

TMC

Q2a for Sb on substrates
41.8 mg

$$\sum_{57}^{60} C = 36,176$$

$$\sum_{125}^{125} = \frac{1,015}{25,161}$$

Decay time

22:40

19:17

$$\frac{22:40}{19:17} \rightarrow 2:23$$

966 decay factor

$$\frac{25,161}{966} = 26,047$$

$$\frac{26,047}{781.4} = 33.33$$

$$\frac{33.33}{41.8} = .797 \text{ mg/gm lead}$$

$$.797 \times 10^{-3} \text{ mg/mgm lead}$$

$$797 \times 10^{-6} \text{ mg/mgm lead}$$

$$797 \text{ part / million}$$

TMC

Q16 Sp. Cu Subtracted

5.7 mg

out 12:20 19:10 May 15

counted 21:43 May 15

$$\sum_{374}^{60} C = 4,046$$

$$\sum_b^{24(1)} = \frac{154}{3,892}$$

Decay time

$$\begin{array}{r} 21:43 \\ - 19:10 \\ \hline 2:33 \rightarrow 2.55 \text{ hrs} \end{array}$$

$$\frac{3892}{.971} = 4,008$$

Decay Factor .971

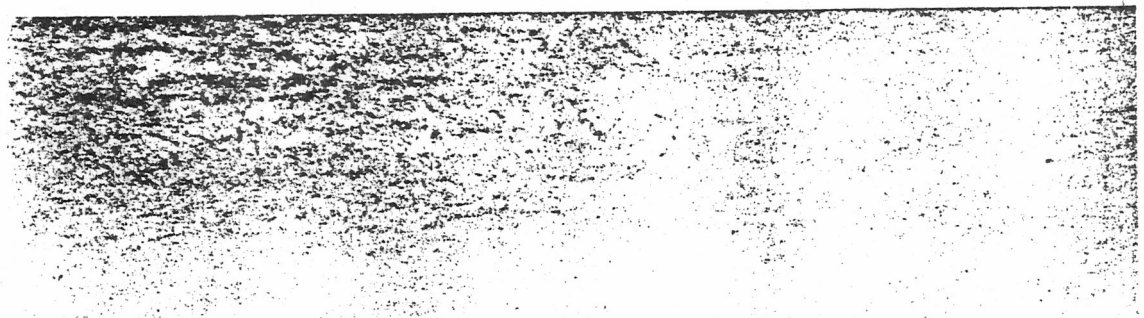
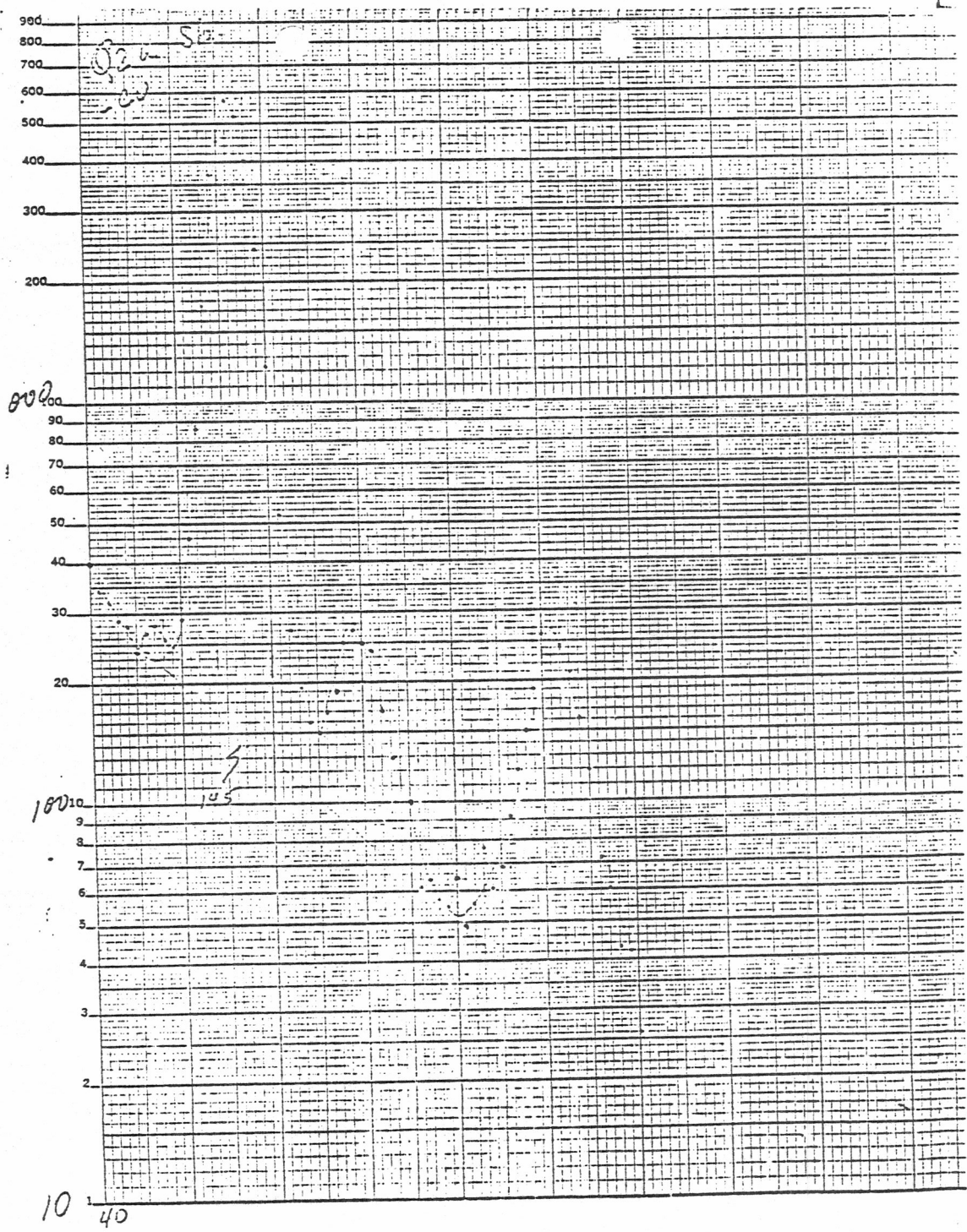
$$\frac{4008}{791.4} = 5.13$$

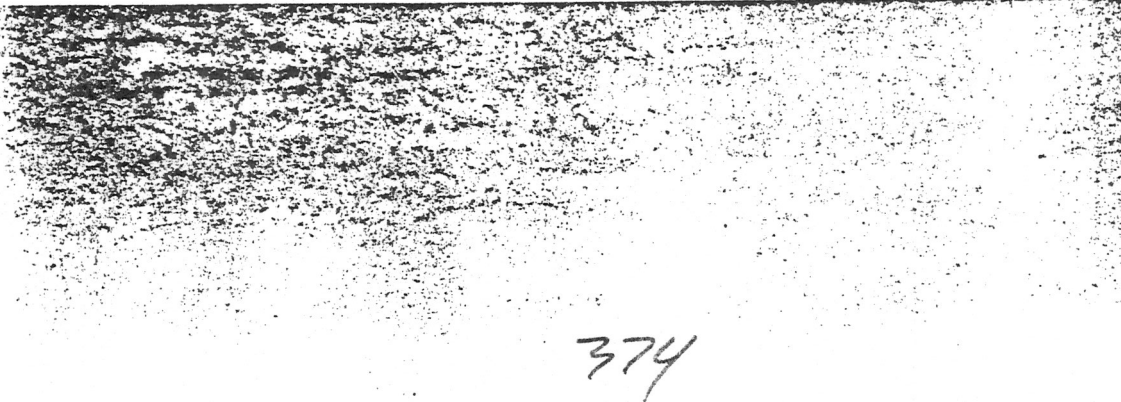
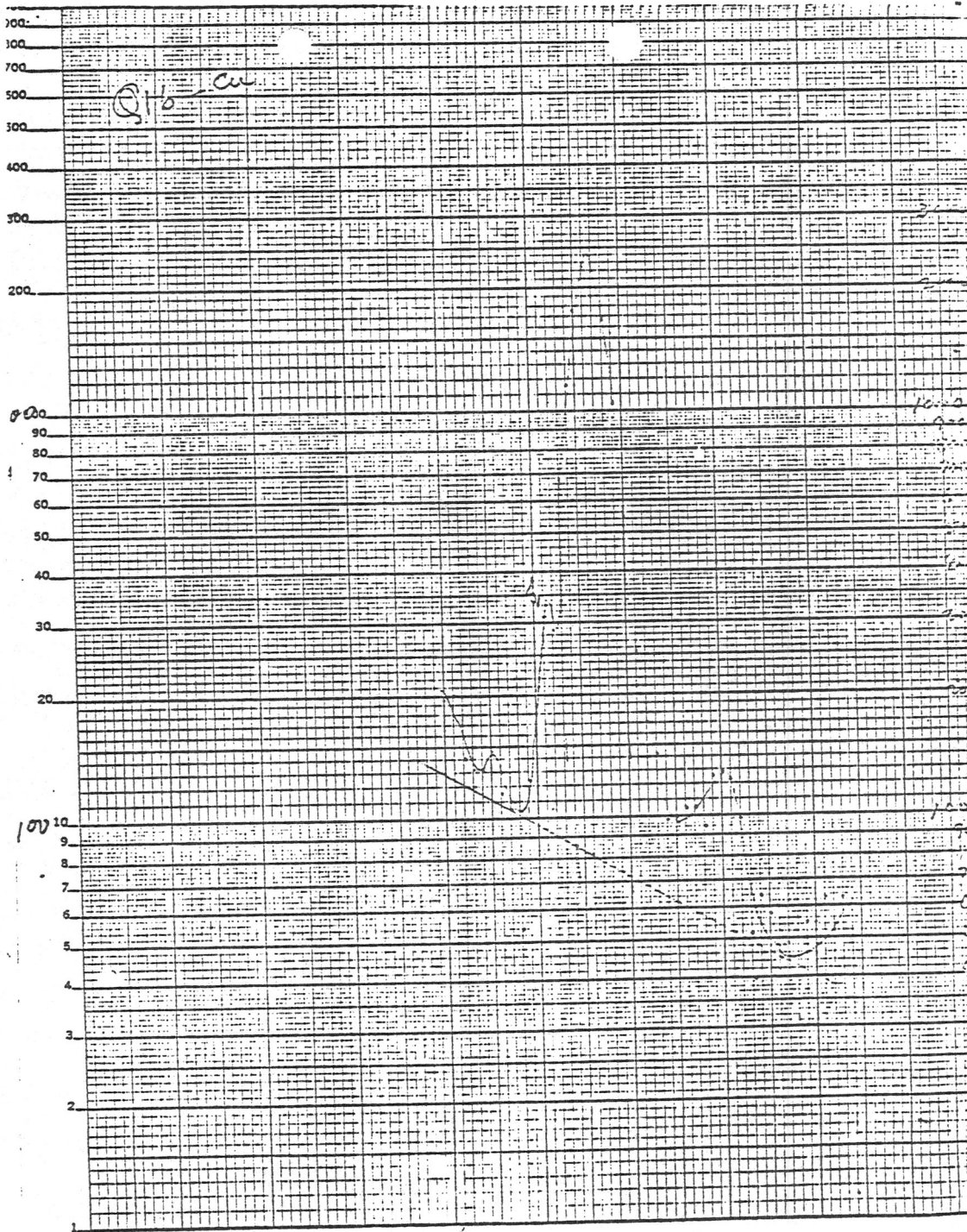
$$\frac{5.13}{5.7} = .900 \text{ mg/mg lead}$$

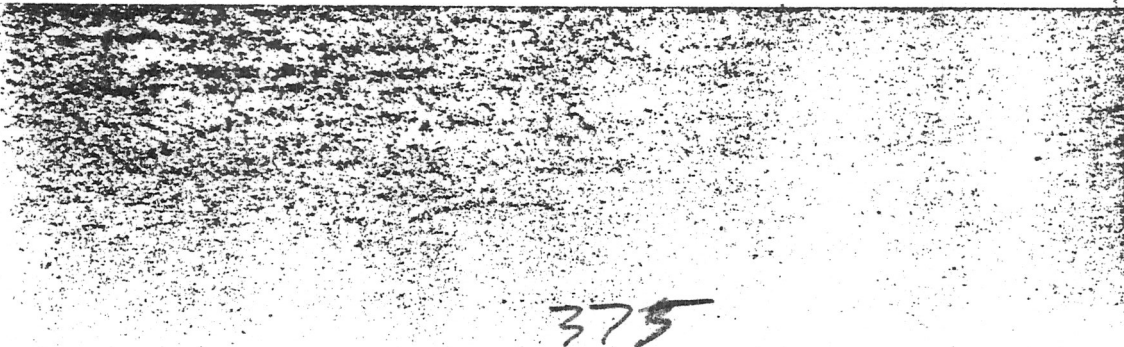
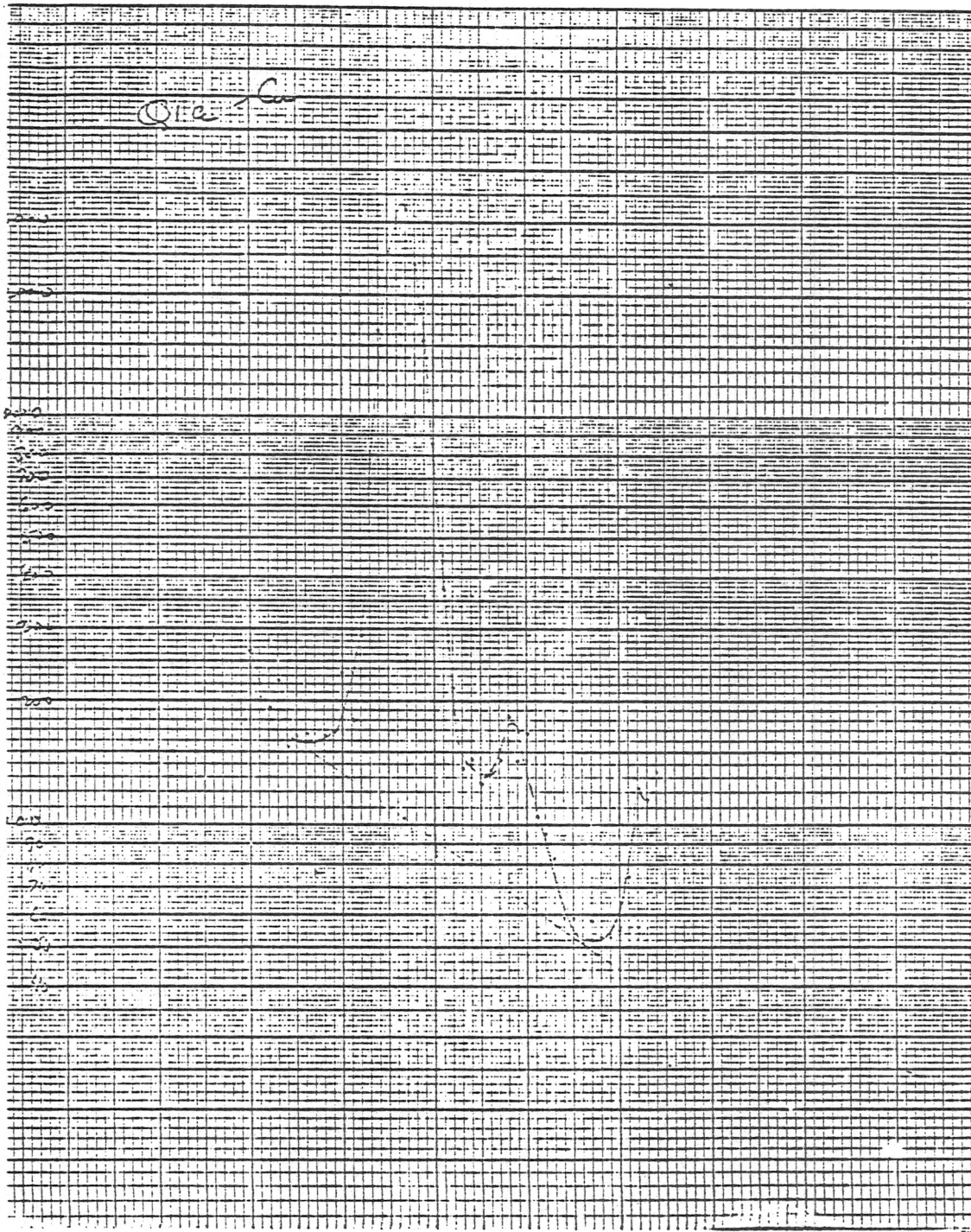
$$.900 \times 10^{-3} \text{ mg/mg lead}$$

$$900 \times 10^{-6} \text{ mg/mg lead}$$

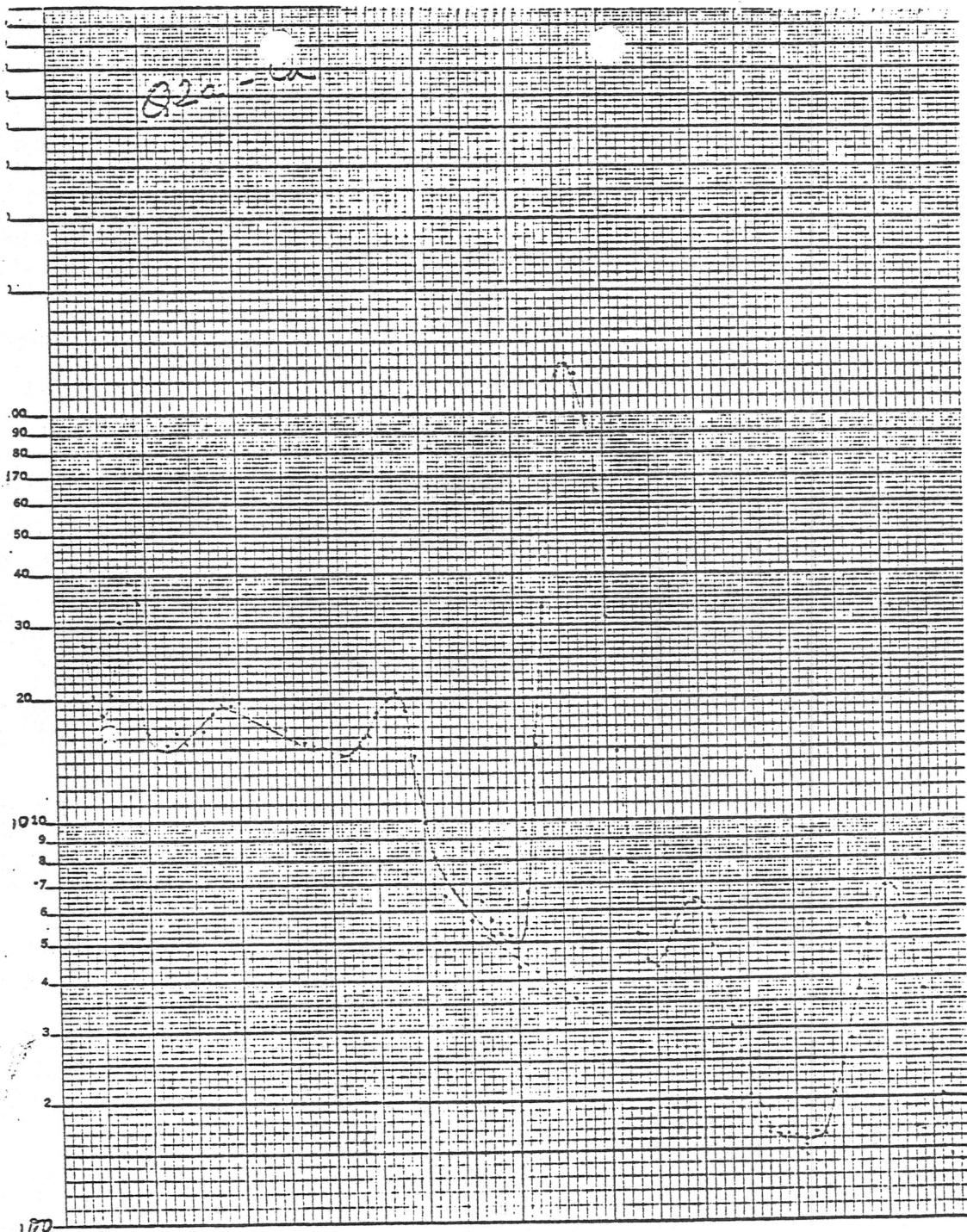
$$900 \text{ parts/million}$$



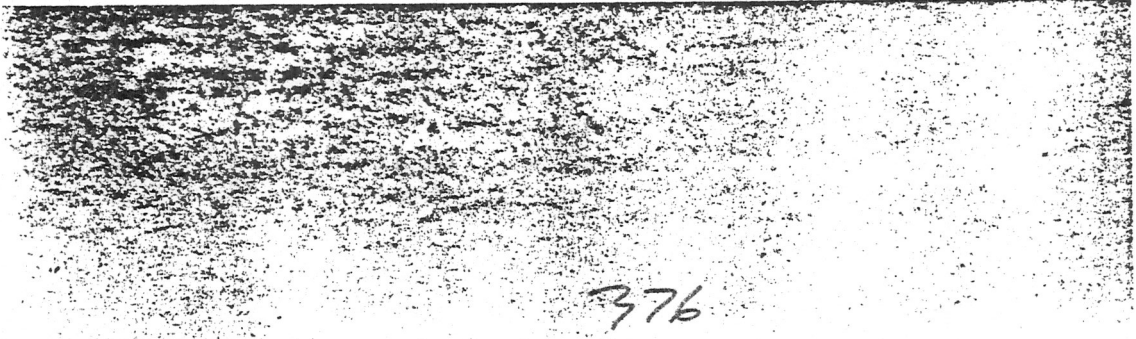




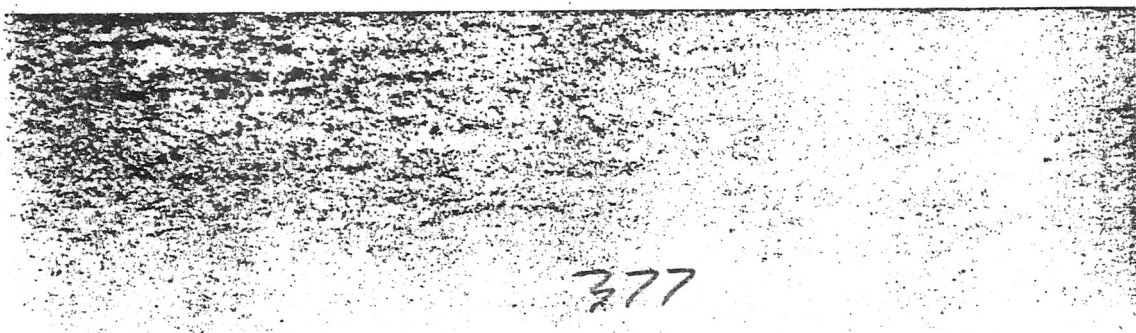
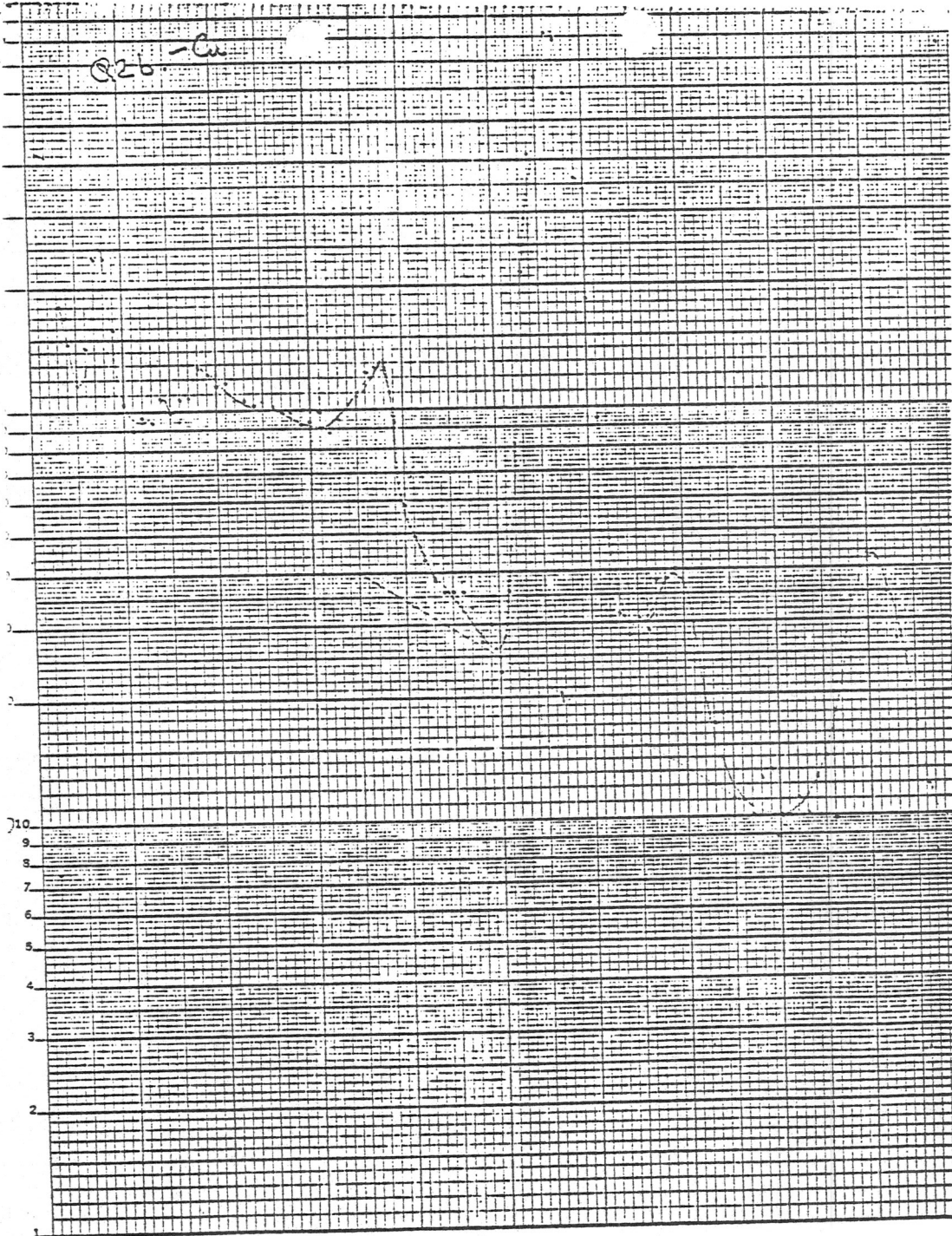
375



100



Q20 - Cu



377

3

So $\text{Cu} = \text{Cu} = 8.5 \text{ mg}$
Analysis time = 5:10 May 15 1954
Reaction time = 20:31 May 15 1954

3.431
14.191
7.60

13.431

Decay time

52:52

20:31
32:21 \rightarrow 2.68
Decay factor = .971

$\frac{13.431}{.971} = 13.833 \text{ counts} / 200 \text{ sec} @ \text{react. - decay}$

$\frac{13.833}{5070} = 6.68 \text{ - mg} / 2500 \text{ - mg lead}$

$\frac{6.68}{8500} = 7.85 \times 10^{-4} \text{ mg Sb} / \text{mg lead}$

7.85×10^{-4}
 $7.85 \mu\text{g Sb} / \text{mg lead}$

.079 % Sb

014 h(b) - Cu		4.7 mg
Analysis time	5/15/64	23.16 for 2000
Recovery time	20:37	Mar, 15 for 2000
\sum Counts	5079	
53	528	
\sum Background	9551	
		$23.16 \times 2 = 23.12 \rightarrow 3.15$
		2.4
		5.68
		971
$\frac{7551}{2511}$	977.6 counts	200 sec
$\frac{7776}{2070}$	3.756 μ g	for 4700 μ g
	$\frac{3.756}{4700} = 7.99 \times 10^{-4}$	
	$= 799 \times 10^{-6}$	
	$799 \times 10^{-6} \times 1000$	
	$= 0.799 \text{ mg}$	

Q1b - Cu

Channel 57 return, at 2300

$$\frac{2 \sqrt{11,407}}{5.7} = \frac{640}{10,767}$$

$$2 \sqrt{\frac{11,407 + 640}{10,767}}$$

$$= \frac{2 \sqrt{12,047}}{10,767} = \frac{219.4}{10,767} = .020$$

Decay time

$$= .020$$

51:63

19:10

$$2,53 \rightarrow 2.88$$

.971

$$\frac{10,767}{.971} = 11,088 \text{ counts/200 sec @ reactor discharge}$$

$$\frac{11,088}{2070} = 5.357 \text{ mg/5.7 mg lead}$$

$$\frac{5.357}{5.7} = .939 \text{ mg/mg lead}$$

939 parts/million

.094 % Sb.

.970

$$\frac{.02 \times}{19.40}$$

$$970 \pm .02 = 19.4$$

$$970 \pm 20 =$$

$$\frac{10,719}{54} = 198.5$$

$$\frac{546}{10,173} = .0537$$

$$\frac{10,173}{1979} = 5.14$$

$$\frac{5.14}{.971} = 5.293$$

$$\frac{5.293}{5.7} = .928$$

928 parts/million

280

TME

Q2(b) - Cu.

Sb

25.2 mg.
Irr. @ 19.28

$$\sum_{54}^{60} c = 17746$$

$$\sum_{110 \times 7} = \frac{770}{16,970}$$

Density

22.48
19.28

$$3.20 \rightarrow 3.33$$

$$\frac{16,970}{1,966} = 17,567$$

$$\frac{17,567}{781.4} = 22.48$$

$$\frac{22.48}{25.2} = .892 \text{ mg/gm}$$

$$.892 \times 10^6 \text{ mg/mg soil}$$

$$892 \text{ part/million}$$

192