Consolidated Mutual \ Maple Grove Sampling

The Maple Grove Water Treatment Facility has 23 online instruments that monitor water quality constantly. The instruments are calibrated regularly, and readings are verified daily by testing done in our onsite laboratory. Every day we perform nine different kinds of water analysis to optimize the quality of finished water. Our lab conducts over 12,000 water quality tests annually.

In the distribution system, we monitor water quality according to the Colorado Department of Public Health & Environment, and the Environmental Protection Agency's guidelines, to ensure safe drinking water is delivered to each of our customers. More than 700 samples are collected annually from sites throughout the system to monitor for adequate disinfection. Additionally, we collect and send samples to various independent and certified labs for analysis of more than 70 possible contaminates and their respective detection levels. We disclose the test results and information to our customers in our Annual Report, Consumer Confidence Report (CCR) section.

1. **Daily: once daily in winter and some tests - twice daily during summer** (23 * 365) + (16*150) = 10,795
    a. pH (Raw)
    b. pH (Finished)
    c. pH (Clear well)
    d. Turbidity (Raw)
    e. Turbidity (Mixer)
    f. Turbidity (Settled)
    g. Turbidity (CFE)
    h. Turbidity (Finished)
    i. Temperature (Raw)
    j. Temperature (Clear well)
    k. Alkalinity (Raw)
    l. Alkalinity (Finished)
    m. Hardness (Raw)
    n. Hardness (Finished)
    o. Odor (Raw)
    p. Odor (Finished)
    q. Dissolved Oxygen (Raw)
    r. Chlorite (Finished)
    s. Chlorine Dioxide (Finished)
    t. Free Chlorine CW
    u. Free Chlorine (Finished)
    v. Monochloramine (Finished)
    w. Dichloramine (Finished)

2. **Weekly: once each (2*52 = 104)**
    a. Manganese (Raw)
    b. Manganese (Finished)

3. **Monthly (3*30*12 = 1,080)**
    a. Total Coliform Bacteria (30 distribution sites)
    b. Chlorine residual (30 distribution sites)
    c. Temperature (30 distribution sites)
    d. Cryptosporidium (Raw)once
    e. E. Coli (Raw)once

4. **Quarterly (4*11 = 44)**
    a. Chlorite (3 distribution sites)
    b. Total Trihalomethanes (4 distribution sites)
        i. Chloroform
        ii. Bromoform
        iii. Bromodichloromethane
        iv. Dibromochloromethane
    c. Haloacetic Acids (4 distribution sites)
        i. Monochloroacetic Acid
        ii. Monobromoacetic Acid
        iii. Dichloroacetic Acid
        iv. Trichloroaectic Acid
        v. Dibromoacetic. Acid

5. **Annually (30 + 1+1 + 12= 44)**
    a. Lead and Copper (30 distribution sites)
    b. Inorganics (once (Finished)
        i. Antimony
        ii. Arsenic
        iii. Barium
        iv. Beryllium
        v. Cadmium
        vi. Chromium
        vii. Cyanide
        viii. Fluoride
        ix. Nickel
        x. Nitrate
        xi. Selenium
        xii. Sodium
        xiii. Thallium

c. **Volatile Organic Chemicals (once (Finished)**

i. 1,1,1-Trichloroethane
ii. 1,1,2-Trichloroethane
iii. 1,1-Dichloroethylene
iv. 1,2,4-Trichlorobenzene
v. 1,2-Dichloroethane
vi. 1,2-Dichloropropane
vii. Benzene
viii. Carbon Tetrachloride
ix. cis-1,2-Dichloroethylene
x. Dichloromethane
xi. Ethylbenzene
xii. Monochlorobenzene
xiii. ortho-Dichlorobenzene
xiv. para-Dichlorobenzene
xv. Styrene
xvi. Tetrachloroethylene
xvii. Toluene
xviii. trans-1,2-Dichloroethylene
xix. Trichloroethylene
xx. Vinyl Chloride
xxi. Xylenes (total)

d. **Fourth Unregulated Contaminant Monitoring Rule (UCMR 4) EPA (twice 2018 at 6 sites)**

i. Metals

1. Germanium
2. Manganese

ii. Pesticides and Pesticide Byproducts

1. Alpha-hexachlorocyclohexane
2. Chlorpyrifos
3. Dimethipin
4. Ethoprop
5. Oxyfluorfen
6. Profenofos
7. Tebuconazole
8. Total permethrin (cis & trans-)
9. Tribufos

iii. Alcohols

1. 1 betanol
2. 1-methoxyethanol
3. 2-propen-1-ol
4. Butylated hydroxyanisole
5. O-toluidine
6. Quinolone