

**MARE ISLAND NAVAL SHIPYARD  
INDUSTRIAL WASTE DISCHARGE  
INVESTIGATION REPORT**

**DATE OF INVESTIGATION:  
Wednesday, 28 January, 1987**

**I. INSPECTORS:** Greg Ow, Harris & Associates

**II. SITE LOCATION:**

Bldg. 225, 5th Street, nr. waterfront  
Shop 51, Plating Strip

**III. CONTACTS:**

Mr. Max Henderson  
Electroplating Foreman (707) 646-2108  
Mr. Fernando Rodriguez  
Chemist (707) 646-3405

**IV. GENERAL DESCRIPTION OF FACILITY:**

Metal electroplating shop consisting of a metal cleaning area, silver plating, cadmium plating, chrome plating, nickel plating and copper plating.

Use of once through continuous flow rinsewater tanks.

**V. CHEMICALS STORED ONSITE:**

<u>PRODUCT NAME</u>	<u>EST. QUANT.</u>	<u>CHEMICAL CONTENTS</u>
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**VI. PROCESS CHEMICALS AND WASTESTREAMS:**

<u>DESCRIPTION</u>	<u>CHEMICALS</u>	<u>DISCHARGE QUANTITY</u>
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A) Cleaning Room

1. Paint Strip Tank EZE-Stripper	500 gal 75% Dichloromethane	dump 1/year
2. Rinsewater Tank	~1000 gal	continuous overflow
3. Heated NaOH Tank	1335 gal (11b/gal) 200°F	dump 1/month

<u>DESCRIPTION</u>	<u>CHEMICALS</u>	<u>DISCHARGE QUANTITY</u>
4. Nickel Strip Tank	335 gal Sulfuric Acid (10%) Copper Sulfate (40 lb)	dump 1/5 yrs
5. Chrome Strip Tank	655 gal NaOH	dump 1/year-1/5 yrs
6. Rinsewater Tank	~1000 gal	continuous overflow
7. Rinsewater/Bright Tank	~1000 gal rinse-water 100 gal bright dip Nitric Acide 50% Sulfuric Acide 50%	continuous overflow dump 1/month
8. Spare Tank (Unused)		
9. Heated Rinse Tank	~1000 gal	continuous overflow
10. Cyanide Cleaner Tank		dump 1/5 yrs
11. Rust Scale Cleaner Tank	HCl Acid	dump 1/month
<u>B) Silver Room</u>		
12. Electro Cleaner Tank	915 gal CEE-BEE Formula No. 17	dump once/month
13. Rinse Tank	~1000 gal	continuous overflow
14. Heated Rinse Tank	~1000 gal	continuous overflow
15. Bright Nickel Tank	360 gal Nickel Sulfate 300 g/l Nickel Chloride 100 g/l Boric Acid 45 g/l <u>Udylite:</u> Brightener #4 1% Brightener #63 3% Magnum S 25%	not dumped residuals in rinse-water tanks
16. Nickel Strike	190 gal Nickel Chloride 235 g/l	not dumped, residuals in rinsewater

<u>DESCRIPTION</u>	<u>CHEMICALS</u>	<u>DISCHARGE QUANTITY</u>
	Hydrochloric Acid 125 ml/l	
17. Silver Cyanide Tank	440 gal Silver 30 g/l Silver Cyanide 140 #/tk Potassium Cyanide 40 g/l Potassium Carbonate 15-150 g/l	not dumped, residuals in rinsewater
18. Silver Cyanide Strike Tank	230 gal Silver Cyanide 5 g/l Potassium Cyanide 30 g/l	not dumped, residuals in rinsewater
19. Copper Cyanide Tank	600 gal Copper Cyanide 75 g/l Free Sodium Cyanide 40 g/l Potassium Hydroxide 40 g/l Total Sodium Cyanide 100 g/l	not dumped, residual in rinsewaters
20. Rinse Tank	~ 800 gal	continuous overflow
21. Dull Nickel Tank (to be moved to Cadmium Room)	65 gal Nickel Sulfate 300 g/l Nickel Chloride 125 g/l Boric Acid 35 g/l	not dumped, residual in rinsewater
22. Tin Tank (to be moved to Cadmium Room)	65 gal Sodium Stannate 115 g/l Sodium Hydroxide 12 g/l	not dumped, residual in rinsewater
23. Lead Tank	Lead Fluoroborate	
<u>C. Cadmium Room</u>		
24. Heated Rinsewater Tank	~ 500 gal	continuous overflow

<u>DESCRIPTION</u>	<u>CHEMICALS</u>	<u>DISCHARGE QUANTITY</u>
25. Rinse Tank	~ 500 gal	continuous overflow
26. HCl Tank	245 gal 50% HCl	dumped 3/year
27. NaOH Tank (Heated)		(Same as Tank No. 3)
28. S.S. Passivating	425 gal Nitric Acid	dumped 1/year
29. Cadmium Tank	600 gal Total Sodium Cyanide 100 g/l Sodium Hydroxide 15 g/l Sodium Carbonate 40 g/l	not dumped, residuals in rinsewaters
30. Rinse/Nitric Bright Tank	~ 500 gal Rinse- water 100 gal Nitric Acid 50% Sulfuric Acid 50%	continous overflow  dumped 1/month
31. Paint Strip Tank EZE Stripper	~ 50 gal 75% Dichloromethane	dumped 1/year
32. Chromate Con- version Tank	100 gal OXYCHRO 754 15 g/l (sodium dichromate)	dumped 1/year
33. Rinse Tank	~ 100 gal	
<u>D. Chrome Room</u>		
34. Spare Tank Site		
35. Chromic Acid Tank	920 gal Chromic Acid 250 g/l Sulfuric Acid 1.3 ml/l Barium Carbonate	not dumped, residual to rinsewater
36. Chrome Strip Tank	655 gal Sodium Hydroxide	dumped 1/year
37. Degreasing Tank	~ 500 gal ?	

<u>DESCRIPTION</u>	<u>CHEMICALS</u>	<u>DISCHARGE QUANTITY</u>
38. Chromic Acid Tank	920 gal (as 35 above)	not dumped, residual to rinsewater
39. Chromic Acid Tank	1275 gal (as 35 above)	not dumped, residual to rinsewater
40. Anodizing Tank	125 gal Chromic Acid 75 g/l Sulfuric Acid .3 g/l Sodium Chloride .2 g/l	not dumped, residuals in rinsewater
41. Heated Rinse Tank	~ 100 gal	
42. & 43	NOT USED	
44. Chrome Room Air Scrubber Water Recirculation Tank		Overflows to I.W.
45. Cadmium/Silver Rooms Air Scrubber Water Make up Tank		continuous make up water. Return of re- circulation is unknown

**VII. COMMENTS:**

Tanks in the Silver Room have been modified with new PVC piping.

The air scrubbers have not been maintained. The lack of recirculation water to one of the scrubbers indicates potential problems. Ultimately, the water may add a dilution factor to the industrial waste sent to the I.W. system.

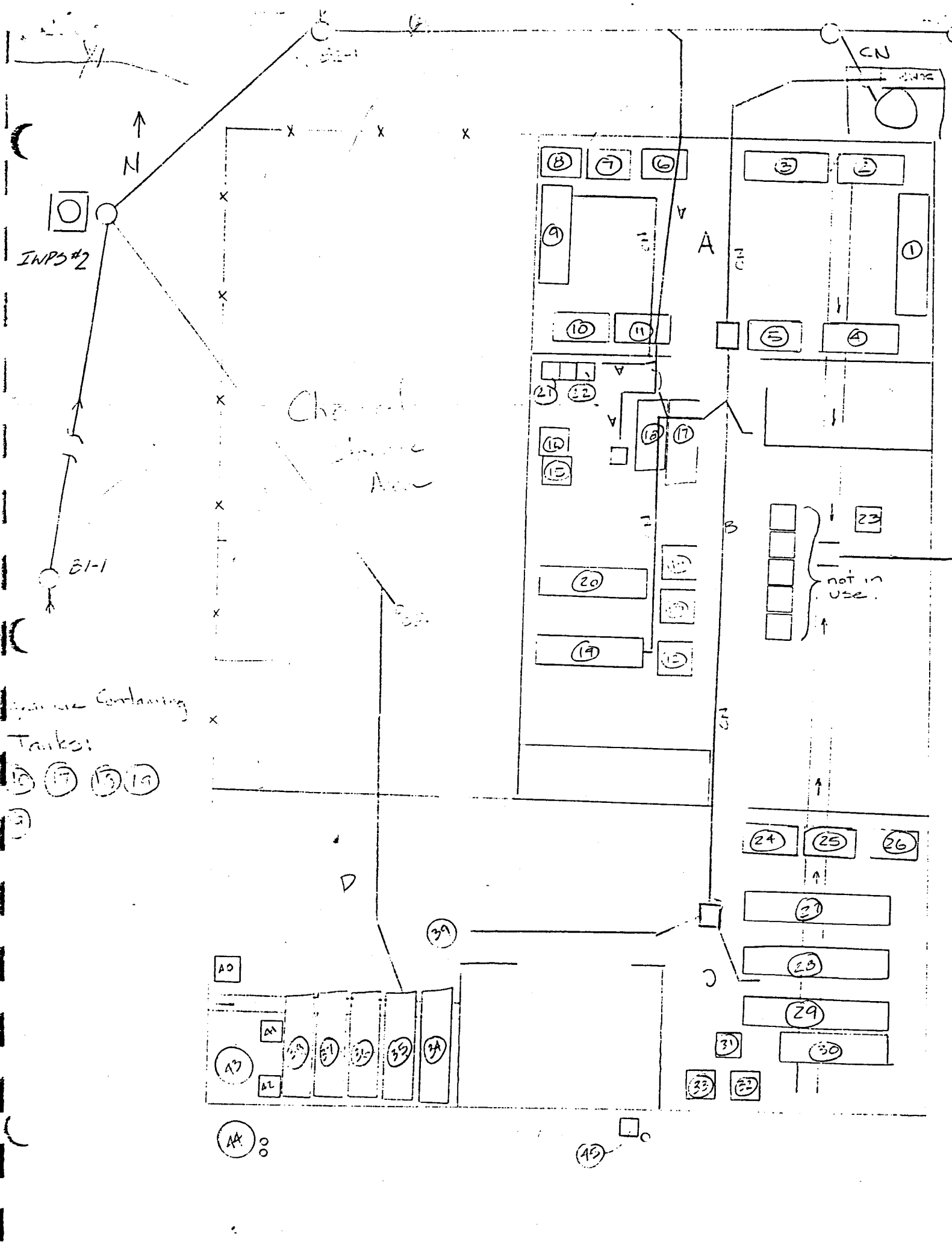
**VIII. PRETREATMENT CATEGORY DESIGNATION:**

Electroplating and metal finishing.

**IX. INDUSTRIAL WASTE MANHOLE DISCHARGED TO:**

Design calls for cyanide waste to flow to IWTP-T-1 for pretreatment destruction at the site. Discharge to MH B-2-2.

Acid waste to flow directly to MH B-2-1 and all waste combined to flow to IWPS-2.



INPS #2

CN

N

Chemical  
Storage  
Area

A

B

D

Rooms Containing  
Tanks:

8 7 13 14

9

not in  
use

A0

A1

A2

A3

A4

A5

A6

A4

39

40

24

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