7-23-02

16:45 T=~~41.4°C~~ JPL 7-31-02 49.1

7-25-02

9:05 T=~~41.4°C~~ JPL 7-31-02 49.1°C

7-26-02

10:00 T=~~49.~~ JPL 7-26-02 ~~41.4°C~~ JPL 7-31-02 49.1°C

7-31-02

13:20 T=49.1°C Thermometer SN 183301.
Cal. Jun 11, 02.

8-6-02

16:14 T=49.1°C

8/26/02

13:45 T=49.2°C. one of the Filtration paper transfered to the humidity chamber for the Del. point test. J.Y. 8/26/02
See page 16, Bk #533

8/27/02. Formation of corrosion products using tcf.
Lot #: 005573

15:36: Desicator placed in oven, T=50°C

8/28/02 T=49.6°C Thermometer SN#183301 cal Jun 11/02 Due 12/11/02
over set point Temp 50°C

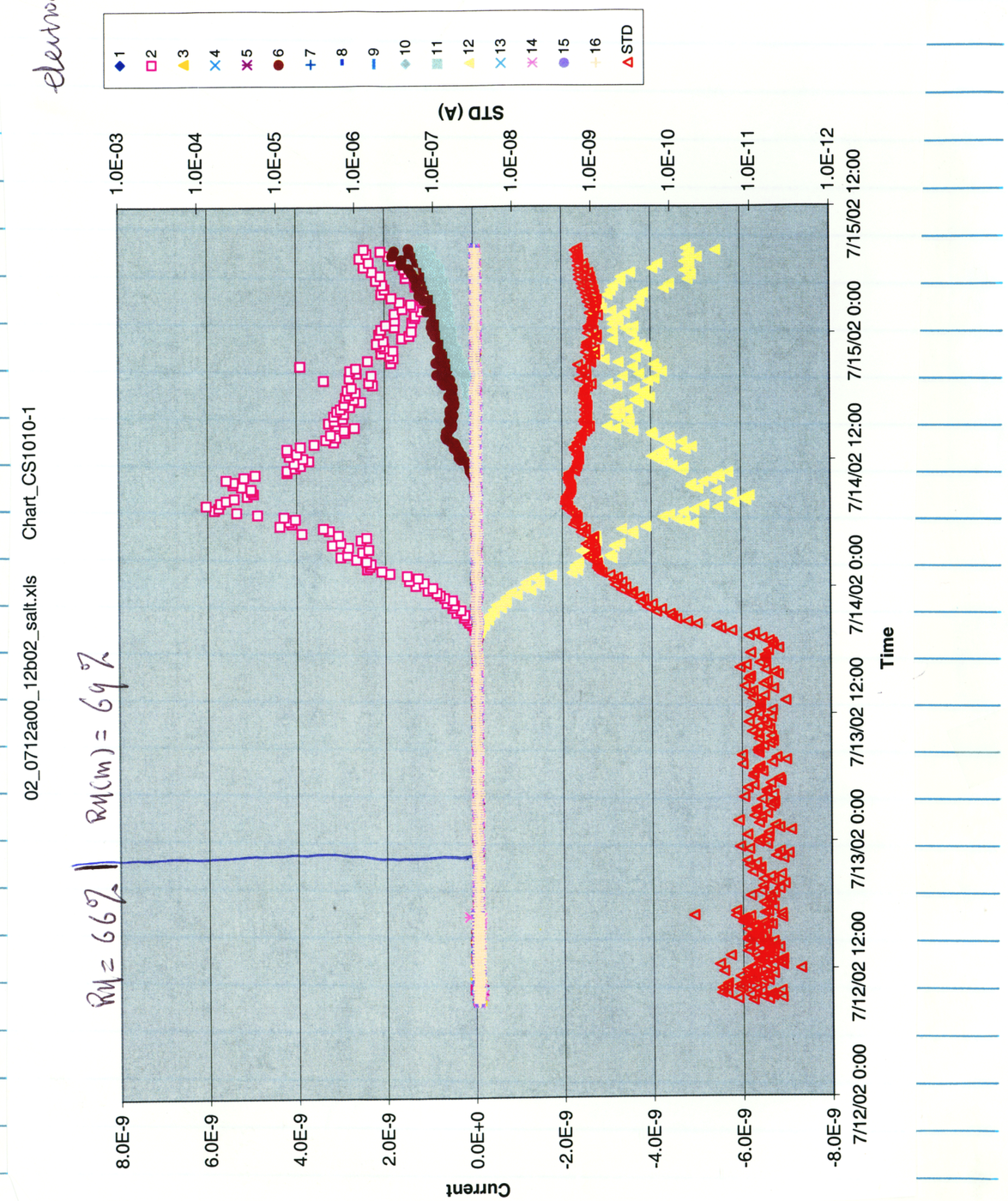
8/29/02 over setpoint 50°C Thermometer Reads 51.2°C

9/3/02 Thermometer Reads 50.6°C 9/23/02 Hg Thermometer Reads 52°C

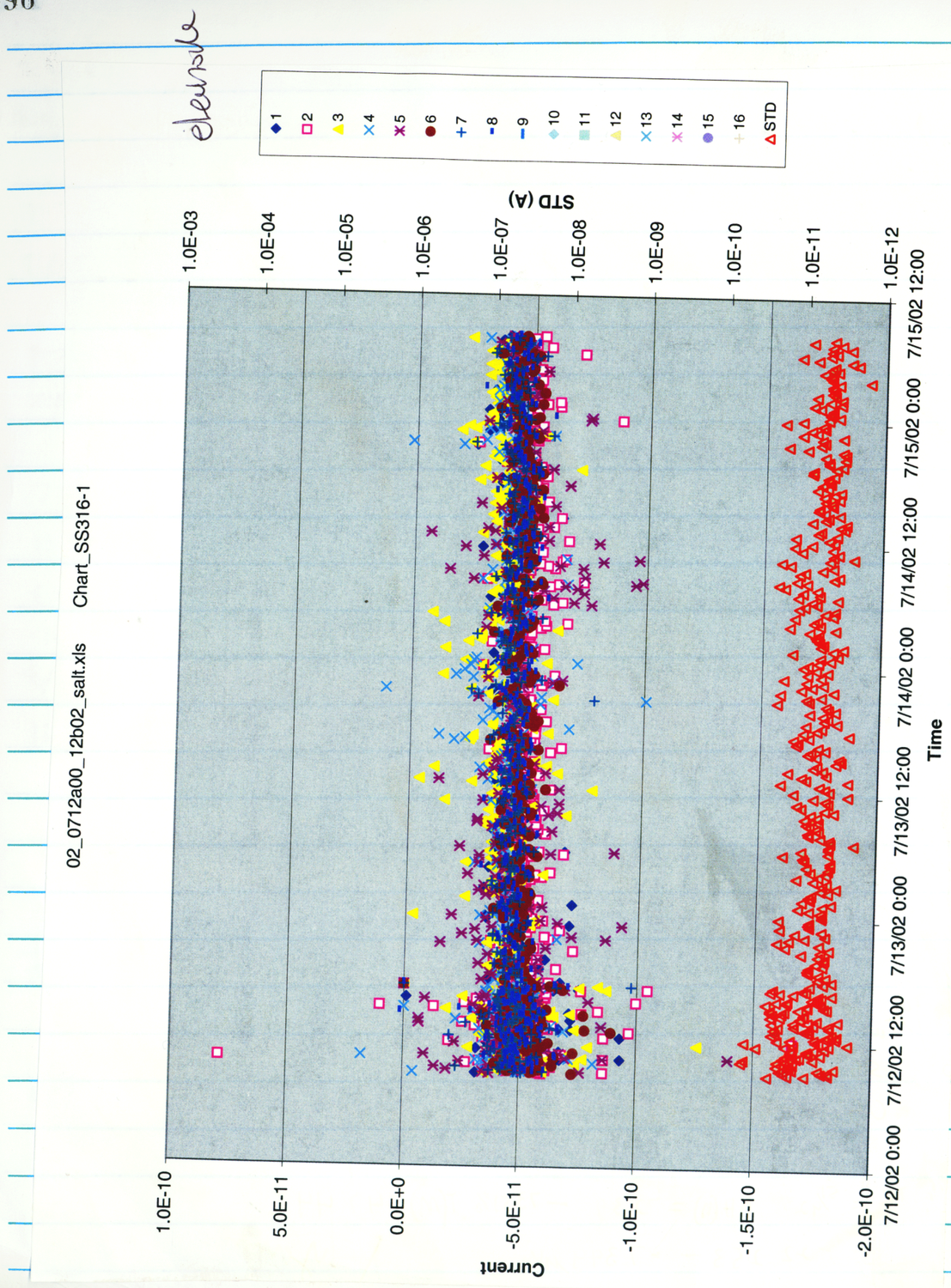
9/23/02 Removed from oven @ 3:10 pm. This product is used on 9/3/02
See page 43, Book # 533.

J. Yang 2/14/06

electrode



J. Yang
7/15/02



elevate

J. Yours 7/15/02

7/16/02 12:33 T_d/T_w = 51/42 RH(m) = 71.44 ~ 70.14 T(M) = 47.78

All connectors except II-4 removed for IMIC test.

17:08 II-2, II-3 II-5 returned Data #100

17:15 Data # 102

SS -18.673 - -11.296 μV

CS -957.462 - +547.246

T_d/T_w = 51/42 RH(m) = 69.63 - 70.80% T(m) = 47.80°C

8:27, 7/17/02 Program Restarted. 02-0717a. Results See Pages 37-39 Book # 533

JPL 7-17-02

10:16 T_d/T_w = 51/43 RH(m) = 72.78 - 74.46% T(M) = 47.84°C

Data #20

SS: -14.149 - -8.324 μV

CS: -2218.285 - +127.087 μV

17:05 T_d/T_w = 51/43 RH(m) = 74.83 - 76.42 T(m) = 47.82°C

Data: 106 SS: -24.478 - -5.272 μV

CS: -3947.323 - +1575.76 μV

7-18-02 T_d/T_w = 51/42 RH(m) = 72.39 - 73.51% T(m) = 47.44°C

8:07 SS: -22.253 - -7.394 μV

Data #293 CS: -1508.492 - +263.941 μV

J. Yours 7/22/02

16:30 II-5 Removed

16:43 II-3 Removed T_d/T_w = 51/40 two low! RH(m) = 67.21 → 68.18

~~JPL 7-19-02~~ 7-19-02

7:59 T_d/T_w = 51/40 RH(m) = ~~65.34~~ - 66.55% T(m) = 47.76°C Data # 567

8:25 II-3 + II-5 Returned
Cooling water valve ¼ open.

8:47 T_d/T_w = 51/43 RH(m) = ~~JPL 7-19-02~~ 75.23 - 75.73% T(m) = 48.07°C
Data # ~~JPL 7-19-02~~ 576 SS: -35.498 - -1.428 μV
CS: -3059.124 - +1932.083 μV

9:13 T_d/T_w = 51/44 RH(m) = 76.42 - 77.01% T(m) = 48.11°C Data # 581
Data # 581 SS: -37.405 - -0.608 μV
CS: -2991.519 - +1863.073 μV
II-2, II-3, II-5 Removed

10:59 RH(m) 78.66 - 79.31% T(m) = 48.05 Data # 602

11:23 II-2 Returned

13:07 T_d/T_w set to 51/43.5 Data # 626
Current Reading T_d/T_w = 51/44 RH(m) = 80.07 - 80.70%
T(m) = 47.95°C

J. Yuen
7/23/02

15:53 II-3 + II-5 Returned
~~II-3~~ II-4 + II-5 Resistors changed to 1kΩ
JY 12/14/02

7-22-01

7:18 T_d/T_w = 51/44 RH(m) = 83.92 - ~~84.32 JPL 7-22-01~~ ~~83.80~~ JPL 7-22-01 T(m) = 47.94°C

Data: 1416 SS: -60.187 - +21.54 μV
CS: -231.827 - +175.439 μV

7:23 II-3 + II-5 Removed

10:12 II-2 Removed

7-23-01

8:25 II-2, II-3, II-5 Returned

9:06 T_d/T_w = 51/42 - 51/43 RH(m) = 76.25 - 76.58 ~~μV~~ % JPL 7-23-01 T(m) = 47.67°C
Data # 1728 SS: -36.592 - +17.515 μV
CS: ~~JPL 7-23-01 +77.125~~ -236.224 - +136.324 μV

9:20 II-3 + II-5 Removed

14:15 II-3 + II-5 Returned

J. Yuen
7/23/02

14:42 II-3 + II-5 Removed
II-2 Removed

14:56 $T_d/T_w = 51/43$ RH(M) = 81.21 – 81.27 % T(M) = 47.93°C

Data # 1797 Current setting is $T_d/T_w = 51/42.5$ JPL 7-23-01 Previous setting was altered

New setting $T_d/T_w = 51/43$ Target RH = 85%

15:25 New setting $T_d/T_w = 51/43.5$

16:10 New setting $T_d/T_w = 51/44$

RH(M) = 82.25 – 82.88%

17:26 II-2 returned. Carbon steel sensor "S" and "L" has been not coupled. → coupled at 17:28

7-24-02

8:04 II-2 removed

8:54 II-2, II-3, II-5 Returned

9:46 Data# 2025

SS: -45.703 – +15.785 μV

CS -667.104 – +254.974 μV

RH(M) = 84.48 – 84.97% $T_d/T_w = 51/44$ T(M) = 48.16°C

16:47 $T_d/T_w = 51/44$ RH(M) = 85.59 – 86.17%

II-2, II-3, + II-5 Removed

17:03 II-2, II-3 and II-5 ~~Removed~~ JPL 7-24-02 Returned

7-25-02

7:13 R(H) = 89.21 – 89.86% $T_d/T_w = 51/44 - 51/45$ T(M) = 48.06°C

II-2, II-3, + II-5 Removed New setting $T_d/T_w = 51/43.5$

continued to Notebook #533 [signature] 7-25-02

J. Yang 2/14/06

The following papers were published based on the work in this scientific notebook (#464)

L. Yang, R. T. Pabalan, L. Browning and D.S. Dunn, "Corrosion Behavior of Carbon Steel and Stainless Steel Materials under Salt Deposits in Simulated Dry Repository Environments", in Scientific Basis for Nuclear Waste Management XXVI, R. J. Finch and D. B. Bullen, eds, Warrendale, PA: Materials Research Society, M.R.S. Symposium Proceedings, Vol. 757, pp.791-797, 2003.

Lietai Yang, Roberto T. Pabalan and Lauren Browning, "Experimental Determination of the Deliquescence Relative Humidity and Conductivity of Multicomponent Salt Mixtures" in Scientific Basis for Nuclear Waste Management XXV, B. P. McGrail and G.A. Cragnolino eds, Warrendale, PA: Materials Research Society, Symposium Proceedings Vol. 713, pp. 135-142, 2002.

J. Yang 4/7/06

I have reviewed this scientific notebook and find it in compliance with QAP-001. There is sufficient information regarding procedures used for conducting tests, acquiring and analyzing data so that another qualified individual could repeat the activity.

[signature] 4/11/06

ADDITIONAL INFORMATION FOR SCIENTIFIC NOTEBOOK NO. 464

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