Herschel/SPIRE

MULLARD SPACE SCIENCE LABORATORY
UNIVERSITY COLLEGE LONDON **Author: A Rousseau**

BAKEOUT REPORT FOR THE PFM

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Author: Date: 24 MAY 04

Checked: Date:

Approved: Date: 24 May 04

SEE BAKEOUT REPORTS AND LOG

	BAKEOUT LIST					
ASSEMBLY	**PART**		**PART NUMBER**	**QUANTITY**	**TOTAL per SPIRE**	
301- General Assembly						
Will do later in Jan	~~Level 0 Thermal Straps~~			~~1~~		
	Photometer Cover wall Assembly	302		1		
	Fixed Mount Cone		5264-302-5	1	1	
	BDA Connector Flange Spectometer		5264-302-22	1	1	
	Spire optical bench Assembly	305		1		
	Spectrometer Cover wall Assembly	303		1		
	4K feed Through Assembly	309		3		
	Blanking Plug		5264-302-44	2	2	
	Insulating Washer		5264-302-2	24	24	
	Special Washer		5364-302-3	12	12	
	M6x21 LG Cap head bolt		5264-302-34	12	12	
302 - Photometer Cover wall Assembly						
RAL	~~Photometer Cover Wall~~		~~5264-302-6~~	~~1~~	~~1~~	
RAL	~~Photometer Seals- bottom~~		~~5264-302-7~~	~~1~~	~~1~~	
RAL	~~Photometer Seals- top~~		~~5264-302-8~~	~~1~~	~~1~~	
	Photometer insert		5264-302-9	1	1	
RAL	~~Photometer cover lid~~		~~5264-302-10~~	~~1~~	~~1~~	
	PFIL2 Mount Back Plate		5264-302-12	1	1	
	H sections for PFIL 2		5264-302-13	2	2	
	A Frame Support Plates and brackets (both sides)		5264-302-14	1	1	
			5264-302-15	1	1	
	H section for CFIL 1		5264-302-16	1	1	
	PFIL2 Mount Clamp plate		5264-302-17	1	1	
	Dowel retaining Plate		5264-302-39	1	1	
	Tubular Dowels (8mm)		5264-302-40	2	2	
	Dowel - 'A' Frame support		5264-302-41	2	2	
	Dowel - 'A' Frame Top		5264-302-42	1	1	
	Special Washer - A Frame Brackets		5264-302-43	4	4	
	A Frames		5264-302-1	1	1	
	CFIL1 Baffle Mount		5264-304-6	1	1	
	CFIL1 Baffle Clamp Ring		5264-304-7	1	1	
303 - Spectrometer Cover Wall Assembly						
RAL	~~Spectrometer Cover Wall~~		~~5264-303-1~~	~~1~~	~~1~~	
RAL	~~Spectrometer Cover Lid~~		~~5264-303-2~~	~~1~~	~~1~~	
	Spectrometer Baffle		5264-303-3	1	1	
RAL	~~Spectrometer seals top~~		~~5264-303-4~~	~~1~~	~~1~~	
RAL	~~Spectrometer seals bottom~~		~~5264-303-5~~	~~1~~	~~1~~	
	A Frames		5264-302-1	1	1	
	A Frame Support Plate		5264-302-15	2	2	
	A Frame Bracket Spectrometer		5264-302-26	1	1	
	Dowel retaining Plate		5264-302-39	1	1	
	Tubular Dowels (8mm)		5264-302-40	2	2	
	Dowel - 'A' Frame support		5264-302-41	2	2	
	Dowel - 'A' Frame Top		5264-302-42	1	1	
	Special Washer - A Frame Brackets		5264-302-43	4	4	
305 - Optical Bench Assembly						
RAL	~~Optical Bench Panel~~		~~5264-302-4~~	~~1~~	~~1~~	
	Support SM6		5264-305-2	1	1	
	Support SM7		5264-305-3	1	1	
	Support SM8a		5264-305-4	1	1	
	Spectrometer baffle SM12		5264-303-6	1	1	
	Support SM9-10a		5264-305-6	1	1	
	Support SM9-10b		5264-305-7	1	1	
	Support SM11a		5264-305-8	1	1	
	Support SM11b		5264-305-9	1	1	
	Support SM12a		5264-305-10	1	1	
	Support SM12b		5264-305-11	1	1	
	Secondary optical Bench		5264-305-12	1	1	
	Support PM6		5264-305-13	1	1	
	Support PM8		5264-305-14	1	1	
	Bulkhead SM6 and SM7		5264-305-15	1	1	
	Optical Reference Cube		5264-305-16	1	1	
	SFIL 2 Mount	320		1		
	SBS 1 and SBS 2 Assembly	321		2		
	Tubular Dowels (6-32UNC)		5264-302-18	46	46	
	Tubular Dowels (8-32UNC)		5264-302-19	2	2	
	2K interconnecting strap		5264-302-20	1	1	
	Cooler to Phot Detector Box Strap		5264-302-30	1	1	
	Cooler to Spec Detector Box Strap		5264-302-31	1	1	
	Strap Isolation Plate		5264-302-32	2	2	
	Strap Isolation Plate - interconnecting strap		5264-302-35	1	1	
	Insulating bush - cooler cold tip		5264-302-36	4	4	
	Insulating bush - Det Box to interconnecting strap		5264-302-38	3	3	

ASSEMBLY	PART		PART NUMBER	QUANTITY	TOTAL per SPIRE	
	2K Photometer Box Assembly	306		1		
	2K Spectrometer Box Assembly	307		1		
	SCAL Box	314		1		
	Special Washer		5264-305-25	3	3	
	Mirror Anti-rotation Dowel		5264-305-26	17	17	
	Optical Reference Cube		5264-305-27	2	2	
	SFIL-2 Dowel		5264-305-28	2	2	
	SM9B/SBS1 Baffle		5264-305-29	1	1	
	SM9A/SBS1 Baffle		5264-305-30	1	1	
	Strap to Phot Light Trap		5264-302-33	1	1	
306 - Photometer Detector Box						
	Photometer detector box inner cover		5264-306-1	1	1	
	Photometer detector box Spine		5264-306-2	1	1	
	Photometer detector box Outer Cover		5264-306-3	1	1	
	Photometer Cold Stop Clamp PFII3		5264-306-4	1	1	
	Photometer Cold Stop PFII3		5264-306-5	1	1	
	BDA Connector Flange		5264-302-23	1	1	
	Plug BDA Connector Flange		5264-302-24	2	2	
	Harness Support BDA Connector Flange		5264-302-25	2	2	
	PM10 Support		5264-305-17	1	1	
	PDIC-1 Mount Assembly	310		1		
	PDIC-2 Mount Assembly	311		1		
	Detector Box support Cone		5264-312	1	1	
	Photometer Detector Box A frames supports		5234-313	2	2	
	Washer		5264-313-1	2	2	
	Bushes		5264-313-2	2	2	
	BDA Adapter Plate		5264-911	3	3	
	Tubular Dowel 10.7 LG		5264-302-18	2	2	
	Photometer Busbar Assembly	306B		1		
306B - Photometer Busbar Assembly						
	Bus Bar Upper		5264-306-7	1	1	
	Busbar Lower		5264-306-8	1	1	
	BDA-Busbar Flange		5264-306-9	2	2	
	Bus Connector PLW		5264-306-10	1	1	
	Bus Junction and PMW Connector		5264-306-11	1	1	
	Bus Junction Clamp Plate		5264-306-12	1	1	
	Light Trap to Bus Junction		5264-306-13	1	1	
	Bus Connector PSW		5264-306-14	1	1	
	BDA-Busbar Flange		5264-306-15	1	1	
	PLW Bus Strap		5264-306-16	1	1	
	PMW Bus Strap		5264-306-17	1	1	
	PSW Bus Strap		5264-306-18	1	1	
	Light Trap Feed Through - Photometer		5264-306-20	1	1	
	Stop Bush -Bus Bar Mountings		5264-306-21	1	1	
	Bush outer Spectrometer light trap		5264-307-12	1	1	
	Bush inner Spectrometer light trap		5264-307-11	1	1	
	End stop Photometer Light Trap		5264-306-19	1	1	
307 - Spectrometer Detector Box						
	Spectrometer detector box		5264-307-1	1	1	
	Filter mount		5264-307-2	1	1	
	Clamp Plate SFIL -3		5264-307-3	2	2	
	Spectrometer Detector Box supports		5264-307-4	3	3	
	Blade Top Bush 2K Spectrometer Box		5264-307-5	3	3	
	BDA Adapter Plate		5264-911	2	2	
	Washer		5264-313-1	11	11	
	Photometer Busbar Assembly	307B		1		
	Cold Strap Support		5264-307-13	1	1	
307B - Spectrometer Busbar Assembly						
	Light Trap Feedthrough spect.		5264-307-6	1	1	
	Light Baffle Junction		5264-307-7	1	1	
	SSW Spect. BDA to light trap strap		5264-307-8	1	1	
	SLW Spect. BDA to Light Trap Strap		5264-307-9	1	1	
	BDA Cold Interface Spectrometer		5264-307-10	2	2	
	Bush inner Spectrometer light trap		5264-307-11	2	2	
	Bush outer Spectrometer light trap		5264-307-12	2	2	
309 - Cooler joint/Light Baffles						
	Inner Baffle		5264-309-1	1	3	
	Outer Baffle		5264-309-2	1	3	
	Baffle outer Core - Evaporator/Pump		5264-309-2A	1	2	

ASSEMBLY	PART		PART NUMBER	QUANTITY	TOTAL per SPIRE	
	Baffle outer Core - Detector Box		5264-309-2B	1	1	
	Anti torque Plate		5264-309-5	1	3	
	Special Washer		5264-309-6	4	12	
	0-80UNF Stop Screw		5264-309-7	4	12	
310 - PDIC 1 Mount						
	PDIC-1 Mount		5264-310-1	1	1	
	PDIC-1 Clamp Ring		5264-310-2	1	1	
	Dowel Screw, 6-32 UNC		5264-310-3	4	4	
311 - PDIC 2 Mount						
	PDIC-2 Mount		5264-311-1	1	1	
	PDIC-2 Clamp Finger		5264-311-2	3	3	
	Dowel Screw, 6-32 UNC		5264-310-3	4	4	
314 - SCAL Baffle Box						
	Scal Box		5264-314-1	1	1	
	SCAl Cover		5264-314-2	1	1	
	SCAL Exit Baffle Ring		5264-314-3	1	1	
	SCAL Baffle Clamp		5264-314-4	3	3	
320 - SFIL2 Mount Assembly						
	Filter Mounts - SFIL2		5264-305-20	1	1	
	Filter Mount - SFIL2 clamp ring		5264-305-21	1	1	
	SFil2 Cold Stop		5264-305-22	1	1	
	SFil2 dowels		5264-305-27	2	2	
321 - SBS 1 & 2 Assembly						
	SBS 1and 2 Filter mount		5264-305-23	1	2	
	SBS 1and 2 Filter Clamp		5264-305-24	1	2	
Thermal Straps						
OTHERS						
	RFI Filter Bracket Corner Bracket		A2/5264/302-27	1	1	
	Tempory RFI Bracket		A2/5264/302-28	1	1	
	FRI Filter Frame Edge Bracket		A2/5264/302-29	1	1	
					343	

Mullard Space Science Laboratory

University College London

Visual Inspection Log – SPIRE STRUCTURE FM

All SPIRE Structure components should be visually inspected as defined in MSSL/PA/PS/Q012 "Procedure for verifying surfaces to a visibly clean level". Details of the inspection should then be logged below.

DATE	TIME	COMPONENT	INSPECTION LEVEL	COMMENT
16 JAN 04		BATCH 1 COMPONENTS	UC-HS-UV	ALL BATCH 1 COMPONENTS INSPECTED PRIOR TO BAKEOUT UNDER UV LIGHT - NO VISIBLE PARTICULATES - NO FLOURESINS
20 JAN 04		BATCH 2 COMPONENTS	UC-HS-UV	AS ABOVE BUT A FRAME BEAM (302-26A) SHOWED UP PARTICULATES AND SMALL AMOUNT OF FLOURESINS - RE-CLEANED COMPONENT AND RE-INSPECTED
21 JAN 04		BATCH 3 COMPONENTS	UC-HS-UV	ALL BATCH 3 COMPONENTS INSPECTED CLD STRAP SPT, AND ANTI-TORQUE PLATE SHOWED PARTICULATES UNDER UV - NO FLOURESINS RE-CLEANED AND INSPECTED COMPONENTS

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SPIRE STRUCTURE - FM

Part log

Note: This log is to record the bakeout operation of individual SPIRE structure components. It is not a detailed bakeout report. For this see the SPIRE Vacuum bakeout log.

FM COMPONENTS

DATE: 16 JAN 04

SHEET: 1 of 4

Responsible: AJR

PART NAME	PART NUMBER	PART STATUS	DETAILS
BATCH 1 BAKE			MSSL BAKE OUT
	305-15	BAKE OUT COMPLETE	RGA FILENAME = SP-FM-01.wbg
	305-14	"	START: 16 JAN 04
	305-8	"	END: 20 JAN 04
SM11B	305-9/2	"	
PM10A	305-17	"	
SM8A	305-4	"	
SCAL EXIT BAFFLE RING			
SCAL BOX	314-1A	"	
SCAL COVER	314-2	"	
SBS 1/SM9B - BAFFLE	305-29	"	
SBS 2/SM9A - BAFFLE	305-30	"	
BDA CONNECTOR FLANGE	302-23	"	
	305-12	"	
SBS 1+2 FILTER MOUNT	305-23	"	
SM12 BAFFLE	303-6	"	
SFIL 2	305-20	"	
SFIL 2	305-21	"	
SM11A	305-8	"	
PDIC-1 CLAMP	310-2	"	
PDIC-2A CLAMP	311-1	"	
PDIC-1A CLAMP	310-1A	"	
BATCH 2 BAKE			MSSL BAKE OUT
2K OUTER LID x1	306-3A		RGA FILENAME = FM-B2.wbg
PHOTOMETER INNER COVER x1	306-1A		START: 20 JAN 04
BLANKING PLATE x2	5264 302 44		END: 22 JAN 04

CONCLUSIONS / ACTIONS from this page:

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SPIRE STRUCTURE - FM

Part log

Note: This log is to record the bakeout operation of individual SPIRE structure components. It is not a detailed bakeout report. For this see the SPIRE Vacuum bakeout log.

DATE: 20 JAN 04

FM COMPONENTS (CONT.)

Responsible: AJR

PART NAME	PART NUMBER	PART STATUS	DETAILS
BATCH 2 (CONT.)			
ASSEMBLY JIG FOR BOSSES			
BOSSE SPEC ELEC x 3			
FIXED MOUNT x 1			
BDA CONNECTOR FLANGE x 1	5264 302-22		
2K SPECTROMETER BOX x1	5264 307		
SPECTROMETER BAFFLE x1	303-3		
A FRAME BAKE SPEC x 1	302-26 A		
A FRAME SPT PLT SPEC x 1	302-15 A		
DOWEL RETAINING PLATE x 1	302-39		
MOUNTING BLOCK x 1	5264 303-1A		
2K BLADE B x 3	307-4		
2K FILTER MATING PLATE x 1	307-2		
BATCH 3 BAKE			MSSL BAKEOUT, START 27 JAN 04
2 x PFIL-2 HSEAL	302-13		RGA FILENAME = S1_B3.wbg
1 x CFIL-1 HSEAL	302-16		
1 x PHOTOMETER COVER INSERT	302-9		
1 x PFIL-2 CLAMP RING	302-17		
1 x PFIL-2 BAKE PLATE	312-12		
1 x CFIL-1 CLAMP RING	304-7F		
1 x BAFFLE MOUNT	306-6F		
1 x DOWEL RETAINING PLT	302-29		
1 x A FRAME SPT PLT	302-15		
4 x COLD STRAP CLAMP	302-21		
3 x BAFFLE OUTER	309-2		

CONCLUSIONS / ACTIONS from this page:

UCL MSSL

SPIRE STRUCTURE - FM

Part log

Note: This log is to record the bakeout operation of individual SPIRE structure components. It is not a detailed bakeout report. For this see the SPIRE Vacuum bakeout log.

DATE: 27 JAN 04

SHEET: 3 of 4

Responsible: AOK

PART NAME	PART NUMBER	PART STATUS	DETAILS
BATCH 3 CONT.			
3X BAFFLE INNER	309-1		
1X TEMP RFI BRKT	302-28		
1X RFI FILTER FRAME	302-27		
1X RFI FILTER FRAME	302-29		
1X ANTI TORQUE PLT	309-5		
1X SM9/SM10A	305-6		
1X SM9/SM10B	305-7		
1X SM07A	305-3		
1X PHOTOMETER A-FRAME BRKT	302-14A		
1X PHOT. COLD STOP	306-4A		
2X A FRAME	313B		
2X PLUG BDA CONN.	306-5		
2X	302-25		
4X PDIC-Z CLAMP FINGER	311-2		
1X 2K BOX CONE MOUNT	312B		
6X DOWELS			
2X LIGHT TRAP	302-33		
2X ISOLATION PLATE	302-32		
2X COLD STRAP SPT	307-13		
1X BRACKET	315-23		
1X BRACKET	315-22B		
1X SM12B	305-11		
1X SM12A	305-10		
2X SBS182	305-24		
2X SFIL-3	307-3		

CONCLUSIONS / ACTIONS from this page:

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SPIRE STRUCTURE - FM

Part log

Note: This log is to record the bakeout operation of individual SPIRE structure components. It is not a detailed bakeout report. For this see the SPIRE Vacuum bakeout log.

DATE: 27 JAN 04

SHEET: 4 of 4

Responsible: ADR

PART NAME	PART NUMBER	PART STATUS	DETAILS
BATCH 3 CONT.		BAKEOUT COMPLETE	START 27 JAN 04 Tset = 100°C RGA FILENAME = SP_b3.wbg END 04 FEB 04
4 x INSULATING BUSH	302-36		
4 x " "	302-38		
1 x ISOLATING PLT	302-35		
1 x DETECTOR BOX STAND	302-31		
1 x " " "	302-30		
BATCH 4 BAKE 02 MARCH 04		BAKE OUT COMPLETE	START: 02 MARCH 04 Tset = 100°C RGA FILENAME = fm_b4.wbg END: 09 MARCH 04
MIRROR MOUNT PM06	5264/305-13		
MIRROR MOUNT SM06	5264/305-2		

CONCLUSIONS / ACTIONS from this page:

Mullard Space Science Laboratory
Vacuum bakeout report

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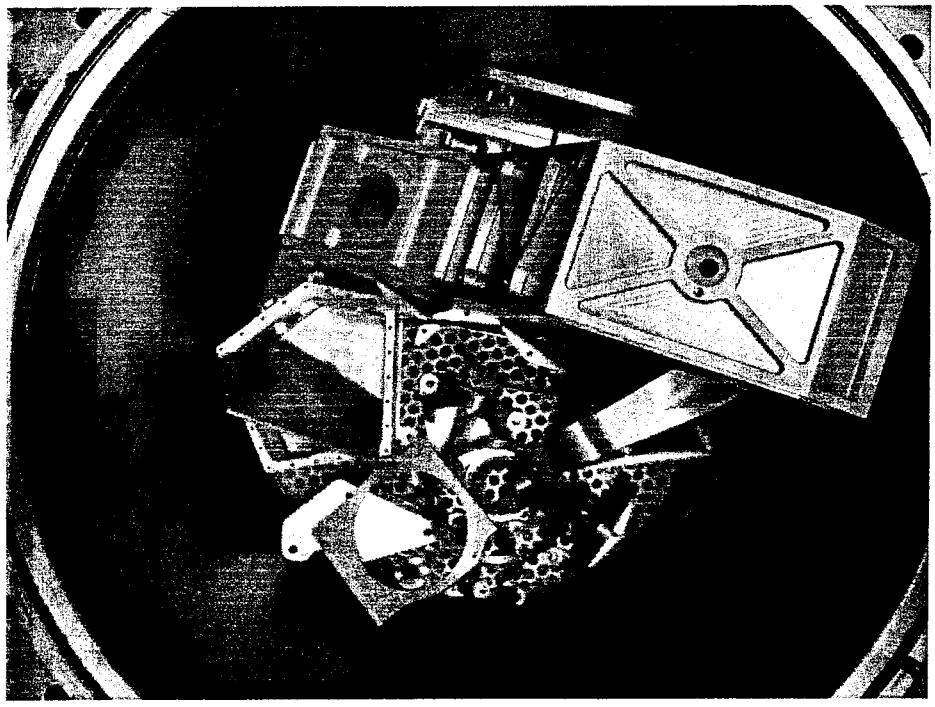
SPIRE STRUCTURE -FM

Vacuum bake out log

Instrument/Component: SPIRE PIECE PART BAKE OUT FM COMPONENTS **Facility:** Turbo pump, Chamber, thermo couples, RGA, TQCM

DATE: 16 JAN 04
TEST #: MSSL/H30/0030
SHEET: 1 **of** 4

TEST CONDITIONS: COMPONENT INSTALL, PUMP DOWN, RGA ON

TIME	OPERATION/COMMENT	RESPONSIBLE
12:31	START CHAMBER PUMP DOWN, FOR PARTS LIST SEE PARTS LOG	AAR
12:36	P=1.1E-1mbar, T=20°C Tset = 100°C	
		
12:37	P= 7.6E-2 mbar, T=20°C, TURBO ON, ACCELERATION MODE	
12:40	P= 5.0E-3 mbar, T=20°C	
12:50	P=1.4E-4 mbar, T=20°C, TURBO INTO NORMAL MODE	AAR
12:56	P= 6.6E-5mbar, T=20°C, RGA ON, RGA FILENAME = SP_FM_01.wbg	
13:07	P= 4.0E-5 mbar, T=20°C	
14:59	P= 9.5E-6 mbar, T=20°C	
15:59	P=5.8E-6 mbar, T=20°C, HEATERS ON	
16:29	P=5.0E-6 mbar, T=27°C	

Mullard Space Science Laboratory
Vacuum bakeout report

UCL MSSL

SPIRE STRUCTURE -FM

Vacuum bake out log

Instrument/Component: SPIRE PIECE PART BAKE FM COMPONENTS, BATCH 1 Facility: Turbo pump, Chamber, thermo couples, RGA, TQCM

DATE: 17 JAN 04
TEST #: MSSL/VBO/00030

SHEET: 2 **of** 4

TEST CONDITIONS: BAKE OUT @ 100°C

TIME	OPERATION/COMMENT	RESPONSIBLE
16:59	P = 5.0E-6 mbar, T = 36°C	
17:29	P = 5.6E-6 mbar, T = 45°C	
17:59	P = 6.4E-6 mbar, T = 54°C	
18:29	P = 7.8E-6 mbar, T = 63°C	
18:59	P = 9.5E-6 mbar, T = 72°C	
19:29	P = 1.1E-5 mbar, T = 81°C	
19:59	P = 1.2E-5 mbar, T = 90°C	
20:29	P = 1.3E-5 mbar, T = 100°C	
22:29	P = 7.6E-6 mbar, T = 100°C	
17 JAN 04		
08:59	P = 1.0E-6 mbar, T = 100°C	
11:29	P = 8.0E-7 mbar, T = 100°C	
11:59	P = 7.0E-7 mbar, T = 100°C	
16:59	P = 6.0E-7 mbar, T = 100°C	
18 JAN 04		
10:59	P = 3.0E-7 mbar, T = 100°C	
15:29	P = 3.0E-7 mbar, T = 100°C	
20:59	P = 2.0E-7 mbar, T = 100°C	
19 JAN 04		
06:29	P = 2.0E-7 mbar, T = 100°C	
08:29	P = 2.0E-7 mbar, T = 100°C	
14:29	P = 1.0E-7 mbar, T = 100°C	
16:59	P = 1.0E-7 mbar, T = 100°C	

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Vacuum bakeout report

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SPIRE STRUCTURE -FM

Vacuum bake out log

Instrument/Component: SPIRE PIECE PART BAKE FM COMPONENTS, BATCH1 Facility: Turbo pump, Chamber, thermo couples, RGA, TQCM

DATE: 20 JAN 04
TEST #: MSSL/VBO/0030

SHEET: 3 **of** 4

TEST CONDITIONS: BAKE OUT @ 100°C

TIME	OPERATION/COMMENT	RESPONSIBLE
19 JAN 04		
18:59	$P = 1.0E-7$ mbar, $T = 100°C$	
22:59	$P = 1.0E-7$ mbar, $T = 100°C$	
20 JAN 04		
03:29	$P = 1.0E-7$ mbar, $T = 100°C$	
05:29	$P = 1.0E-7$ mbar, $T = 100°C$	
07:29	$P = 1.0E-7$ mbar, $T = 100°C$	
09:29	$P = 1.0E-7$ mbar, $T = 100°C$	
08:50	$P = 1.0E-7$ mbar, $T = 100°C$, HEATERS OFF, GOOD DECAY ON RGA, BELOW 10^{-10} LEVELS (SEE ATTACHED)	
68:59	$P = 1.0E-7$ mbar, $T = 86°C$	
	E.O.T	

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Vacuum bakeout report

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SPIRE STRUCTURE -FM

Vacuum bake out log

Instrument/Component: SPIRE MCLE PART BAKE BATCH 1, FM COMPONENTS

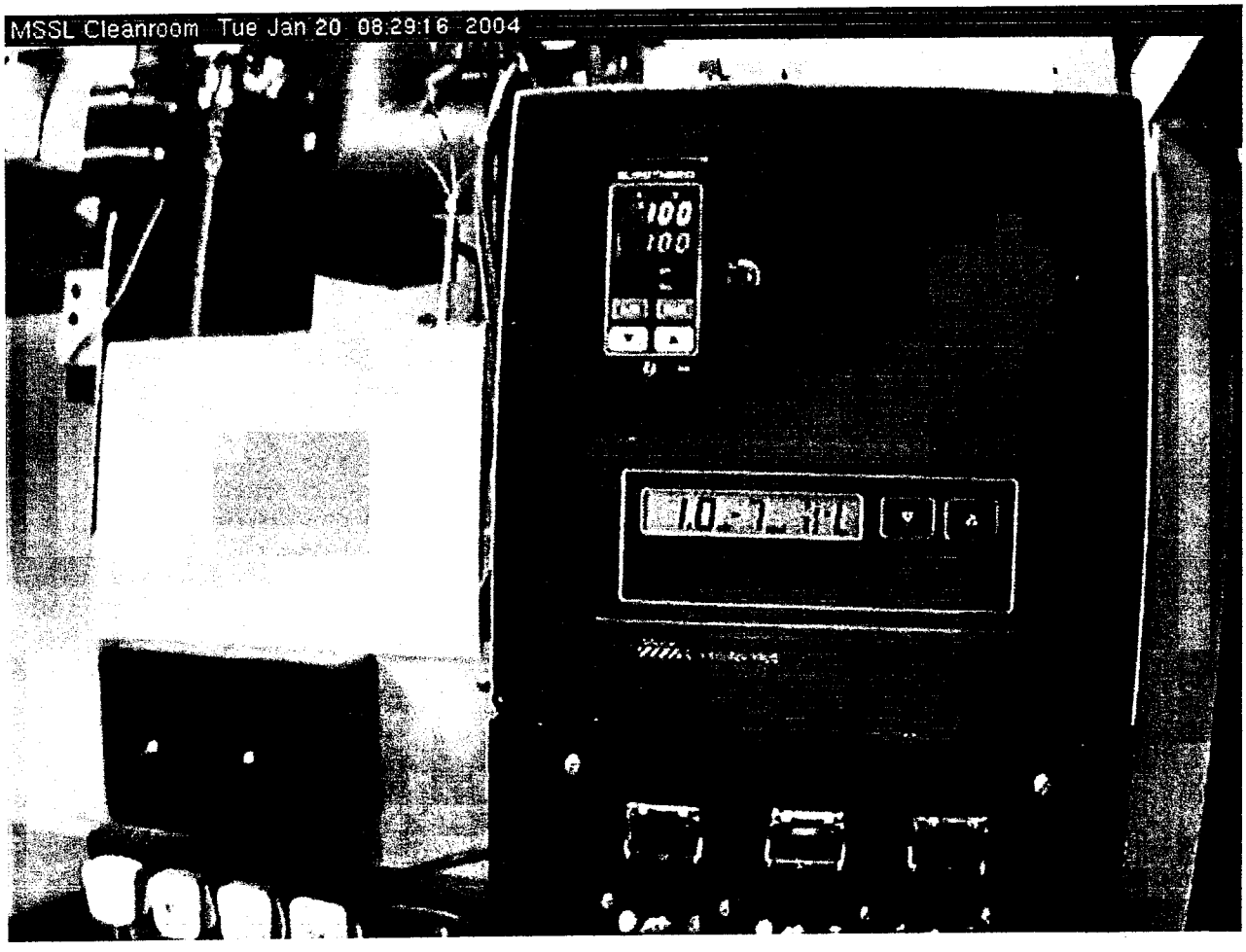
Facility: Turbo pump, Chamber, thermo couples, RGA, TQCM

DATE: 20 JAN 04
TEST #: MSSL/VBO/0030
SHEET: 4 of 4

TEST CONDITIONS:

TIME	OPERATION/COMMENT	RESPONSIBLE

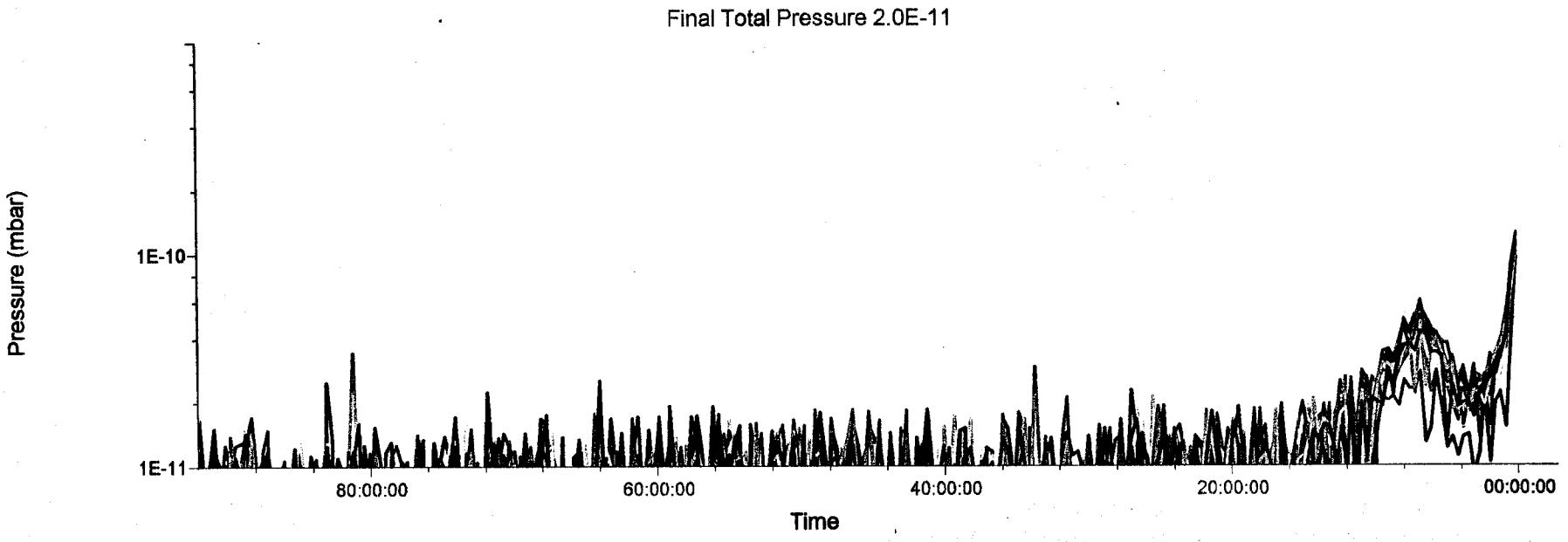
END OF TEST/BAKE SCREENSHOT



Recall For Windows

[D:\MYDOCU~1\CONTAM~2\SPIRE\BAKEOUT\FMPART~1\FM_BAT~1\SP_FM_01.WBG] 20-Jan-04 09:14:14 PM

Filament #2:	On		Multiplier:		Off		Accuracy:	5				
							AutoRange:	Off				
Channel:	1		3	4	5	6	7	8	9	10	11	12
Enabled:	On	On	On	On	On	On	On	On	On	On	On	On
Mass:	41	42	43	55	56	57	69	70	71	32	44	46



SPIRE FM BATCH 1 Bake, start 16Jan04, Tset= 100°C

SPIRE FM Batch 1 components @ 100°C

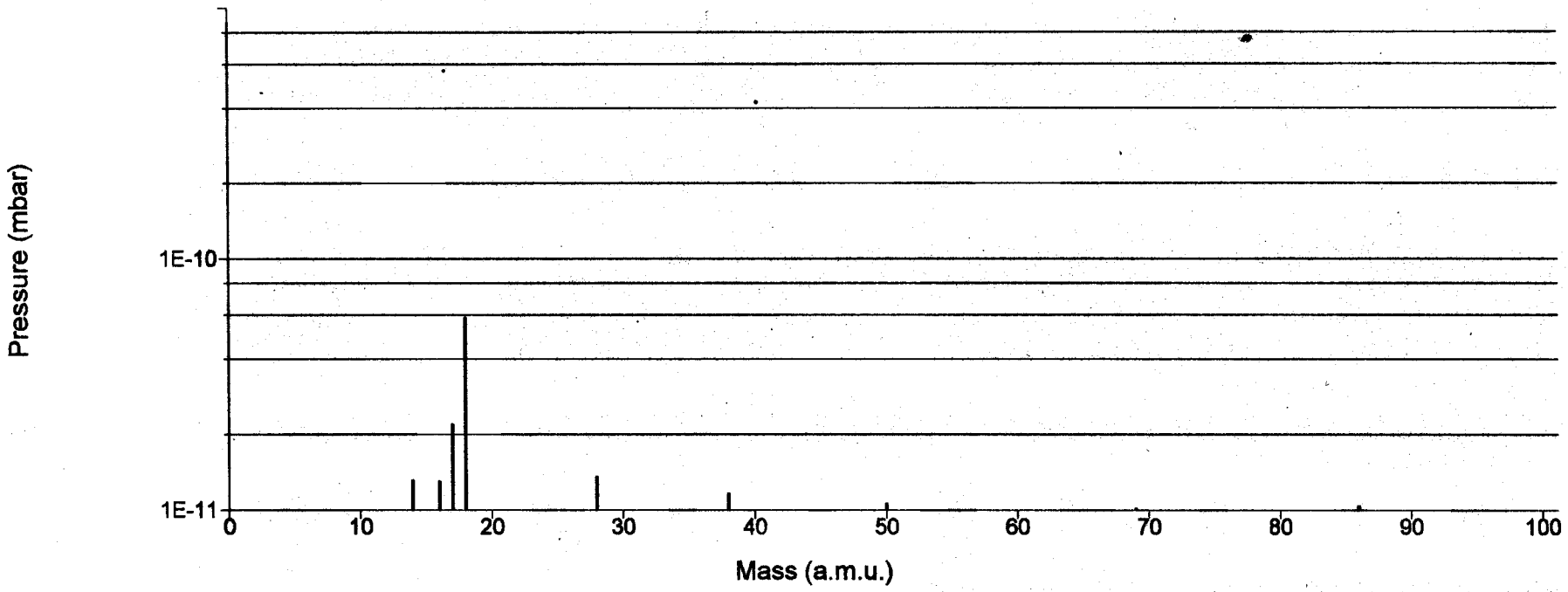
Recall For Windows

[D:\MYDOCU~1\CONTAM~2\SPIRE\BAKEOUT\FMPART~1\FM_BAT~1\SP_FM_01.WBG] 20-Jan-04
07:44:35 PM

Filament #2:	On	Multiplier:	Off	Accuracy:	5
				AutoRange:	Off

Total Pressure 2.8E-11

Click & Drag Cursor



SPIRE FM BATCH 1 Bake, start 16Jan04, Tset= 100°C

SPIRE FM Batch 1 components @ 100°C

Mullard Space Science Laboratory
Vacuum bakeout report

UCL MSSL

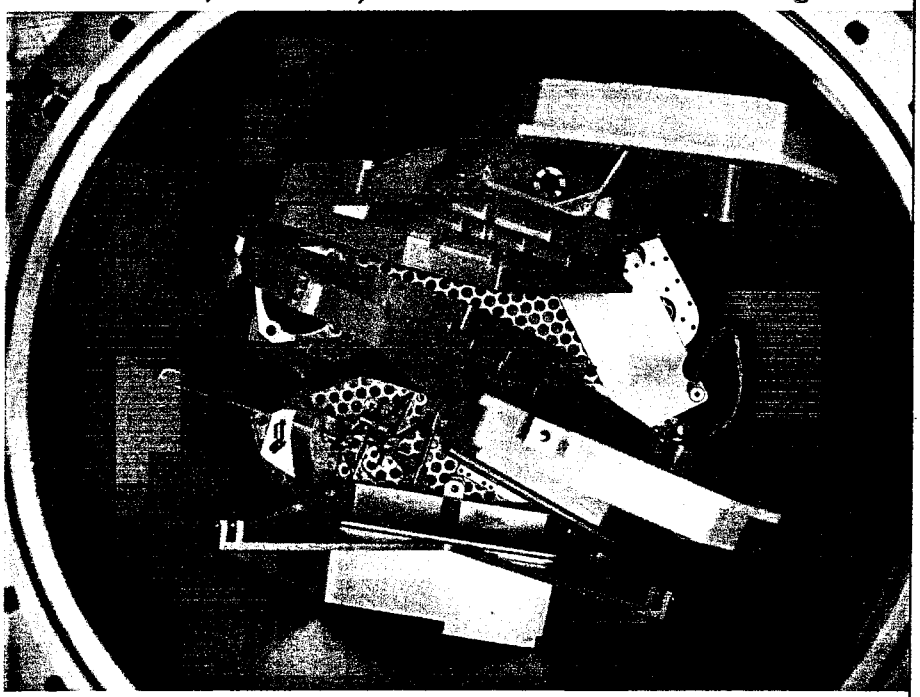
SPIRE STRUCTURE - FM

Vacuum bake out log

Instrument/Component: SPIRE PIECE PART BAKE FM COMPONENTS, BATCH 2 **Facility:** Turbo pump, Chamber, thermo couples, RGA, TQCM

DATE: 20 JAN 04
TEST #: MSSL/VBO/0031
SHEET: 1 of

TEST CONDITIONS: COMPONENT INSTALL, PUMP DOWN

TIME	OPERATION/COMMENT	RESPONSIBLE
10:58	START PUMP DOWN, FOR COMPONENT LIST SEE FM COMPONENT LOG	ADR
11:36	P = 3.7E-2 mbar, T=20°C, TURBO ON	
12:00	P=3.1E-5 mbar, T=20°C	
13:35	P = 8.0E-6 mbar, T = 20°C	
14:15	P=6.8E-6 mbar, T = 20°C, RGA ON, FILENAME = FM_B2.wbg	
		
14:20	P=6.7E-6 mbar, T=20°C, HEATERS ON	ADR
16:32	P = 7.8E-6 mbar, T = 66°C	
17:32	P=9.5E-6 mbar, T = 84°C	
18:32	P = 1.0E-5 mbar, T = 100°C	
22:02	P=3.0E-6 mbar, T = 100°C	

Mullard Space Science Laboratory
Vacuum bakeout report

UCL MSSL

SPIRE STRUCTURE -FM

Vacuum bake out log

Instrument/Component: SPIRE PIECE PART BAKE FM COMPONENTS, BATCH 2 Facility: Turbo pump, Chamber, thermo couples, RGA, TQCM

DATE: 21 JAN 04
TEST #: MSSL/VBO/0031

SHEET: 2 **of**

TEST CONDITIONS: BAKE OUT

TIME	OPERATION/COMMENT	RESPONSIBLE
21 JAN 04		
05:02	ρ = 8.0E-7 mbar, T = 100°C	ADR
07:32	ρ = 6.0E-7 mbar, T = 100°C	
08:32	ρ = 6.0E-7 mbar, T = 100°C	
10:02	ρ = 5.0E-7 mbar, T = 100°C	
13:02	ρ = 4.0E-7 mbar, T = 100°C	
21:02	ρ = 3.0E-7 mbar, T = 100°C	
22 JAN 04		
02:32	ρ = 3.0E-7 mbar, T = 100°C	
07:02	ρ = 3.0E-7 mbar, T = 100°C	
08:02	ρ = 2.0E-7 mbar, T = 100°C	ADR
08:20	ρ = 2.0E-7 mbar, T = 100°C, HEATERS OFF	
08:32	ρ = 2.0E-7 mbar, T = 87°C	
09:02	ρ = 1.0E-7 mbar, T = 63°C	
09:30	ρ = 1.0E-7 mbar, T = 50°C	ADR
	E.O.T	

Mullard Space Science Laboratory
Vacuum bakeout report

SPIRE STRUCTURE -FM

Vacuum bake out log

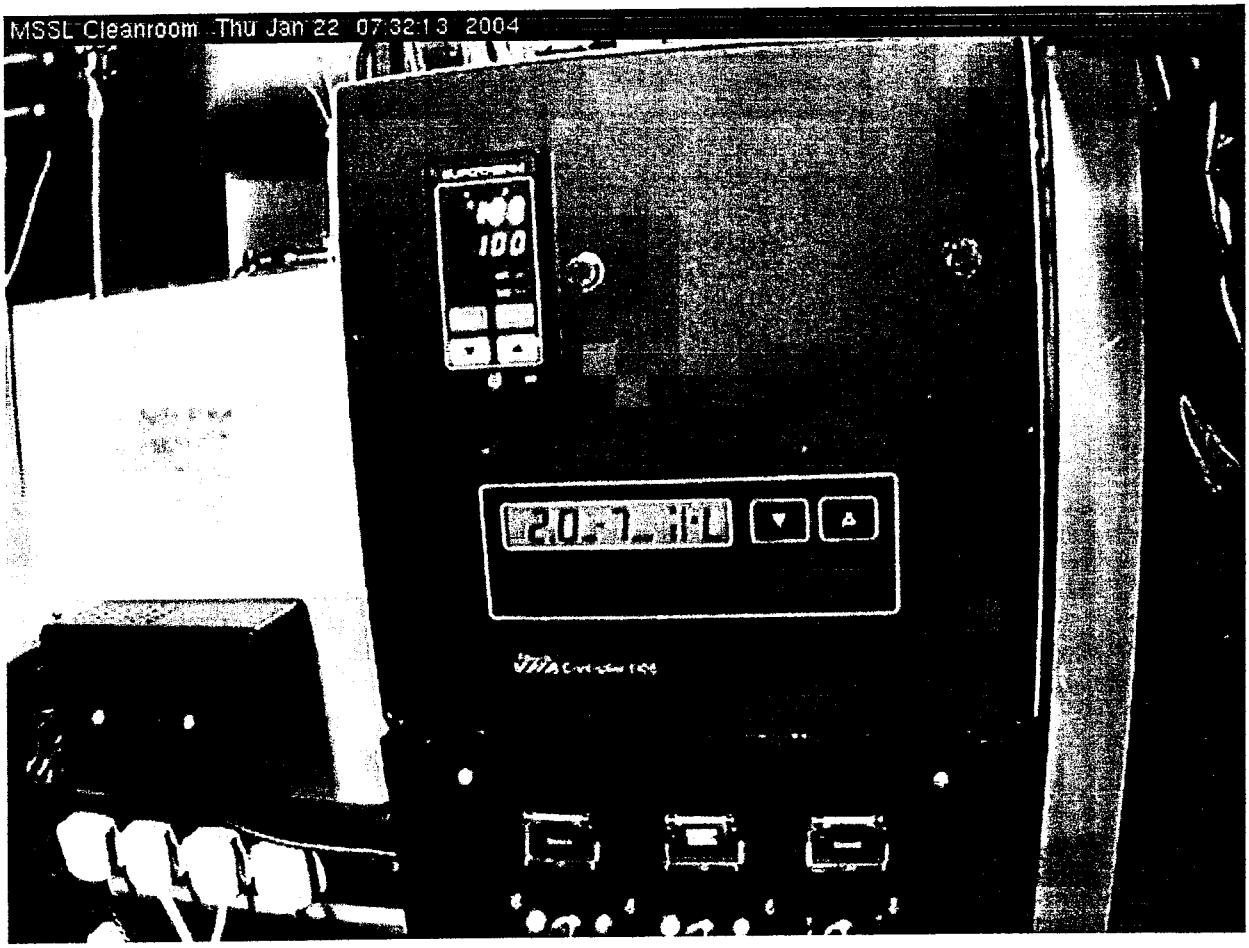
Instrument/Component: SPIRE NICE PHAT BAKE FM COMPONENTS, BATCH 2

Facility: Turbo pump, Chamber, thermo couples, RGA, TQCM

DATE: 22 JAN 04
TEST #: MSSL/VBO/0031
SHEET: 3 **of**

TEST CONDITIONS: EOT SCREENSHOT

TIME	OPERATION/COMMENT	RESPONSIBLE



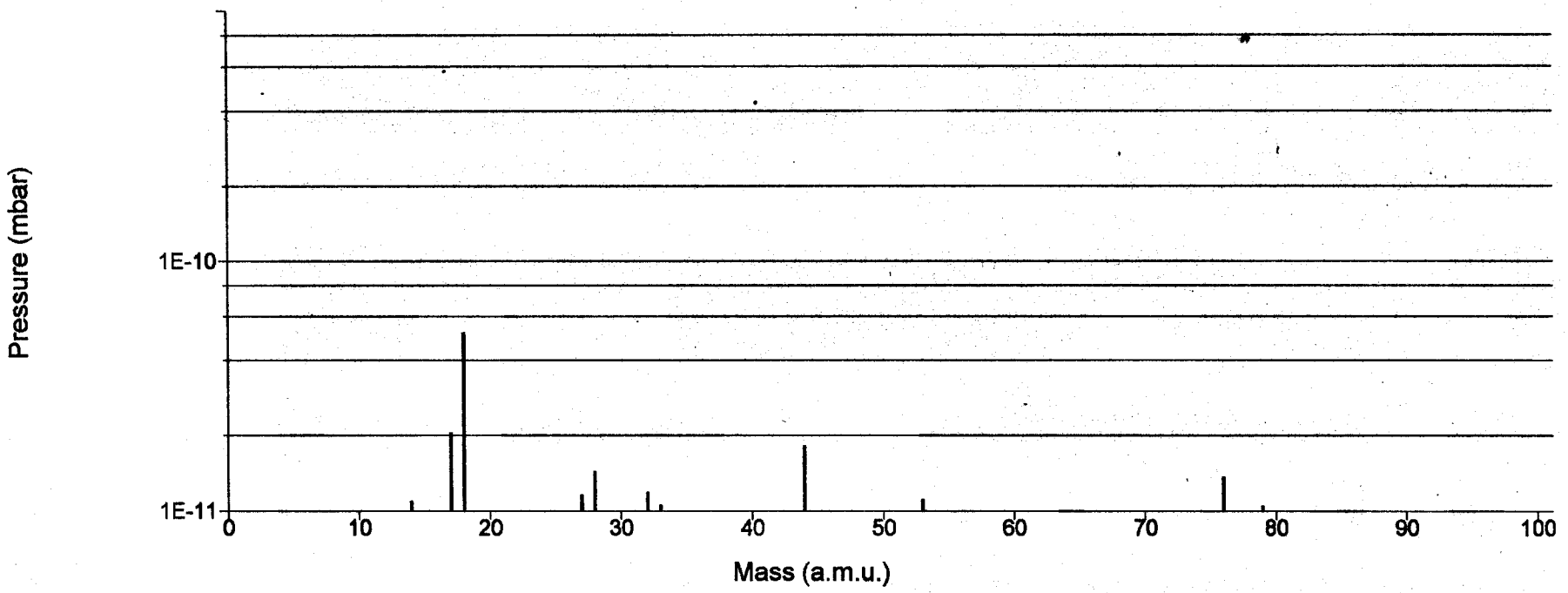
Recall For Windows

[D:\MYDOCU~1\CONTAM~2\SPIRE\BAKEOUT\FMPART~1\FM_BAT~2\FM_B2.WBG] 22-Jan-04
07:51:09 PM

Filament #2:	On	Multiplier:	Off	Accuracy:	5
				AutoRange:	Off

Total Pressure 2.8E-11

Mass 44 1.82E-11



2nd FM component batch bake (batch 2) @ 100°C.

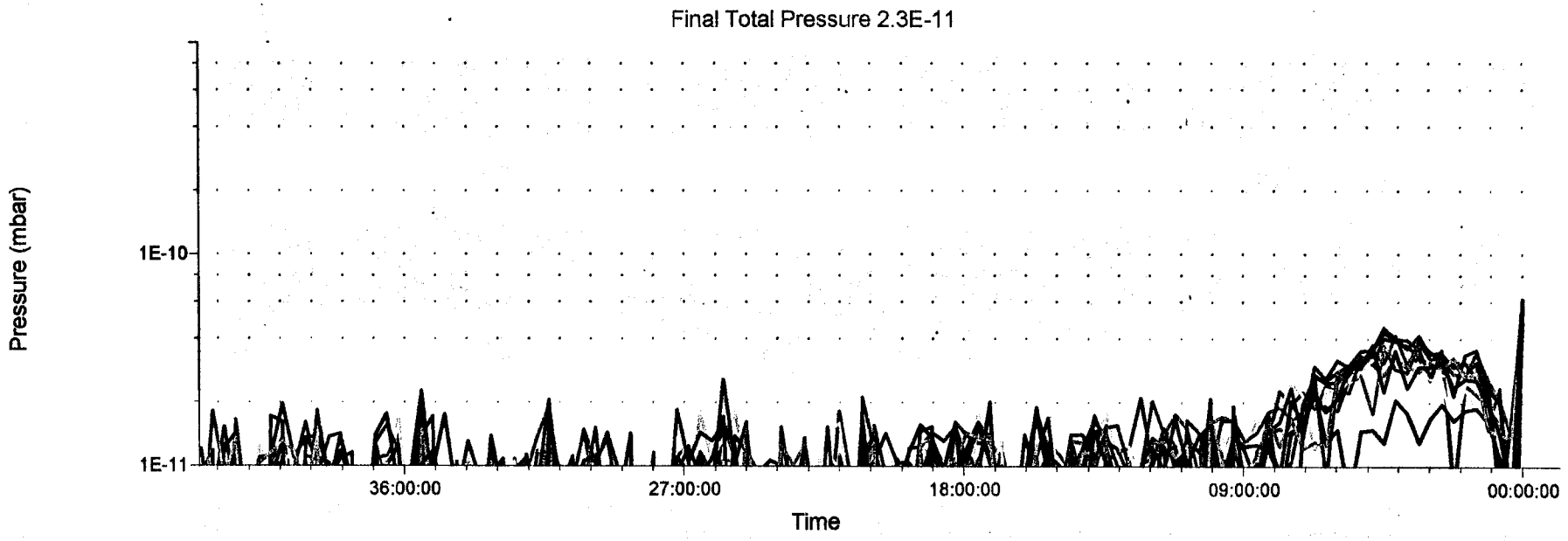
SPIRE piece part bake out, batch 2, FM components, end 22 Jan 02 08:30

Recall For Windows

[D:\MYDOCU~1\CONTAM~2\SPIRE\BAKEOUT\FMPART~1\FM_BAT~2\FM_B2.WBG] 22-Jan-04 08:13:31 PM

Filament #2:	On	Multiplier:	Off	Accuracy: 5
				AutoRange: Off

Channel:	1		3	4	5	6	7	8	9	10	11	12
Enabled:	On	On	On	On	On	On	On	On	On	On	On	On
Mass:	41	42	43	55	56	57	69	70	71	32	44	46



2nd FM component batch bake (batch 2) @ 100°C.

SPIRE piece part bake out, batch 2, FM components, end 22 Jan 02 08:30

Mullard Space Science Laboratory
Vacuum bakeout report

UCL MSSL

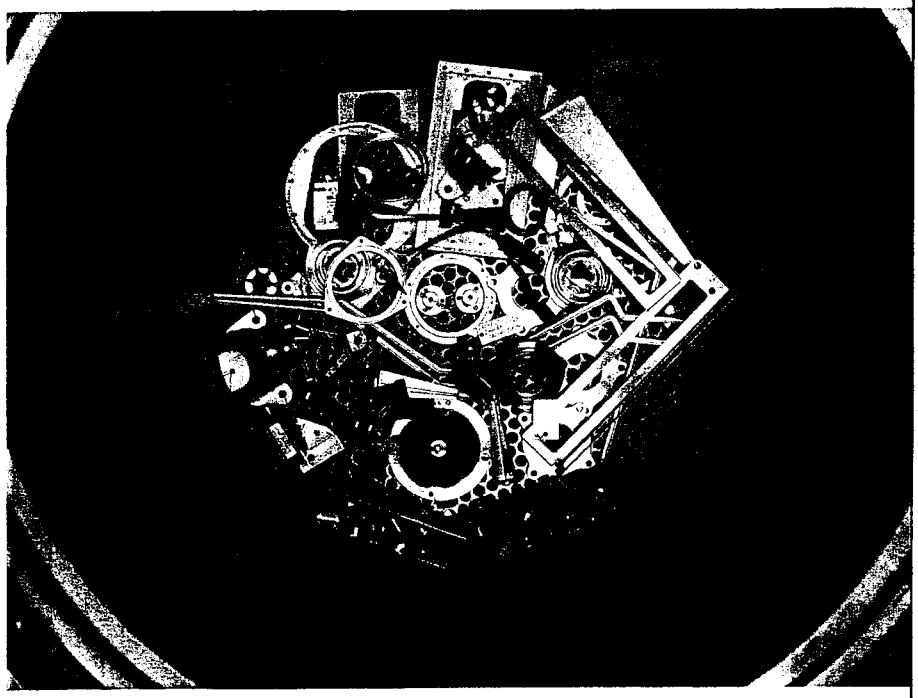
SPIRE STRUCTURE - FM

Vacuum bake out log

Instrument/Component: SPIRE FM PIECE PART BAKE BATCH 3 **Facility:** Turbo pump, Chamber, thermo couples, RGA, TQCM

DATE: 27 JAN 04
TEST #: MSSL/PBO/0033
SHEET: 1 **of**

TEST CONDITIONS: COMPONENT INSTALL, PUMP DOWN, RGA ON

TIME	OPERATION/COMMENT	RESPONSIBLE
10:20	START PUMP DOWN, FOR COMPONENT LIST SEE BAKE 105; TSet=100°C	AJR
10:35	P= 2.2E-2 mbar, T=20°C, TURBO ON	
10:37	P=6.6E-3 mbar, T=20°C	
10:39	P=5.0E-4 mbar, T=20°C	
		
10:40	P= 1.7E-4 mbar, T=20 °C	
10:42	P= 7.8E-5 mbar, T=20°C, RGA ON, FILENAME = SP-03-wbg	AJR
28JAN04		
11:13	P= 4.0E-7 mbar, T=20°C, HEATERS ON	AJR
11:28	P=4.0E-7 mbar, T=25°C	
13:00	P= 1.2E-6 mbar, T= 50°C	

Mullard Space Science Laboratory
Vacuum bakeout report

SPIRE STRUCTURE - FM

Vacuum bake out log

Instrument/Component: SPIRE MIELE PART BAKE OUT BATCH 3 **Facility:** Turbo pump, Chamber, thermo couples, RGA, TQCM

DATE: 02 FEB 04
TEST #: MSSL/V80/0033
SHEET: 2 of 2

TEST CONDITIONS: BAKE OUT

TIME	OPERATION/COMMENT	RESPONSIBLE
02 FEB 04		
09:15	P = 7.0E-7 mbar ; T = 100°C	
03 FEB 04		
09:00	P = 6.0E-7 mbar ; T = 100°C	
04 FEB 04		
09:50	P = 5E-7 mbar, HEATERS OFF	
	E.O.T	

Mullard Space Science Laboratory
Vacuum bakeout report

UCL MSSL

SPIRE STRUCTURE - FM

Vacuum bake out log

Instrument/Component: SPIRE PIECE PART BAKE (MIRROR MOUNTS)

Facility: Turbo pump, Chamber, thermo couples, RGA, TQCM

DATE: 02 MARCH 04
TEST #: MSSL/VBO/0036
SHEET: 1 of

TEST CONDITIONS: PUMP DOWN

TIME	OPERATION/COMMENT	RESPONSIBLE
9:17	INSTALL MIRROR MOUNTS, CLOSE CHAMBER, START PUMP DOWN	
9:18	P = 5.4E-1 mbar, T = 20°C, TSET = 100°C	
9:19	P = 1.4E-1 mbar, T = 20°C	
9:20	P = 7.6E-2 mbar, T = 20°C	
9:21	P = 5.2E-2 mbar, T = 20°C, TURBO ON	
9:22	P = 4.2E-3 mbar, T = 20°C	
9:24	P = 1.7E-4 mbar, T = 20°C	
9:25	P = 7.0E-5 mbar, T = 20°C, RGA ON, RGA FILENAME = FM_04-02.log	
9:31	P = 3.3E-5 mbar, T = 20°C	
15:30	P = 1.1E-6 mbar, T = 20°C	
19:24	P = 9.0E-7 mbar, T = 20°C	
03 MARCH 04		
12:24	P = 7.0E-7 mbar, T = 20°C, HEATERS ON	
12:54	P = 5.0E-7 mbar, T = 39°C	
13:24	P = 3.0E-7 mbar, T = 54°C	
13:54	P = 2.0E-7 mbar, T = 69°C	
14:24	P = 3.0E-7 mbar, T = 84°C	
14:54	P = 6.0E-7 mbar, T = 99°C	
15:24	P = 5.0E-7 mbar, T = 100°C	
04 MARCH 04		
13:54	P = 1.0E-7 mbar, T = 100°C	

Mullard Space Science Laboratory
Vacuum bakeout report

UCL MSSL

SPIRE STRUCTURE - FM

Vacuum bake out log

Instrument/Component: SPIRE /IECE ART BAKE (MIRROR MOUNTS)

Facility: Turbo pump, Chamber, thermo couples, RGA, TQCM

DATE: 5 MARCH 04
TEST #: MSSL/VBO/0036
SHEET: 2 of 2

TEST CONDITIONS: BAKEOUT

TIME	OPERATION/COMMENT	RESPONSIBLE
05MARCH04		
13:54	P = 1·0E-7 mbar, T = 100°C	
06 MARCH04		
13:54	P = 1·0E-7 mbar, T = 100°C	
08 MARCH 04		
13:54	P = 5·0E-8 mbar, T = 100°C	
09 MARCH 04		
08:54	P = 5·0E-8 mbar, T < 100°C, HEATERS OFF, CHAMBER + MIRROR MOUNTS ALLOWED TO COOL, CHAMBER VENTED, BAGGED, E·O·T	

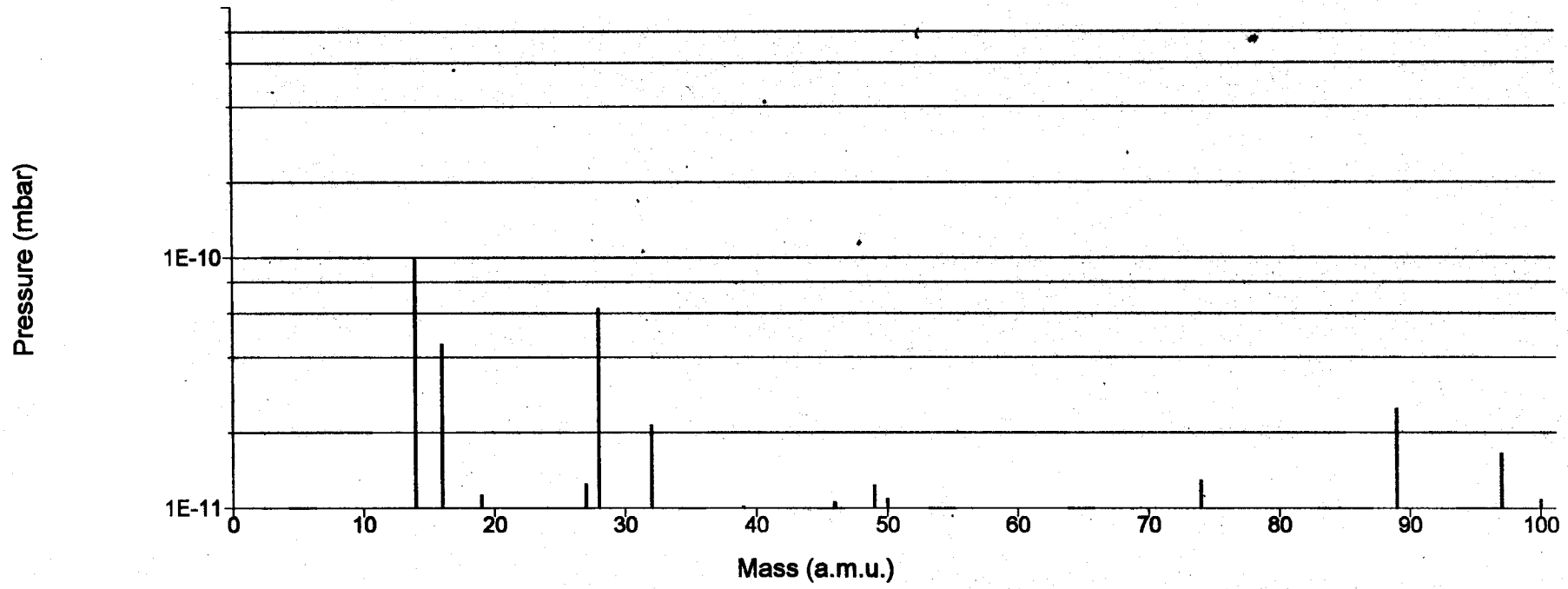
Recall For Windows

[D:\MYDOCU~1\CONTAM~2\SPIRE\BAKEOUT\FMPART~1\FM_BAT~4\FM_B4.WBG] 02-Mar-04 15:27:57 PM

Filament #2:	On	Multiplier:	Off	Accuracy:	5
				AutoRange:	Off

Total Pressure 3.8E-10

Mass 43 0.66E-11



SPIRE Al mirror mounts bake out @ 100°C

SPIRE Mirror mount bake out, begin of bake, T = 20°C

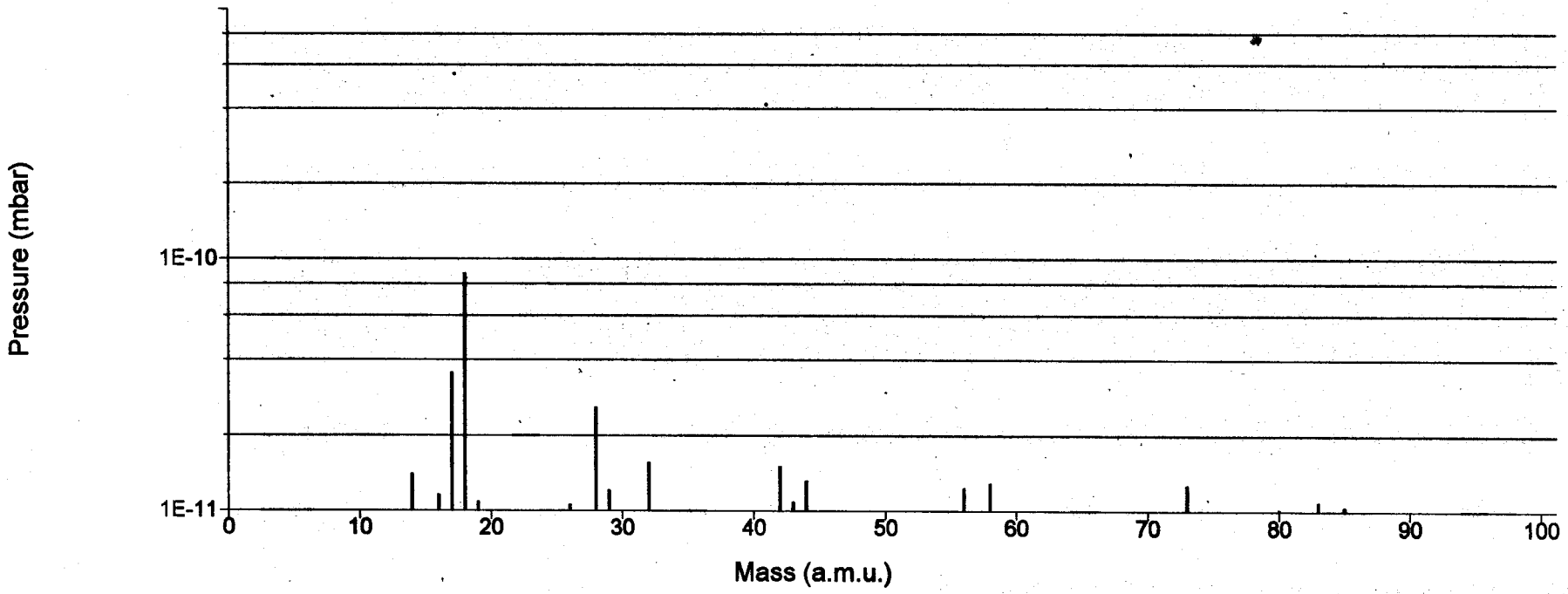
Recall For Windows

[D:\MYDOCU~1\CONTAM~2\SPIRE\BAKEOUT\FMPART~1\FM_BAT~4\FM_B4.WBG] 08-Mar-04 07:56:07 PM

Filament #2: On Multiplier: Off Accuracy: 5
AutoRange: Off

Total Pressure 4.6E-10

Mass 43 1.09E-11



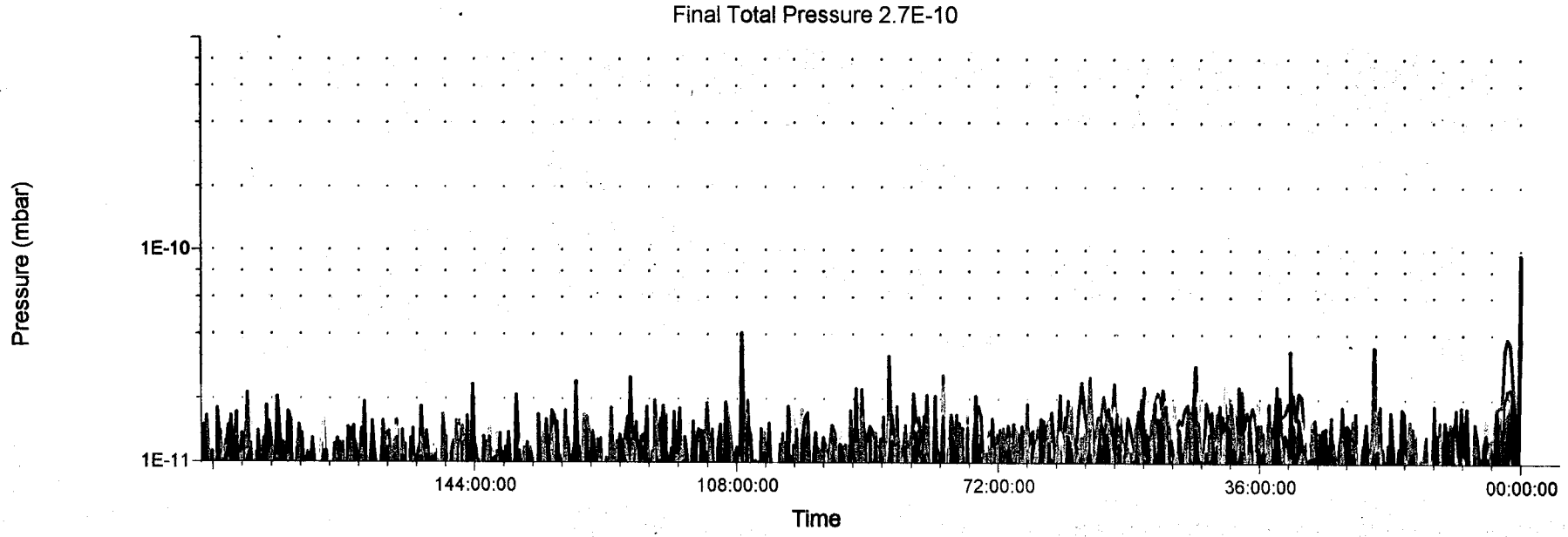
SPIRE Al mirror mounts bake out @ 100°C

SPIRE Mirror mount bake out, end of bake, T = 100°C

Recall For Windows

[D:\MYDOCU~1\CONTAM~2\SPIRE\BAKEOUT\FMPART~1\FM_BAT~4\FM_B4.WBG] 09-Mar-04 23:34:03 PM

Filament #2:	On		Multiplier:		Off		Accuracy:		5			
							AutoRange:		Off			
Channel:	1		3	4	5	6	7	8	9	10	11	12
Enabled:	On	On	On	On	On	On	On	On	On	On	On	On
Mass:	40	41	42	43	55	56	57	69	70	71	44	46



SPIRE Al mirror mounts bake out @ 100°C

SPIRE Mirror mount bake out, trend mode