GUIDELINES FOR PROPER POOL BALANCE

You should be capable of testing:

I Chlorine - free - total - combined
II pH
III Total Alkalinity
IV Hardness
V Cyanuric Acid - (pool stabilizer)

I - CHLORINE Recommended Level: 2-0 - 3.0 ppm
Legal Range: 1.5 - 10 ppm

Superchlorination: When the combined chlorine level (the total chlorine - the free chlorine) is 50% or more of the total chlorine, superchlorination is needed.

To achieve superchlorination add chlorine to 10 X the combined chlorine level. (Example: combined chlorine = .8 ppm - superchlorinate to 10 X .8 = 8.0 ppm)

When superchlorinating - Per 120,000 gallons
1 lb gas)
2 lbs HTH) = 1 ppm
1 gal. Liquid)

Recommend granular chlorine for superchlorination.

II - pH (Recommend: 7.4 - 7.8) Legal Range: 7.2 - 8.0

pH is a measure of the acidity or basicity of water. It is measured numerically on a scale.

Very acidic neutral very basic
0 7 14
Corrosive ----------scale forming

The ability of chlorine to oxidize matter and kill micro-organisms is directly affected by pH. As pH increases above 7.0 this ability is adversely affected.

pH - below 7.0

a. Irritating to the eyes and mucous membranes.
b. Corrosive to metal parts of the pool and to the plaster finish.

PH - below 8.0

a. Scaling (precipitation of mineral components)
b. Cloudy water
c. Reduced chlorine effectiveness

III - ALKALINITY RECOMMENDED LEVEL:100 - 140 ppm (parts per million)

Alkalinity is a measure of waters ability to withstand changes in pH. The alkaline materials act as buffers, inhibiting changes in pH.

Low Total Alkalinity: Less than 70 ppm.

1. pH will move up and down very rapidly.
2. To increase alkalinity add sodium bicarbonate (baking soda). 1.5 lbs will increase 10,000 gallons of water 10 ppm.

Example: Pool volume 100,000 gallons
Alkalinity noted at 60 ppm
Raise to 120 ppm.
Answer: 15 lbs x 6 = 90 lbs bicarbonate.

High Total Alkalinity: Over 220 ppm

1. pH does not change easily
2. To lower alkalinity:
   a. Add low alkalinity make-up water –most fresh water in San Mateo County is low in total Alkalinity.

   b. Stop adding bicarbonate to pool water.
   c. Add muriatic acide in gulp form (amount of acid depends on increase desired and pool volume).

IV - HARDNESS RECOMMENDED LEVEL: 200-400 ppm

Hardness is chiefly the measure of calcium in the water.
Raise hardness by adding calcium chloride.
(1.1 lbs per 10,000 gallons per 10 ppm increase)

V - CYANURIC ACID (Pool Stabilizer)

RECOMMENDED LEVEL: 30 - 50 ppm MAXIMUM ALLOWED: 100 ppm.

This material, when added to swimming pool water, binds with the chlorine to prevent the loss of chlorine due to sunlight. This substantially reduces chlorine usage. At levels over 100 ppm this bond becomes stronger resulting in reduced chlorine killing power.