AIV Facility

Environmental Test Report

AIV Facility Job Number: AIV-2006-087-TVC

Test Item Name: Solar-B EIS DM SLA

Test Type: TVAC

Customer Name: Jason Tandy

Reporting Officers Signature:

Giles Case
AIV Facility, Rutherford Appleton Lab
2006.06.14 15:21:18 +01'00'

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AFAQ EAQA UKAS QUALITY MANAGEMENT 022 ISO 9001 IT

CONTENTS

1) Test Item Description

Solar-B EIS DM SLA

2) Test Specification

Test Specification taken from: MSSL/SLB-EIS/SP/055.04

Summary: Four Cycles -35'C to +30'C

3) Test Objectives

To Qualify the SLA to the new predicted cold survival temperature with a 10'C margin

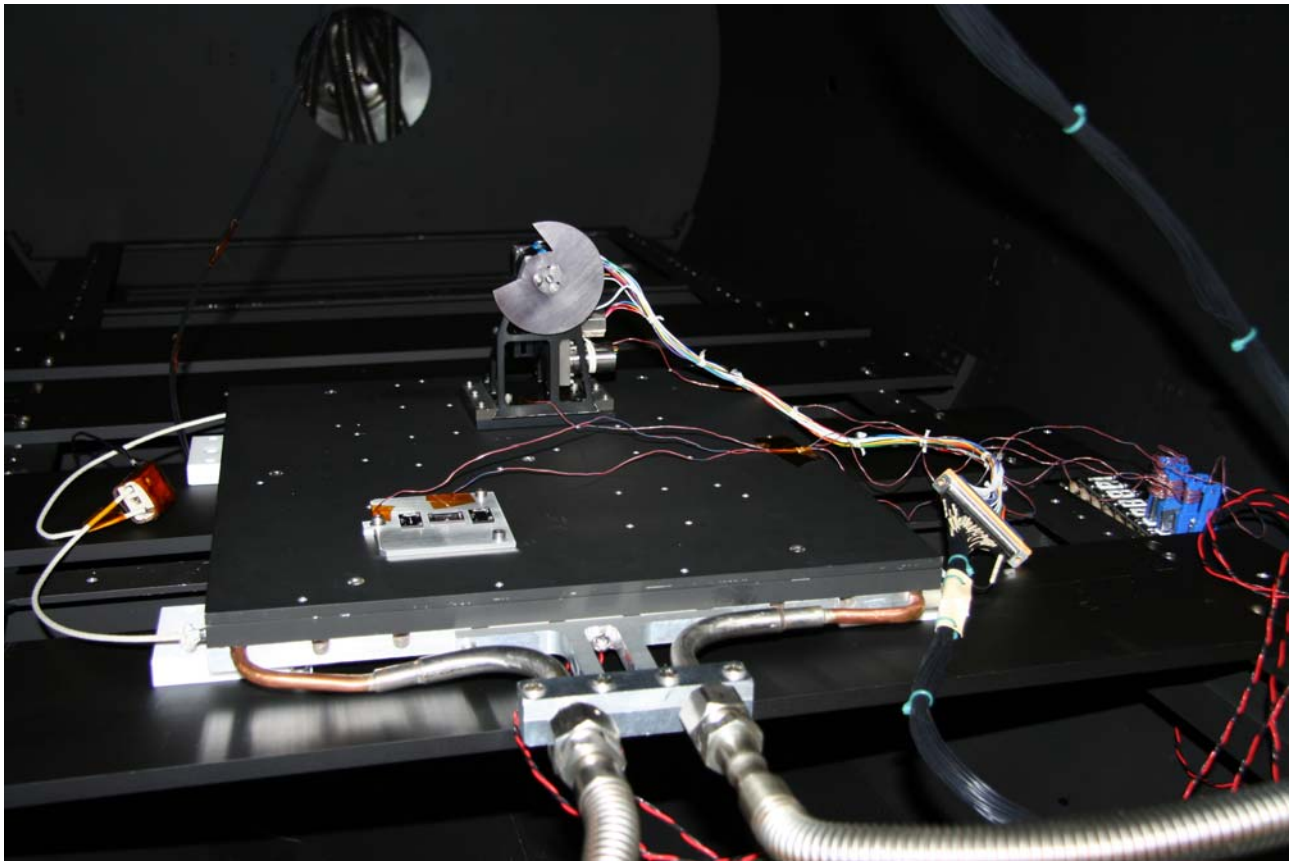
4) Test Summary

Parameter	Date	Time	Shroud/Plate Temperature	Pressure MBar
Pumpdown Initiated	5-5-06	12:00		
Start Thermal Cycling	8-5-05	07:25	28/28 °C	7.2E-7
Finish Thermal Cycling	11-5-06	20:35	26/29 °C	6.1E-7
Letup Initiated	12-5-06	07:50	20/20 °C	4.6E-7

5) Test Item Mounting and Sensor Details

The SLA and the Aluminium plate were bolted to a thermally controlled plate within the chamber. Four thermocouples were attached to monitor temperatures achieved. Thermistors on the test items were monitored manually as well.

6) Photograph



7) Comments

The test was completed successfully

8) Cleanliness Levels (From RGA)

Pretest: Good

Test: Good

9) Conclusion

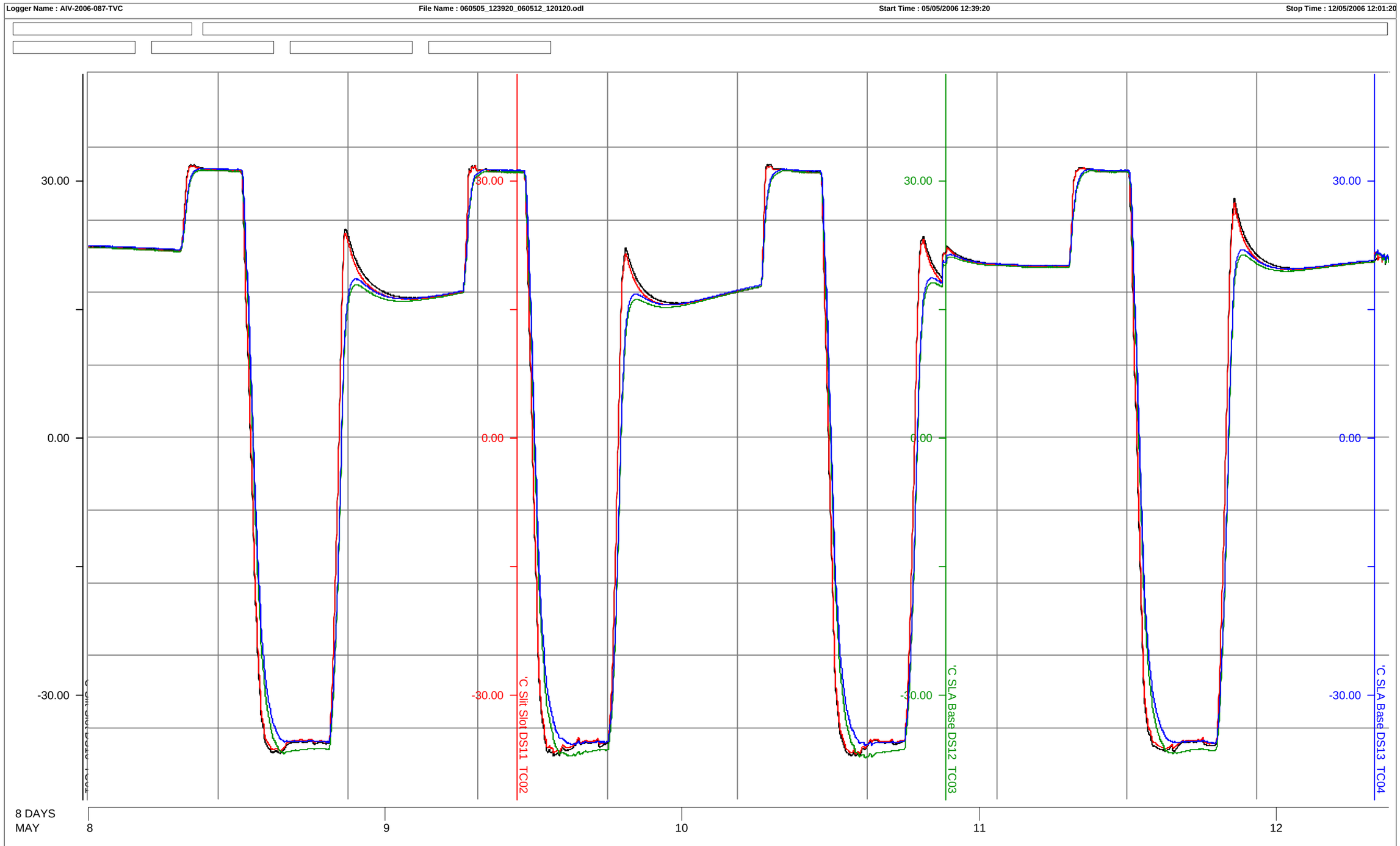
The test was completed successfully

10) Equipment Used:

Description	Identifier	Calibration Date
Facility	Chamber 2	Pretest Performed: 4-5-06
Monitoring System	Datascans CH1, 2 5	22-2-05
RGA	MQH1	28-11-05
Vacuum Gauge	VG1	10-11-05
Thermal Controller	Eurotherm EPG911	22-2-05
Thermal Sentry	Eurotherm 92e	22-2-05

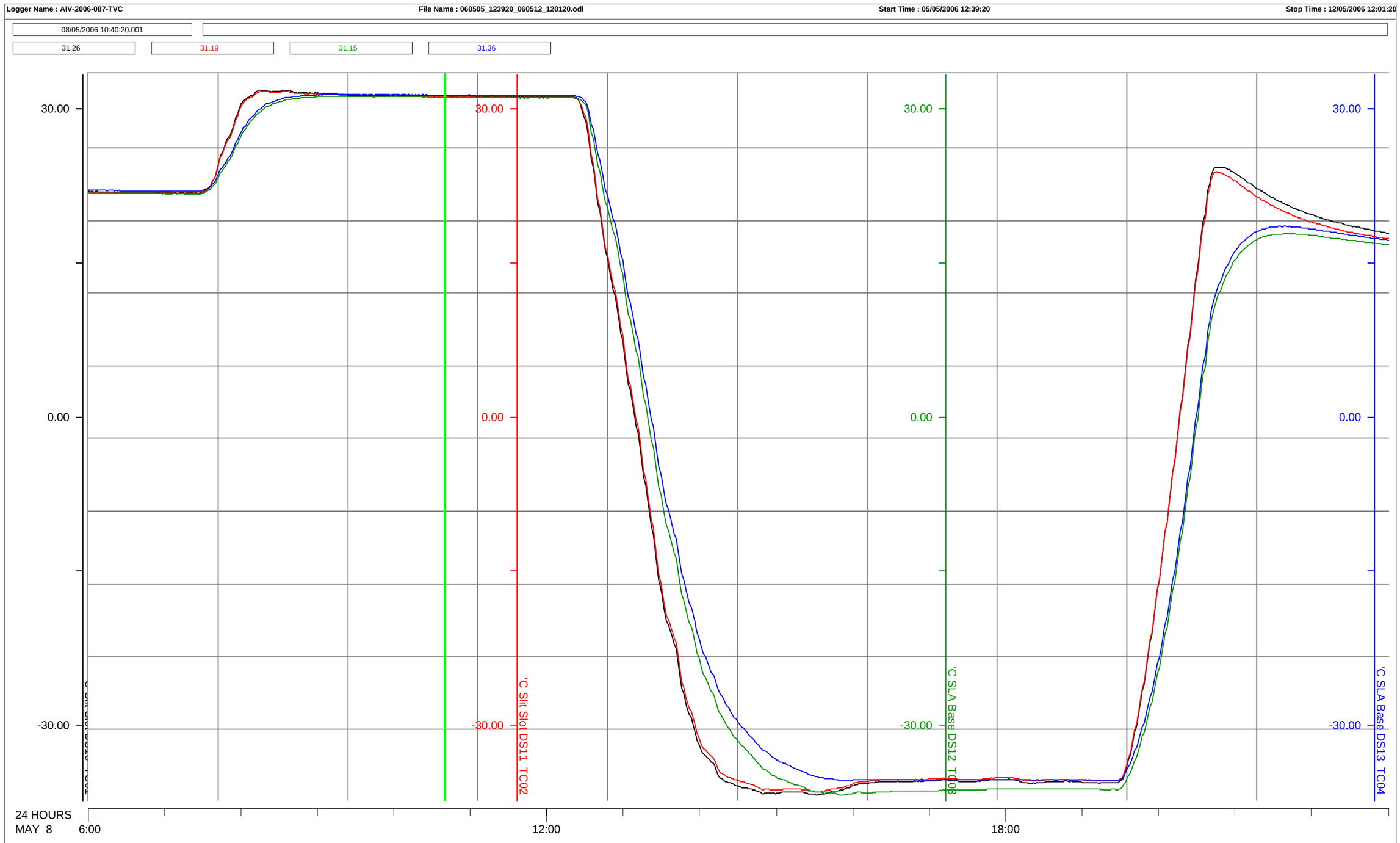
11) Data Plots:

AIV-2006-087-TVC Full Thermal Profile



Color	Channel	Tag	Description	Units	Min	/	Max
	DS10	TC01	Slit Slot	'C	-200.00	/	100.00
	DS11	TC02	Slit Slot	'C	-200.00	/	100.00
	DS12	TC03	SLA Base	'C	-200.00	/	100.00
	DS13	TC04	SLA Base	'C	-200.00	/	100.00

AIV-2006-087-TVC Typical Hot Soak Temperature



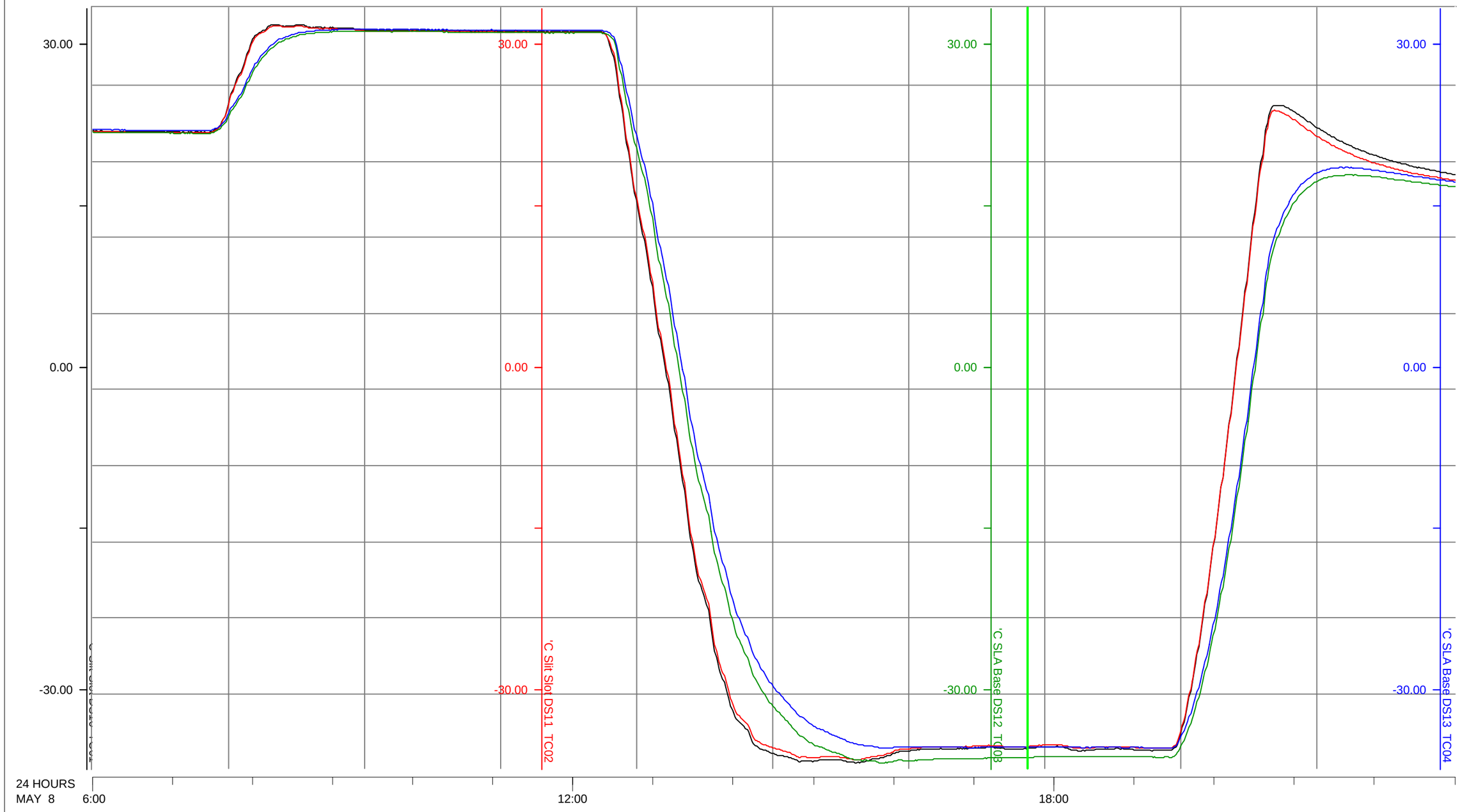
Color	Channel	Tag	Description	Units	Min	/	Max
	DS10	TC01	Slit Slot	'C	-200.00	/	100.00
	DS11	TC02	Slit Slot	'C	-200.00	/	100.00
	DS12	TC03	SLA Base	'C	-200.00	/	100.00
	DS13	TC04	SLA Base	'C	-200.00	/	100.00

AIV-2006-087-TVC Typical Cold Soak Temperature

Logger Name : AIV-2006-087-TVC | File Name : 060505_123920_060512_120120.odl | Start Time : 05/05/2006 12:39:20 | Stop Time : 12/05/2006 12:01:20

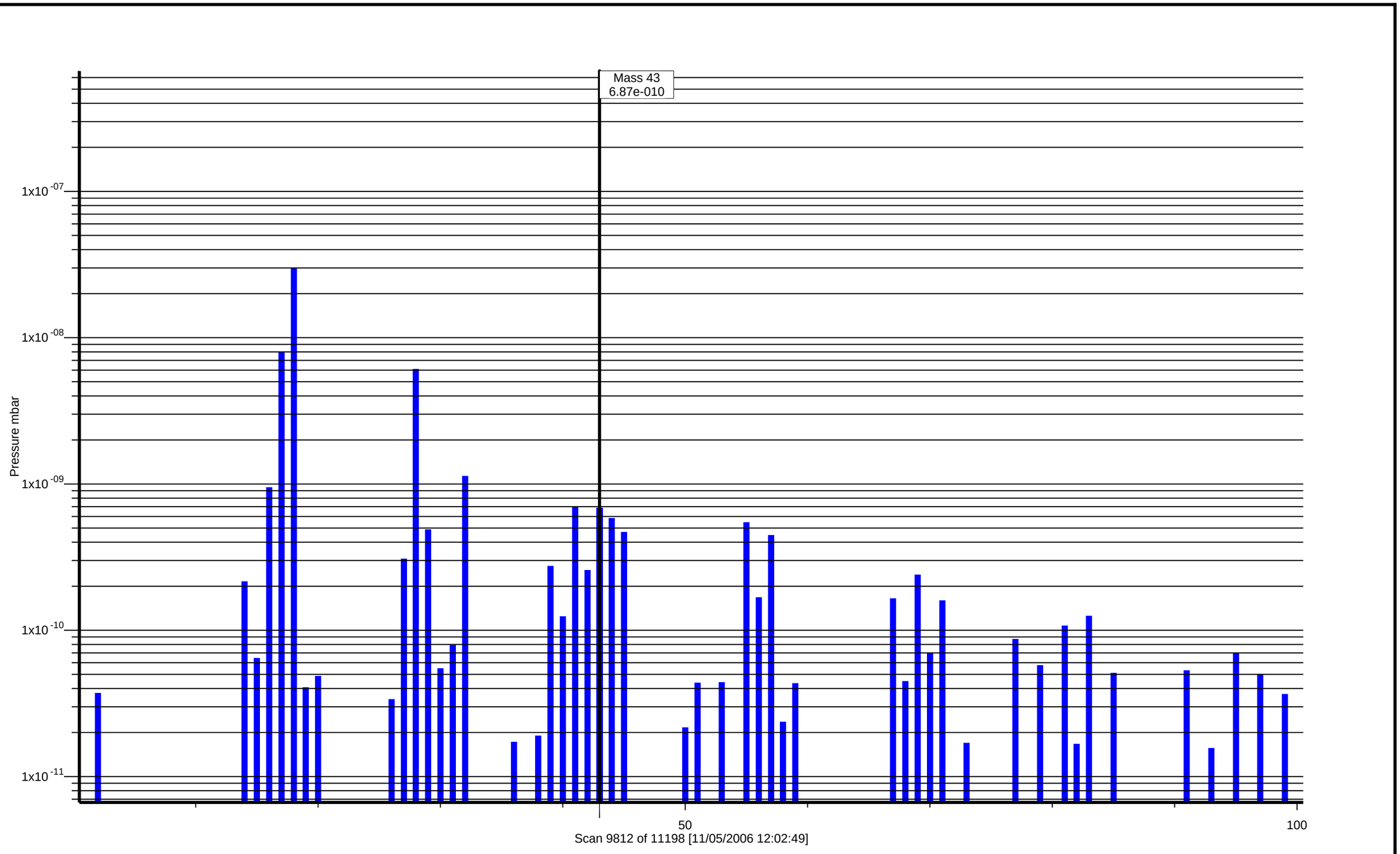
08/05/2006 17:40:20.000

-35.43 | -35.26 | -36.29 | -35.34



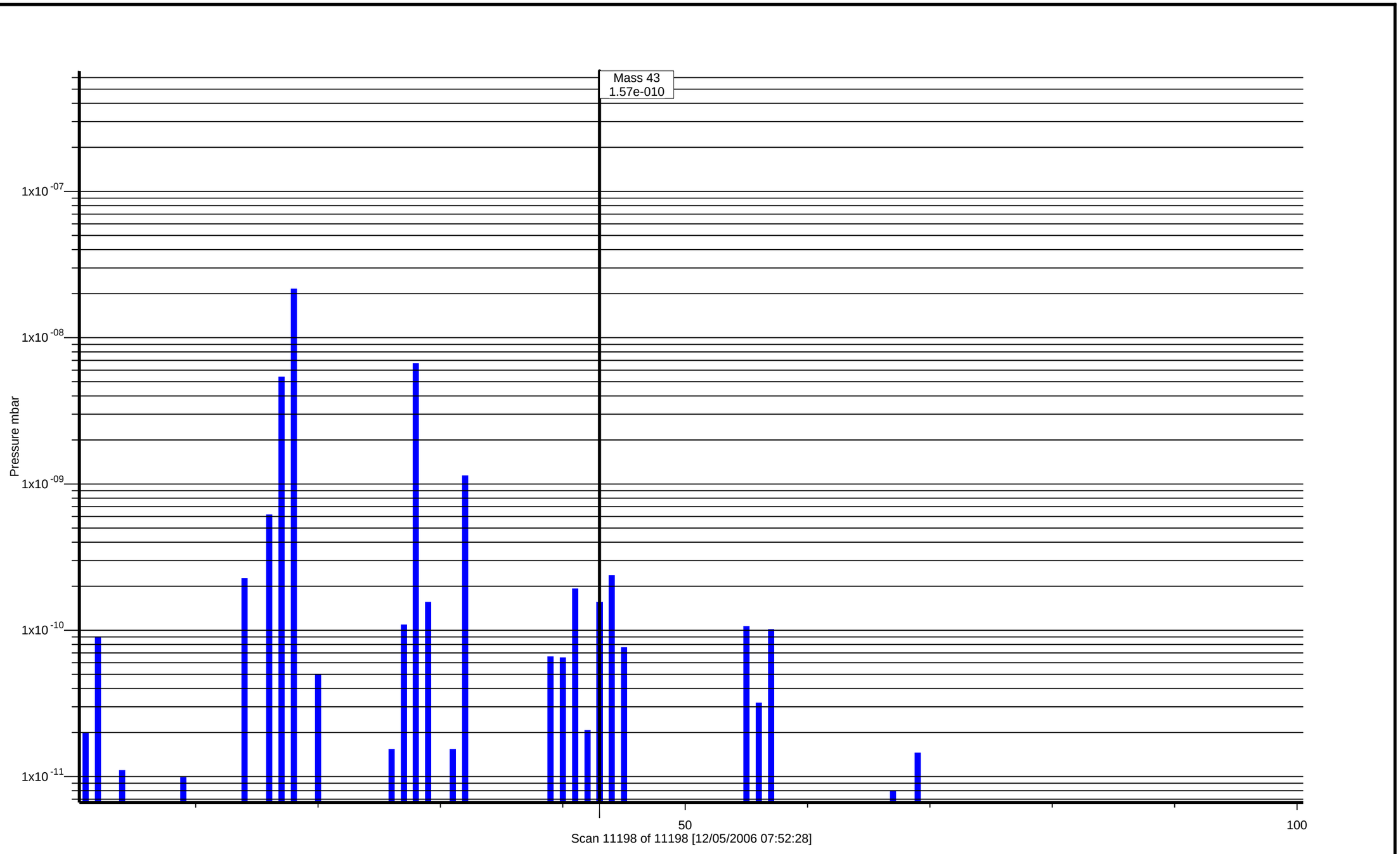
Color	Channel	Tag	Description	Units	Min	/	Max
	DS10	TC01	Slit Slot	'C	-200.00	/	100.00
	DS11	TC02	Slit Slot	'C	-200.00	/	100.00
	DS12	TC03	SLA Base	'C	-200.00	/	100.00
	DS13	TC04	SLA Base	'C	-200.00	/	100.00

AIV-2006-087-TVC RGA Barchart at end of last hot soak



Ion source configuration: Source 7
Detector: Faraday
Accuracy: 7
Instrument serial number: LM76-01001016

AIV-2006-087-TVC RGA Barchart at letup



Ion source configuration: Source 7
Detector: Faraday
Accuracy: 7
Instrument serial number: LM76-01001016

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SOLAR-B

SLIT-SLOT S.L.A. **Page** (1)

DATE = 8-05-06	TIME	RESISTANCE (kΩ)	TEMP (°C)	COMMENTS
4 & 5 (MOTOR)	07:30	2.614	21.5	
6 & 7 (SHUTTER)		2.609	21.5	
4 & 5 (MOTOR)	08:00	2.328	24.0	08:20 START HOT SOAK.
6 & 7 (SHUTTER)		2.173	26.0	
4 & 5 (MOTOR)	08:30	1.909	28.0	
6 & 7 (SHUTTER)		1.855	29.5	
4 & 5 (MOTOR)	0900	1.764	31.0	
6 & 7 (SHUTTER)		1.736	31.0	
4 & 5 (MOTOR)	0930	1.741	31.0	
6 & 7 (SHUTTER)		1.728	31.0	
4 & 5 (MOTOR)	10 00	1.731	31.0	
6 & 7 (SHUTTER)		1.726	31.0	
4 & 5 (MOTOR)	10 30	1.729	31.0	
6 & 7 (SHUTTER)		1.725	31.0	
4 & 5 (MOTOR)	11:00	1.728	31.0	
6 & 7 (SHUTTER)		1.724	31.0	
4 & 5 (MOTOR)	11:30	1.727	31.0	
6 & 7 (SHUTTER)		1.724	31.0	
4 & 5 (MOTOR)	12 00	1.727	31.0	
6 & 7 (SHUTTER)		1.724	31.0	
4 & 5 (MOTOR)	12:20	1.730	31.0	12:20 END HOT SOAK
6 & 7 (SHUTTER)		1.729	31.0	
4 & 5 (MOTOR)	13 00	2.469	23.0	
6 & 7 (SHUTTER)		2.973	19.0	
4 & 5 (MOTOR)	13 30	5.838	4.5	
6 & 7 (SHUTTER)		8.35	-2.5	
4 & 5 (MOTOR)	14:00	12.90	-10.5	
6 & 7 (SHUTTER)		18.53	-17.0	
4 & 5 (MOTOR)	14:30	28.12	-24.5	
6 & 7 (SHUTTER)		35.97	-28	
4 & 5 (MOTOR)	15:00	42.90	-31	
6 & 7 (SHUTTER)		49.07	-33.5	
4 & 5 (MOTOR)	15:30	54.71	-35	START COLD SOAK
6 & 7 (SHUTTER)		58.01	-36	
4 & 5 (MOTOR)	16:00	59.29	-36.5	
6 & 7 (SHUTTER)		60.98	-36.5	
4 & 5 (MOTOR)	16:30	62.01	-37	
6 & 7 (SHUTTER)		62.03	-37	
4 & 5 (MOTOR)	17:00	62.64	-37	
6 & 7 (SHUTTER)		62.22	-37	
4 & 5 (MOTOR)	17:30	62.63	-37	
6 & 7 (SHUTTER)		62.04	-37	
4 & 5 (MOTOR)	18:00	62.58	-37	
6 & 7 (SHUTTER)		61.98	-37	

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SOLAR-B

SLIT-SLOT S.L.A. **Page** (2)

DATE = 8-5-06	TIME	RESISTANCE	TEMP	COMMENTS
		(kΩ)	(°C)	
4 & 5 (MOTOR)	18:30	62.47	-37	
6 & 7 (SHUTTER)		61.93	-37	
4 & 5 (MOTOR)	19:00	62.56	-37	
6 & 7 (SHUTTER)		62.04	-37	
4 & 5 (MOTOR)	1930	62.61	-37	END COLD SOAK
6 & 7 (SHUTTER)		62.10	-37	
4 & 5 (MOTOR)	20:00	49.77	-33.5	
6 & 7 (SHUTTER)		42.65	-31	
4 & 5 (MOTOR)	20:30	19.86	-18	
6 & 7 (SHUTTER)		12.84	-10	
4 & 5 (MOTOR)	20:45	11.93	-9	
6 & 7 (SHUTTER)		7.28	0	
4 & 5 (MOTOR)				
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4 & 5 (MOTOR)				
6 & 7 (SHUTTER)				

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SLIT-SLOT S.L.A. **Page** (3)

DATE = 9.5.06	TIME	RESISTANCE	TEMP	COMMENTS
		(KΩ)	(°C)	
4 & 5 (MOTOR)	06.40	2.971	19	
6 & 7 (SHUTTER)		2.752	20.5	
4 & 5 (MOTOR)	07.00	2.411	23	
6 & 7 (SHUTTER)		2.122	26	
4 & 5 (MOTOR)	07.12	2.150	26	START OF
6 & 7 (SHUTTER)		1.929	28.5	SOAK. @ +30
4 & 5 (MOTOR)	07.30	1.926	28.5	
6 & 7 (SHUTTER)		1.815	30	
4 & 5 (MOTOR)	08.00	1.789	30.5	
6 & 7 (SHUTTER)		1.752	30.5	
4 & 5 (MOTOR)	08.30	1.744	30.5	
6 & 7 (SHUTTER)		1.733	31	
4 & 5 (MOTOR)	09.00	1.736	31	
6 & 7 (SHUTTER)		1.732	31	
4 & 5 (MOTOR)	09.30	1.736	31	
6 & 7 (SHUTTER)		1.732	31	
4 & 5 (MOTOR)	10.00	1.736	31	
6 & 7 (SHUTTER)		1.732	31	
4 & 5 (MOTOR)	10.30	1.736	31	
6 & 7 (SHUTTER)		1.733	31	
4 & 5 (MOTOR)	11.12	1.737	31	
6 & 7 (SHUTTER)		1.734	31	END SOAK
4 & 5 (MOTOR)	11.30	1.921	28.5	
6 & 7 (SHUTTER)		2.047	27.5	
4 & 5 (MOTOR)	12.00	3.170	17.5	
6 & 7 (SHUTTER)		4.220	11.5	
4 & 5 (MOTOR)	12.30	8.35	-3.5	
6 & 7 (SHUTTER)		12.53	-10	
4 & 5 (MOTOR)	13.00	20.70	-19.5	
6 & 7 (SHUTTER)		28.61	-24.5	
4 & 5 (MOTOR)	13.30	36.43	-28.5	
6 & 7 (SHUTTER)		43.45	-31.5	
4 & 5 (MOTOR)	14:00	49.60	-33.5	14.03 START
6 & 7 (SHUTTER)		54.53	-34.5	SOAK @ -35
4 & 5 (MOTOR)	14.33	58.64	-36	
6 & 7 (SHUTTER)		60.34	-36.5	
4 & 5 (MOTOR)	15.00	61.99	-36.5	
6 & 7 (SHUTTER)		62.63	-37	
4 & 5 (MOTOR)	15.30	63.70	-37.5	
6 & 7 (SHUTTER)		63.40	-37.5	
4 & 5 (MOTOR)	16.00	63.79	-37	
6 & 7 (SHUTTER)		63.23	-37	
4 & 5 (MOTOR)	16.30	63.60	-37	
6 & 7 (SHUTTER)		62.93	-37	

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SLIT-SLOT S.L.A. Page 4

DATE = 9/5/2006	TIME	RESISTANCE	TEMP	COMMENTS
4 & 5 (MOTOR)	17.00	63.38	-37	
6 & 7 (SHUTTER)		62.76	-37	
4 & 5 (MOTOR)	17.30	63.10	-37	
6 & 7 (SHUTTER)		62.50	-37	
4 & 5 (MOTOR)	18.00	63.10	-37	18.05 END
6 & 7 (SHUTTER)		62.46	-37	SOAK.
4 & 5 (MOTOR)	18.30	53.08	-34.5	
6 & 7 (SHUTTER)		47.56	-33	
4 & 5 (MOTOR)	19.00	25.64	-22	
6 & 7 (SHUTTER)		17.43	-16	
4 & 5 (MOTOR)	19.30	8.23	-2	
6 & 7 (SHUTTER)		5.500	5.5	
4 & 5 (MOTOR)				
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6 & 7 (SHUTTER)				

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SLIT-SLOT S.L.A. **Page** (5)

DATE = 10/5/2006 .	TIME	RESISTANCE	TEMP	COMMENTS
4 & 5 (MOTOR)	06:20	3·174	17·5	
6 & 7 (SHUTTER)		3·154	17·5	
4 & 5 (MOTOR)	06·30	3·025	18	
6 & 7 (SHUTTER)		2·918	19	
4 & 5 (MOTOR)	07·00	2·381	24	
6 & 7 (SHUTTER)		2·092	27	
4 & 5 (MOTOR)	07·10	2·125	26·5	START SOAK
6 & 7 (SHUTTER)		1·920	28	@ +30
4 & 5 (MOTOR)	07·30	1·930	28·5	
6 & 7 (SHUTTER)		1·816	30	
4 & 5 (MOTOR)	08·00	1·775	31	
6 & 7 (SHUTTER)		1·745	31	
4 & 5 (MOTOR)	08·30	1·746	31	
6 & 7 (SHUTTER)		1·736	31	
4 & 5 (MOTOR)	09·00	1·738	31	
6 & 7 (SHUTTER)		1·733	31	
4 & 5 (MOTOR)	9·30	1·737		
6 & 7 (SHUTTER)		1·733		
4 & 5 (MOTOR)	10·00	1·737		
6 & 7 (SHUTTER)		1·733		
4 & 5 (MOTOR)	10·30	1·737	31	
6 & 7 (SHUTTER)		1·734.	31	
4 & 5 (MOTOR)	11·11	1·738	31	END
6 & 7 (SHUTTER)		1·734.	31	SOAK.
4 & 5 (MOTOR)	11·30	1·943	29·5	
6 & 7 (SHUTTER)		2·099	26·5	
4 & 5 (MOTOR)	12·00	3·774	14	
6 & 7 (SHUTTER)		5·168	7	
4 & 5 (MOTOR)	12·30	9·20	−4·5	
6 & 7 (SHUTTER)		13·90	−12	
4 & 5 (MOTOR)	13·00	21·82	−20	
6 & 7 (SHUTTER)		29·40	−25	
4 & 5 (MOTOR)	13·30	37·93	−29	
6 & 7 (SHUTTER)		44·93	−32	
4 & 5 (MOTOR)	14·02	52·01	−34	
6 & 7 (SHUTTER)		56·05	−35·5	
4 & 5 (MOTOR)	14·33	59·79	−36·5	
6 & 7 (SHUTTER)		61·35	−36·5	
4 & 5 (MOTOR)	15·00	62·90	−37	
6 & 7 (SHUTTER)		63·29	−37	
4 & 5 (MOTOR)	15·30	63·90	−37	
6 & 7 (SHUTTER)		63·60	−37	
4 & 5 (MOTOR)	16·00	63·60	−37	
6 & 7 (SHUTTER)		62·94	−37·2	

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SLIT-SLOT S.L.A. **Page** 6

DATE = 10/5/2006	TIME	RESISTANCE	TEMP	COMMENTS
4 & 5 (MOTOR)	16.30	63.40	-37	
6 & 7 (SHUTTER)		62.87	-37	
4 & 5 (MOTOR)	17.00	63.40	-37	
6 & 7 (SHUTTER)		62.79	-37	
4 & 5 (MOTOR)	17.30	63.32	-37	
6 & 7 (SHUTTER)		62.90	-37	
4 & 5 (MOTOR)	18:00	63.0	-37	END
6 & 7 (SHUTTER)		62.49	-37	SOAK.
4 & 5 (MOTOR)	18:30	50.77	-33.5	
6 & 7 (SHUTTER)		44.28	-31	
4 & 5 (MOTOR)	19:00	21.68	-21	
6 & 7 (SHUTTER)		14.44	-14	
4 & 5 (MOTOR)	19:30	6.710	2	
6 & 7 (SHUTTER)		4.553	9	
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4 & 5 (MOTOR)				
6 & 7 (SHUTTER)				

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SLIT-SLOT S.L.A. **Page** (7)

DATE = 11-5-2006	TIME	RESISTANCE	TEMP	COMMENTS
4 & 5 (MOTOR)	07:20	2.833	20	
6 & 7 (SHUTTER)		2.829	20	
4 & 5 (MOTOR)	0730	2.668	21	
6 & 7 (SHUTTER)		2.549	22	
4 & 5 (MOTOR)	0800	2.139	26	START SOAK @ 08:05
6 & 7 (SHUTTER)		1.955	28	
4 & 5 (MOTOR)	08:30	1.835	29.5	
6 & 7 (SHUTTER)		1.770	31	
4 & 5 (MOTOR)	0900	1.753	31	
6 & 7 (SHUTTER)		1.732	31	
4 & 5 (MOTOR)	0930	1.735	31	
6 & 7 (SHUTTER)		1.729	31	
4 & 5 (MOTOR)	1000	1.733	31	
6 & 7 (SHUTTER)		1.729	31	
4 & 5 (MOTOR)	10:30	1.732	31	
6 & 7 (SHUTTER)		1.728	31	
4 & 5 (MOTOR)	11:00	1.732	31	
6 & 7 (SHUTTER)		1.728	31	
4 & 5 (MOTOR)	11:30	1.732	31	
6 & 7 (SHUTTER)		1.728	31	
4 & 5 (MOTOR)	12:00	1.732	31	
6 & 7 (SHUTTER)		1.728	31	END SOAK @ 12:05
4 & 5 (MOTOR)	12:30	2.131	26	
6 & 7 (SHUTTER)		2.455	23	
4 & 5 (MOTOR)	13:00	4.513	10	
6 & 7 (SHUTTER)		6.32	3	
4 & 5 (MOTOR)	13:30	11.8	-9	
6 & 7 (SHUTTER)		17.54	-16	
4 & 5 (MOTOR)	14:00	25.90	-23	
6 & 7 (SHUTTER)		33.45	-27	
4 & 5 (MOTOR)	14:30	41.11	-31	
6 & 7 (SHUTTER)		46.96	-32.5	
4 & 5 (MOTOR)	15:00	51.98	-34	START COLD SOAK @ 15:05
6 & 7 (SHUTTER)		55.53	-35	
4 & 5 (MOTOR)	15:30	58.46	-36	
6 & 7 (SHUTTER)		60.19	-36.5	
4 & 5 (MOTOR)	16:00	61.76	-37	
6 & 7 (SHUTTER)		62.15	-37	
4 & 5 (MOTOR)	16:30	62.85	-37	
6 & 7 (SHUTTER)		62.43	-37	
4 & 5 (MOTOR)	17:00	62.94	-37	
6 & 7 (SHUTTER)		62.39	-37	
4 & 5 (MOTOR)	17:30	62.79	-37	
6 & 7 (SHUTTER)		62.21	-37	

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SOLAR-B
SLIT-SLOT S.L.A. Page (8)

DATE = 11-5-2006	TIME	RESISTANCE	TEMP	COMMENTS
4 & 5 (MOTOR)	1800	62-64	-37	
6 & 7 (SHUTTER)		62-03	-37	
4 & 5 (MOTOR)	18:30	62.80	-37	
6 & 7 (SHUTTER)		62.41	-37	
4 & 5 (MOTOR)	19:00	63.3	-37	19:05 END OF COLD SOAK
6 & 7 (SHUTTER)		62-94	-37	
4 & 5 (MOTOR)	19:30	5583	-35	
6 & 7 (SHUTTER)		50.95	-33.5	
4 & 5 (MOTOR)	20:00	28.22	-24.5	
6 & 7 (SHUTTER)		20.08	-19	
4 & 5 (MOTOR)	20:30	8.91	-4	
6 & 7 (SHUTTER)		5.51	6	
4 & 5 (MOTOR)				
6 & 7 (SHUTTER)				
4 & 5 (MOTOR)	12.5.06	2.772	20.5	LET UP.
6 & 7 (SHUTTER)	07.55	2.761	20.5	
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