

6.0 Reagents

- 6.1 Mercuric thiocyanate solution: Dissolve 4.17 gm of $\text{Hg}(\text{SCN})_2$ in 500 mL of methanol. Dilute to 1 liter with methanol, mix and filter through filter paper.
- 6.2 Ferric nitrate solution, 20.2%: Dissolve 202 gm of $\text{Fe}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$ in 500 mL of distilled water. Add 31.5 mL conc nitric acid, mix and dilute to 1 liter with distilled water.
- 6.3 Color reagent: Add 150 mL of mercuric thiocyanate solution (6.1) to 150 mL of ferric nitrate solution (6.2), mix, and dilute to 1 liter with distilled water.
- 6.4 Stock Solution (0.0141 N NaCl): Dissolve 0.8241 g of pre-dried (140°C) NaCl in distilled water. Dilute to 1 liter in a volumetric flask. 1 mL = 0.5 mg Cl.
- 6.4.1 Prepare a series of standards by diluting suitable volumes of stock solution to 100.0 mL with distilled water. The following dilutions are suggested:

mL of Stock Solution	Conc., mg/L
1.0	5.0
2.0	10.0
4.0	20.0
8.0	40.0
15.0	75.0
20.0	100.0
30.0	150.0
40.0	200.0

7.0 Procedure

- 7.1 Where particulate matter is present, the sample must be filtered prior to the determination. This can be accomplished by having the Technicon continuous filter as an integral part of the system. The sample may be centrifuged in place of filtration.
- 7.2 Allow both colorimeter and recorder to warm up for 30 minutes. Run a baseline with all reagents, feeding distilled water through the sample line.
- 7.3 Place working standards in sampler in order of decreasing concentrations. Complete filling of sampler tray with unknown samples.
- 7.4 When a stable baseline has been obtained, start the sampler.

8.0 Calculation

- 8.1 Prepare standard curve by plotting peak heights of processed standard against known concentrations. Compute concentration of samples by comparing sample peak heights with standard curve.

9.0 Precision and Accuracy

- 9.1 Precision and accuracy data are not available at this time.

Bibliography

- 1 J. E. O'Brien, "Automatic Analysis of Chlorides in Sewage", *Waste Engr.*, 33, 670-672 (Dec. 1962).
- 2 Technicon AutoAnalyzer II, Industrial Method No. 99-70W, Technicon Industrial Systems, Tarrytown, N. Y., 10591 (Sept. 1973).

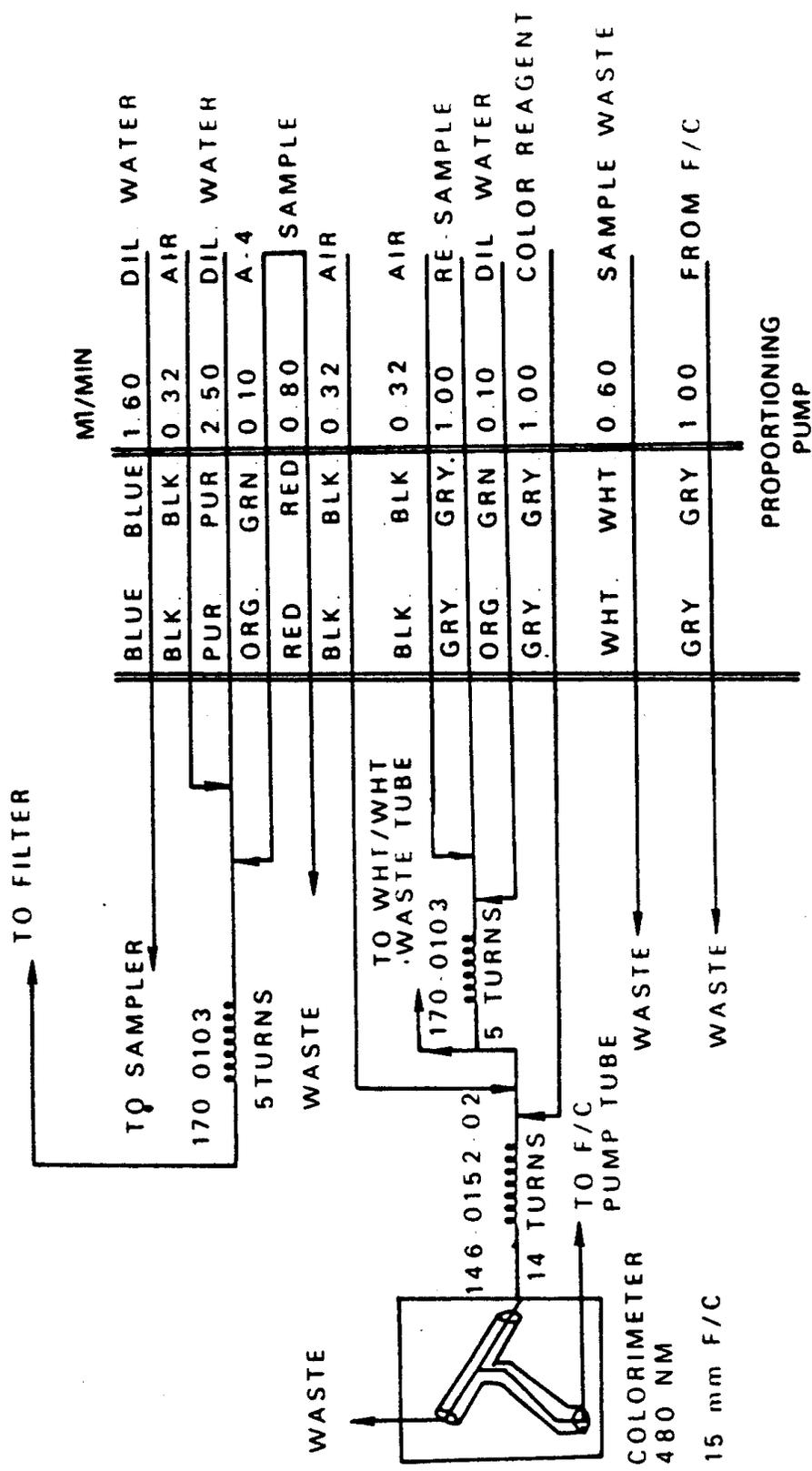


FIGURE 1
CHLORIDE MANIFOLD AA 11