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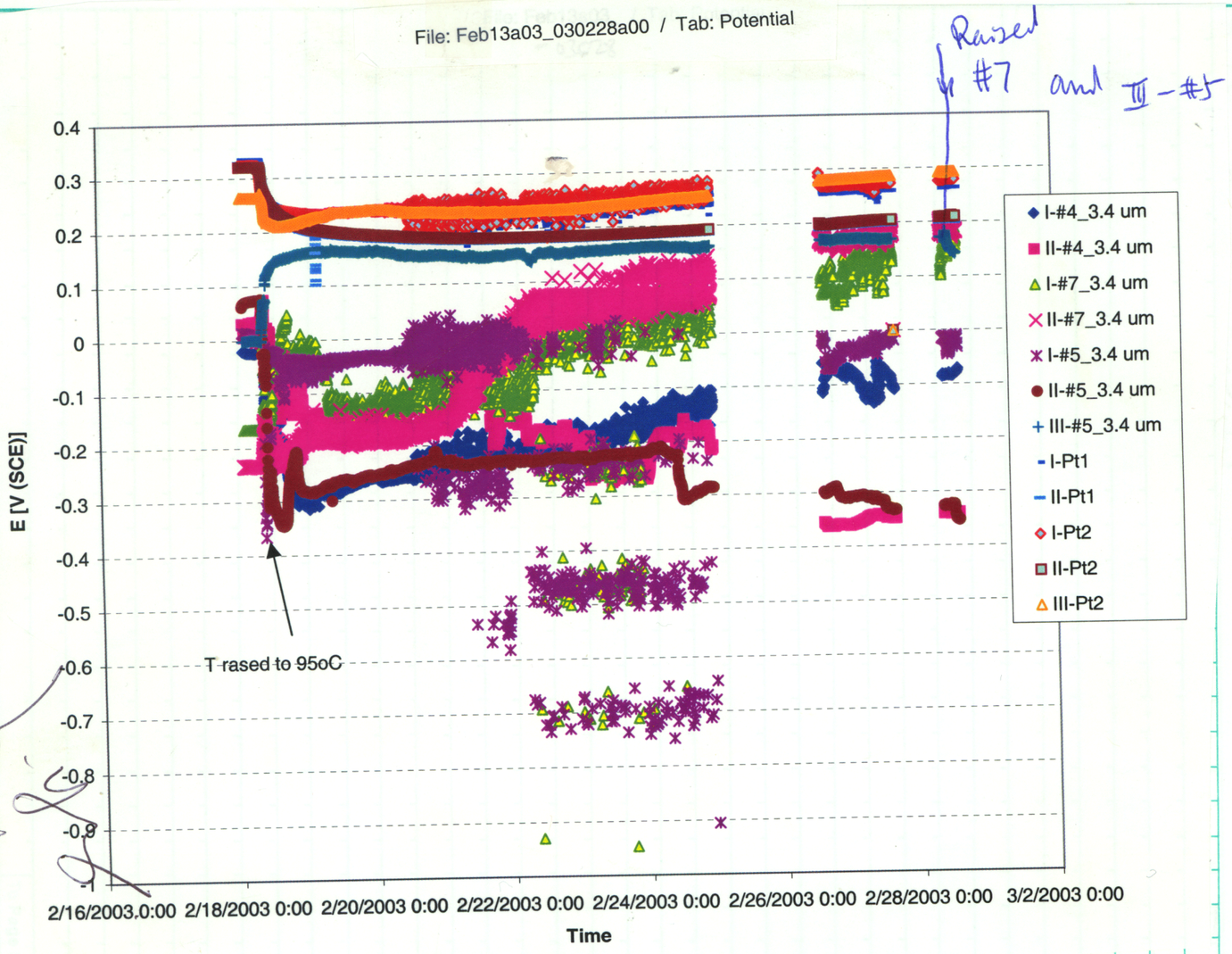

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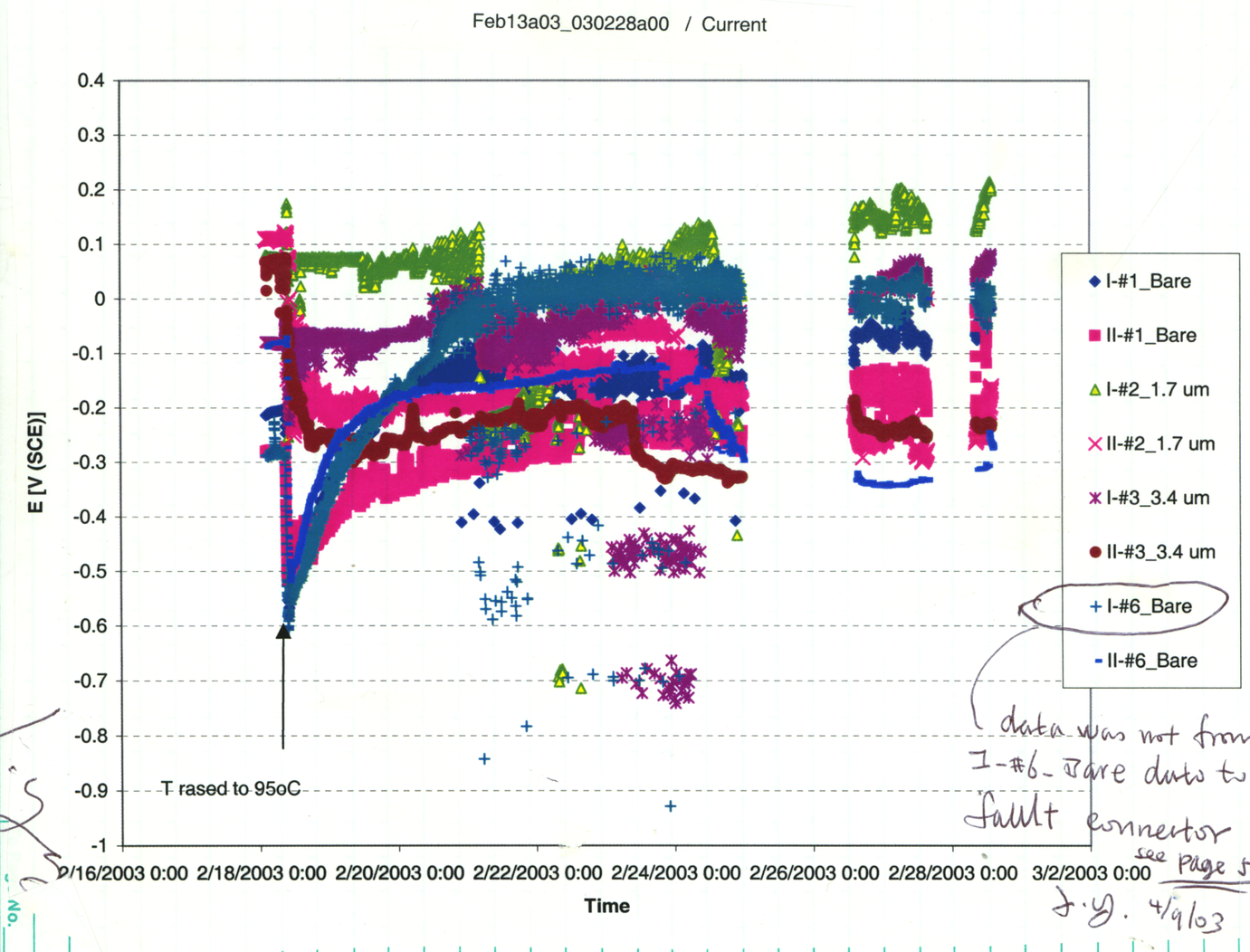

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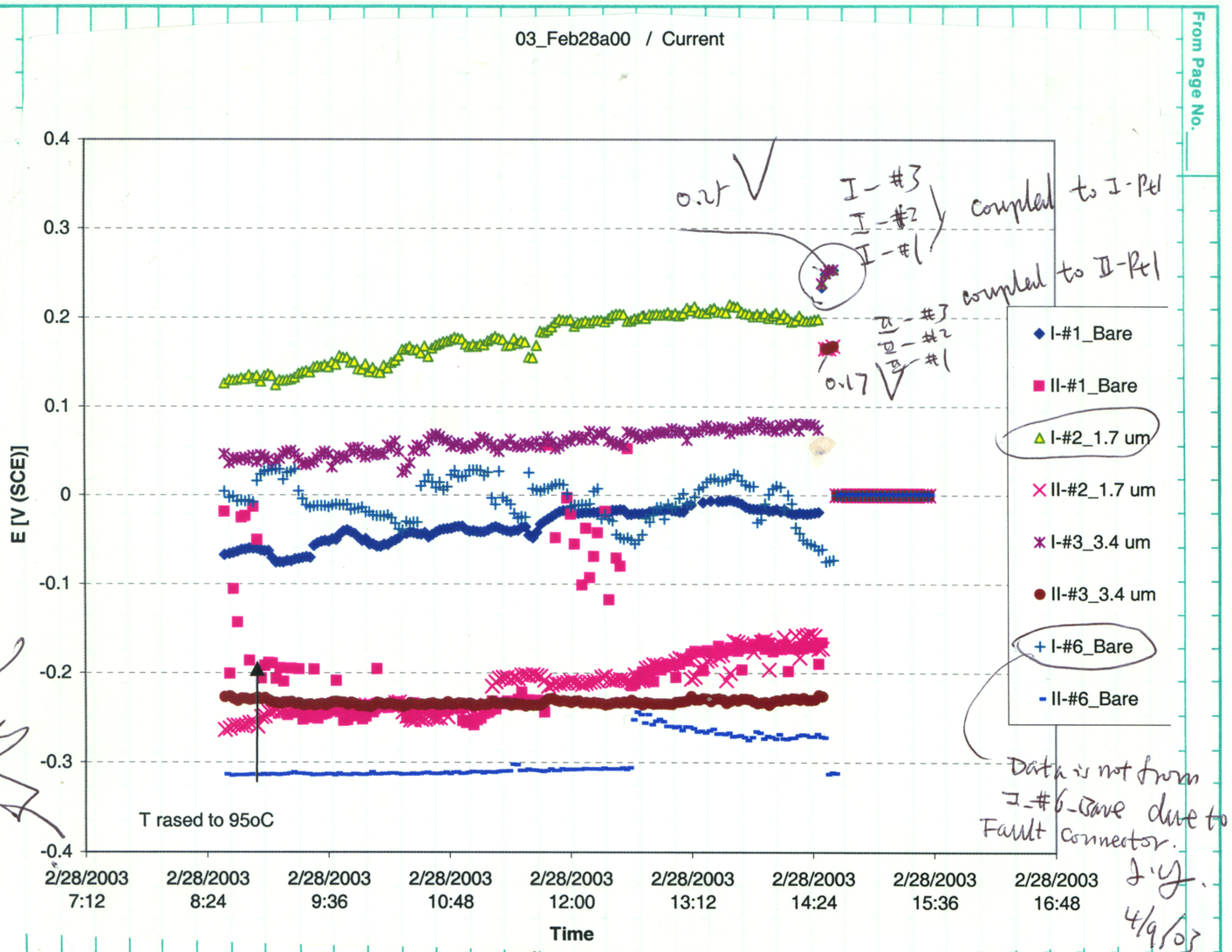

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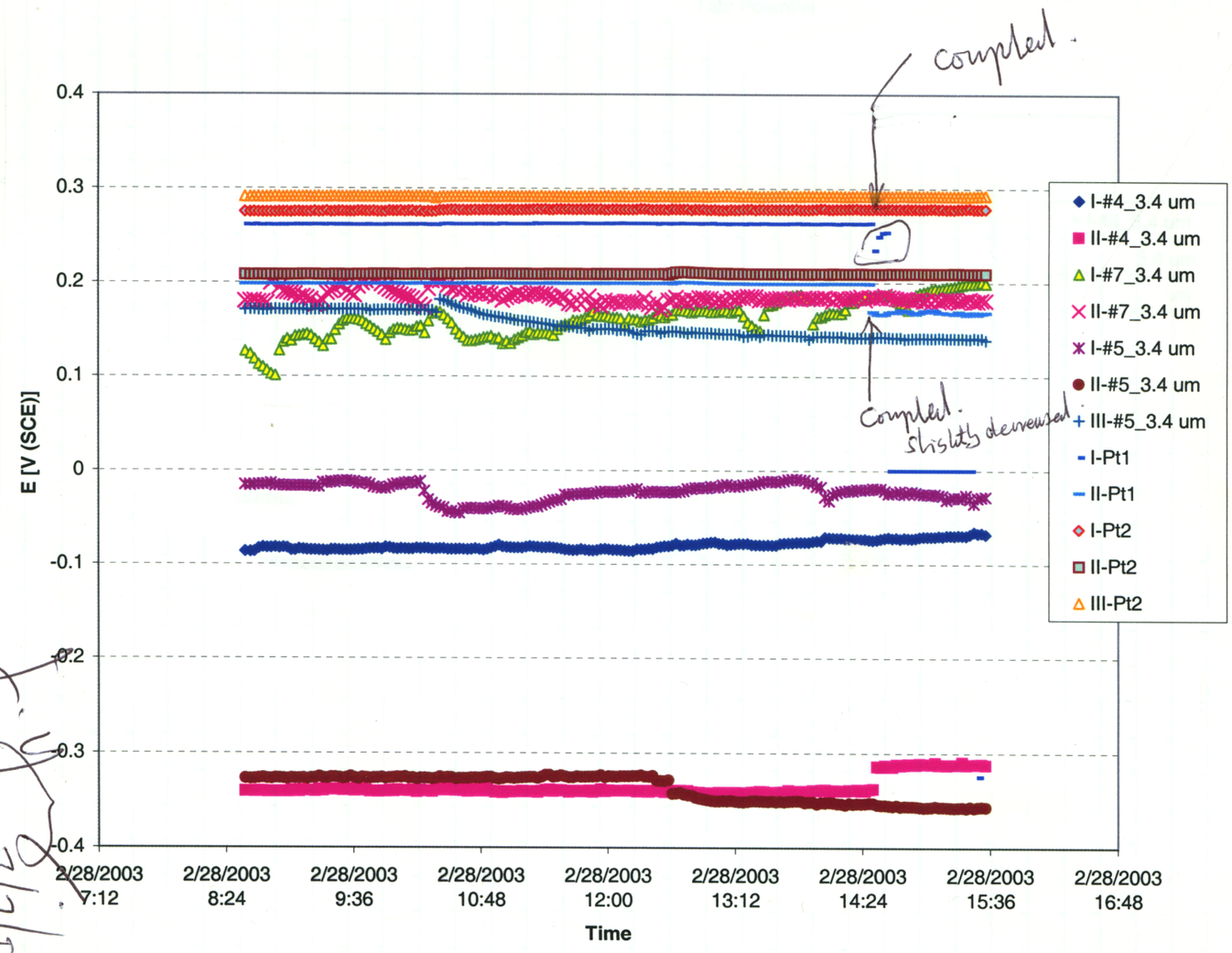

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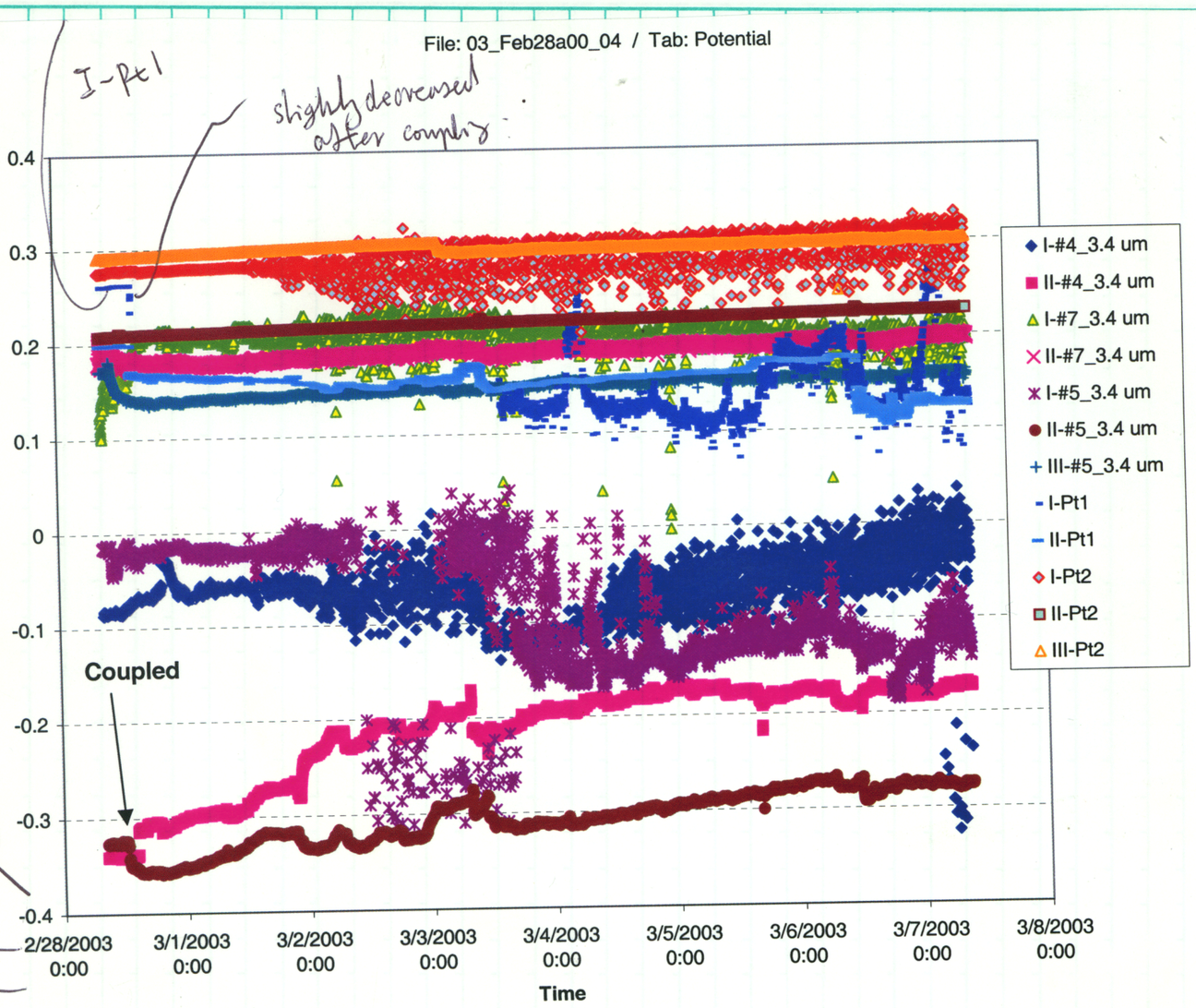

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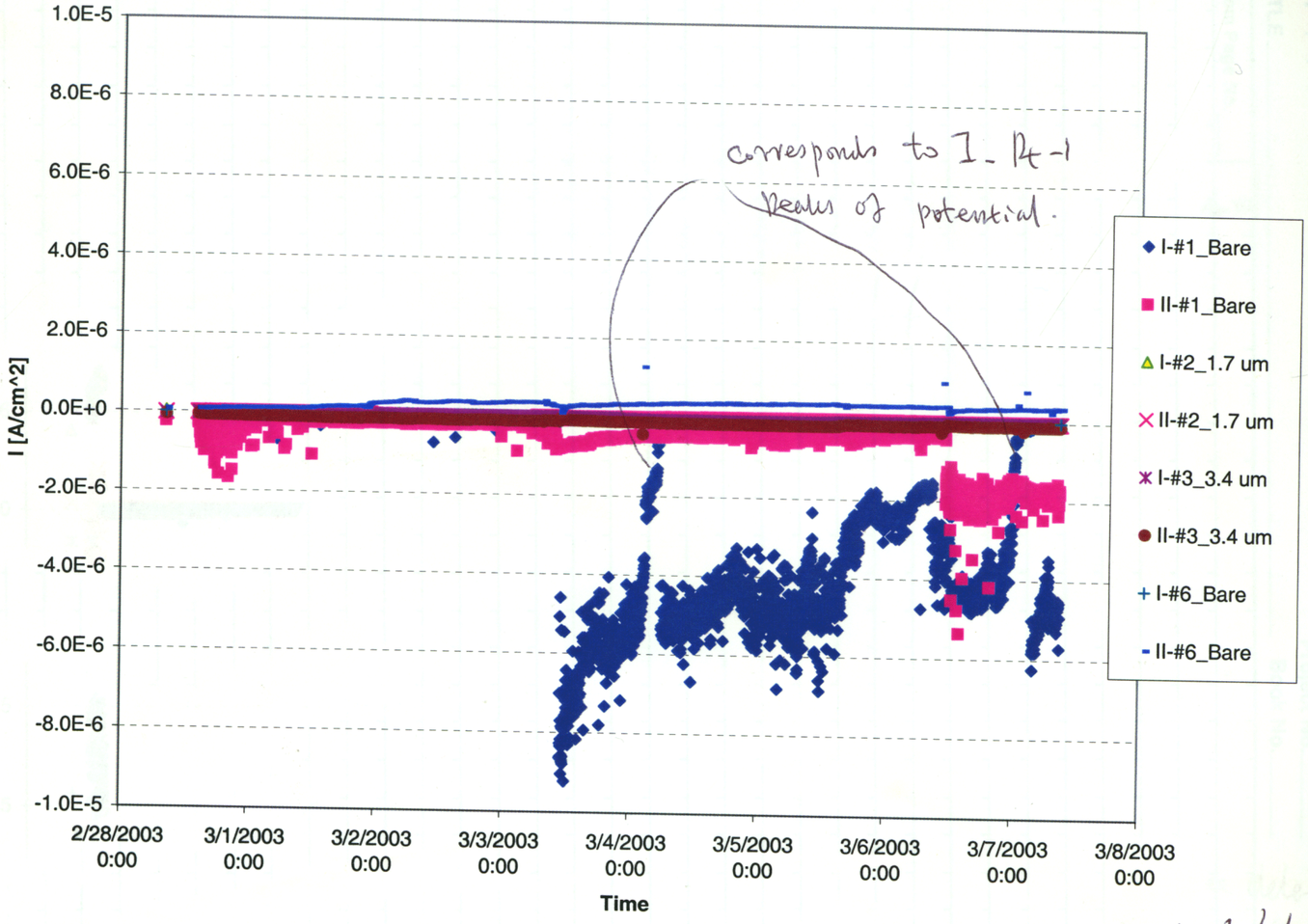

updated 4/9/03

3/7/03

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Book No.
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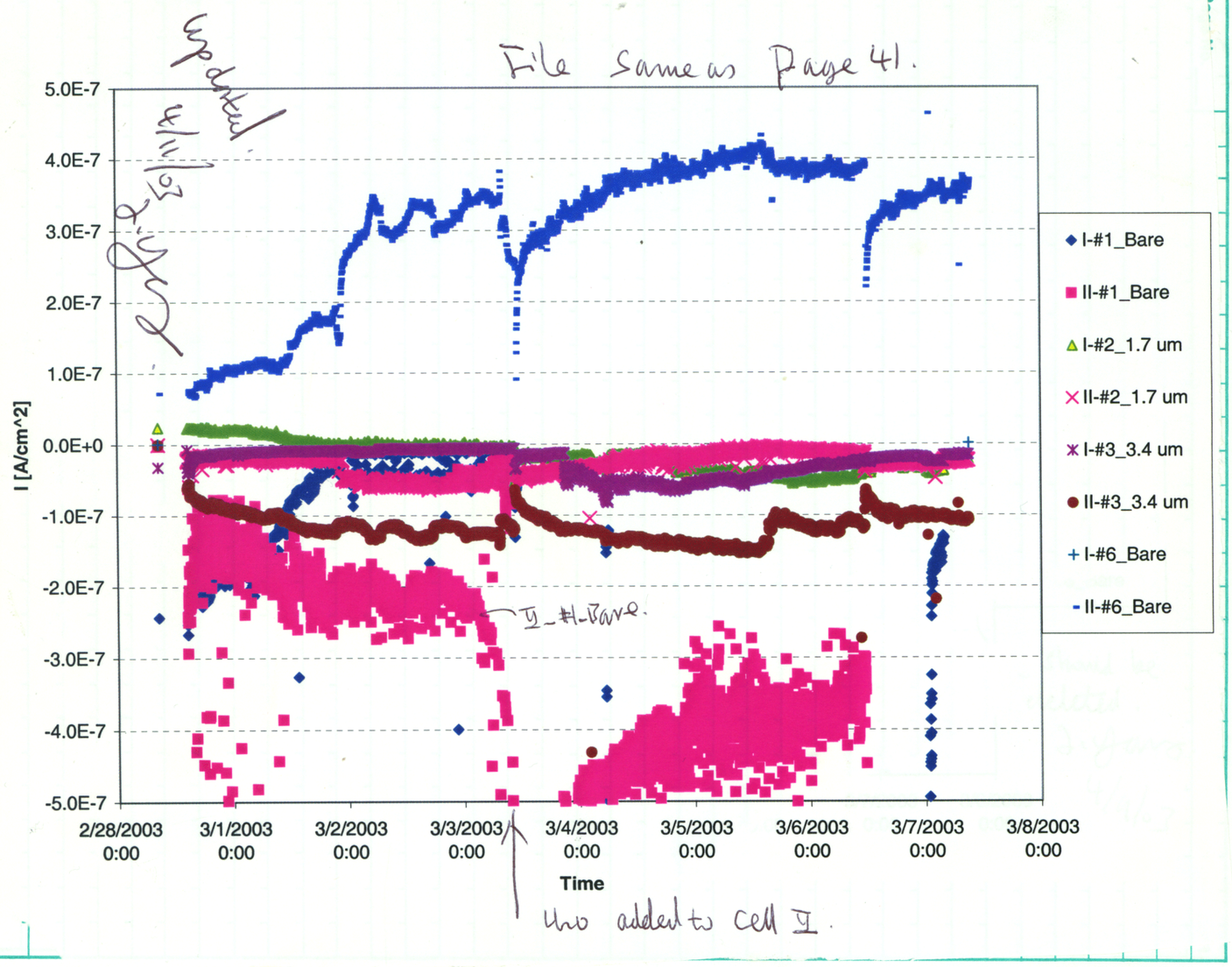

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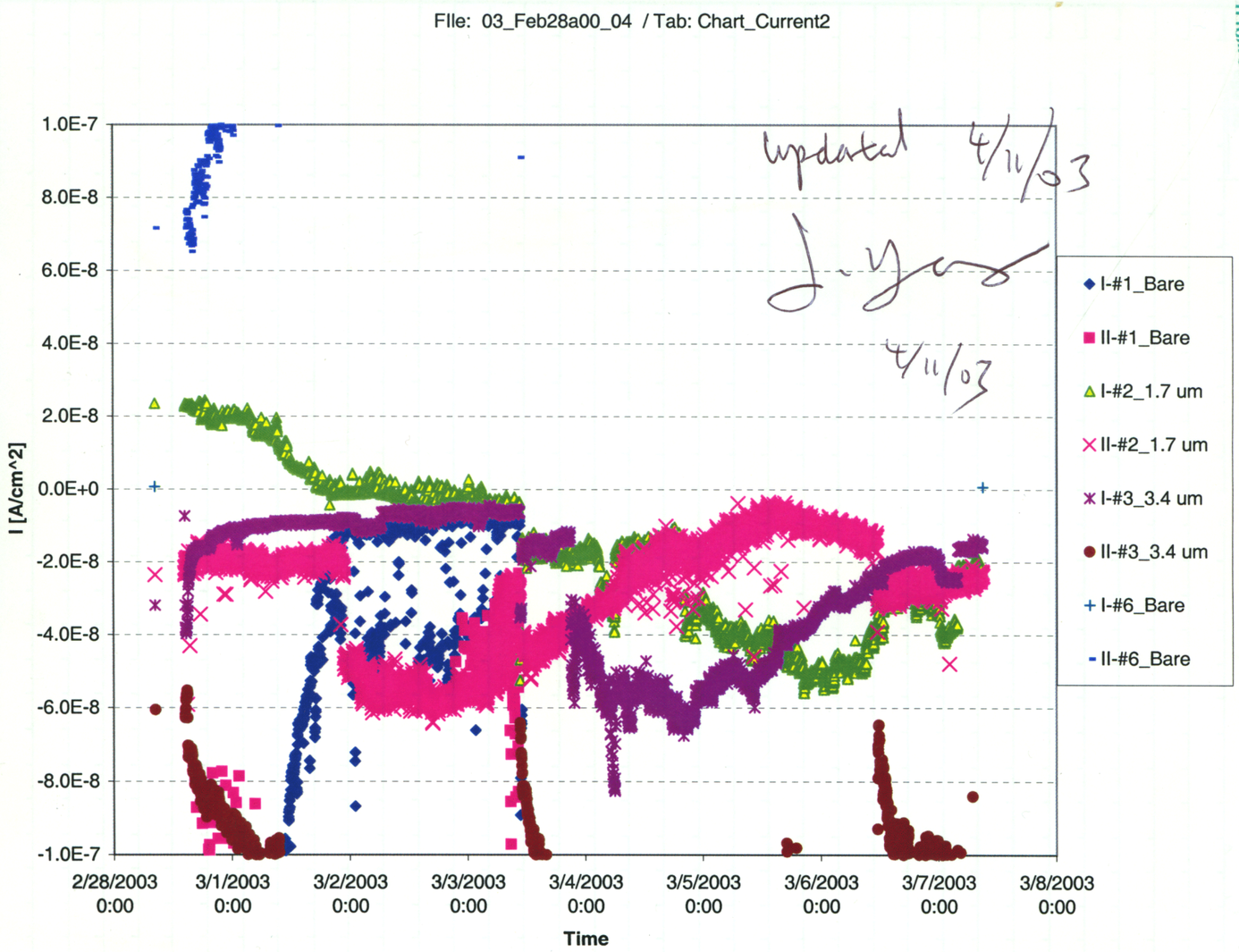

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3/25/03
16:16 program stopped.
16:18 program restarted 03_Mar25a

Pages 9 – 44 copied for QA records.

4/3/03

J. Yang

File: Test_Matrix_Zr-4_C / Tab: Connections

J. Yang 6/30/03

Electrodes in Each Cells										
Electrodes		NaCl+ 5 mM FeCl3, pH=5 Cell I			NaCl+ 5 mM H2O2 Cell II			Plain NaCl Cell III		
Types	Elect. ID	Connections	I Chan	V Chan	Connections	I Chan	V Chan		I Chan	V Chan
Type III, bare Zr	I-#1, II-#1	*to I-Pt1*	I-1 Ch1	-	to II-Pt1	I-3 Ch17	-	-	-	-
Type III, bare Zr	I-#6, II-#6	*to Large Zr (I-#4)*	I-2 Ch9	-	to Large Zr (II-#4)	I-2 Ch10	-	-	-	-
Type I, 1.17 um Zr	I-#2, II-#2	*to I-Pt1*	I-1 Ch2	-	*to II-Pt1*	I-3 Ch18	-	-	-	-
Type I, 3.4 um Zr	I-#3, II-#3	*to I-Pt1*	I-1 Ch3	-	*to II-Pt1*	I-3 Ch19	-	-	-	-
Type II, 3.4 um Zr	I-#4, II-#4	*for coupling*	Return, I-2	45 (II-1)	for coupling	Return, I-2	34	-	-	-
Type II, 3.4 um Zr	I-#5, II-#5	*as control*	-	44 (II-1)	as control	-	33	as control	-	36
Type II, 3.4 um Zr with Polished End (simulate scratch)	I-#7, II-#7	*internally coupled*	-	43 (II-1)	internally coupled	-	48 (II-1)	-	-	-
large Pt	I-Pt1, II-Pt1	for coupling	Return, I-1	42 (II-1)	for coupling	Return, I-3	47 (II-1)	-	-	-
large Pt	I-Pt2, II-Pt2	as control for ECP	-	41 (II-1)	as control for ECP	-	46 (II-1)	as control for ECP	-	35
SCE Ref. Electrode		*Referen*	-	Return	*Referen*	-	Return	*Referen*	-	Return

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Recorded by J. Yang

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4/3/03
15:21 Program Restarted. 03_Apr1_03a

4/7/03
09:23 new File started at 11:08. 03_Apr1_07a.

4/8/03.
2:22 p.m. Combined Connectors I-2 and I-4.
use I-2(1) to measure large Zr I-#6
I-2(2) to measure II-#6 large Zr.
Still 10kΩ coupling.
Return of I-2 connected to I-#4 & II-#4
Note: Reference electrodes in cells I and II are also connected together.
Saved I-4 for other use. see pages 13+15
Also noted: R of I-3 is 10Ω.
Still. program restarted ~~03_Apr1_0~~ 03_Apr1_08a J.Y. 4/08/03 J.Y.

see page 44

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Recorded by J. Yang

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Invented by Recorded by

Date 4/8/05

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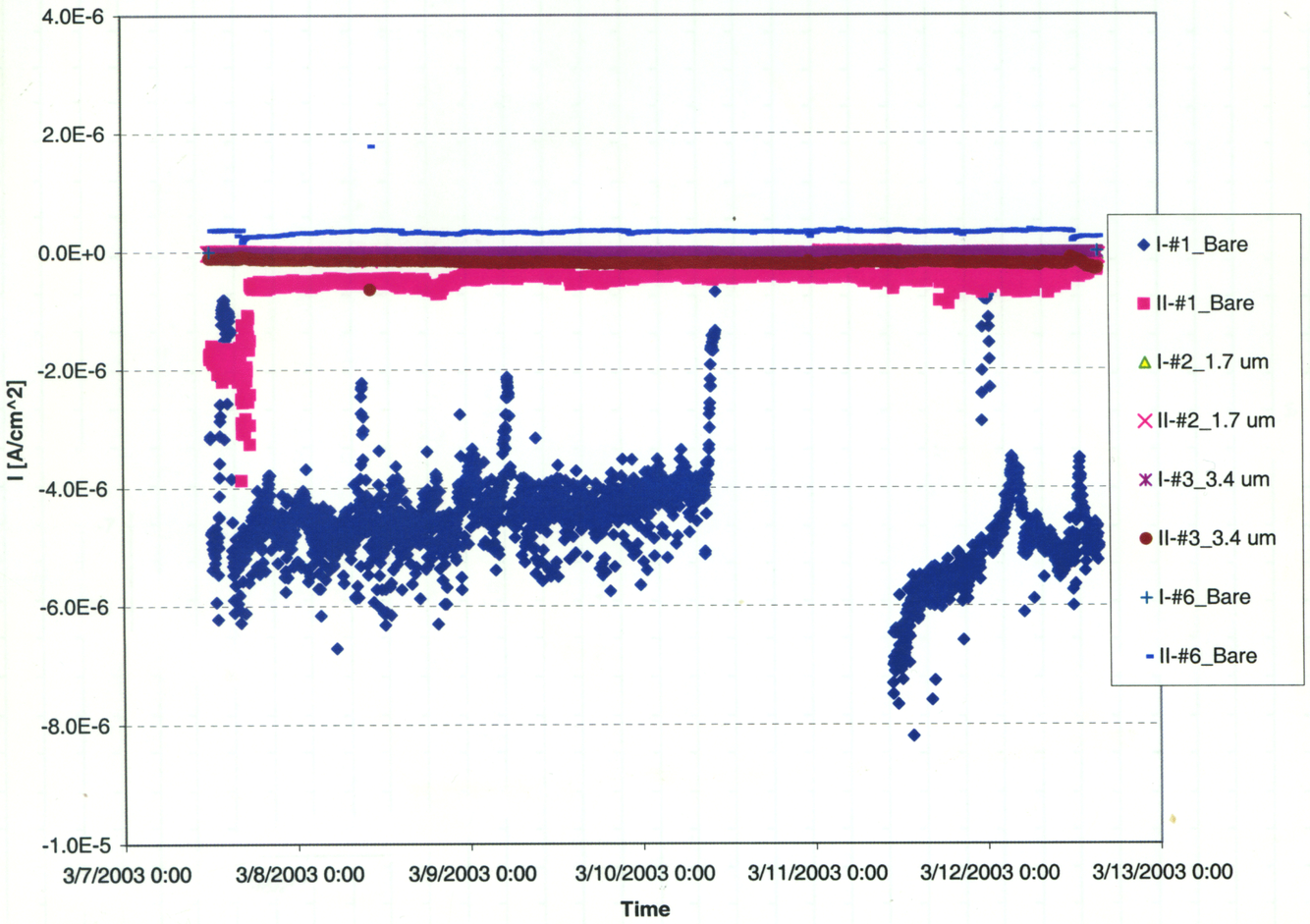
03_0307a00_03 / Current



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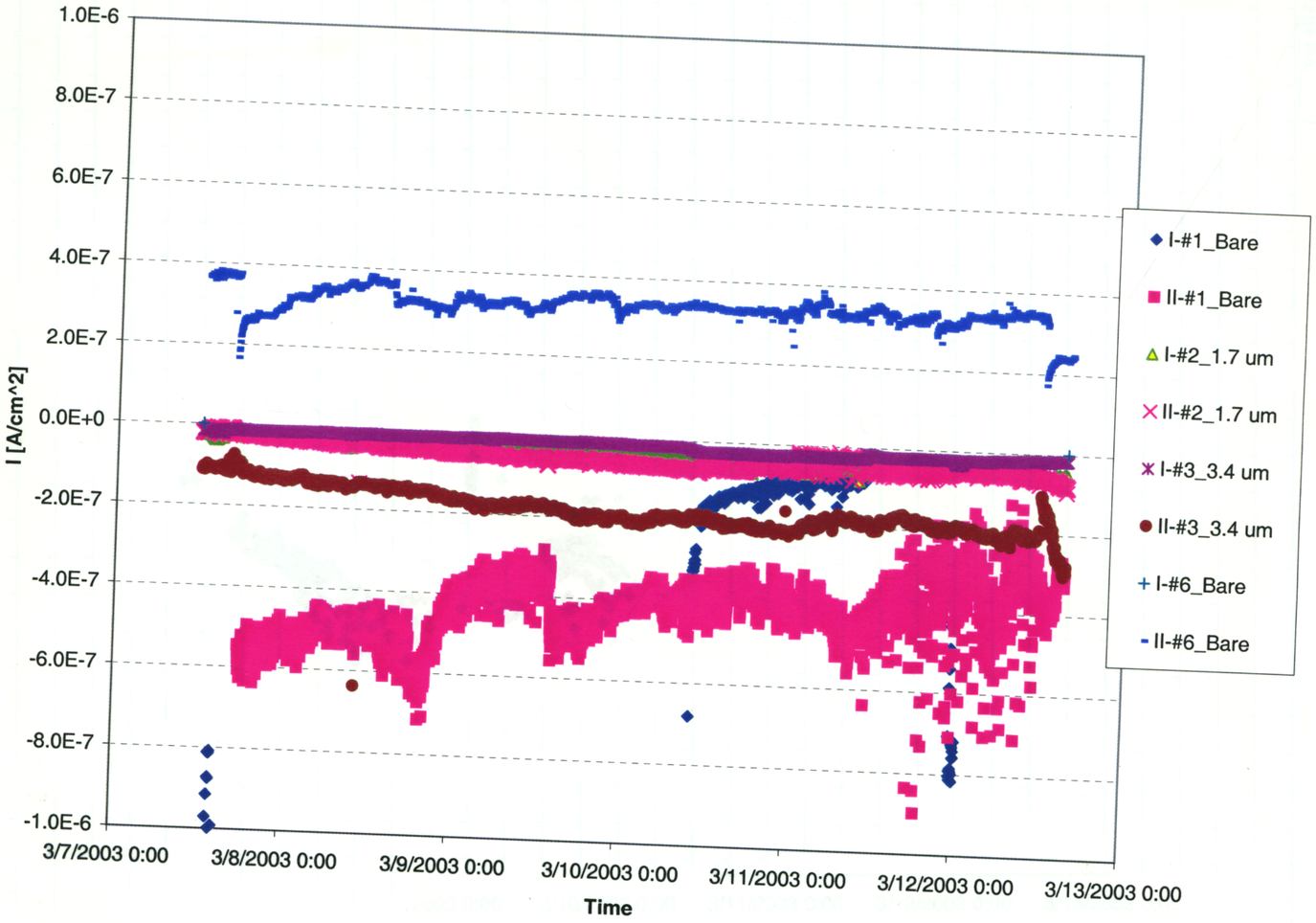
File: 03_0307a00_03 /Tab: Chart_Current2



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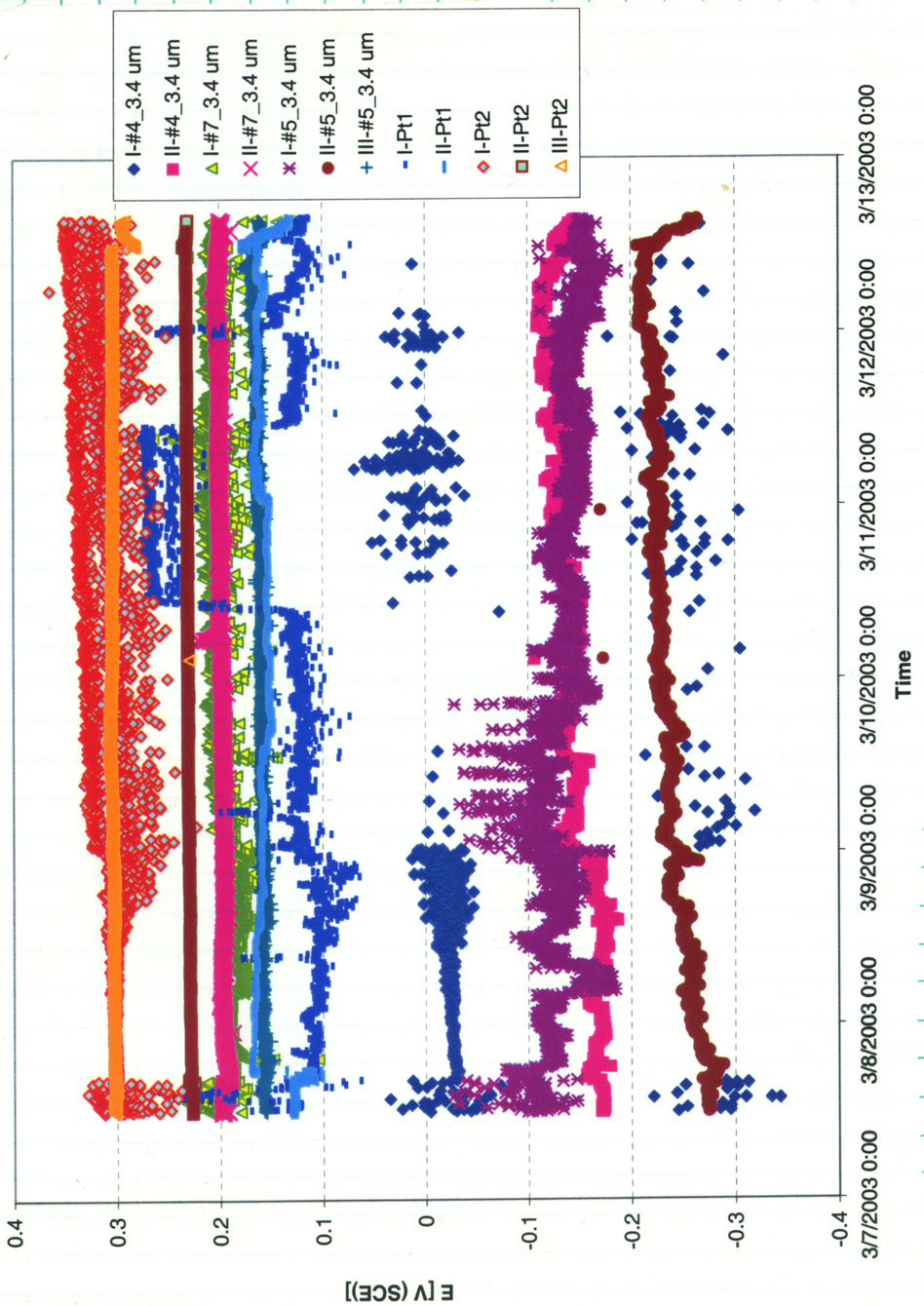
File: 03_0307a00_03 / Tab: Potential



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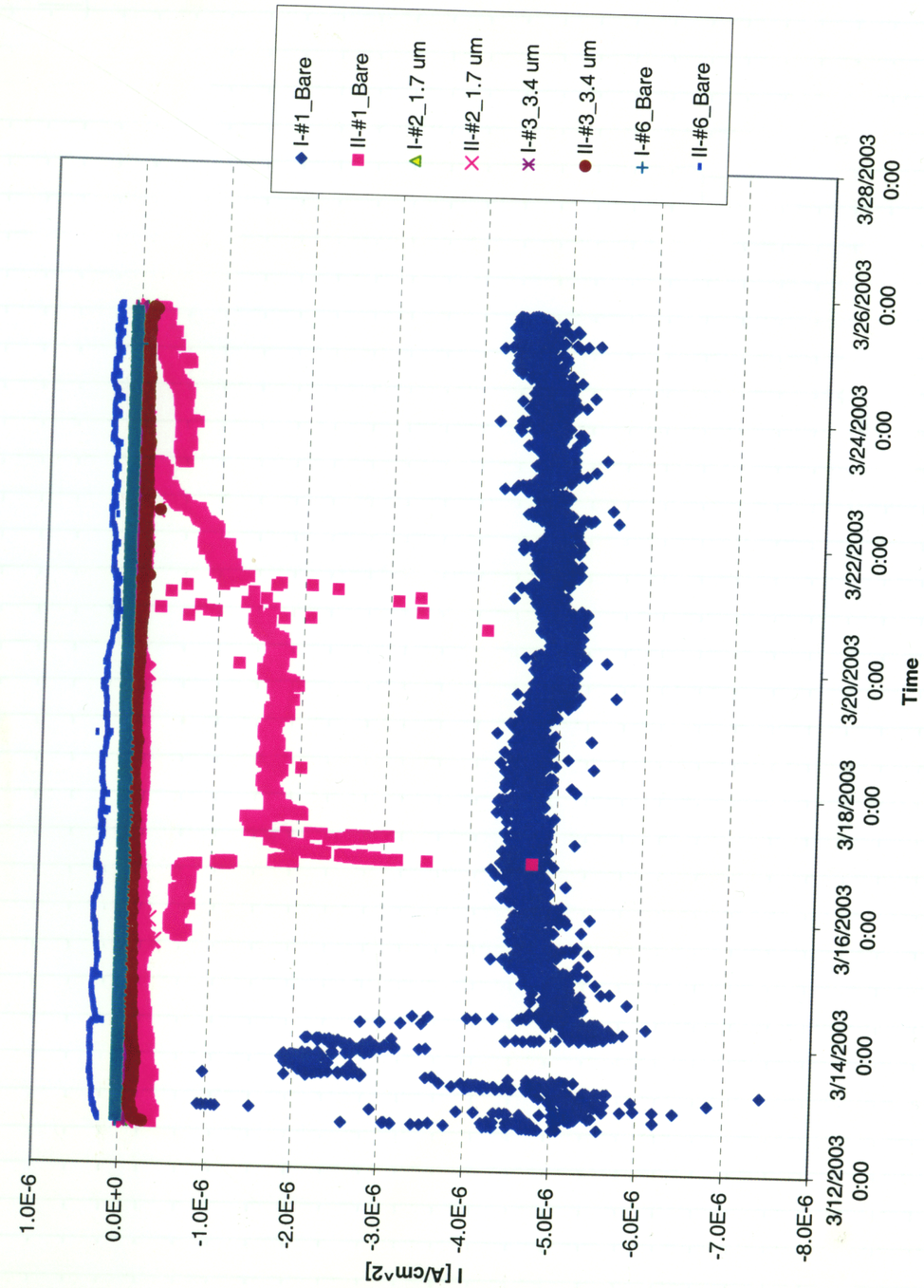
03_Mar12a00_03Mar14b03a / Current



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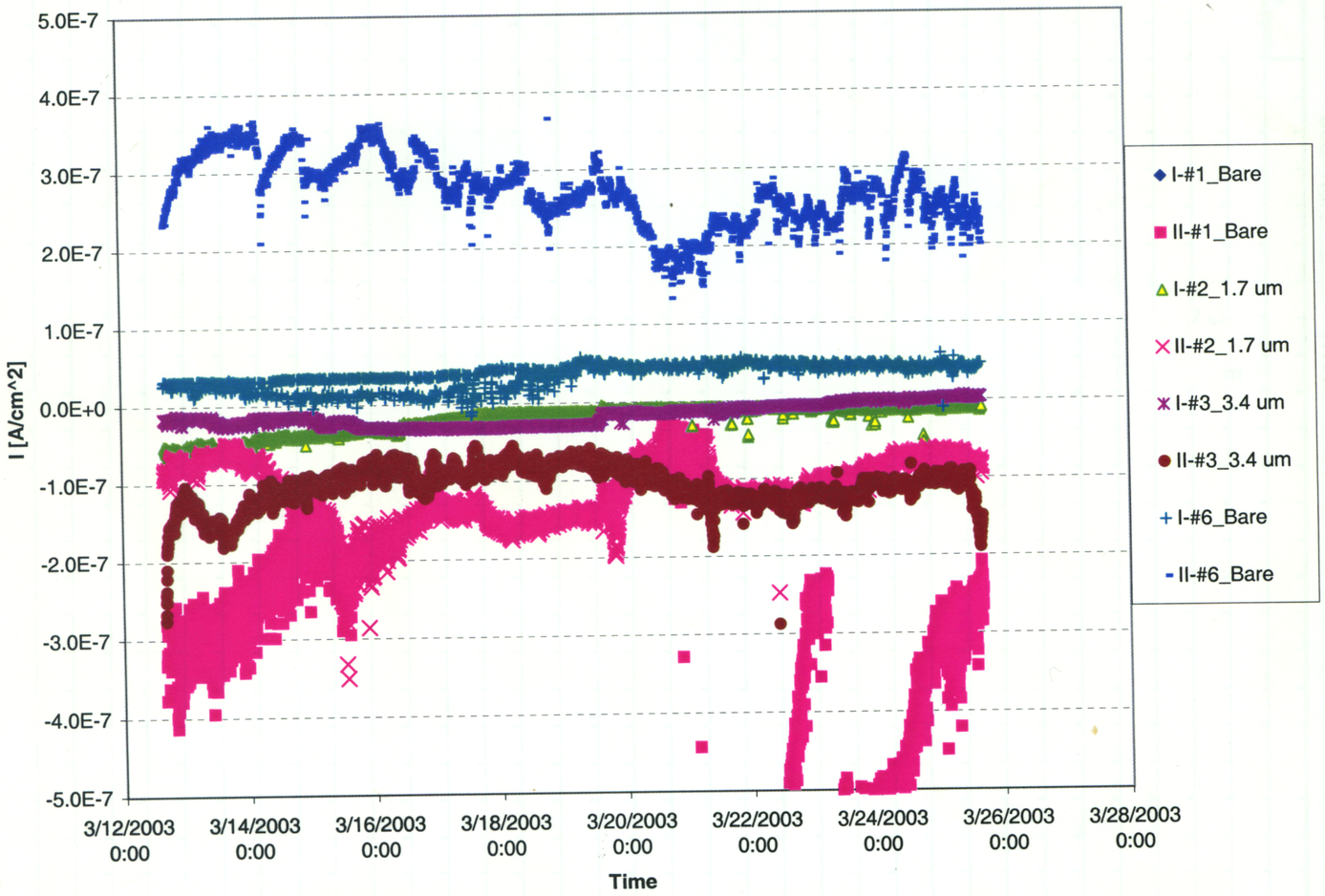
File: 03_Mar12a00_03Mar14b03a /Tab: Chart_Current2



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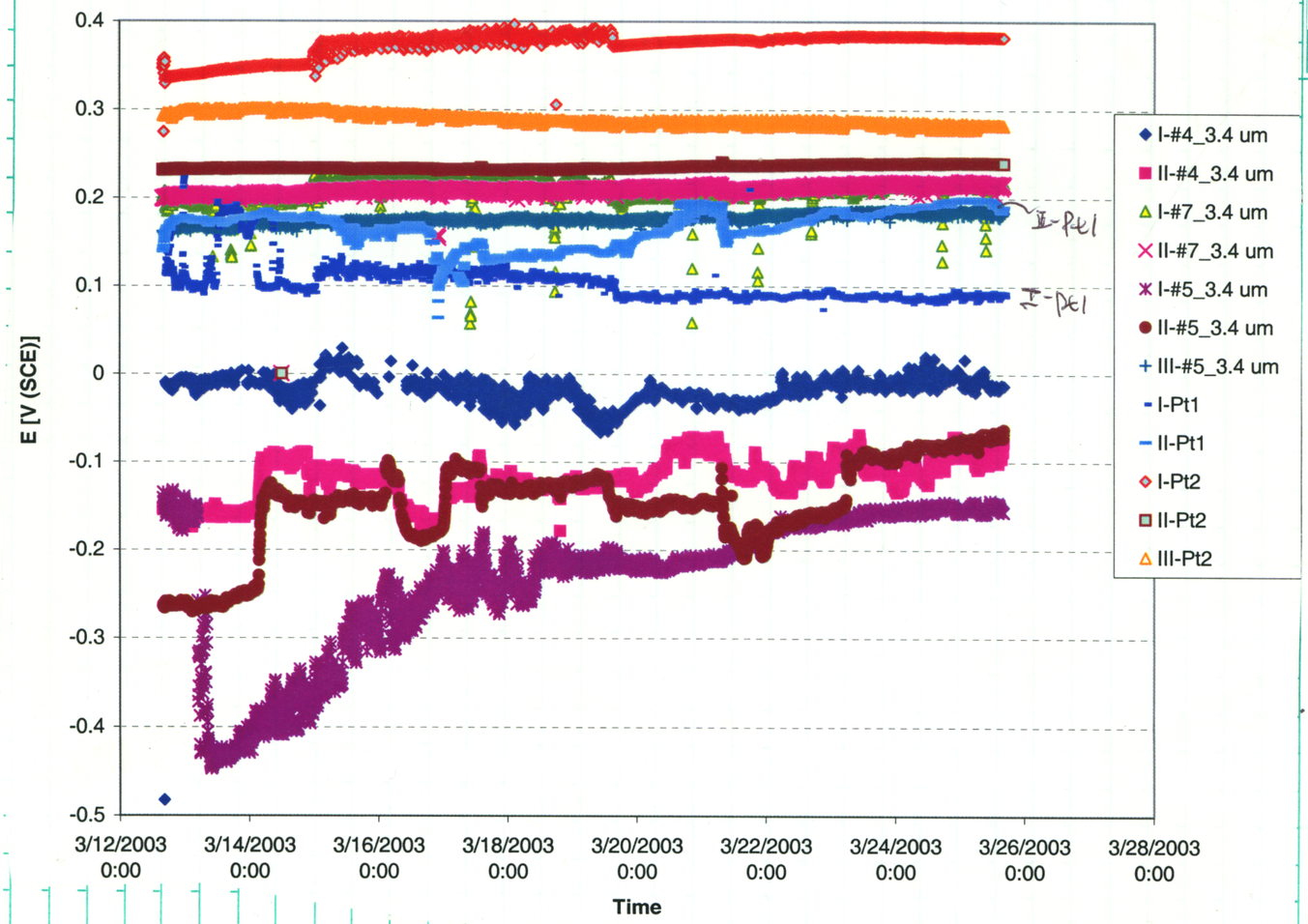
File: 03_Mar12a00_03Mar14b03a / Tab: Potential



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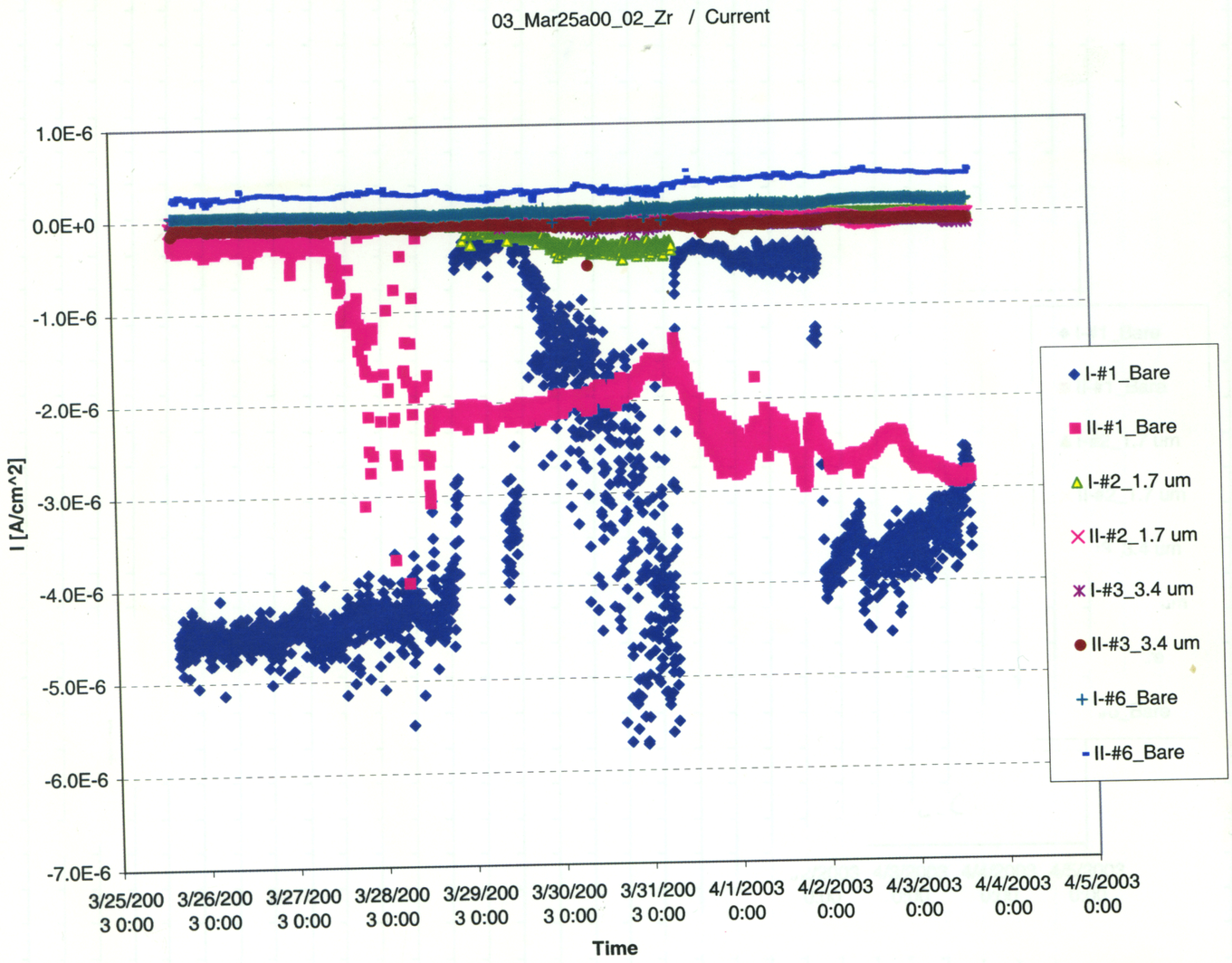

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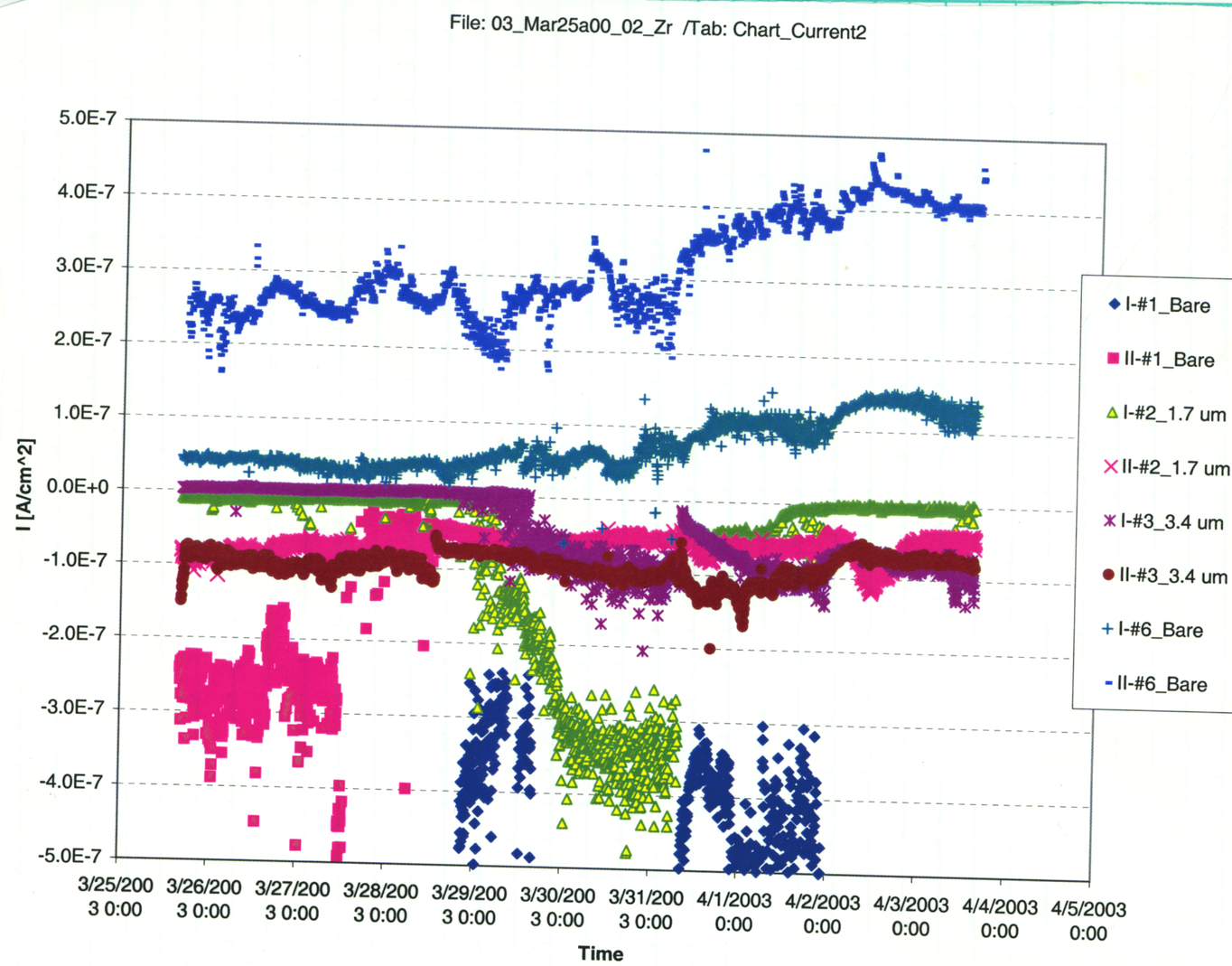

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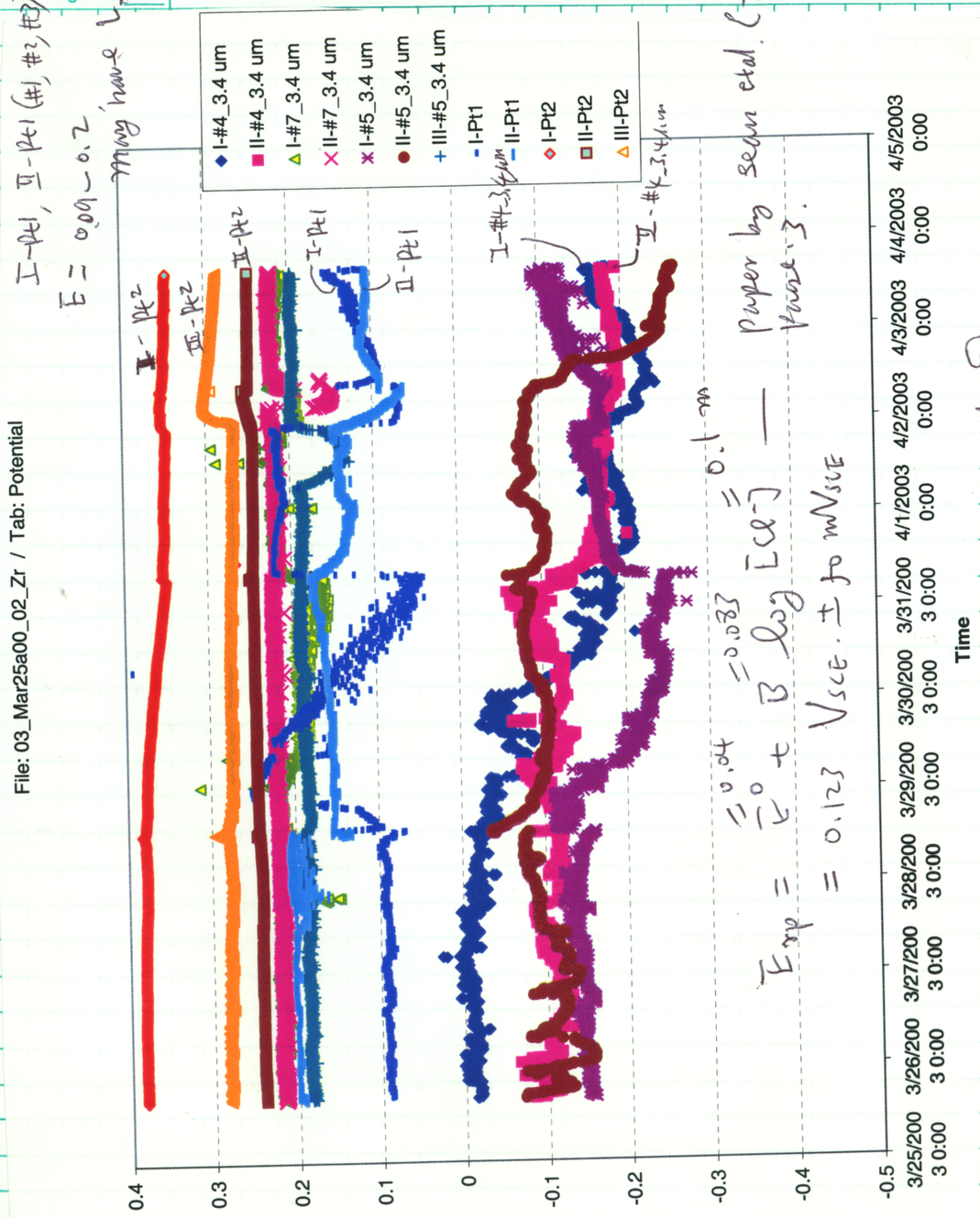
Note: ① Electrodes compat to I-Pt1, II-Pt1 (#1, #2, #3)
E = 0.09 ~ 0.2
may have L.C.



$E_{rp} = 0.123 \; V_{SCE}$ ± 10 mV

$= 0.04 + B \log [Cl^-]$

$= 0.083$

$= 0.1$ m

Paper by Sedin et al. (2002) Paper 3.

Note ② Electrode to II-#4, III-#4 may not have L.C.

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4/9/03

11:58 connected 18 mV to #2 of I-2 leads (8.8 mV source)

12:20 got 8.8 mV response on #3 of I-2 !

12:20 #1 of I-2 connected to 8 mV disconnected I-6, I-4.

Connected II-6, II-4.

12:33 Removed the 8.8 mV source.

13:04 Found that the connector that has been used has the wrong pin connections.

9 (cell) — 1 (to I-2)
1 (cell end) — 2 (I-2 end)
2 (cell end) — 3 (I-2 end)

Chan. 10 has been measuring for I-#6 Bare

means Chan. 9 for I-#6 Bare, Ch 10 for II-#6 Bare

13:17 use a new Resister kit (10 kΩ) for I-2

14:12 I-3 connected changed to a 1k Resister kit (from 10 Ω one) #1

16:00 Found water level in II, I cells just touch the Bare metal electrodes, add to have ¼" depth

Witnessed & Understood by me, Water (1 cm depth) also added to cell II.
Date
Invented by
Recorded by
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