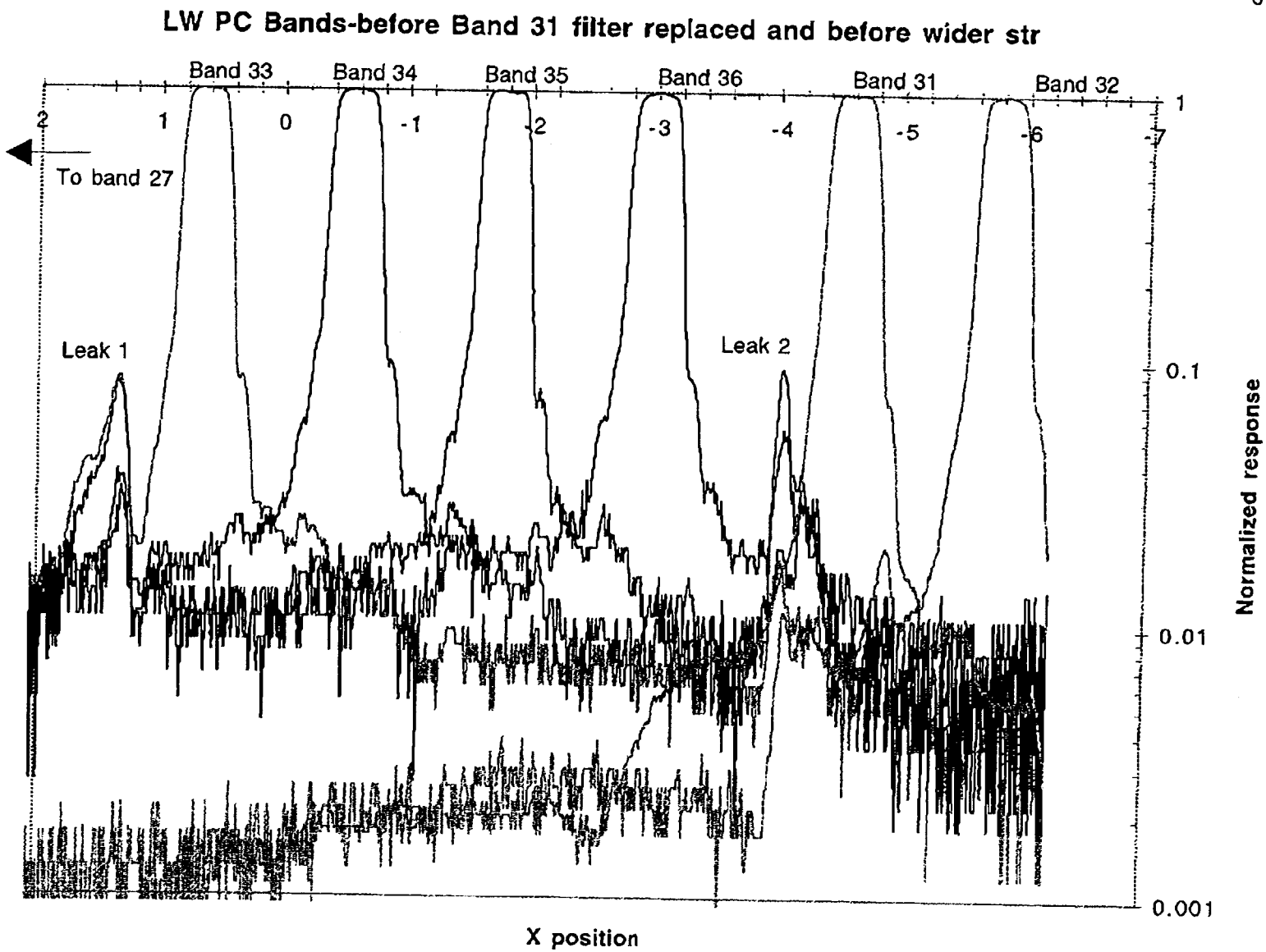
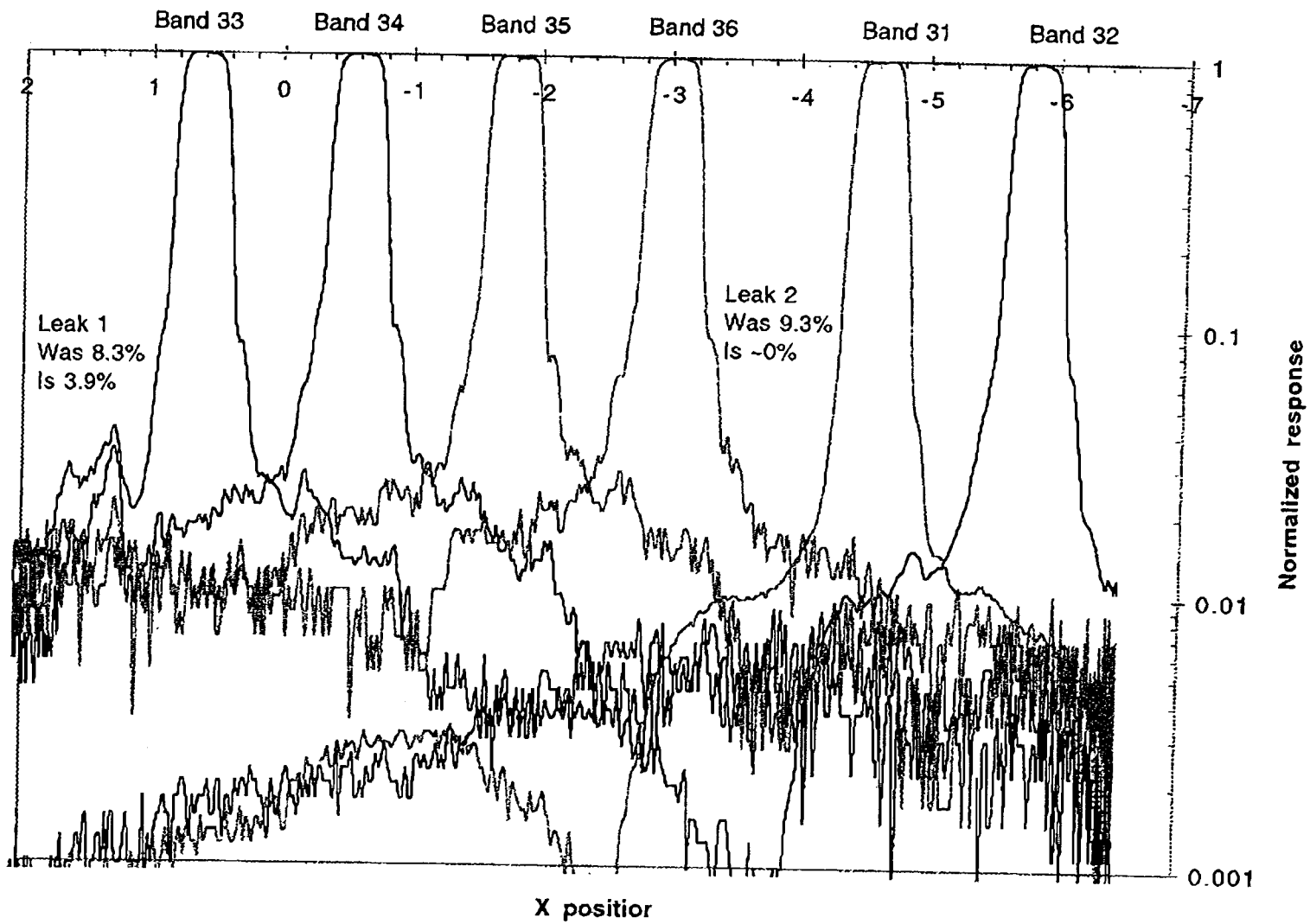
ATTACHMENT 1
8/21/97



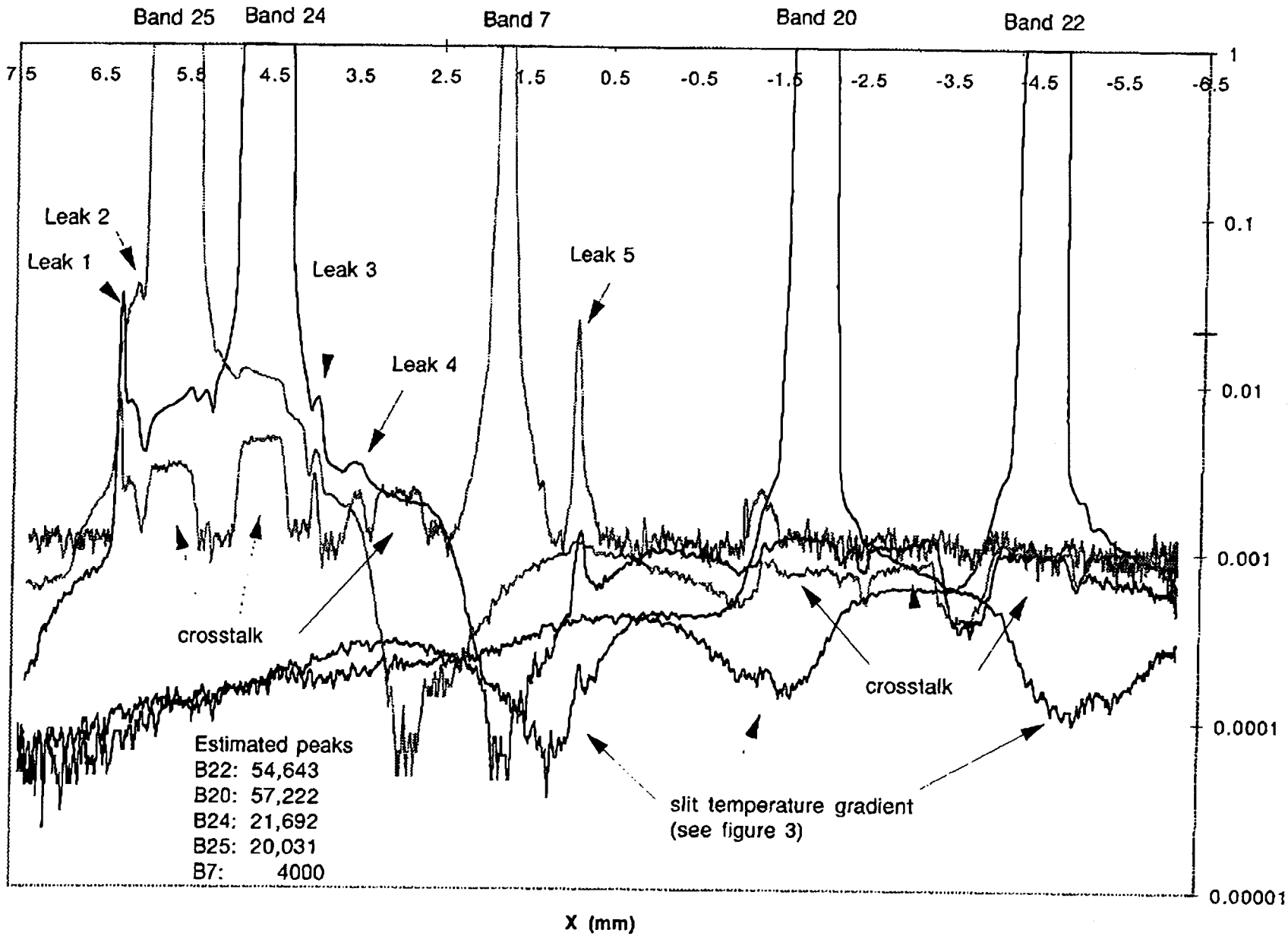
LW PC Bands--after Band 31 filter replaced and wider stripe



smlw_track_ag_lwleak.raw.ave.sk

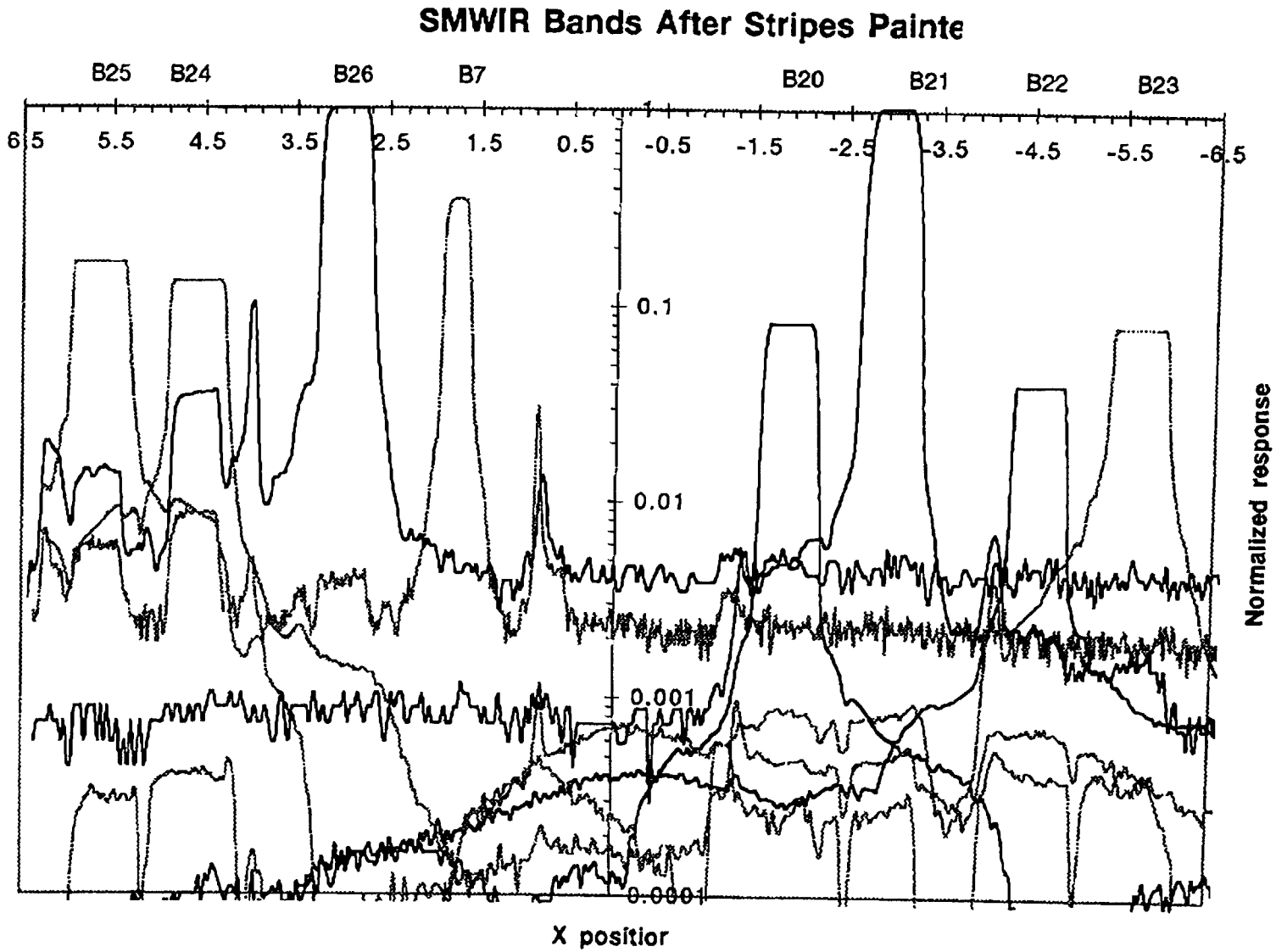
8/14/97

BEFORE STRIPES
(NO B26, B21, B23 DATA)



smxt1.raw.skip

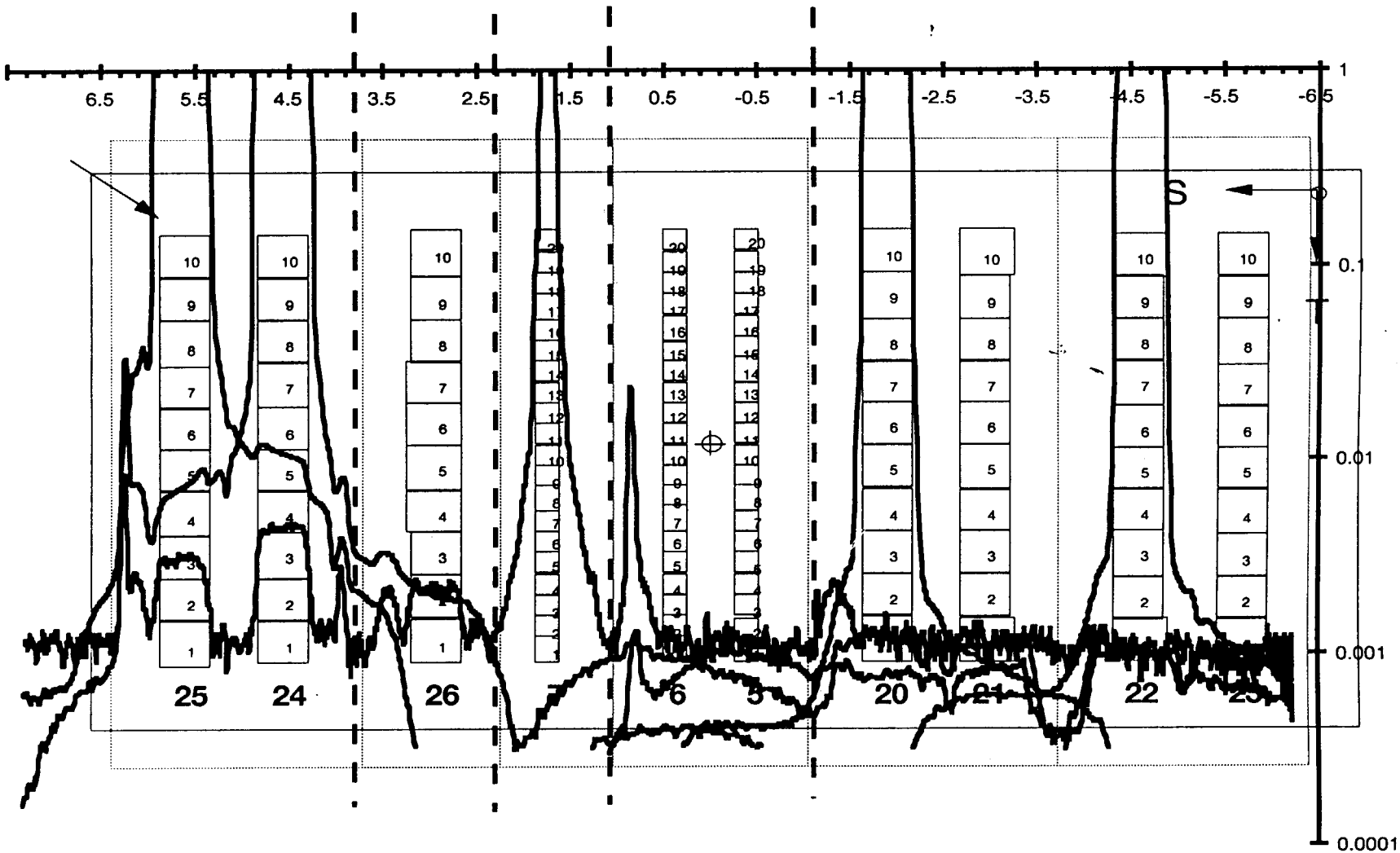
Log LSF


SMWIR Bands After Stripes Painte
B25
B24
B26
B7
B20
B21
B22
B23
6.5
5.5
4.5
3.5
2.5
1.5
0.5
-0.5
-1.5
-2.5
-3.5
-4.5
-5.5
-6.5
1
0.1
0.01
0.001
0.0001
Normalized response
X positior

Overlay of Data & Features Defines Needed Blocking Regions

HUGHES AIRCRAFT

Santa Barbara Remote Sensing



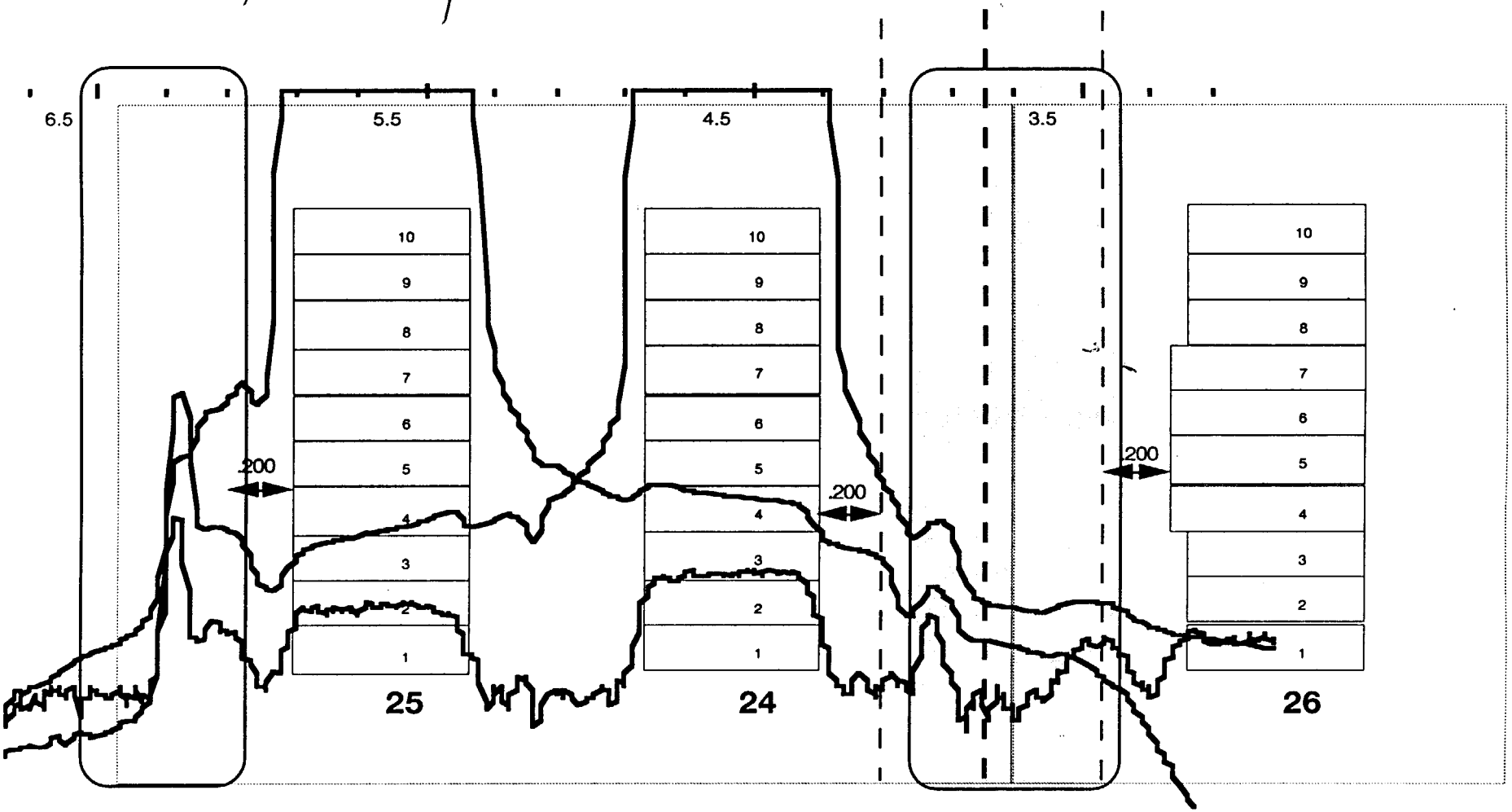
JV 7/31/

Leaks 1-4 Blocked by 2 Stripes

HUGHES AIRCRAFT

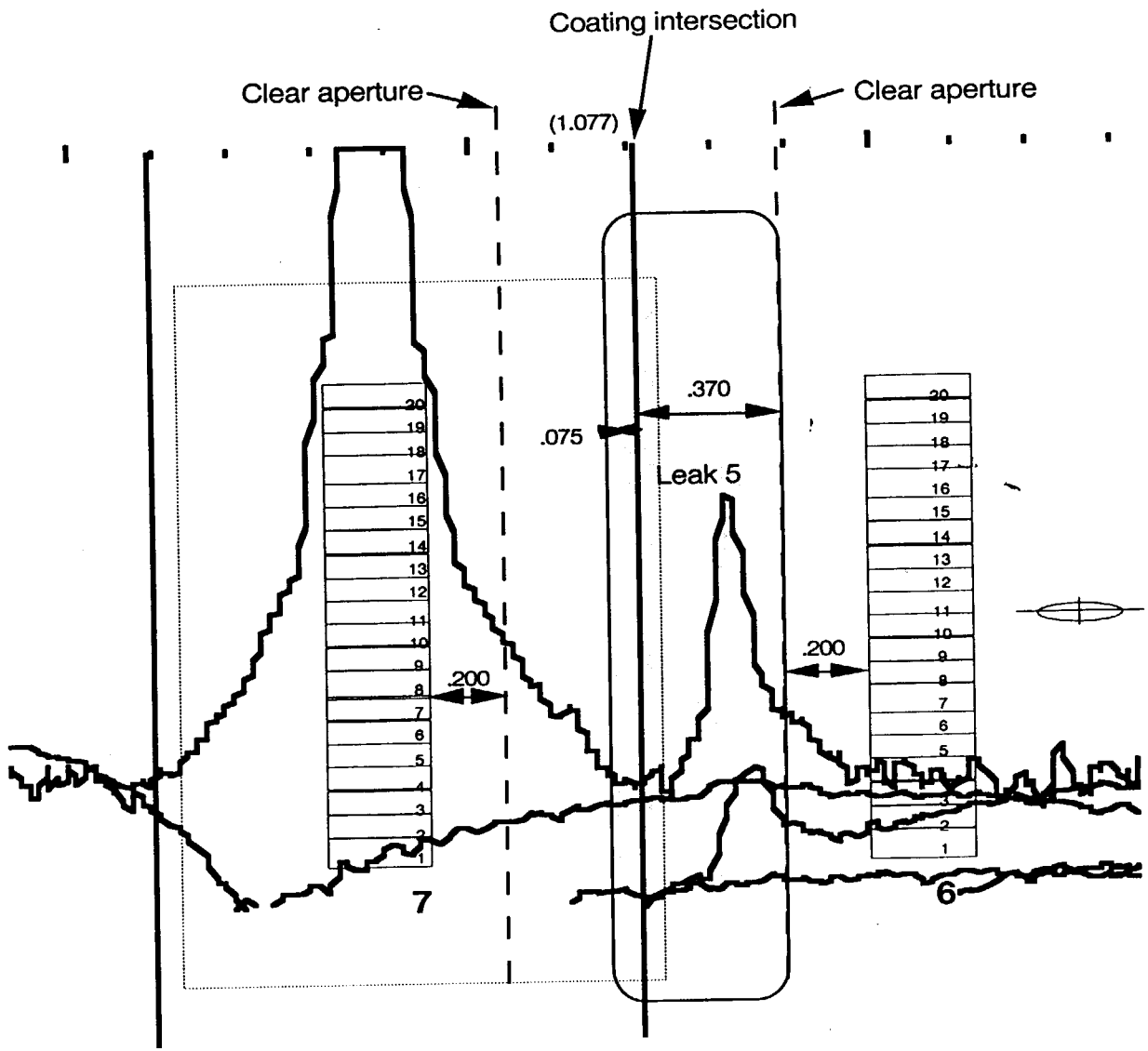
Santa Barbara Remote Sensing

50/450 vignetting



Leak 5 Blocked by Single Stripe

HUGHES AIRCRAFT
Santa Barbara Remote Sensing



JV 7/31/97

PCLWIR EXHIBITS LEAKS IN 2 REGIONS

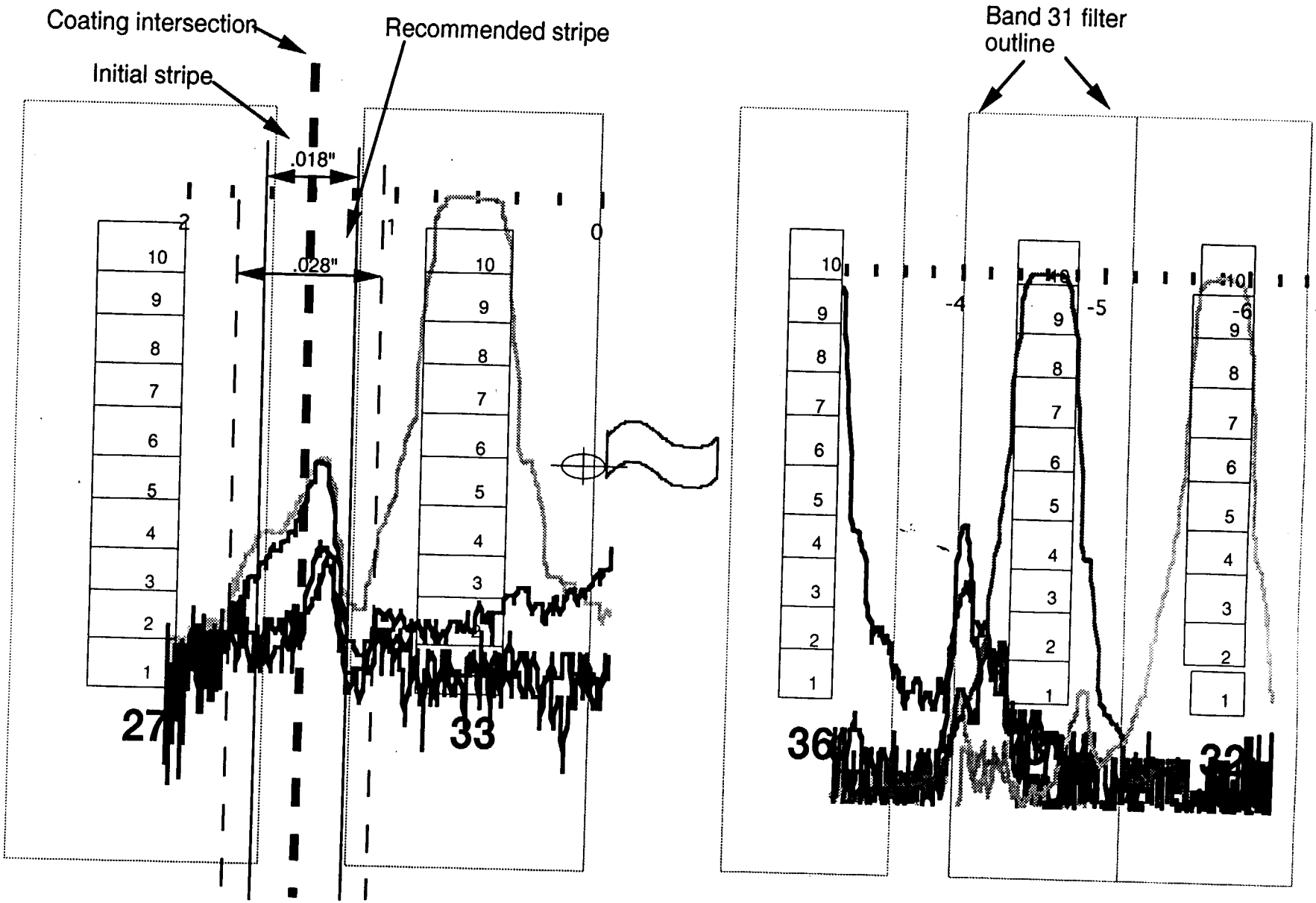
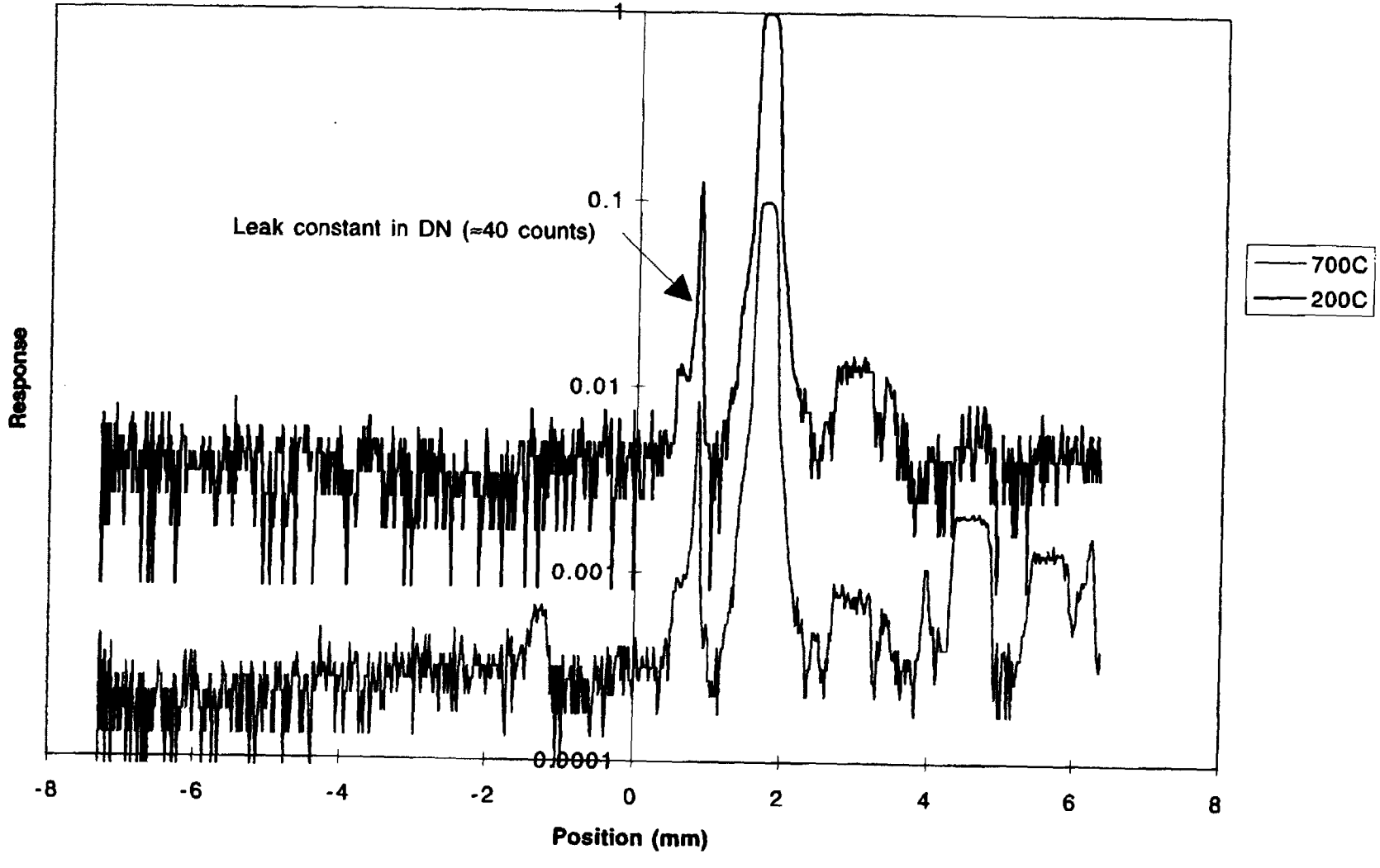


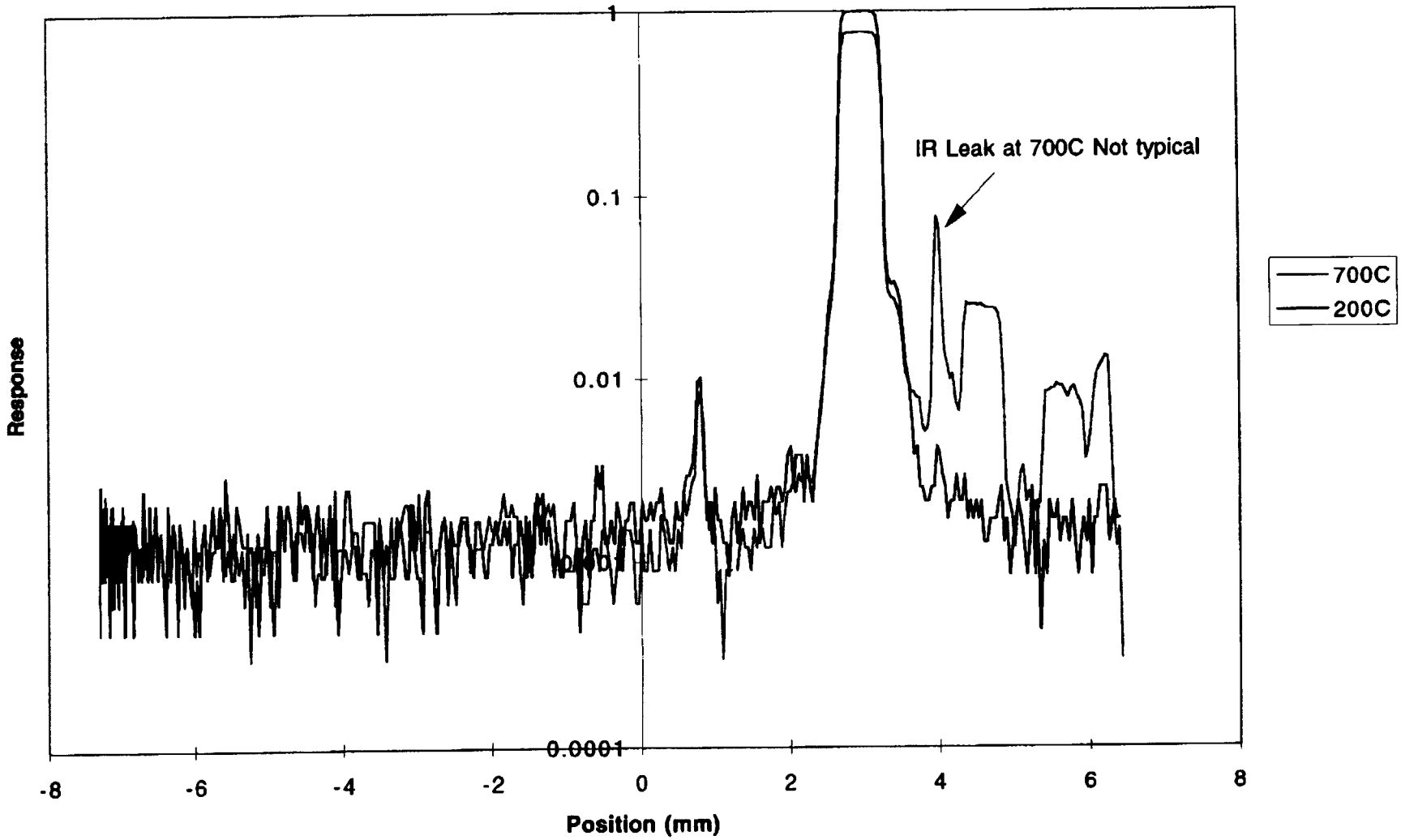
Figure 3. Expanded view of light leaks 1 and 2 and filter/coating positions

Band 7 Response to 200C and 700C data sets

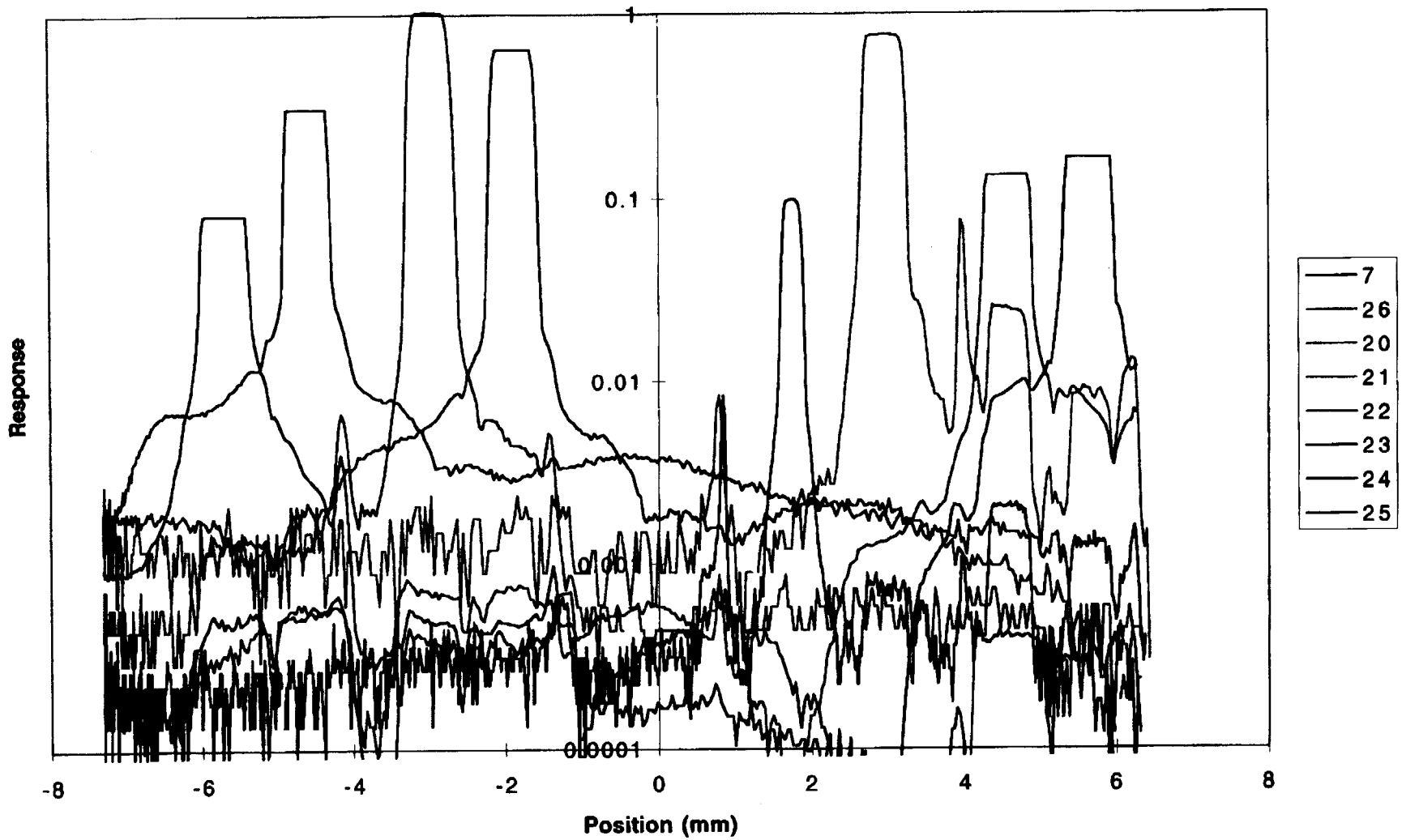


Band 26 Response to 200C and 700C data sets

PRELIMINARY



700C Data set Normalized Response



Band 21, Fire Band Story
Most Likely, Not Broken

- Bottom line - most likely not broken, with T_{sat} about 470 to 490K
- Calibration Uncertainty may be as high as 20%

- SBRS measured up to ~3.5% full scale at system level (<3 W/..)
- System non-linearity implies T_{sat} may be 430K, <u>BUT</u>
- Detector division data shows linear detectors over most range
- Detector division gain curve adjusted to allow for extrapolation to full scale near 470K
- Non-linear L_{sat} is ~ 26; Pagano's L_{sat} ~ 59; spec L_{sat} = 86
- Easily could be L_{sat} is 59 +/- 10
- More SBRS work on transmission of system could reduce overall uncertainty [Q/L]

ATTACHMENT 2
8/21/97

BAND 21 IS NOT "BROKEN"

- Data acquired over low radiance range in T/V
- High degree of nonlinearity observed in T/V data
- analysis (next chart) shows nonlinearity correlated to detector output level
- Data acquired at detector assembly level shows nonlinearity we see in T/V
- Data acquired at detector level also shows band operates beyond saturation requirements.
- Systems analysis, however, shows too much gain in analog electronics. Results in premature saturation of A/D converter at 470K
- Calibration of band 21 still TBD pending more accurate Q/L (transmission) assessment
- Expect we can provide good calibration to meet requirements to 470K

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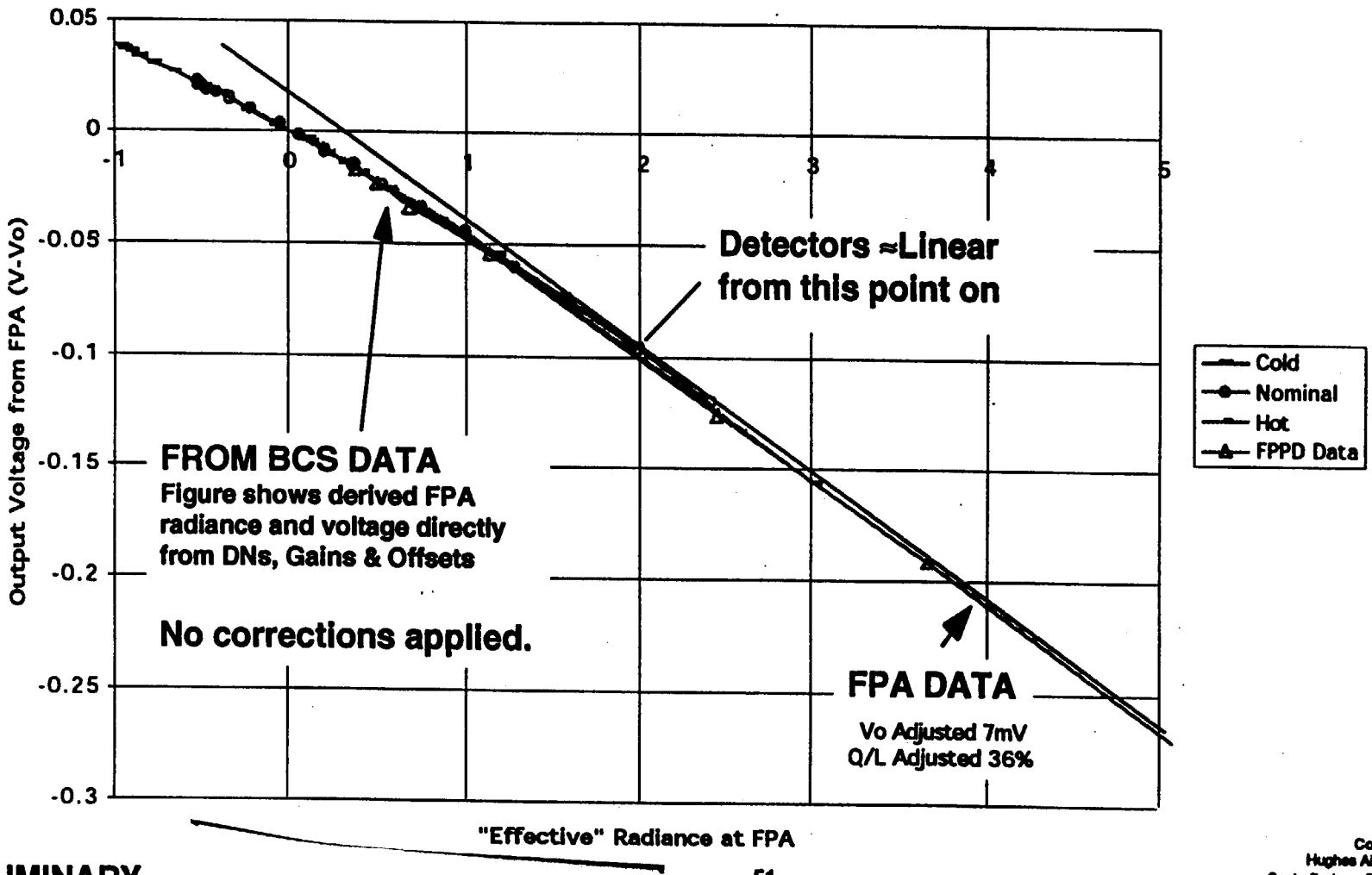
BAND 21 DATA NONLINEAR DUE TO LOW SIGNAL OUTPUT IN ROIC

for Band 21 Test Case



PRELIMINARY

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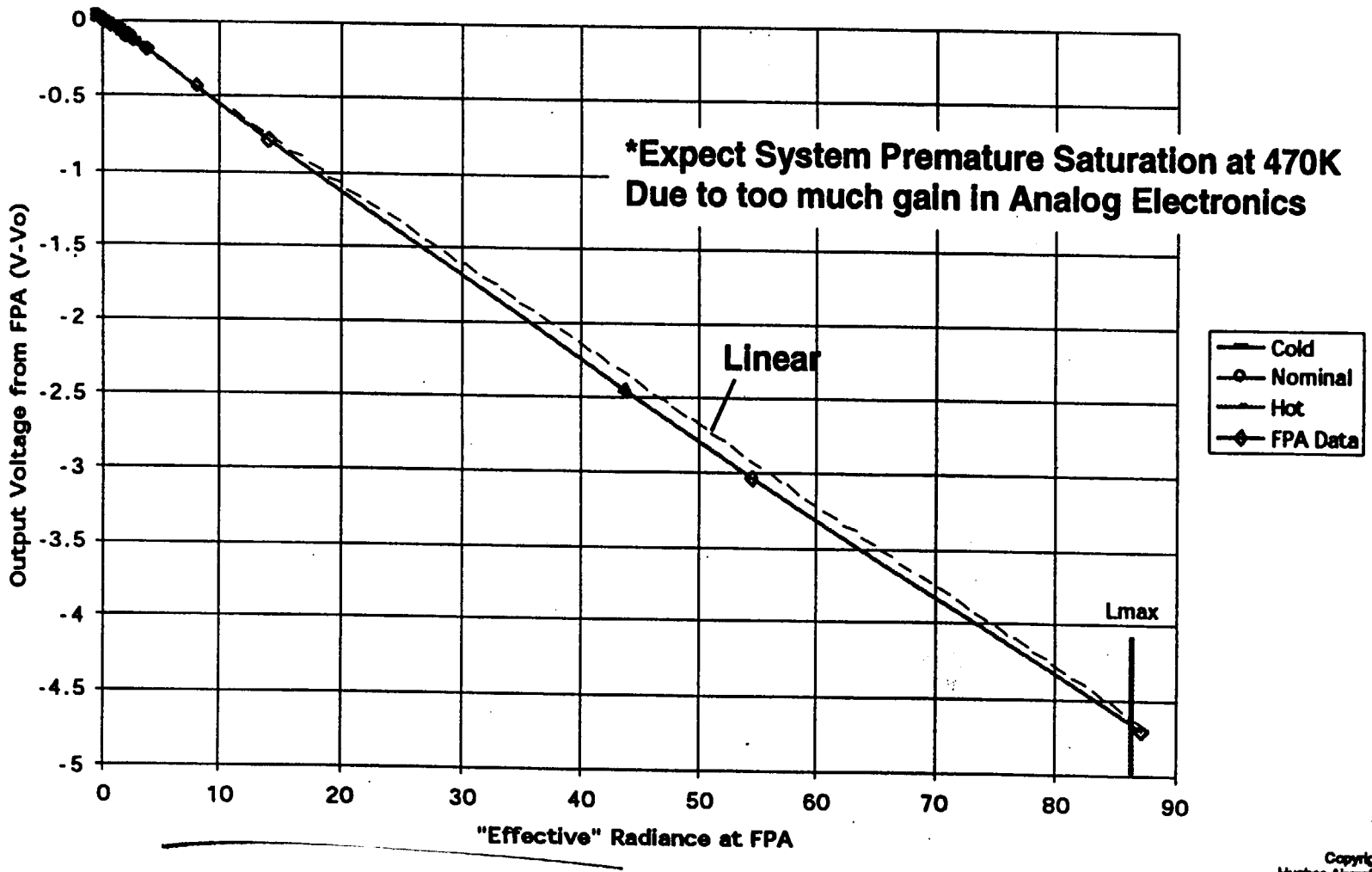
FPA COMPONENT DATA DEMONSTRATES DETECTOR OPERATION TO SATURATION*

FPPD Data Overlayed with System BCS Data



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	A	B	C	D	E	F	G	H	I	J	K
72											
73	LSATs	CH_1	CH_2	CH_3	CH_4	CH_5	CH_6	CH_7	CH_8	CH_9	CH_10
74	20	1.63	1.66	1.65	1.66	1.66	1.66	1.65	1.64	1.65	1.65
75	21	25.30	26.24	25.06	24.61	25.41	25.10	26.05	25.54	23.95	24.83
76	22	1.92	1.92	2.02	1.94	1.91	1.92	1.93	1.93	1.93	1.94
77	23	2.34	2.24	2.25	2.23	2.23	2.23	2.22	2.23	2.21	2.24
78	24	2.63	2.54	2.42	2.34	2.66	2.95	2.35	2.80	2.79	2.70
79	25	2.58	2.51	2.52	2.52	2.49	2.53	2.52	2.53	2.51	2.51
80	27	10.26	10.47	10.26	10.93	11.38	11.68	12.06	13.32	13.35	13.91
81	28	12.07	12.14	11.84	11.94	11.89	11.81	11.96	12.01	12.02	12.02
82	29	15.85	15.67	15.93	16.00	15.97	15.78	15.89	15.63	16.01	15.66
83	30	23.67	24.41	24.29	23.51	22.47	22.86	24.11	24.08	24.99	23.81
84	31	25.63	25.46	25.73	24.28	23.04	23.91	24.23	23.71	24.34	26.16
85	32	19.18	19.02	19.72	19.93	18.47	19.73	19.79	19.74	19.81	20.13
86	33	11.47	12.04	12.08	12.00	12.23	11.77	12.17	12.39	12.84	24.90
87	34	12.00	12.78	12.69	12.48	12.59	12.74	12.83	12.52	12.70	12.45
88	35	12.05	11.84	11.66	12.23	12.34	11.59	11.61	11.68	12.31	11.80
89	36	15.20	15.86	15.40	16.19	15.59	14.80	15.26	14.62	14.82	15.09
90											
91	CWLs	CH_1	CH_2	CH_3	CH_4	CH_5	CH_6	CH_7	CH_8	CH_9	CH_10
92	20	3.750	3.750	3.750	3.750	3.750	3.750	3.750	3.750	3.750	3.750
93	21	3.959	3.959	3.959	3.959	3.959	3.959	3.959	3.959	3.959	3.959
94	22	3.959	3.959	3.959	3.959	3.959	3.959	3.959	3.959	3.959	3.959
95	23	4.050	4.050	4.050	4.050	4.050	4.050	4.050	4.050	4.050	4.050
96	24	4.465	4.465	4.465	4.465	4.465	4.465	4.465	4.465	4.465	4.465
97	25	4.515	4.515	4.515	4.515	4.515	4.515	4.515	4.515	4.515	4.515
98	27	6.715	6.715	6.715	6.715	6.715	6.715	6.715	6.715	6.715	6.715
99	28	7.325	7.325	7.325	7.325	7.325	7.325	7.325	7.325	7.325	7.325
100	29	8.550	8.550	8.550	8.550	8.550	8.550	8.550	8.550	8.550	8.550
101	30	9.730	9.730	9.730	9.730	9.730	9.730	9.730	9.730	9.730	9.730
102	31	11.030	11.030	11.030	11.030	11.030	11.030	11.030	11.030	11.030	11.030
103	32	12.020	12.020	12.020	12.020	12.020	12.020	12.020	12.020	12.020	12.020
104	33	13.325	13.325	13.325	13.325	13.325	13.325	13.325	13.325	13.325	13.325
105	34	13.365	13.365	13.365	13.365	13.365	13.365	13.365	13.365	13.365	13.365
106	35	13.935	13.935	13.935	13.935	13.935	13.935	13.935	13.935	13.935	13.935
107	36	14.235	14.235	14.235	14.235	14.235	14.235	14.235	14.235	14.235	14.235
108											
109	3.742E+08		1.439E+04								

spec 5%

Thermal Bands 20-25, 27-36 (MWIR, and LWIR)

Specified Radiometric Levels and Measured Saturation Levels (measured values per SBRS PL3095-N06540, July 18, 1997)

<<<<<<<<<<<<<<<<<<<<<<<<<<Radiances>>>

Total number of PGEs completed or in progress: 15

Transfer	15 completed	0 in progress	
Installation	15 completed	0 in progress	
Inspection Test	15 completed	0 in progress	
Infusion Test	12 completed	3 in progress	PGE09,10 PGE06 recalled
Integration Test	5 completed	3 in progress 4 pending delivery review	PGEs 3,4,5 PGEs 12A,12B,14,15
Chaining Test	1 completed	1 in progress	PGE01>02>08 complete PGE01>02>07-08 in progress
Performance Test			
Error Test	1 complete	0 in progress	PGE01

DDTs Reports

State	Number
Open unresolved	10
Open resolved	14
Closed	47
Deferred to V2	10
Total	81

ATTACHMENT 3
8/21/97

ATTACHMENT Y
8/21/97

Resource Baseline in ECS for MODIS

Ed Masuoka

8/21/97

Pending Change to 2/96 Baseline

- Proposed changes to the baseline
  - at -launch .43 x baseline
  - at-launch + 1 year 1.3 x baseline
  - at-launch + 2 years 1.6 x baseline
  - at-launch + 3 years 2.2 x baseline

Resources at the DAACs

- Resources in DAACs now as % of at-launch
  - NSIDC 100%
  - EDC 50%
  - GSFC 50%
- Resources in final at-launch buy as % of 1.2x
  - NSIDC, EDC and GSFC 100%

Feb. '96 Processing Baseline

- baseline is 5,700 MFLOPS and 580GB/day
- at -launch 1.2x baseline
- at-launch + 1 year 2.2x baseline
- at-launch + 2 years 4x baseline

L1 + 25% Baseline

- baseline is 5,700 MFLOPS and 580GB/day
- all of L1 + 25% of L2-4 = 1,440 + 1,075
  - is .43xbaseline at launch
- DAACs have .5x baseline hardware*

* Rough estimate

L1 + 50% Baseline

- baseline is 5,700 MFLOPS and 580GB/day
- all of L1 + 25% of L2-4 = 1,440 + 2,150
  - .63 x baseline at launch + 12 months
  - another .63 for reprocessing

- DAACs will have 1.2x baseline hardware*

* If second procurement goes through

L1 + 75% Baseline

- baseline is 5,740 MFLOPS and 580GB/day
- all of L1 + 25% of L2-4 = 1,440 + 3,225
  - .81 x baseline at launch + 24 months
  - another .81 for reprocessing

- Additional processing hardware is required