PAHFID	0.01	yes	Acenaphthylene	<0.01	<0.01	<0.01	<0.01															lame					
l/gm	PAHFID	0.01	yes	Naphthalene	<0.01	<0.01	<0.01	<0.01	L														Client Name	Contact	L			····
Units:	Method Codes :	Detection Limits :	UKAS Accredited:	Sample Date	04-May-04	04-May-04	04-May-04	04-May-04											***************************************					ss Park,	rire, DE15 0XD			
	Metho	Detectio	UKAS Ac	Client Sample Description	FAS5	FAS6	FAS7	FAS8	***************************************		***************************************	A STATE OF THE STA	***************************************		HIBBERTANDANAMANANAMANANAMANANAMANANAMANAMANAMA	THE TAXABLE PROPERTY OF THE PR	HIBBIHHWENNYA AND THE TOTAL OF			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			   	C IES Bretoy PO Box 100, Bretby Business Park,	Burton-on-Trent, Statfordshire, DE15 0XD	Tel +44 (0) 1283 554400	Fax +44 (0) 1263 554422	
				TES ID Number EX/	0410638	0410647	0410639	0410640															750		Brothy	ì		*****



# Interpretation of GC/FID Chromatographic data produced during DRO, PAH or TPH test.

							The state of the s							
15-Jun-04	P.W.Ward	TPH GCFID												
Date of assessment:	Assessor ·	Test type									range nC14-nC37+			
			Interpretation	Lean extract, insufficient for ID.	Lean extract, insufficient for ID.	Lean extract, insufficient for ID.	Lean extract, insufficient for ID.	Lean extract, insufficient for ID.	Lean extract, insufficient for ID.	Lean extract, insufficient for ID.	Presence of PAHs. UCM in the range nC14-nC37+	Lean extract, insufficient for ID.	Lean extract, insufficient for ID.	G.C. Risdon ital Analysis
Enviros	Redcar		Client ID	11AB1	11AB2	12AB2	12BB1	13AB2	13CB1	14AB2	14B1	15AB1	15AB2	Associate Director, Environmental Analysis
Client:	Site	Report Number	Lab ID Number	EX0410349	EX0410350	EX0410273	EX0410360	EX0410635	EX0410351	EX0410356	EX0410241	EX0410357	EX0410358	Authorised by .



# Interpretation of GC/FID Chromatographic data produced during DRO, PAH or TPH test.

Client ·	Enviros		Date of accommon!	14. lin. 04
a iv	Roccur		Δουσους	F15/W/W
Report Number			Test tyne	r.vv.vvau
			i cai type	2.00
Lab ID Number	Client ID	Interpretation		
EX0410359	15AB3	Lean extract, insufficient for ID.		
EX0410634	16AB2	Lean extract, insufficient for ID.		
EX0410633	16BB1	Lean extract, insufficient for ID.		
EX0410274	17AB3	Lean extract, insufficient for ID.		
EX0410275	17BB1	Lean extract, insufficient for ID.		
EX0410276	17CB2	Lean extract, insufficient for ID.		
EX0410646	FAS1	Lean extract, insufficient for ID.		
EX0410636	FAS2	Lean extract, insufficient for ID.		
EX0410645	FAS3	Lean extract, insufficient for ID.		
EX0410637	FAS4	Lean extract, insufficient for ID.		
Authorised by:	Associate Director, Environmental Analysis	g.G.C. Risdon fal Analysis		



# Interpretation of GC/FID Chromatographic data produced during DRO, PAH or TPH test.

17. 1. 1. 0.4	ナウーコウ・ウー	P.W.Ward	TPH GCFID									
Date of accordment	Date Of assessifient.	Assessor ·	Test type									
	***************************************			Interpretation	Lean extract, insufficient for ID.	Lean extract, insufficient for ID.	Lean extract, insufficient for ID.	Lean extract, insufficient for ID.				ج. چ.C. Risdon al Analysis
SUME		Redcar		Client ID	FAS5	FAS6	FAS7	FAS8				Associate Director, Environmental Analysis
Cleat ·	11.	Site	Report Number :	Lab ID Number	EX0410638	EX0410647	EX0410639	EX0410640				Authorised by:

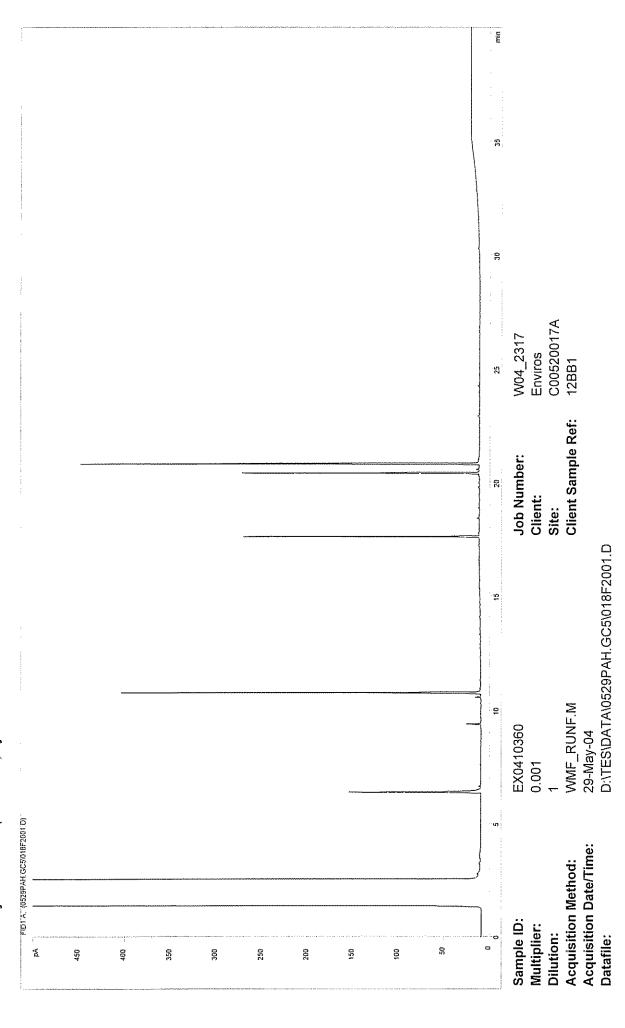
W04\_2315 Enviros C00520017A 11AB1 Job Number: Client: Site: Client Sample Ref: WMF\_RUNF.M 29-May-04 D:\TES\DATA\0529PAH.GC5\013F1401.D EX0410349 0.001 FIDTA, (6529PAH.GCS\013F1401.D) Acquisition Method: Acquisition Date/Time: Datafile: Sample ID: Multiplier: Dilution: Æ. 99 8 250 200 150 450 80 350 300

Petroleum Hydrocarbons (C8 to C37) by GC/FID

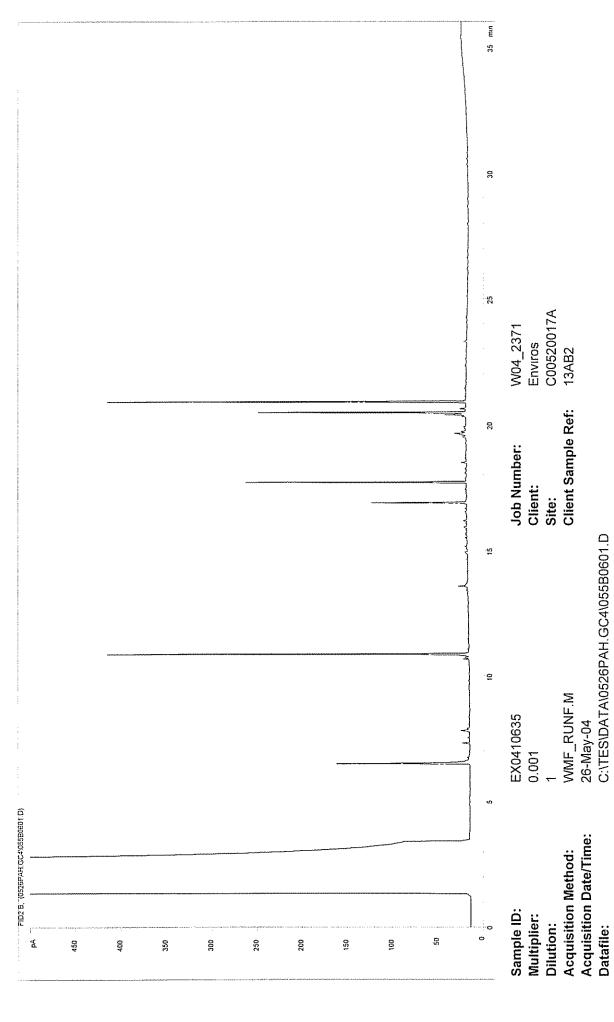
W04\_2315 Enviros C00520017A 11AB2 Job Number: Client: Site: Client Sample Ref: WMF\_RUNF.M 29-May-04 D:\TES\DATA\0529PAH.GC5\014F1501.D EX0410350 0.001 FID1 A. (0529PAH.GCSW14F1501.D) Dilution: Acquisition Method: Acquisition Date/Time: Datafile: Sample ID: Multiplier: 1 1 8 20 8 350 38 250 200 150 450

Petroleum Hydrocarbons (C8 to C37) by GC/FID

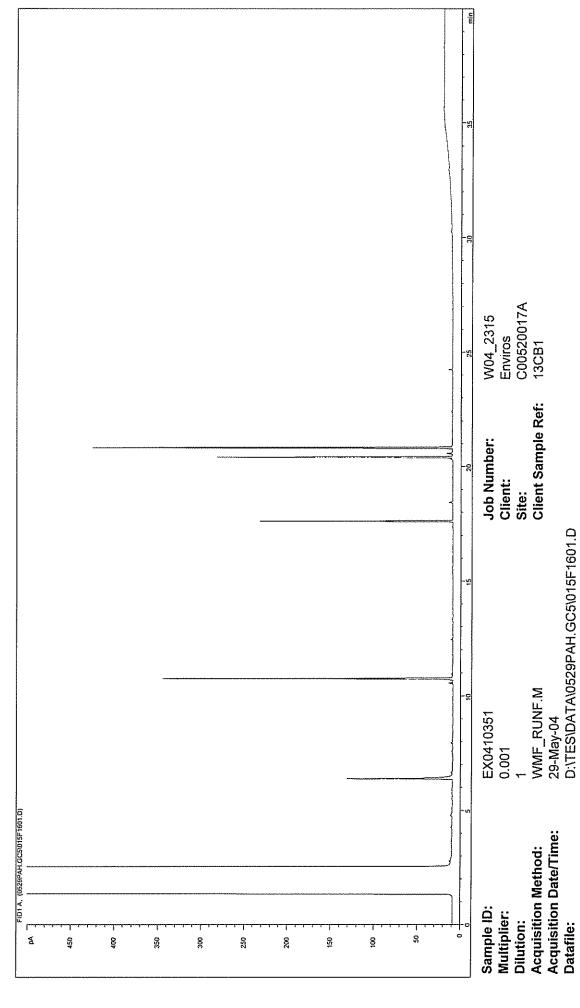
Petroleum Hydrocarbons (C8 to C37) by GC/FID



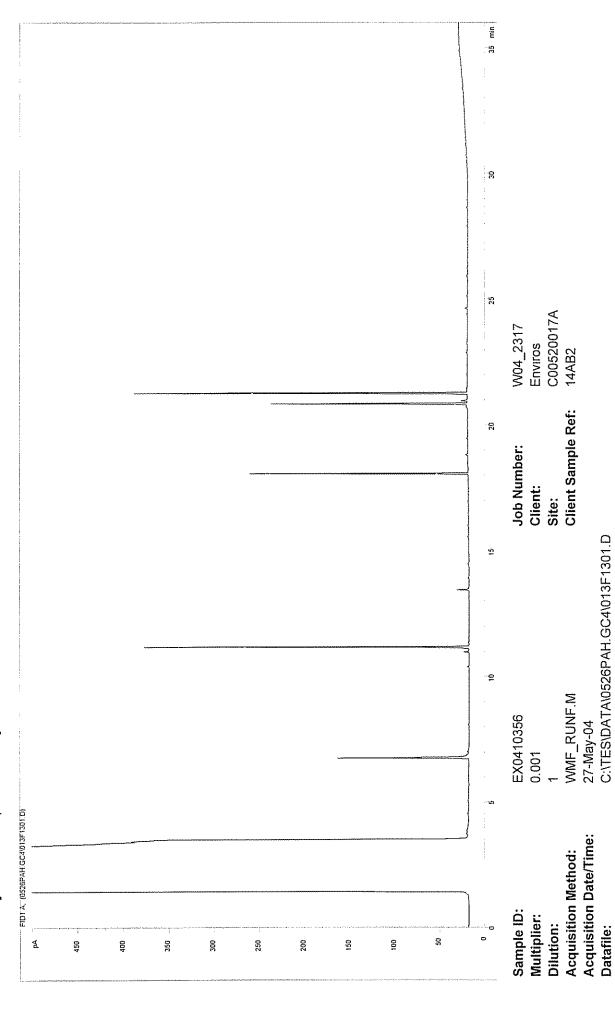
Petroleum Hydrocarbons (C8 to C37) by GC/FID



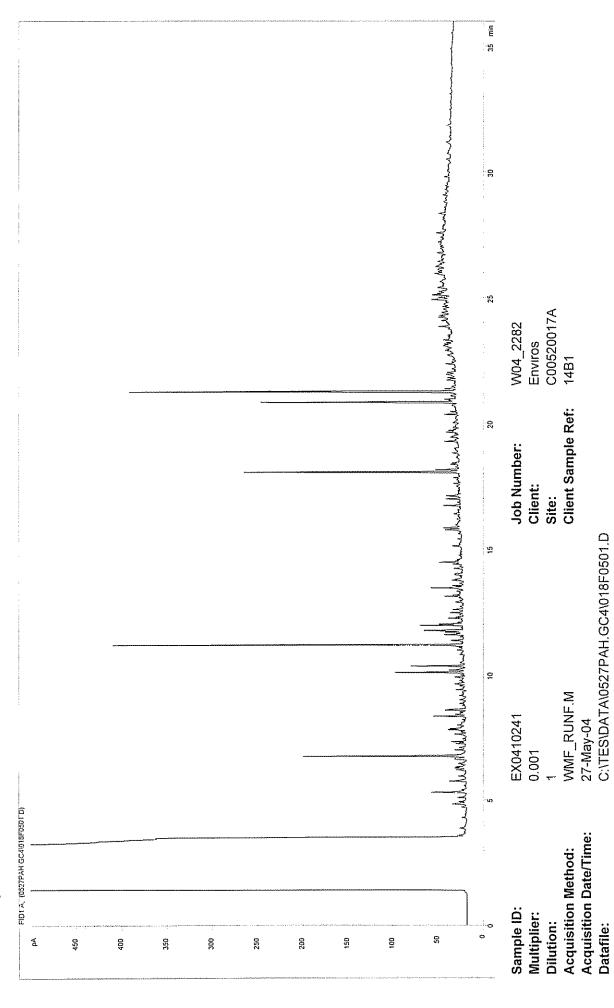
Petroleum Hydrocarbons (C8 to C37) by GC/FID



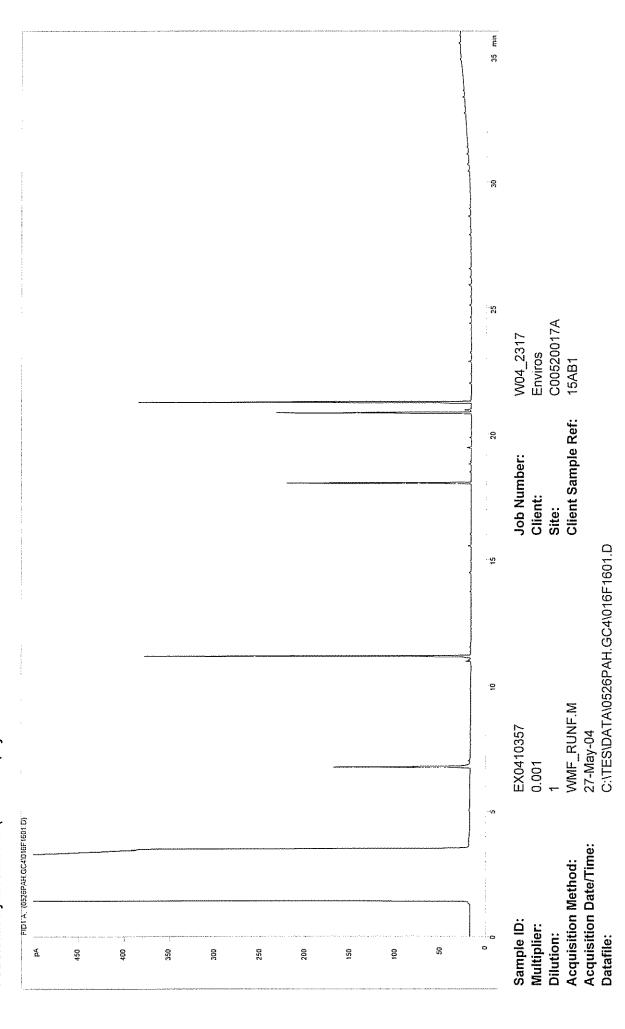
Petroleum Hydrocarbons (C8 to C37) by GC/FID



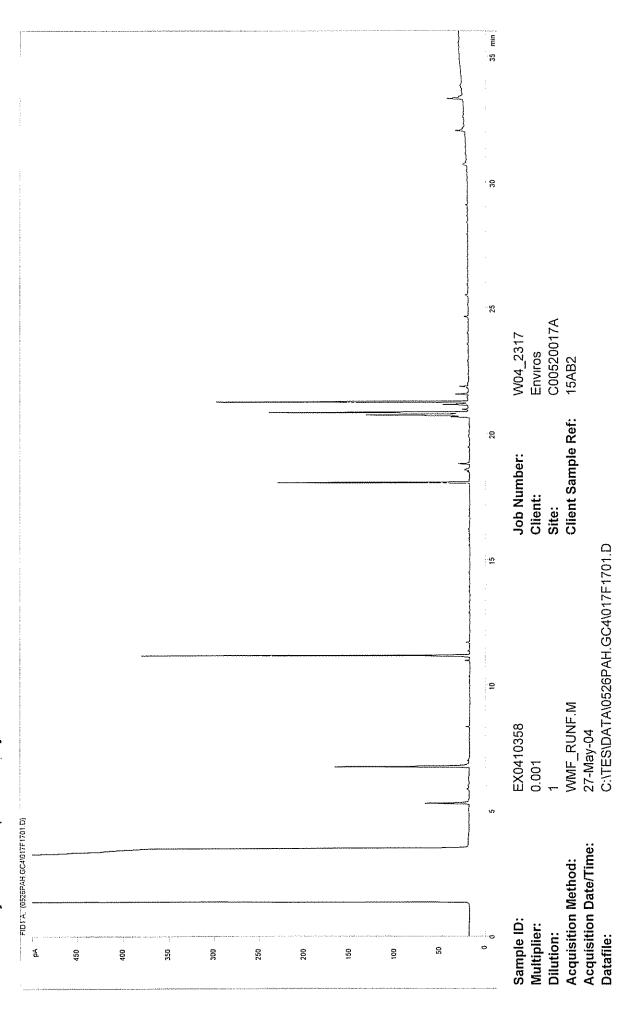
Petroleum Hydrocarbons (C8 to C37) by GC/FID



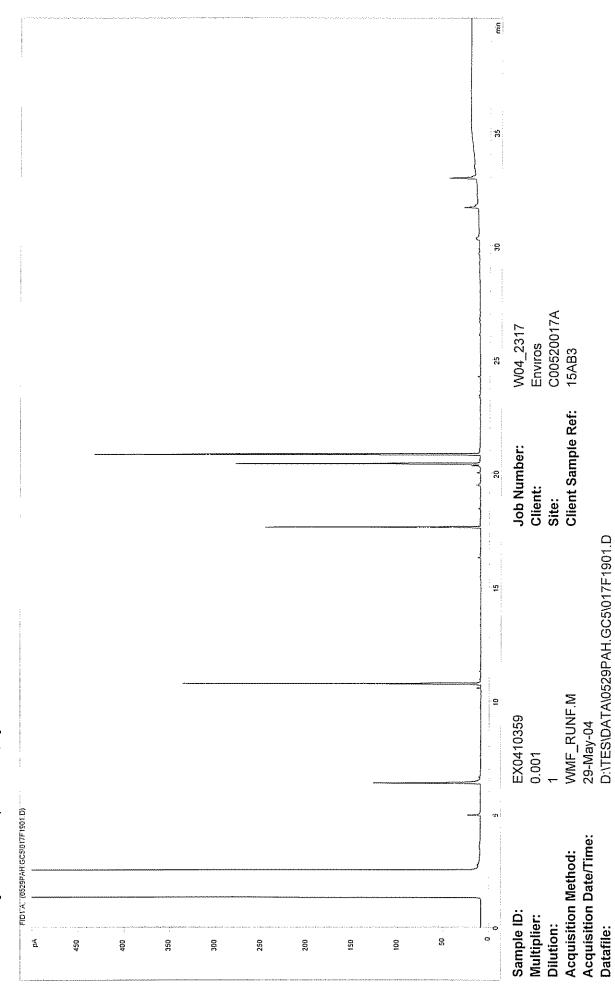
Petroleum Hydrocarbons (C8 to C37) by GC/FID



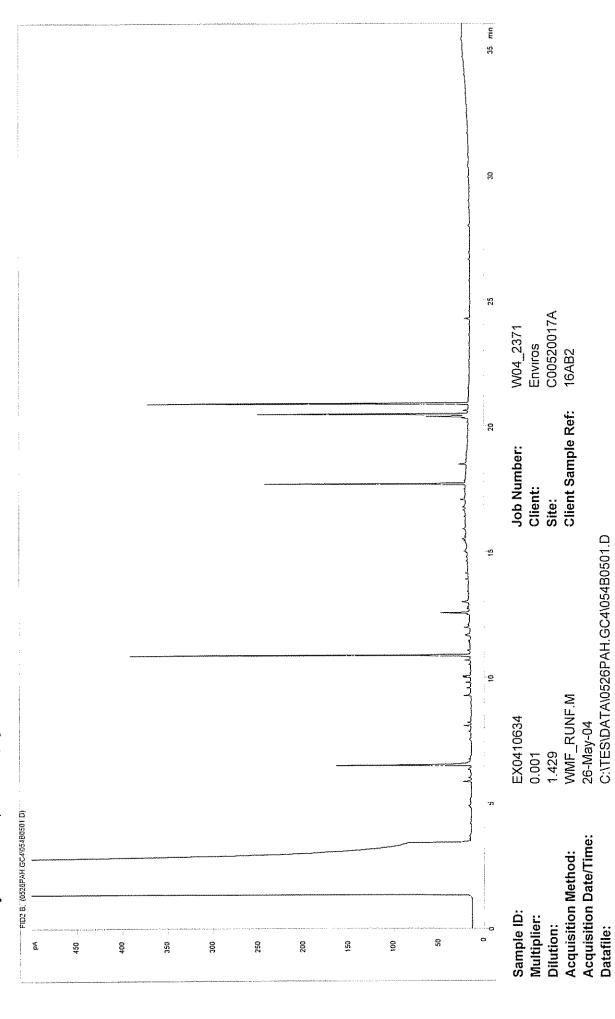
Petroleum Hydrocarbons (C8 to C37) by GC/FID



Petroleum Hydrocarbons (C8 to C37) by GC/FID

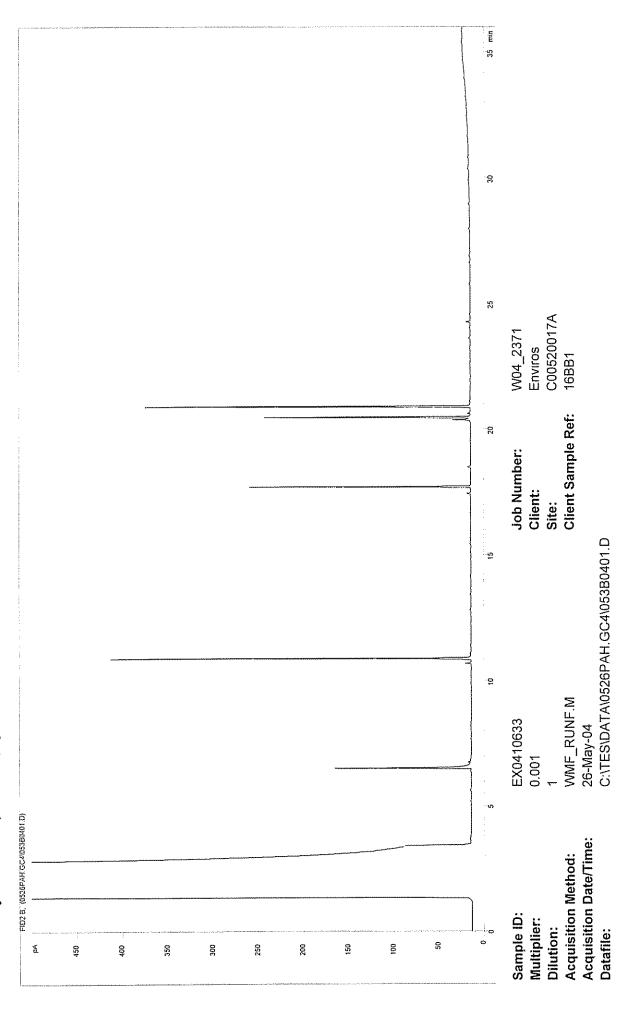


Petroleum Hydrocarbons (C8 to C37) by GC/FID

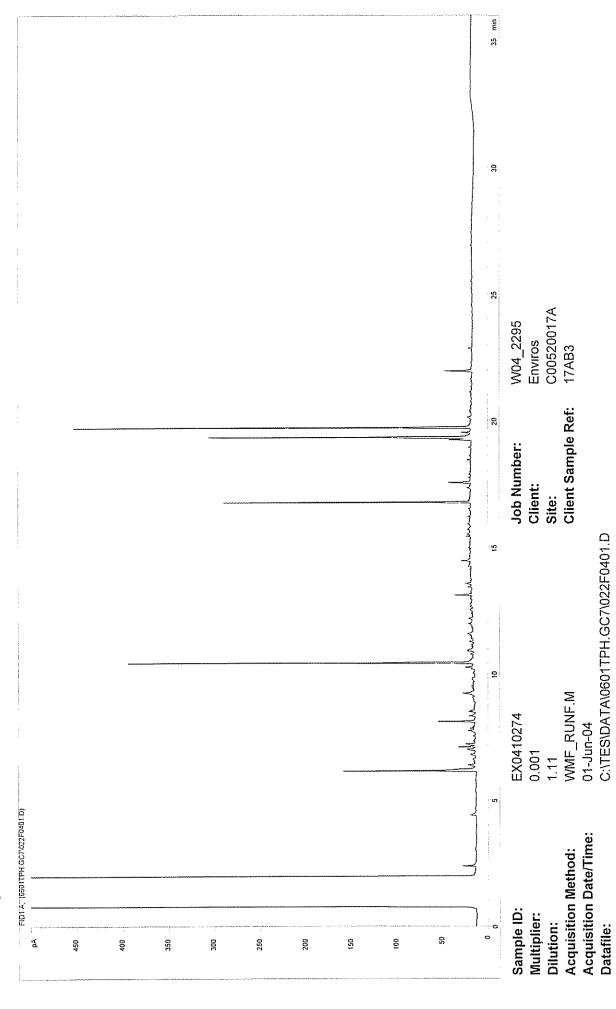


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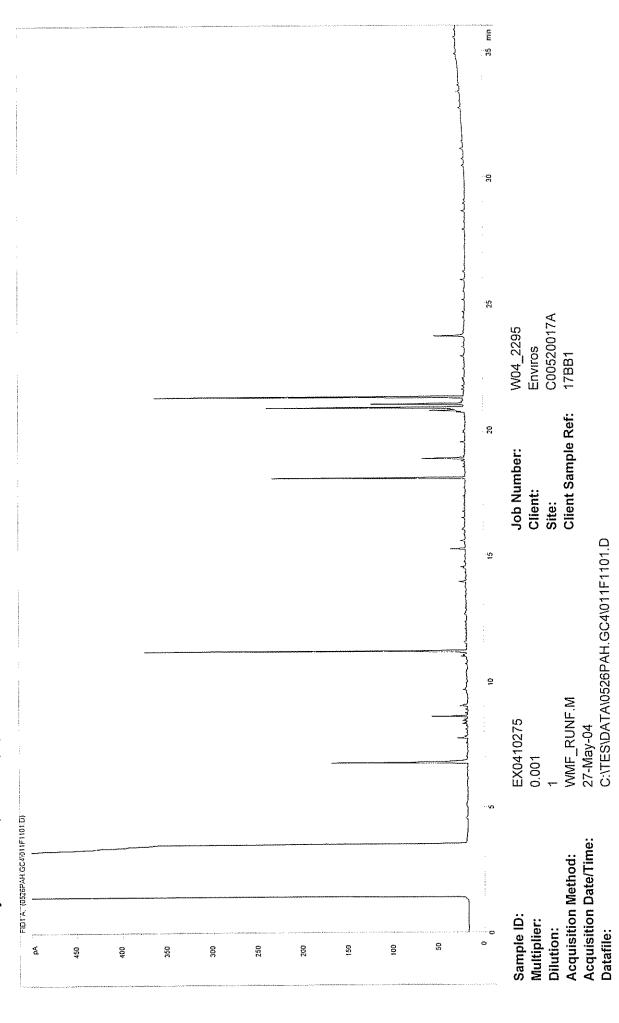
Petroleum Hydrocarbons (C8 to C37) by GC/FID



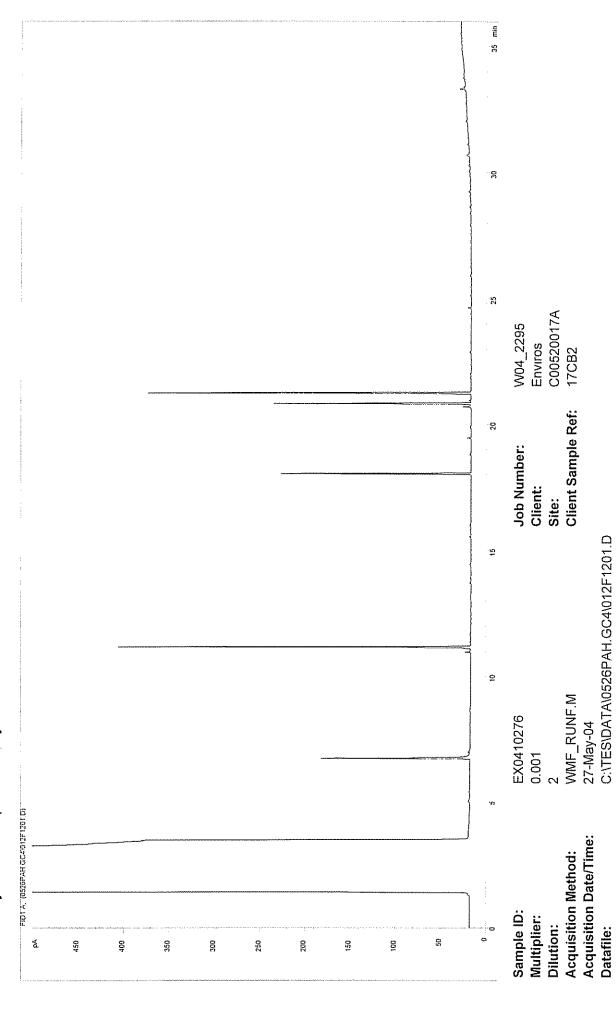
Petroleum Hydrocarbons (C8 to C37) by GC/FID



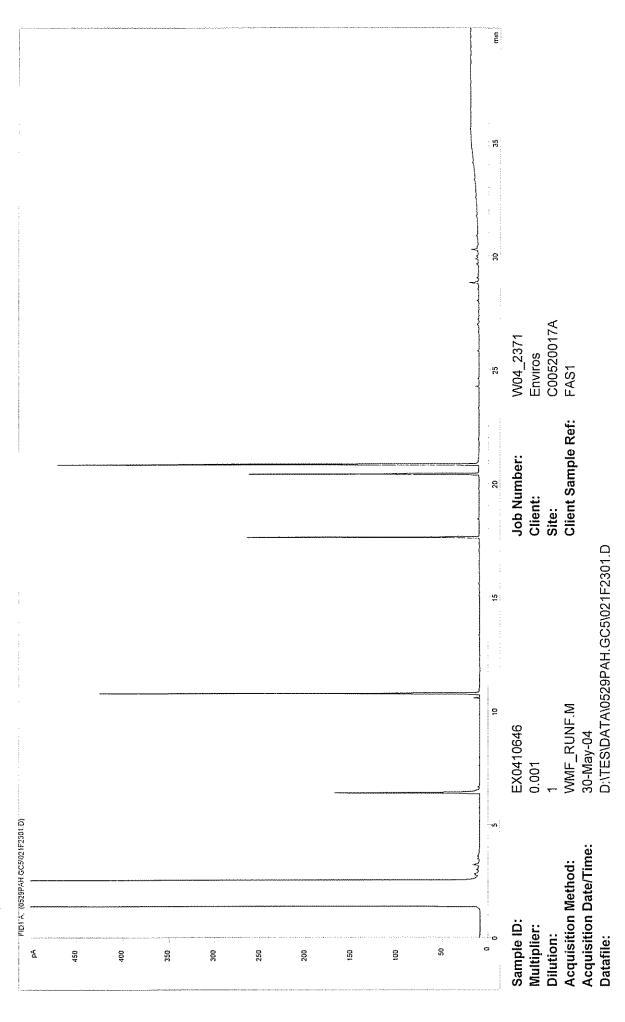
Petroleum Hydrocarbons (C8 to C37) by GC/FID



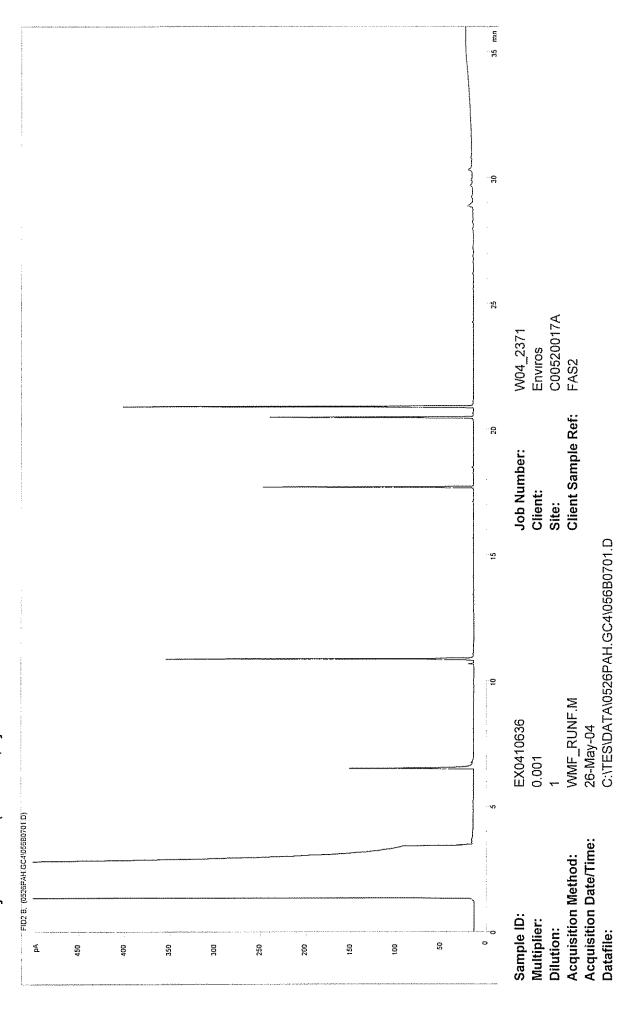
Petroleum Hydrocarbons (C8 to C37) by GC/FID



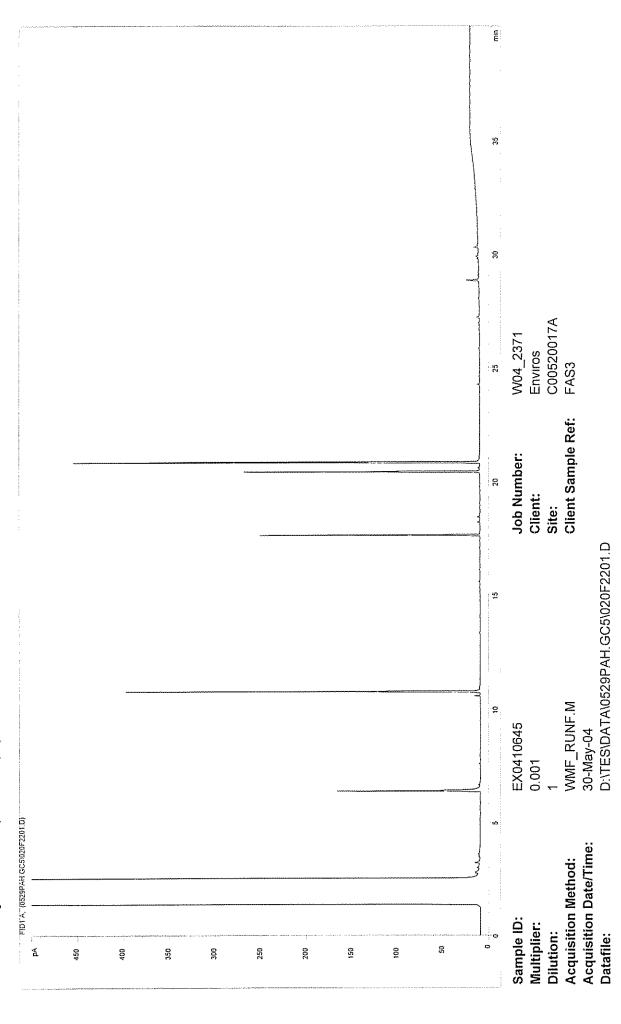
Petroleum Hydrocarbons (C8 to C37) by GC/FID



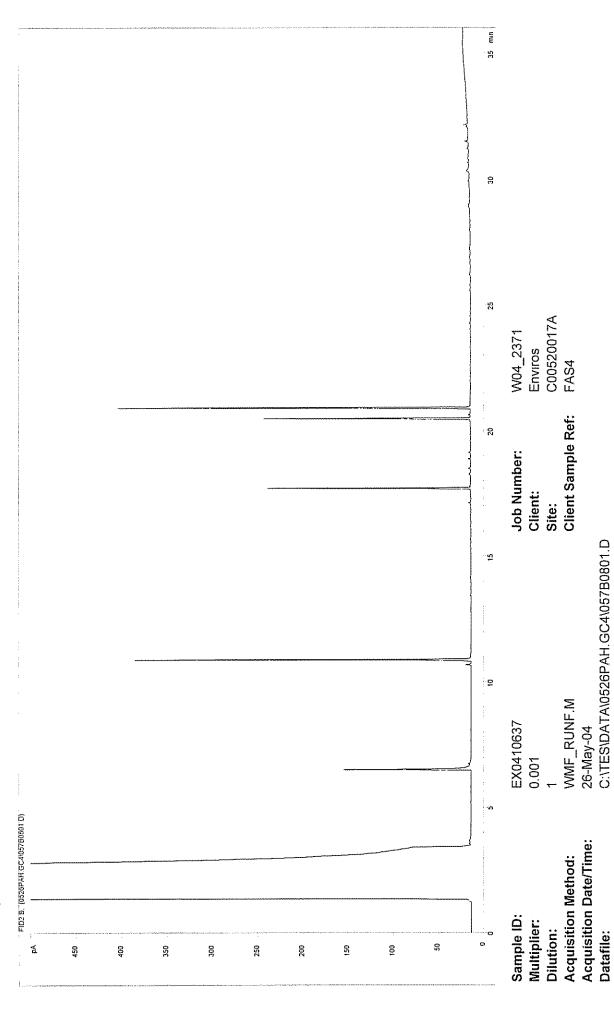
Petroleum Hydrocarbons (C8 to C37) by GC/FID



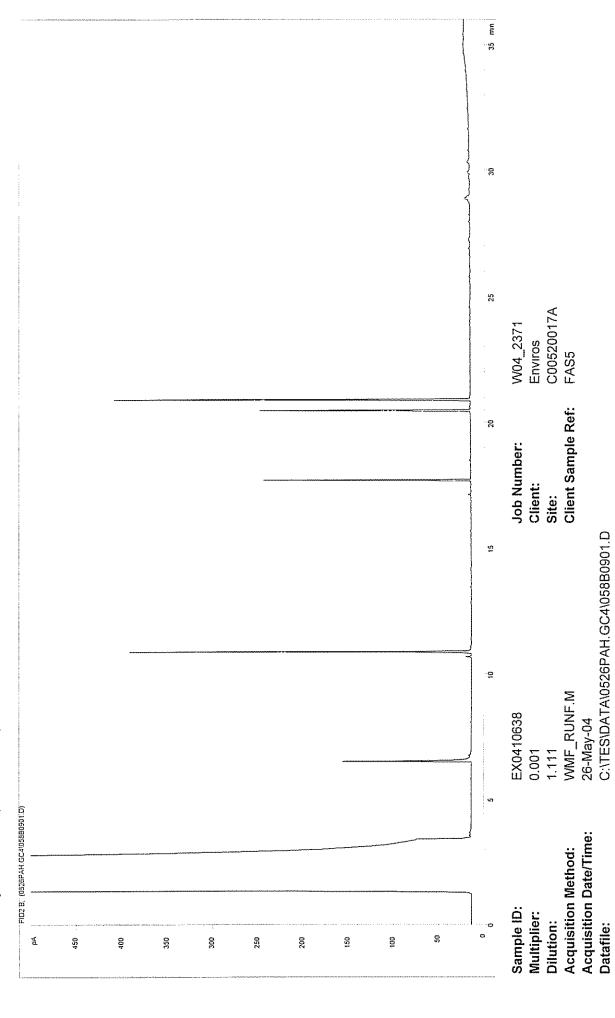
Petroleum Hydrocarbons (C8 to C37) by GC/FID



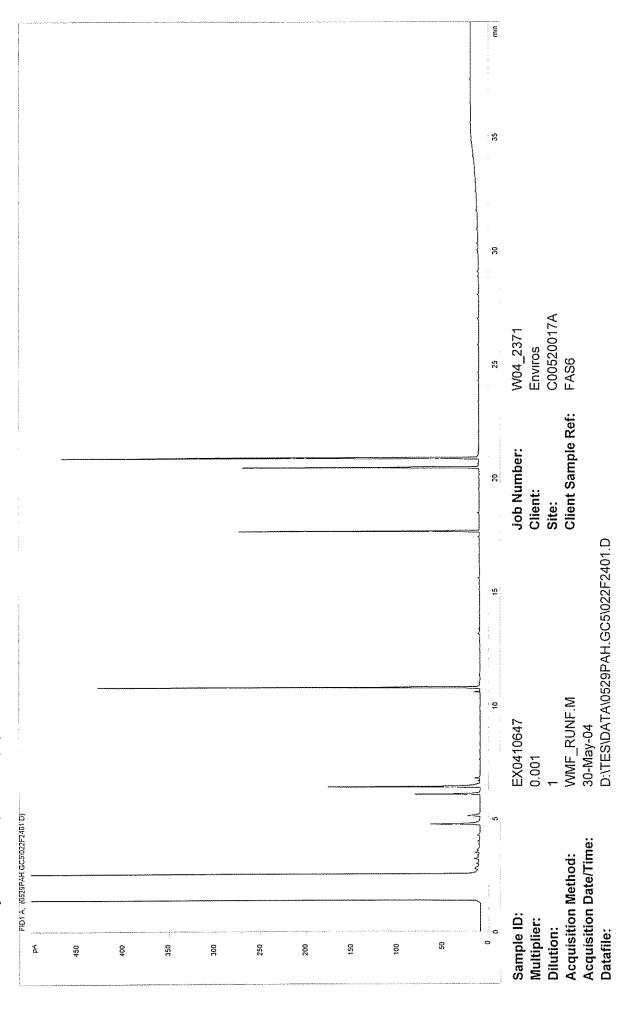
Petroleum Hydrocarbons (C8 to C37) by GC/FID



Petroleum Hydrocarbons (C8 to C37) by GC/FID

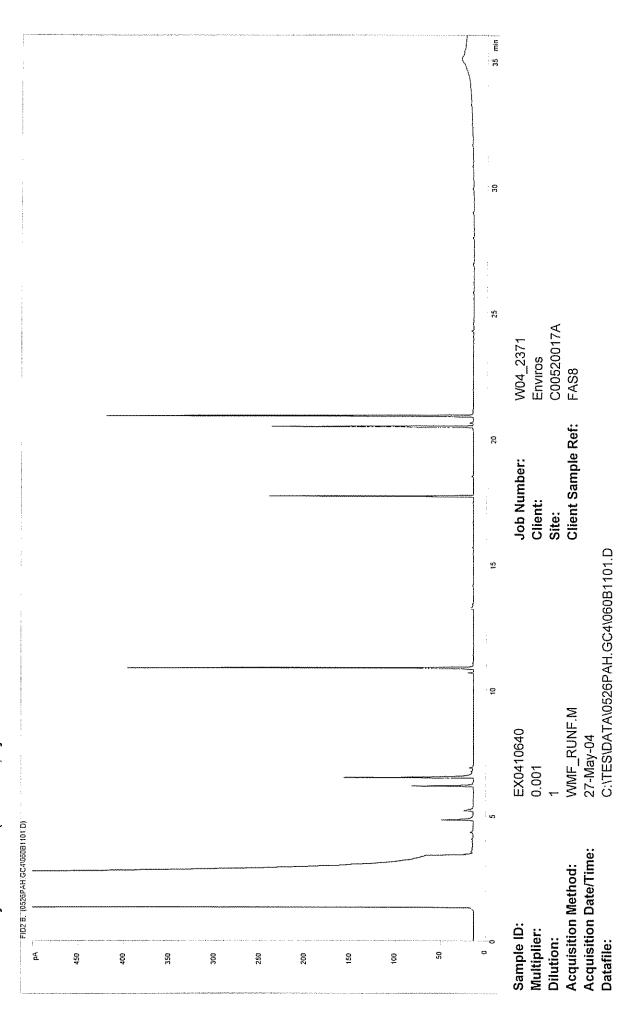


Petroleum Hydrocarbons (C8 to C37) by GC/FID



Petroleum Hydrocarbons (C8 to C37) by GC/FID

Petroleum Hydrocarbons (C8 to C37) by GC/FID



Petroleum Hydrocarbons (C8 to C37) by GC/FID

# **Report Notes**

# Soil/Solid analysis specific:

Results expressed as mg/kg unless stated otherwise S04 analysis not conducted in accordance with BS1377 Water Soluble Sulphate on 2:1 water:soil extract AR denotes analysis conducted on the As Received sample # co-eluted with benzo(b)fluoranthene ### co-eluted with Indeno(123-cd)pyrene BTEX analysis expressed as ug/kg As Received Phenol HPLC results expressed as mg/kg As Received

# Water analysis specific:

Results expressed as mg/l unless stated otherwise

# Oil analysis specific:

Results expressed as mg/kg unless stated otherwise S G expressed as g/cm³@ 15°C

# Filter analysis specific:

Results expressed as mg on filter unless stated otherwise

# VOC analysis specific:

Explanatory notes for data flagging

U = undetected above reporting limit

J = concentration at instrument was below lowest calibration standard

E = concentration at instrument was above top calibration standard

B = compound was detected in method blank

# Gas (Tedlar bag) analysis specific:

Results expressed as ug/l unless stated otherwise

# Air (Carbon tube) analysis specific:

Results expressed as ug on tube unless stated otherwise

# Asbestos analysis specific:

CH denotes Chrysotile

**CR** denotes Crocidolite

AM denotes Amosite

NADIS denotes No Asbestos Detected in Sample

NBFO denotes No Bulk fibres Observed

T Trace

L Low (2-15%)

M Medium (15-50%)

H High (>50%)

# General notes:

- ^ this analysis was subcontracted to another laboratory
- \$ Within laboratory tolerances
- \$\$ unable to analyse due to nature of sample
- ¥ Results for guidance only, possible interference
- & Blank corrected
- I.S insufficient sample for analysis

intf Unable to analyse due to interferences

N.D Not determined

N.R Not recorded

N.Det Not detected

Req Analysis Requested, see attached sheets for results

- \* denotes this result not UKAS accredited on this sample
- P Raised detection limit due to nature of sample

Our Ref: Lackenby

Your Ref: C00520017

Date: 15/06/04

Ms B Thompson

**Enviros** 

Sanderson House

Station Road

Horsforth

Leeds

Dear Ms Thompson,



# **TES Bretby**

PO Box 100 Ashby Road Burton-upon-Trent Staffordshire DE15 0XD

Telephone: 01283 554400 Facsimile: 01283 554422

E-mail: enquiries@tes-bretby co uk

# Water Analysis Report - Lackenby.

Please find attached water analysis results for samples from the above site.

The work was carried out in accordance with Mowlem Environmental Sciences Group Standard Terms and Conditions of Contract.

If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely for TES Bretby

J Elstub

**Project Co-ordinator** 

01283 554500



# TEST REPORT WATER SAMPLE ANALYSIS



# **Combined Report** TES Report No. Lackenby

Site: Lackenby

Enviros Sanderson House Station Road Horsforth Leeds LS18 5NT

The 10 Samples described in this report were scheduled for analysis by TES Bretby between 04/05/04 and 12/05/04. The analysis was completed by Tuesday, 15 June 2004.

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby laboratories.

The following tables are contained in this report:

Table 1 Main Analysis Results Table of TPH Interpretation Results (1 Page) Tables of TPH Chromatograms (10 Pages) Table of Report Notes (1 Page)

On behalf of TES Bretby :

J Elstub / Project Co-ordinator

Date of Issue: 15/06/04

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory. TES Bretby accepts no responsibility for the sampling related to the above results

TES Bretby = Report Number Control Page

1/ 1

mg//	GROHSA	0.1	ves	Gasoline Range Organics	<0.1	\$ 0.1	0.1	\$0.1	\$0.1	\$ 0.1	<0.1	<0.1 <0.1	\$0.1	<0.1				Ī								
- 1 - 1		ı					-	-	<u> </u>	-	-										g.	( 'z	44	)KAS	1252	
mg/l	ISESW.	0.2	yes	Sulphide (Free) as S	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2												
mg/l	ICTSCN28	0.1	yes	Cyanide (Total) as CN	40.1	1.0	0.1	<0.1	<0.1	\$0.1	<0.1	0.1	6.1	0.1							S		5 June 2004		+	1 of 3
∥/6Ш	- 1	0.001	, ves	Vanadium as V (Dissolved)	0.033	0.002	0.078	<0.001	0.004	<0.001	0.005	0.004	0.041	0.004	***************************************					A CONTRACTOR OF THE CONTRACTOR	Water Sample Analysis	oort	15 J			
l/Sm	ICPMSW	0.001	yes	Selenium as Se (Dissolved)	0.003	0.002	0.003	0.005	0.00	0.002	0.015	0.024	0.003	0.002							ample /	Combined Report		****		
mg/l	ICPMSW	0.0001	yes	Mercury as Hg (Dissolved)	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	0.0001	<0.0001							/ater Sa	Con	ted	umber	mber	nber
mg/l	CPWATER	0.05	yes	Boron as B (Dissolved)	0.56	0.39	0.10	0.11	0.27	0.19	0.59	0.36	<0.05	0.55							5		Date Printed	Report Number	Table Number	Page Number
l/gm	CPMSW	0.001	ves	Arsenic as As (Dissolved)	0.010	0.001	0.002	0,003	0.001	<0.001	0.005	0.002	0.002	<0.001										*********	-	
l/bm	CHMSW	0.002	ýes	Zinc as Zn (Dissolved)	<0.002	<0.002	<0.002	0.009	0.007	<0.002	0,004	0.008	0.007	<0.002												
l/gm	Crwsw Sign	0.001	yes	Lead as Pb (Dissolved)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001												
l/gm	Crwsw	0.001	yes	Copper as Cu (Dissolved)	0.004	0.003	0.001	0.003	0.002	0.002	0.027	0.003	0.017	0.001										2	<b>5</b>	
l/pm	CPIMSW V	0.0001	yes	Cadmium as Cd (Dissolved)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001										ackon	=	
l/gm	Cristian Vacant	0.001	yes	Chromium as Cr (Dissolved)	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	0.005	0.089	0.007								прѕоп		77	Ì	
mg/l	V SOUNT OF	U.00.1	yes	Nickel as Ni (Dissolved)	0.002	0.010	<0.001	0.009	0.004	0.003	0.003	0.002	0.001	0.001							Enviros	Ms B Thompson				
ng/l	אאום אארום!	0.05	yes	Total Sulphur as SO4 (Dissolved)	365	658	413	669	390	549	365	534	380	1030							аше					
20,00	- 1		yes	pH units	10.0	7.8	11.2	7.4	7.7	7.6	8.5	7.9	12.1	8.3							Client Name	Contact				
Units:	2000		redited :	Sample Date	06-May-04	05-May-04	05-May-04	05-May-04	06-May-04	05-May-04	06-May-04	05-May-04	06-May-04	06-May-04								Park,	. DE15 0XD			_
1.011016	nomani Potosto	Detection Limits:	UKAS Accredited	Client Sample Description	7AB1	7AB2	7AB3	7AB4	7AB5	8AB1	8AB2	GAB1		GAB3					**************************************		TES Bretby				Fax +44 (0) 1283 554422	
				TES ID Number EX/	0410643	0410649	0410642	0410641	0411090	0410648	0410644	0410981	0410982	0410983							TES		Bretby			

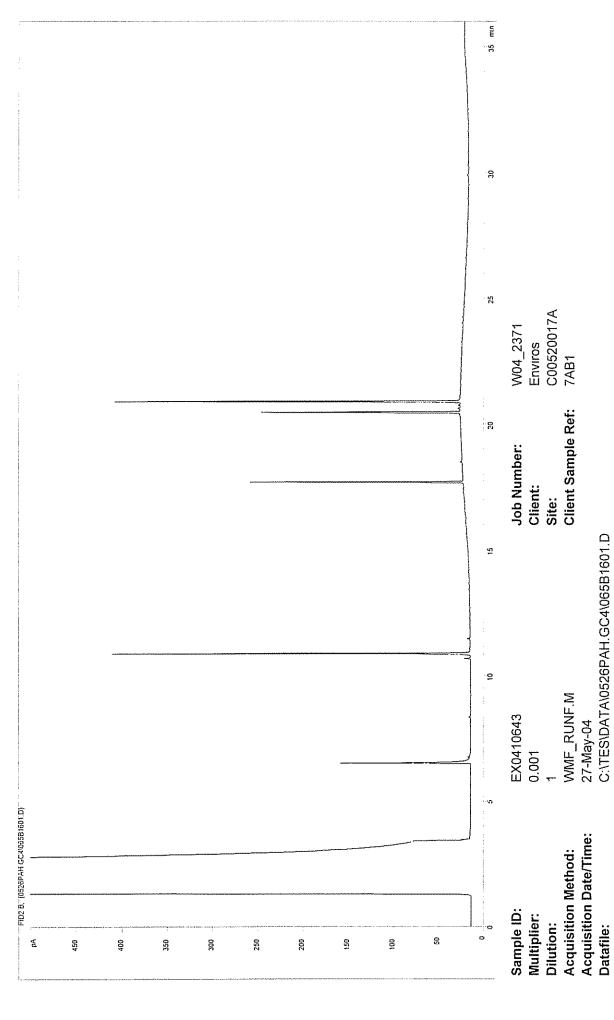
		W														, and the second	***************************************	A SHAMATI			.5			UKAS	1252
																200000	77710			- Administry	Water Sample Analysis	Combined Report	15 June 2004	44F	2 of 3
								A A A A A A A A A A A A A A A A A A A									***************************************				Water Sa	Сош	Date Printed	Report Number	Table Number Page Number
l/gu Aguyata	10	ves	Xylenes	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		****		WANTE CONTRACTOR OF THE CONTRA	- Note that the same of the sa			**************************************				
ug/l	2	yes	Ethyl Benzene	\$	\$	\$	\$	£.	\$	\$5	\$	\$	\$											2	<b>-</b>
ug/l	ស	yes	Toluene	\$	<5	Ą	\$5	\$	\$	<5	\$	<5	\$											lackenh	
ug/l	5	15		\$>	\$	\$	₽	\$	\$	\$5	\$	\$	<5									трѕол		<u></u>	
mg/l		no	Phenol Index as C6H5OH	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05								Enviros	Ms В Thompson			
CNWEPEE	0.1	ou	Cyanide (Free) as CN	<0.1	<0.1	<0.1	6.1	0.1	\$0.1	Q.N	0.1	6.1	<0.1								lame	ţ			
mg/l	1 1			0.85	0.47	<0.1	0.35	<0.33	Q.1	0.43	<0.1	0.89	<0.1								Client Name	Contact			
Units:	on Limits:	ccredited:	Sample Date	06-May-04	05-May-04	05-May-04	05-May-04	05-May-04	05-May-04	06-May-04	06-May-04	05-May-04	06-May-04									ass Park,	nire, DE15 0XD		
Metho	Detecti	UKASA	إ نۆ	7AB1	7AB2	7AB3	7AB4	7AB5	8AB1	8AB2	GAB1	GAB2	GAB3		A A A A A A A A A A A A A A A A A A A	a a a a a a a a a a a a a a a a a a a		STANANS OF THE PARTY OF THE PAR	**************************************		ES TES Brethy		i-	Tel +44 (0) 1283 554400	Fax +44 (0) 1283 554422
			TES ID Number EX/	0410643	0410649	0410642	0410641	0411090	0410648	0410644	0410981	0410982	0410983								H		Bretoy		

	W	Units : Method Codes :	G.	σ.	mg/l PAHFID	mg/l PAHFID	mg/l PAHFID	mg/l PAHFID	mg/l PAHFID	mg/l PAHFID	mg/l PAHFID	mg/l PAHFID	mg/l PAHFID	mg/l PAHFID	mg/l PAHEID	mg/l	mg/l	mg/l
	Det	Detection Limits:		0.01	0.01	0.01	0.01	0.01	0.01	0.01	10.0	0.01	0.01	0.01	0.01	0.01	100	
1	UKA	UKAS Accredited	: yes	yes	yes	yes	yes	yes	yes	yes	ves	yes	yes	yes	yes	yes	yes	ves
ent	Client Sample Description	Sample Date	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(123-cd)pyrene	Dibenzo(ah)anthracene	Benzo(ghi)perylene
	7AB1	05-May-04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	7AB2	05-May-04		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	7AB3	05-May-04	40.01 C0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	7AB4	05-May-04		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	7AB5	06-May-04		<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	8AB1	05-May-04	_	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	8AB2	06-May-04		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	GAB1	06-May-04		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
-	GAB2	06-May-04	_	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	40.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	GAB3	06-May-04	04 <0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
-	*****																	
	***************************************																	
l	***************************************							TANKING A										
TES	TES Bretby		Client Name	Name	Enviros							3	ater Sa	ımple A	Water Sample Analysis	υn	*ti	6
	PO Box 100, Bretby Business Park,	Susiness Park,	Contact	*	Ms B Thompson	mpson	RAMANULA.						Com	Combined Report	ort			]]]]]
Bretby	Burton-on-Trent, Staffordshire, DE15 0XD	fordshire, DE15 0X	Ω									Date Printed	ted		15 June	ine 2004	Х Дин	\
7	Tel +44 (0) 1283 554400	1400				-	l actori	2			<u> </u>	Report Number	nmper			1	)  -	S
1	Fax +44 (0) 1283 554422	1422				1	-	<b>~</b>			<u> </u>	Table Number	nber				1252	2 2
		www		77777777777				***************************************	***************************************	****		Page Number	nber			3 of 3		**************************************



# Interpretation of GC/FID Chromatographic data produced during DRO, PAH or TPH test.

Client:	Enviros		Date of assessment.	15-Jun-04
Site	Lackenby		Assessor ·	P.W.Ward
Report Number			Test type	TPH GCFID
Lab ID Number	Client ID	Interpretation		
EX0410643	7AB1	Low level UCM in the range nC14-nC37+	14-nC37+	
EX0410649	7AB2	Lean extract, insufficient for ID.		
EX0410642	7AB3	Lean extract, insufficient for ID.		
EX0410641	7AB4	Lean extract, insufficient for ID.		
EX0411090	7AB5	Lean extract, insufficient for ID. 3	Lean extract, insufficient for ID. Some low level laboratory introduced contamination.	uced contamination.
EX0410648	8AB1	Lean extract, insufficient for ID.		
EX0410644	8AB2	Lean extract, insufficient for ID.		
EX0410981	GAB1	Lean extract, insufficient for ID.		
EX0410982	GAB2	Lean extract, insufficient for ID.		
EX0410983	GAB3	Lean extract, insufficient for ID.		
Authorised by ·	Associate Director, Environmental Analysis	Risdon tal Analysis		



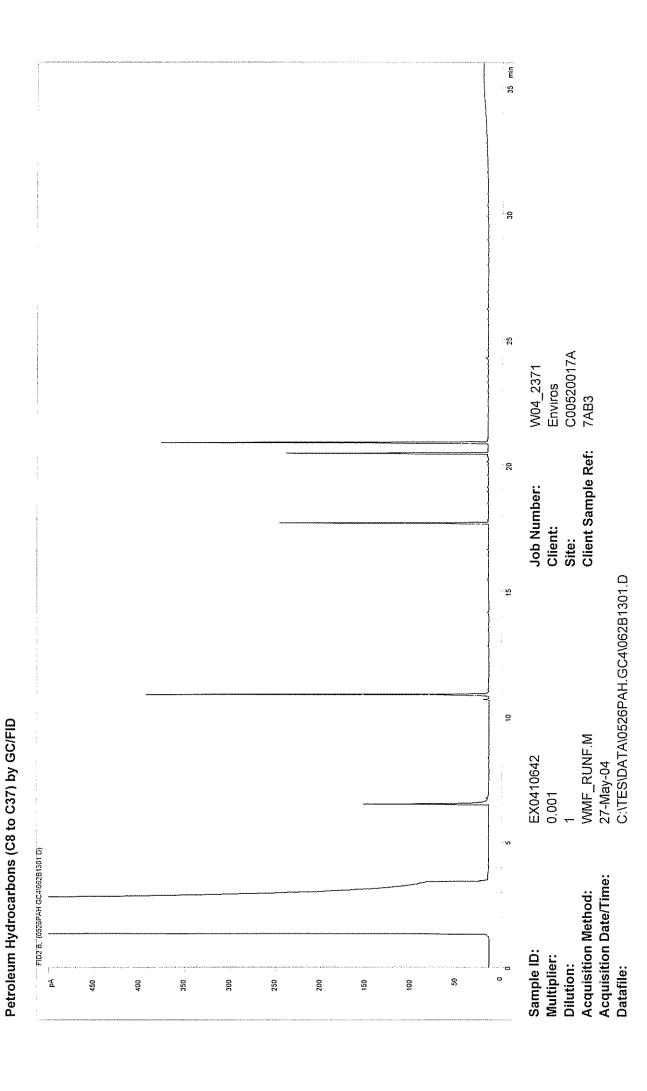
Petroleum Hydrocarbons (C8 to C37) by GC/FID

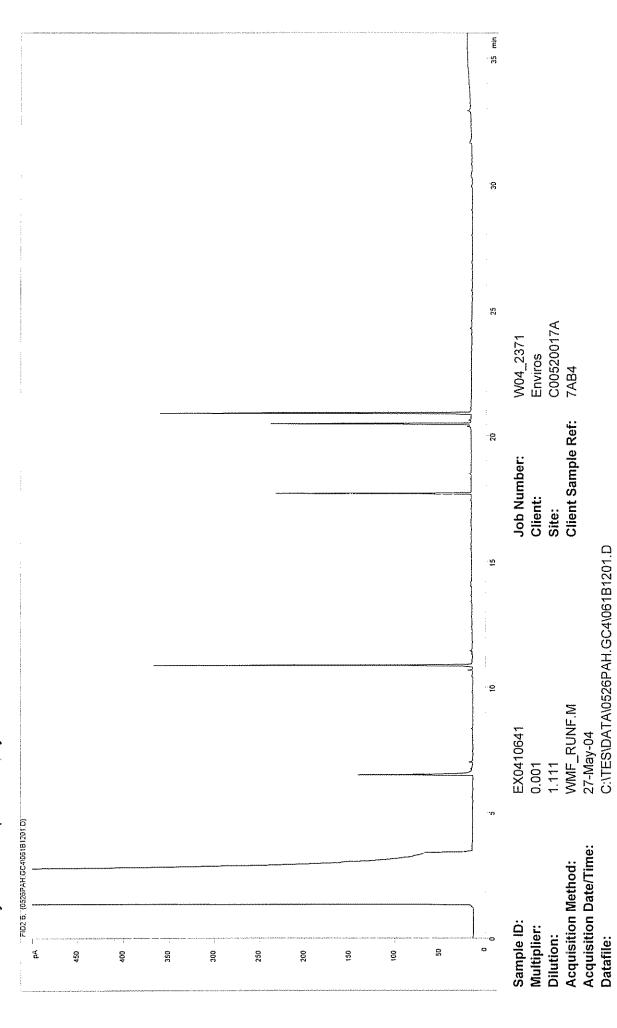
Har W04\_2371 Enviros C00520017A 7AB2 Client: Site: Client Sample Ref: Job Number: 8 FIDITA, (0529PAH.GC5/024F2601.D) Sample ID: Multiplier: Dilution: 20 99 300 250 200 150 £ 450 400 350

Acquisition Method: Acquisition Date/Time:

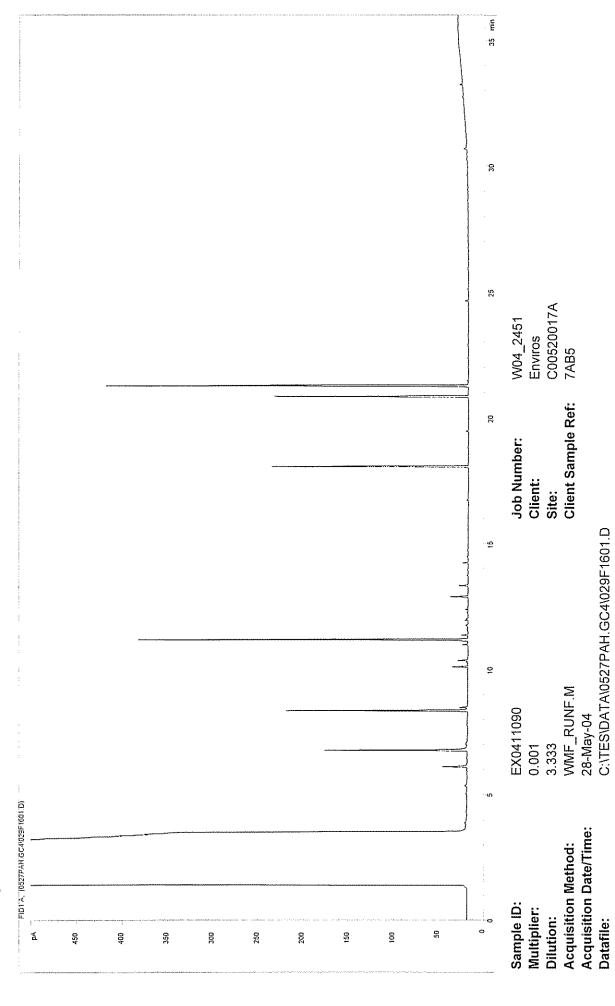
Datafile:

Petroleum Hydrocarbons (C8 to C37) by GC/FID

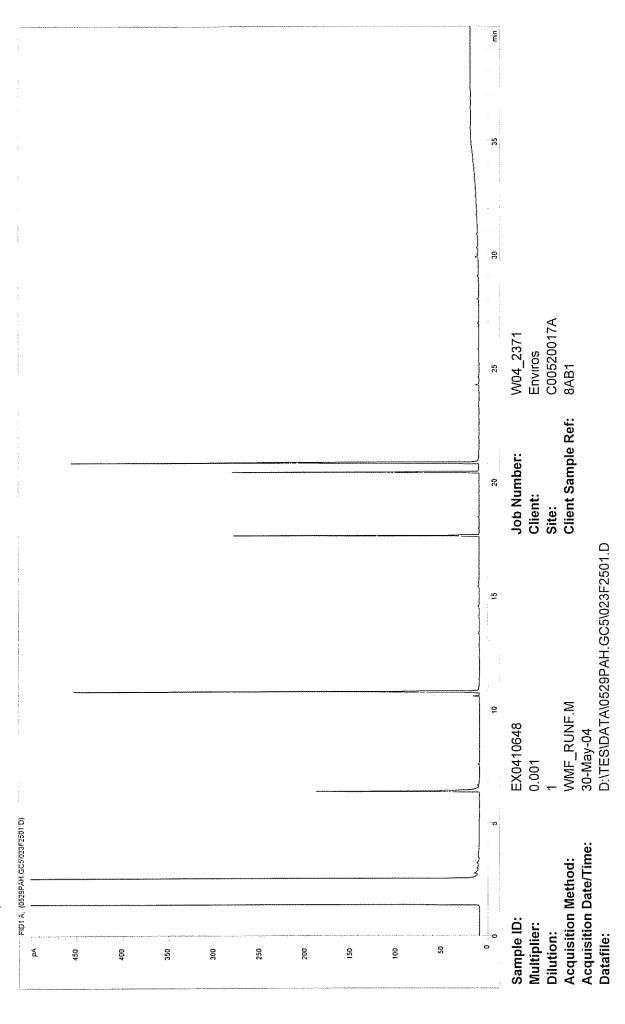




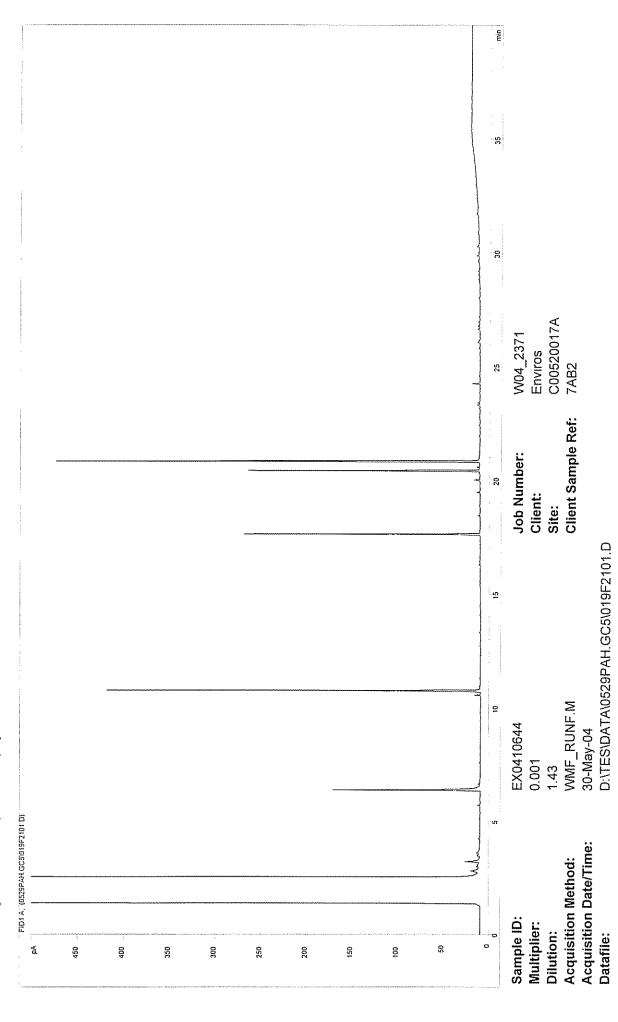
Petroleum Hydrocarbons (C8 to C37) by GC/FID



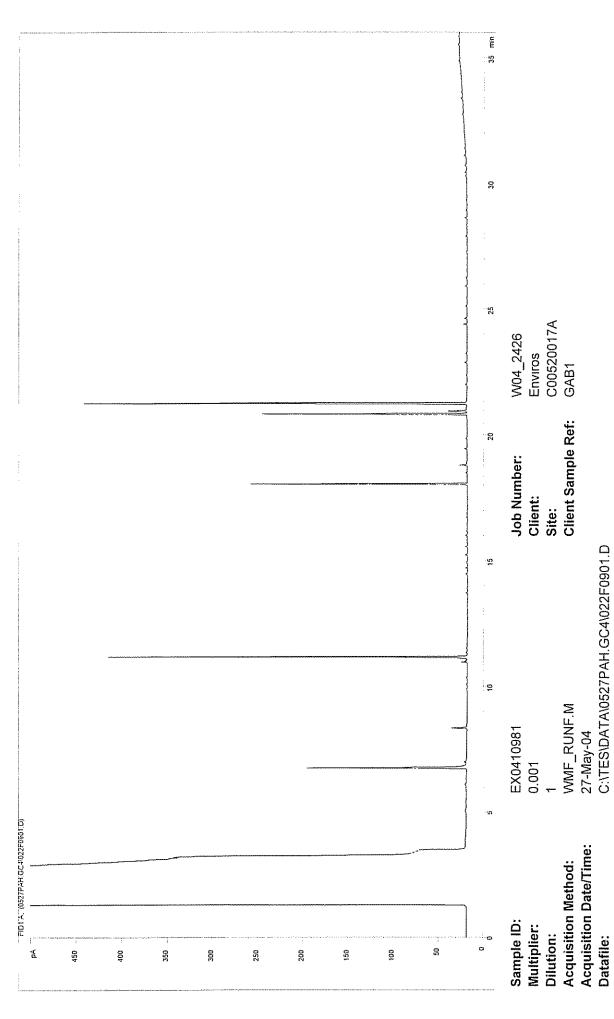
Petroleum Hydrocarbons (C8 to C37) by GC/FID



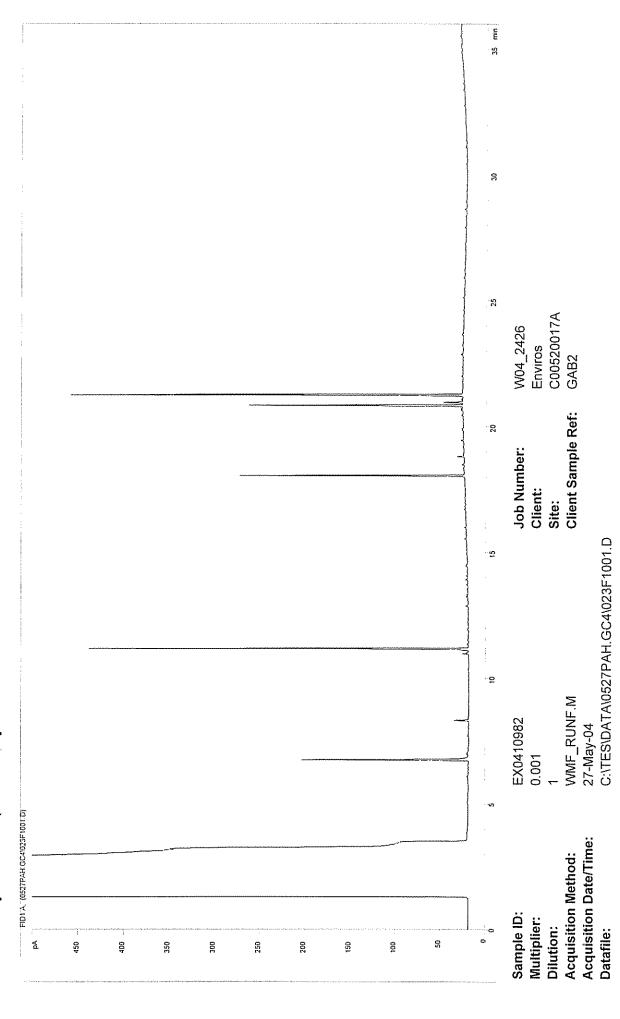
Petroleum Hydrocarbons (C8 to C37) by GC/FID



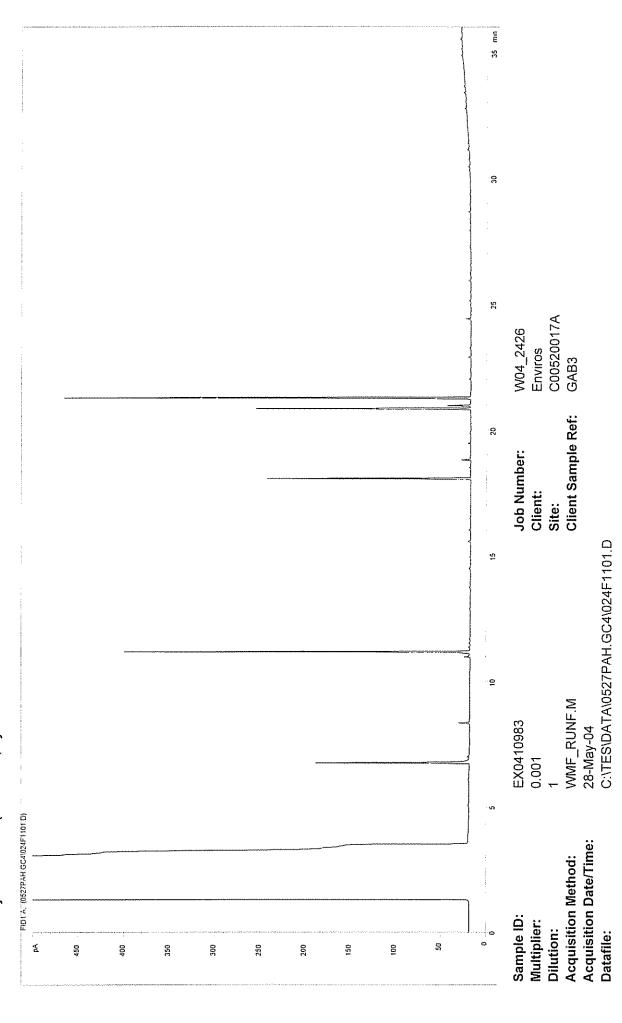
Petroleum Hydrocarbons (C8 to C37) by GC/FID



Petroleum Hydrocarbons (C8 to C37) by GC/FID



Petroleum Hydrocarbons (C8 to C37) by GC/FID



Petroleum Hydrocarbons (C8 to C37) by GC/FID

Our Ref: Cleveland Your Ref: C00520017

Date: 15/06/04

Ms B Thompson

**Enviros** 

Sanderson House

Station Road

Horsforth

Leeds





# **TES Bretby**

PO Box 100 Ashby Road Burton-upon-Trent Staffordshire DE15 0XD

Telephone: 01283 554400 Facsimile: 01283 554422

E-mail: enquiries@tes-bretby co uk

# Water Analysis Report - Cleveland.

Please find attached water analysis results for samples from the above site.

The work was carried out in accordance with Mowlem Environmental Sciences Group Standard Terms and Conditions of Contract.

If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely for TES Bretby

J Elstub

**Project Co-ordinator** 

01283 554500



# TEST REPORT WATER SAMPLE ANALYSIS



1252

# Combined Report TES Report No. Cleveland

Site: <u>Cleveland</u>

Enviros Sanderson House Station Road Horsforth Leeds LS18 5NT

The 10 Samples described in this report were scheduled for analysis by TES Bretby between 04/05/04 and 12/05/04. The analysis was completed by Tuesday, 15 June 2004.

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby laboratories.

The following tables are contained in this report:

Table 1 Main Analysis Results Table of TPH Interpretation Results (1 Page) Tables of TPH Chromatograms (10 Pages) Table of Report Notes (1 Page)

On behalf of TES Bretby:
J Elstub

Project Co-ordinator

Date of Issue: 15/06/04

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results.

= TES Bretby = Report Number

Control Page Sheet 1/1

mg/l	GROHUA	0.1	ves	Gasoline Range Organics	0.1	5.5	7.3	<0.1	6.1	6.1	0.8	0.2	<0.1	<0.1								)   	\S.	2 A	
mg/l	4	0.2	yes	Sulphide (Free) as S	<0.2	<0.2	1.3	<0.2	0.5	0.4	<0.2	6.3	<0.2	9.5						1				1252	
mg/l	CISCINZS	0.1	yes	Cyanide (Total) as CN	<0.1	<0.1	14.6	<0.1	<0.1	<0.1	0.1	0.4	0.1	€0.1								ne 2004		-	1 of 3
l/gm		0.001	хех	Vanadium as V (Dissolved)	900.0	0.002	0.006	0.003	0.016	0.021	0.003	<0.001	0.178	0.002						Sample Analysis	oort	15 June			
l/gm	Crwdw	0.001	yes	Seleпium as Se (Dissolved)	0.003	0.003	0.008	0.006	0.013	0.009	0.007	0.011	0.003	0.007						ample /	Combined Report				
l/gm Mg/Mg/M	NOW NOW	0.0001	yes	Mercury as Hg (Dissolved)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	0.0002						Water Sa	Con	ited	umber	mber	mber
mg/l	אין אין אין	0.05	yes	Boron as B (Dissolved)	0.50	2.70	1.03	0.85	1.33	0.29	4.20	3.70	90.0	1.35						5		Date Printed	Report Number	Table Number	Page Number
mg/l		0.001	yes	Arsenic as As (Dissolved)	0.004	0.012	0.002	0.002	0.004	0.008	0.003	0.009	0.020	0.012							-				
mg/l	2000	0.002	yes	Zinc as Zn (Dissolved)	0.015	0.013	0.012	0.012	0.002	<0.002	0.176	0.005	<0.002	0.007											
mg/l	NO CO	רטט.ט	yes	Lead as Pb (Dissolved)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.222	<0.001	<0.001	<0.001											
mg/l	2000	บ.บบา	yes	Copper as Cu (Dissolved)	0.002	0.002	0.001	<0.001	<0.001	<0.001	0.012	<0.001	0.005	0.001									7	3	
mg/l	2000	0.0003	yes	Cadmium as Cd (Dissolved)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001									Clayala		
mg/l		0.00	yes	Chromium as Cr (Dissolved)	0.008	600.0	0,010	0.005	<0.001	<0.001	<0.001	0.001	0.004	0.002						<b>,</b> 0	mpson		2	5	
mg/l	2000	LO.O.	yes	Nickel as Ni (Dissolved)	0.002	0.004	0.008	0.004	0.002	0.005	0.008	0.004	0.002	0.002						Enviros	Ms B Thompson				
mg/l	200	0.00	yes	Total Sulphur as SO4 (Dissolved)	958	2910	1630	1030	2270	915	112	2600	218	1390						аше					
WSI M3	Т		yes	pH units	9.7	6.9	7.0	7.6	9'2	10.9	12.6	7.8	11.8	7.3						Client Name	Contact				
Units:	Detection 1 imits .	n Limits :	credited:	Sample Date	17-May-04	17-May-04	17-May-04	17-May-04	17-May-04	07-May-04	07-May-04	17-May-04	07-May-04	17-May-04							SS Park,	re, DE15 0XD			
Method	CitroteC	oncere	UKAS Accredited	Client Sample Description	1AB1	2AB1	2AB2	2AB3	3AB2	4AB1	4AB2	4AB3	4AB4	DAB1						TES Brethy		Burton-on-Trent, Staffordshire, DE15 0XD	To! +44 (0) 1283 554400	Fax +44 (0) 1263 554422	
				TES ID Number EX/	0411641	0411636	0411639	0411638	0411637	0410984	0411050	0411642	0410985	0411640						TES		Bretbv	•		

																						-3			ˈs.	1252	
						100000								444				WARRY CONTRACTOR OF THE PROPERTY OF THE PROPER				Water Sample Analysis	Combined Report	15 June 2004	Annual Control of the		2 of 3
																		- Parallel Hardware Control of the C				Water Sa	Com	Date Printed	Report Number	Table Number	Page Number
	A/C																										
/an    /an	BTEXHSA BTEXHSA	5 10				_	_	108 1100	<5 <10	<5 <10	<5 <10	96 9	23 57	<5 <10	<5 <10										7	3	
l/bn	BTEXHSA	5	yes	Toluene	Ę	₽	2800	381	<5	<5	\$>	196	29	<5	55										Cloweland		
l/on	BTEXHSA	ນ	yes	Benzene	Į,	€	3700	7150	\$	\$	Ą	440	37	Ş	\$							SC	Ms В Thотрson		כֿ	5	
	E SFAPI	0.05	ou	Phenol Index as (	:6Н5ОН	cu.u>	0.30	0.43	<0.05	<0.05	<0.05	0.07	0.13	<0.05	<0.05							Enviros	Ms B Tr				
	ID CNWFREE	0.1					-	O.N.	-0.1	.u. <0.1		.0 <0.1	O.N O.	3 <0.1	2 <0.1							Client Name	tact				
	F							17-May-04 22.0	17-May-04 <0.1	17-May-04 0.21		07-May-04 21.0	17-May-04 10.0	07-May-04 0.73	17-May-04 6.2								Contact	15 0XD			
ัก	Method Codes:	Detection Lin	UKAS Accredi	Client Sample Description										4AB4 07-4	DAB1 17-4	Walling Adv.				Vertical designation of the second se		TES Bretby		Warton-on-Trent, Staffordshire, DE15 0XD	Tel +44 (0) 1283 554400	Fax +44 (0) 1283 554422	
	*******		·	TES ID Number	EX/	0411541	0411636	0411639	0411638	0411637	0410984	0411050	0411642	0410985	0411640							TES		Bretby			

l/gm	PAHFID	0.01	yes	Benzo(ghi)perylene	<0.01	<0.02	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01						.G	ا ا ا	<b>→</b>	AS	1252	
mg/l	PAHFID	0.01	yes	Dibenzo(ah)anthracene	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				***************************************		Į Č			/   	12	
l/gm	PAHFID	0.01	yes	Indeno(123-cd)pyrene	<0.01	<0.02	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01						s		ine 2004		Ψ-	3 of 3
l/bm	PAHFID	0.01	yes	Вепzо(а)ругепе	<0.01	0.02	90'0	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01						Analysi	oort	15 June		William Annual A	
1/6ш	PAHFID	0.01	yes	Benzo(k)fluoranthene	<0.01	0.02	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01						Water Sample Analysis	Combined Report				
mg/l	PAHFID	0.01	yes	Benzo(b)fluoranthene	<0.01	0.02	90.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	 Vater S	Cor	nted	umber	mber	mber
mg/l	PAHFID	0.01	хех	Chrysene	<0.01	0.04	90.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01						^		Date Printed	Report Number	Table Number	Page Number
mg/l	PAHFID	0.01	yes	Benzo(a)anthracene	<0.01	0.04	0.07	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01											
l/gm	PAHFID	0.01	yes	Pyrene	<0.01	0.11	0.18	<0.01	<0.01	0.01	0.03	0.01	<0.01	<0.01											
/gm	PAHFID	0.01	yes	Fluoranthene	<0.01	0.22	0.27	<0.01	<0.01	0.02	0.02	0.01	<0.01	<0.01											
l/bm	PAHFID	0.01	yes	Anthracene	<0.01	0.42	0.16	<0.01	<0.01	0.01	0.02	0.02	<0.01	0.01									7	2	
mg/l	PAHFID	0.01	yes	Phenanthrene	<0.01	2	0.47	<0.01	<0.01	0.04	0.06	0.09	<0.01	0.02									Clayola	2 2 2 2	
l/gm	PAHFID	0.01	ves	Fluorene	<0.01	6	0.26	<0.01	<0.01	<0.03	<0.0>	0.21	<0.01	0.3							трѕоп		כ	5	
l/bω	PAHFID	0.01	yes	Acenaphthene	<0.01	28	0.2	<0.01	<0.01	<0.09	<0.12	0.48	<0.01	1.05						Enviros	Ms B Thompson				
l/bm	HAHFID	0.01	yes	Acenaphthylene	<0.01	9.0	0.39	<0.01	<0.01	0.01	0.07	0.04	<0.01	0.02						ате					
l/gm	PAHFID	0.01	yes	Naphthalene	<0.02	43	7.11	<0.03	90'0>	<0.04	<1.07	3.4	<0.01	<0.17						Client Name	Contact				
Units:	Method Codes:	Detection Limits:	UKAS Accredited:	Sample Date	17-May-04	17-May-64	17-May-04	17-May-04	17-May-04	07-May-04	07-May-04	17-May-04	07-May-04	17-May-04							ss Park,	ire, DE15 0XD			
:	Metho	Detection	UKAS A	Client Sample Description	1AB1	2AB1	2AB2	2AB3	3AB2	4AB1	4AB2	4AB3	4AB4	DAB1		· · · · · · · · · · · · · · · · · · ·				ES TES Brethy		Burton-on-Trent, Staffordshire, DE15 0XD	Tei +44 (0) 1283 554400	Fax +44 (0) 1283 554422	***************************************
				TES ID Number EX/	0411641	0411636	0411639	0411638	0411637	0410984	0411050	0411642	0410985	0411640						F		Bretby			



# Interpretation of GC/FID Chromatographic data produced during DRO, PAH or TPH test.

15-Jun-04	P.W.Ward	TPH GCFID							nC37+ Some unidentified fine structure.	C37+ Some unidentified fine structure.				
Date of assessment ;	Assessor ·	Test type	Inferprefation	Lean extract, insufficient for ID.	Large presence of PAHs.	Presence of PAHs.	Lean extract, insufficient for ID.	Lean extract, insufficient for ID.	Presence of PAHs. Mineral Oil style UCM in the range nC18-nC37+ Some unidentified fine structure.	Presence of PAHs. Mineral Oil style UCM in the range nC18-nC37+ Some unidentified fine structure.	Presence of PAHs.	Lean extract, insufficient for ID.	Presence of PAHs.	G.C. Risdon atal Analysis
Enviros	Cleveland		Client ID		2AB1 La	2AB2 Pr	2AB3 Le	3AB2 Le	4AB1	4AB2 Pr	4AB3 Pr	4AB4 Le	DAB1 Pr	Associate Director, Environmental Analysis
Client :	Site	Report Number	Lab ID Number	EX0411641	EX0411636	EX0411639	EX0411638	EX0411637	EX0410984	EX0411050	EX0411642	EX0410985	EX0411640	Authorised by .

W04\_2565 Enviros C00520017A 1AB1 Job Number: Client: Site: Client Sample Ref: EX0411641 0.001 FID1 A, (0529PAH.GCS\011F1201.D) Sample ID: Multiplier; Dilution: 55 Z 250 200 30 8 9 350 8 150

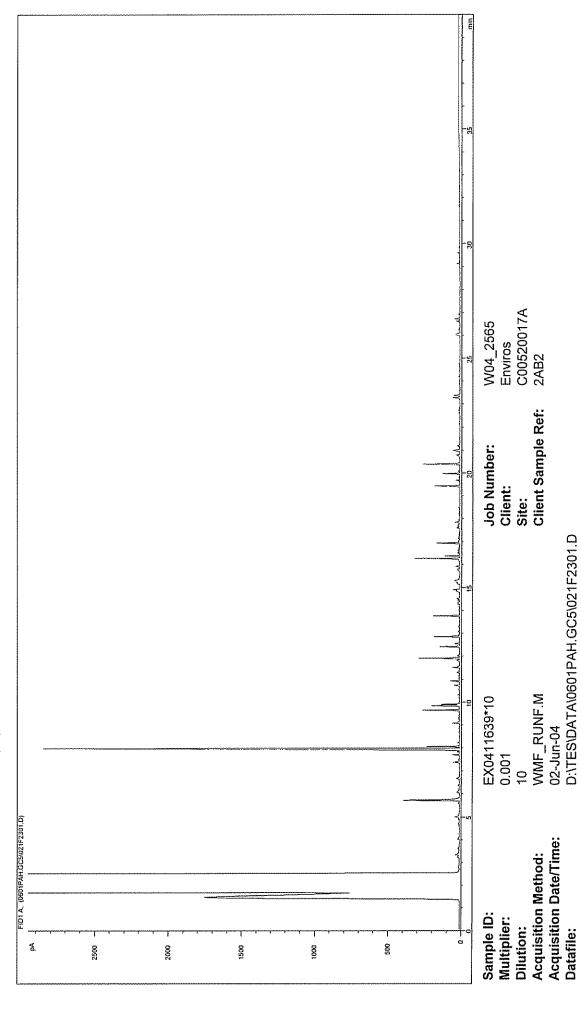
WMF\_RUNF.M 29-May-04 D:\TES\DATA\0529PAH.GC5\011F1201.D

Acquisition Method: Acquisition Date/Time: Datafile:

Petroleum Hydrocarbons (C8 to C37) by GC/FID

W04\_2565 Enviros C00520017A 2AB1 Job Number: Client: Site: Client Sample Ref: WMF\_RUNF.M 02-Jun-04 D:\TES\DATA\0601PAH.GC5\020F2201.D EX0411636\*10 0.001 10 FIDTA, (0501PAH.GCS1020F2201.D) Acquisition Method: Acquisition Date/Time: Datafile: Sample ID: Multiplier: Dilution: ā 1000 7000 6000 2000 4000 3000 2000

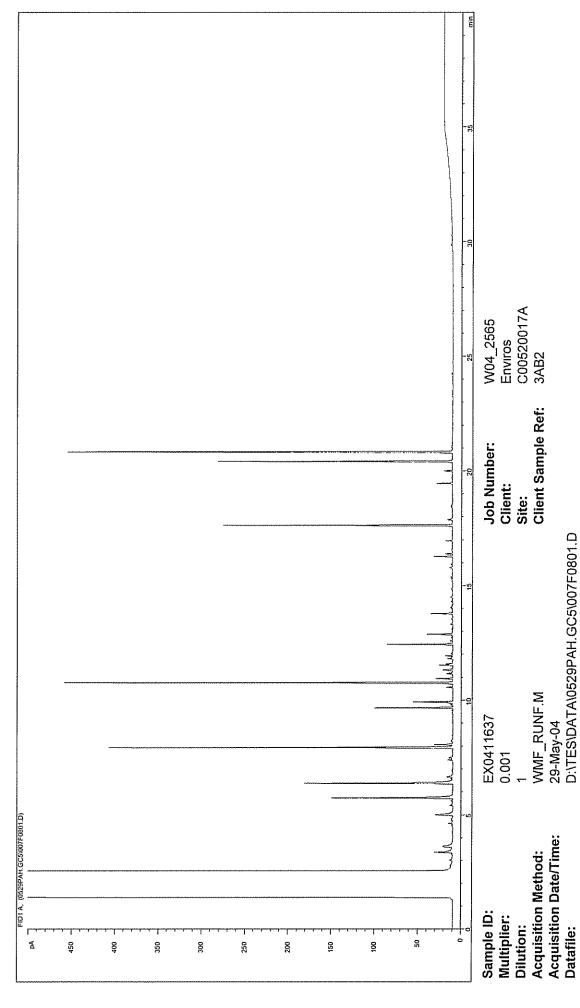
Petroleum Hydrocarbons (C8 to C37) by GC/FID



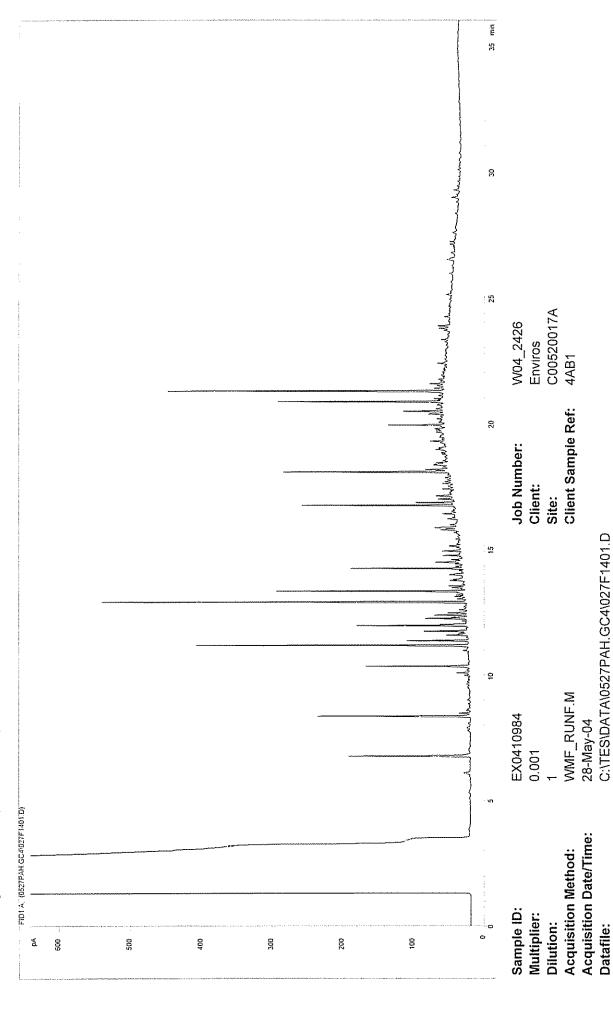
Petroleum Hydrocarbons (C8 to C37) by GC/FID

W04\_2565 Enviros C00520017A 2AB3 Job Number: Client: Site: Client Sample Ref: WMF\_RUNF.M 29-May-04 D:\TES\DATA\0529PAH.GC5\008F0901.D EX0411638 0.001 FID1 A, (0529PAH.GCS\008F0901.D) Acquisition Method: Acquisition Date/Time: Datafile: Sample ID: Multiplier: Dilution: 50 8 Z 25 450 8 320 300 200 150

Petroleum Hydrocarbons (C8 to C37) by GC/FID

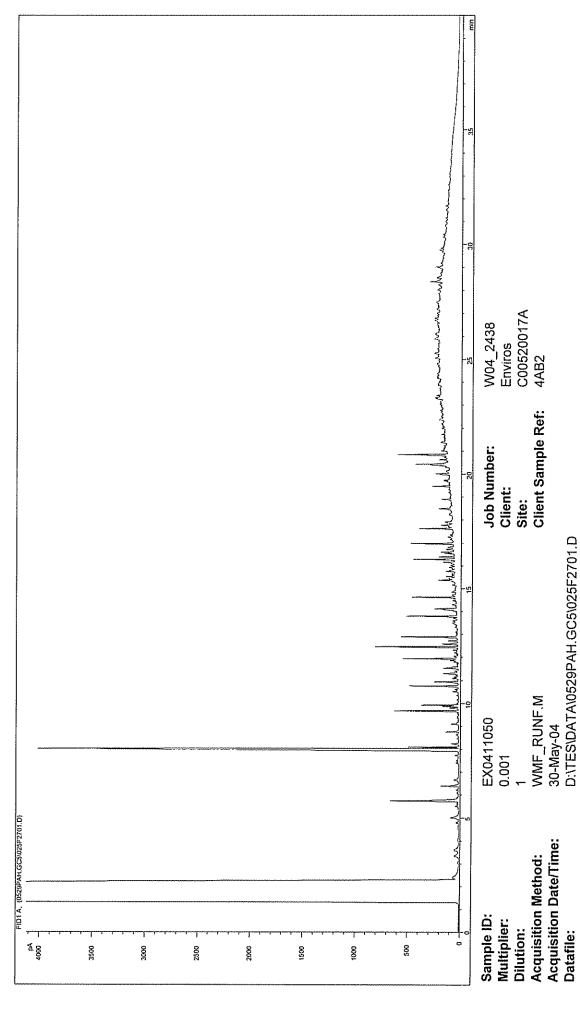


Petroleum Hydrocarbons (C8 to C37) by GC/FID

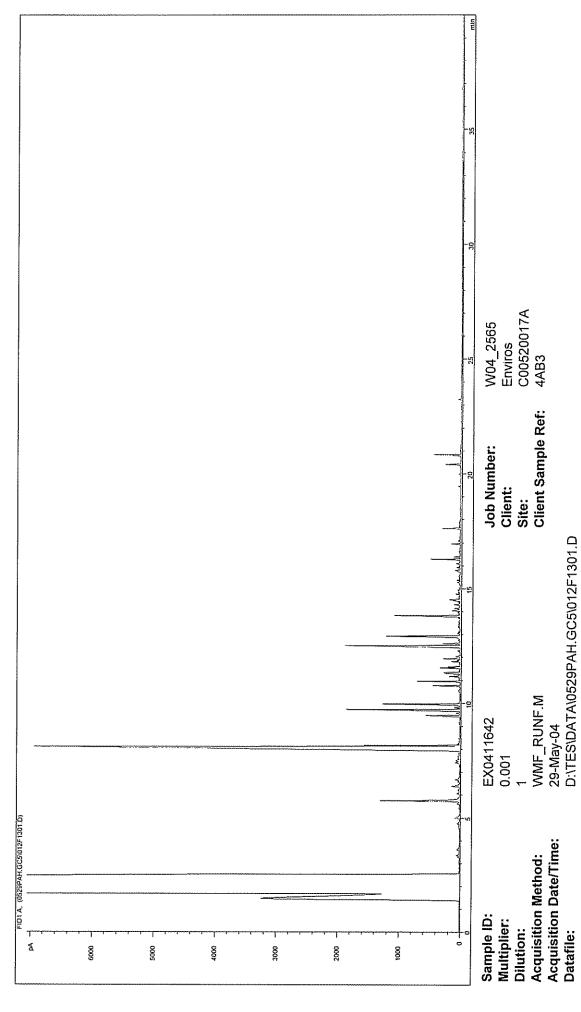


Datafile:

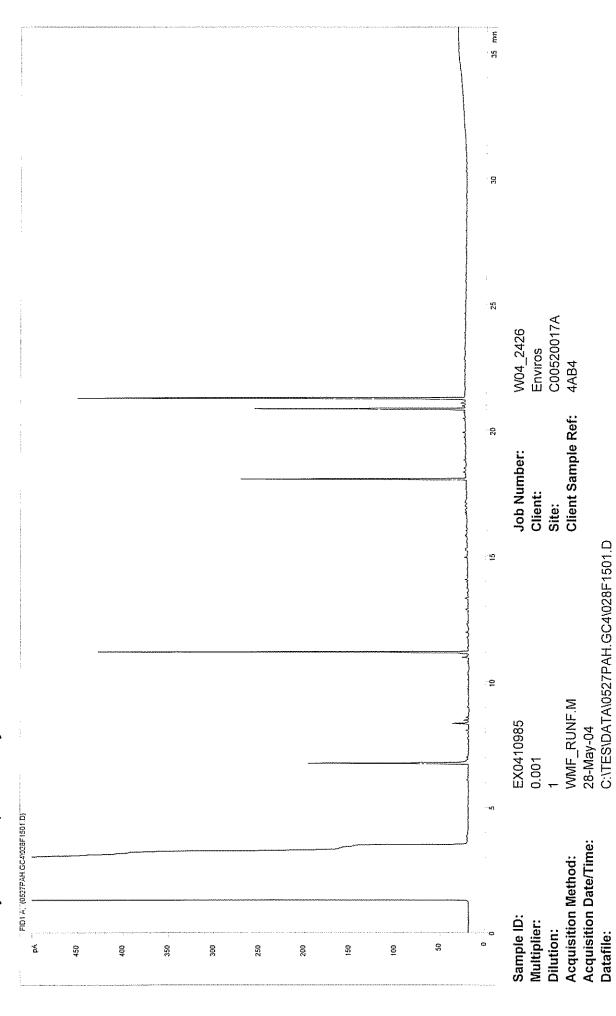
Petroleum Hydrocarbons (C8 to C37) by GC/FID



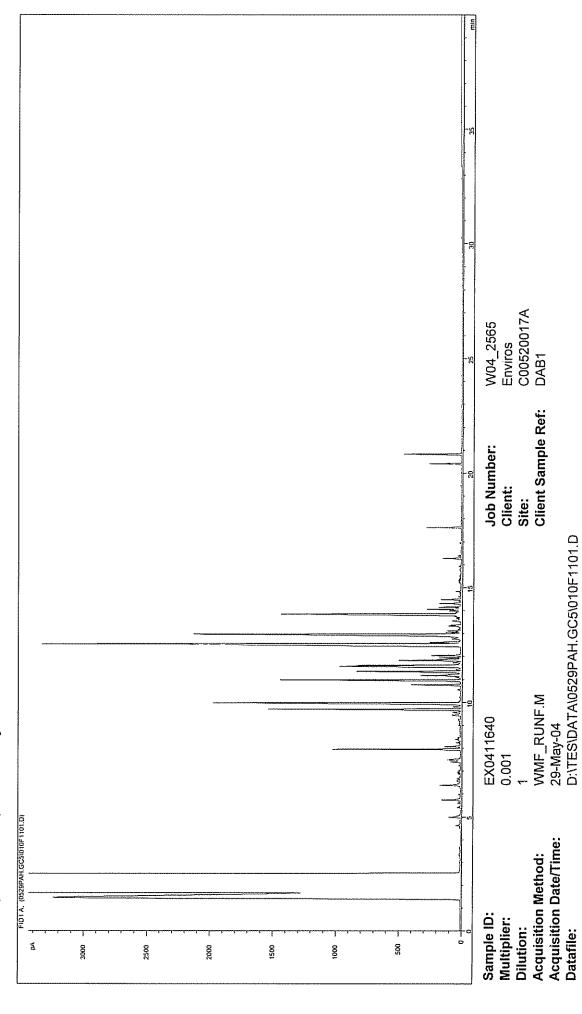
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# **Report Notes**

# Soil/Solid analysis specific:

Results expressed as mg/kg unless stated otherwise S04 analysis not conducted in accordance with BS1377 Water Soluble Sulphate on 2:1 water:soil extract AR denotes analysis conducted on the As Received sample # co-eluted with benzo(b)fluoranthene ## co-eluted with Indeno(123-cd)pyrene BTEX analysis expressed as ug/kg As Received Phenol HPLC results expressed as mg/kg As Received

# Water analysis specific:

Results expressed as mg/l unless stated otherwise

# Oil analysis specific:

Results expressed as mg/kg unless stated otherwise S.G. expressed as g/cm<sup>3</sup>@ 15°C

# Filter analysis specific:

Results expressed as mg on filter unless stated otherwise

# VOC analysis specific:

Explanatory notes for data flagging

U = undetected above reporting limit

J = concentration at instrument was below lowest calibration standard

E = concentration at instrument was above top calibration standard

B = compound was detected in method blank

# Gas (Tedlar bag) analysis specific:

Results expressed as ug/l unless stated otherwise

# Air (Carbon tube) analysis specific:

Results expressed as ug on tube unless stated otherwise

# Asbestos analysis specific:

CH denotes Chrysotile

CR denotes Crocidolite

AM denotes Amosite

NADIS denotes No Asbestos Detected in Sample

NBFO denotes No Bulk fibres Observed

T Trace

L Low (2-15%)

M Medium (15-50%)

H High (>50%)

# General notes:

- ^ this analysis was subcontracted to another laboratory
- \$ Within laboratory tolerances
- \$\$ unable to analyse due to nature of sample
- ¥ Results for guidance only, possible interference
- & Blank corrected
- I.S insufficient sample for analysis

Intf Unable to analyse due to interferences

N.D Not determined

N.R Not recorded

N.Det Not detected

Req Analysis Requested, see attached sheets for results

- \* denotes this result not UKAS accredited on this sample
- ▶ Raised detection limit due to nature of sample