

## **Appendix D**

### **Plating Tank Data Collected by SSD Staff**

**Test 5 & 6**  
**Alta Plating & Chemical Corporation**

**Dates Tested: 1/27/04 - 1/29/04 and 2/2/04 – 2/4/04**

**Table 1: Freeboard Space, Chromic Acid Concentration and Average Temperature for the decorative Chromium Plating Tank During Testing**

Date	Run	Freeboard (inches)	Chromic Acid Concentration (oz/gal)	Temperature (°F)
1/27/04	1	5.8 - 4.5	37.7	110
1/28/04	2	4.0 - 4.2	34.3	110
1/29/04	3	4.0 - 4.0	35.9	109
2/2/04	4	4.75 - 5.0	35.1	104
2/3/04	5	4.0 - 4.5	34.5	109
2/4/04	6	4.5 - 4.9	34.6	109

Note:

- Freeboard space was measured at the beginning and end of the day. It represents the distance between the top of the tank and the tank solution
- Chromic Acid Concentration was measured once or twice a day and represents the average
- Temperature readings were taken throughout the day and averaged

**Table 2: Surface Tension (dynes/cm) Readings at the Beginning and End of Each Day**

Date	Run	Surface Tension Reading During Sampling	Surface Tension Reading measured the next day for the same sample
1/27/04	1	39.3 - 39.9	40.8 - 41.6
1/28/04	2	40.7 - 39.3	43.3 - 41.9
1/29/04	3	40.1 - 39.7	42.9 - 41.9
2/2/04	4	30.8 - 28.9	38.6 - 38.4
2/3/04	5	30.5 - 28.9	42.1 - 41.4
2/4/04	6	29.23 - 28.4	39.7 - 35.5

Note: Surface tension was measured using a stalagmometer. Samples were taken at the beginning and end of each day. They were analyzed at the time of sampling and again the next morning.

One sample taken during run 1, end of day, was analyzed on 2/4/04 to see if there was a change in surface tension. The results are as follows:

	1/27/04	1/28/04	2/4/04
Temperature (°F)	109	55	53
Surface tension (dynes/cm)	39.9	41.6	43.0

Additions to the bath:

- Chromic Acid was not added to the decorative tank during testing. The last addition was made on 1/24/04 of 100 lbs.
- During the first week of testing, fume suppressant Protab 1000 was used.
- During the second week, fume suppressant Clepco Chrome Mist Control was used. The 4.0 L was added to the bath between run 3 and 4.
- Water was added as needed.

Other Notes:

- Plating amperage depended on type of parts plating and ranged from 200 – 1000 Amperes.
- Protab 1000 & Clepco Chrome Mist Control are manufactured by MacDermid
- Dummy parts were provided by Alta Plating and used when necessary to increase production. These parts were rotated in sets and included 2 inch diameter X 3 feet long pipe and 1.5 inch X 3 feet square tubing. The surface area was about 7.7sq.ft. Dummy parts were plated with nickel before chrome plating in order to emulate the normal plating procedure. After chrome plating, each dummy part was stripped and reactivated with nickel for subsequent chrome plating. Dummy parts were plating for 1 - 3 minutes.
- To get an estimate activity in the tank, staff counted the number of loads.

<u>Run</u>	<u>Total number of loads</u>
1	31
2	40
3	30
4	19
5	23
6	33

- Types of parts plated include, pipes of gym equipment, towel racks, bike racks, and other miscellaneous small parts
- Smoke test was done every day
- Temperature profile of the tank was done during run 2 and 5. The temperature varied 1-3 degrees throughout the tank. The average was consistent with their temperature meter.
- Tank was manually mixed in morning each day
- It rained at some time during the day every day of sampling except during run 6.
- The temporary hood was placed about 8 inches from the top of the tank. The front end of the hood was open so the operator could introduce parts into the tank. The smoke test confirmed that the temporary hood had good capture. Plastic sheeting was added to temporary hood when needed depending on the wind.
- The Amp-hr meter was calibrated with the ampere meter.

Subject: amp-hrs for alta  
Date: Fri, 06 Feb 2004 11:34:17 -0800  
From: Shobna Sahni <spandhoh@arb.ca.gov>  
To: David Todd <dtodd@arb.ca.gov>

Hi David, Here are the amp-hrs for all the runs:

1 - 183  
2 - 537  
3 - 393  
4 - 390  
5 - 382  
6 - 383

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