

mV reading. If necessary place the electrodes in RW w/TISAB to cause this to happen. Report samples less than 0.02 mg/L as 0.02U.

15. Fluosilic Acid

a). Heavy Metals as Pb, AWWA B703 sec.4.2, with the following modifications: 1 mL fluosilicic acid is added to 10 mL \pm 2 mL H₂O and adjusted with NH₄OH to pH 6-8 (checked with pH paper); add 3 drops Na₂S solution (Standard Methods 314B, 2.b.2); if brown color develops compare against 0.02% Pb standard; confirm reactivity of reagents in every test by adding 4 drops of 500 mg/L Pb solution to simulate 0.01% Pb.

b). Specific Gravity - Hydrometer @ 20°C.

Q Test \rightarrow
c). Qualitative (for field use), SPU method: add .05 g scoop NH₄Molybdate to a 50 mL centrifuge (plastic) tube, 10 drops R.W., swirl, add 3 drops H₂SiF₆, swirl, a bright yellow with green tint should form immediately, use a brush to clean the centrifuge tube each time.

d). % H₂SiF₆, JAOAC (Volume 53, Number 3, 1970) Specific Ion Electrode Method. Perform the analysis in triplicate. The results must agree within 0.4% or repeat. Record the following information in the H₂SiF₆ analysis notebook: sample weight, mg/L F⁻, % H₂SiF₆.

Tare three 50 mL Nalgene volumetric flasks. Drop a single drop into each flask being sure not to touch the necks of the container. Weigh sample and record to nearest 0.05 mg. Rinse down sides of container with distilled water. Neutralize acid to phenolphthalein endpoint with concentrated ammonia solution added drop-wise. The solution should stay pink and not fade away completely. Add 10 mL NH₄OAC solution (NOT TISAB). The pink color should disappear. Make up to 50 mL.

Slope the meter using 100 and 200 mg/L standards. Follow directions in the meter's manual. Note where slope was set for daily samples so you can reset it later. Use clean dry plastic beakers. Rinse them and the electrodes with about 4 mL of the standard. Set to 100 with calibration control. Allow the reading to stabilize for at least 15 minutes. Readjust as necessary. Set the slope with the 200mg/L std.

Calculation of Results:

$$\frac{\text{mg/L F}^- \times 0.006317}{\text{sample wt. in grams}} = \% \text{ H}_2\text{SiF}_6$$

Record shipment number in the book along with results. Save two 250mL bottles of the composite sample in the acid cabinet and label with the pick-up number. They need be saved only for one month. Place the remainder in the large fluosilicic acid bottle for dumping. Return unused portions to Landsburg Treatment Plant for disposal.

NH₄OAC buffer solution: Dissolve 231g NH₄OAC into 1 Liter and adjust the pH to 5.7 - 5.9 using glacial Acetic acid.

Standards Preparation: Add 25.0mL (for 100 mg/L) or 50.0 mL (for 200 mg/L) of 1000 mg/L stock to a 250 mL vol. flask; add 50mL acetate buffer and make up to 250 mL with R.W. Transfer to a p.e. bottle.