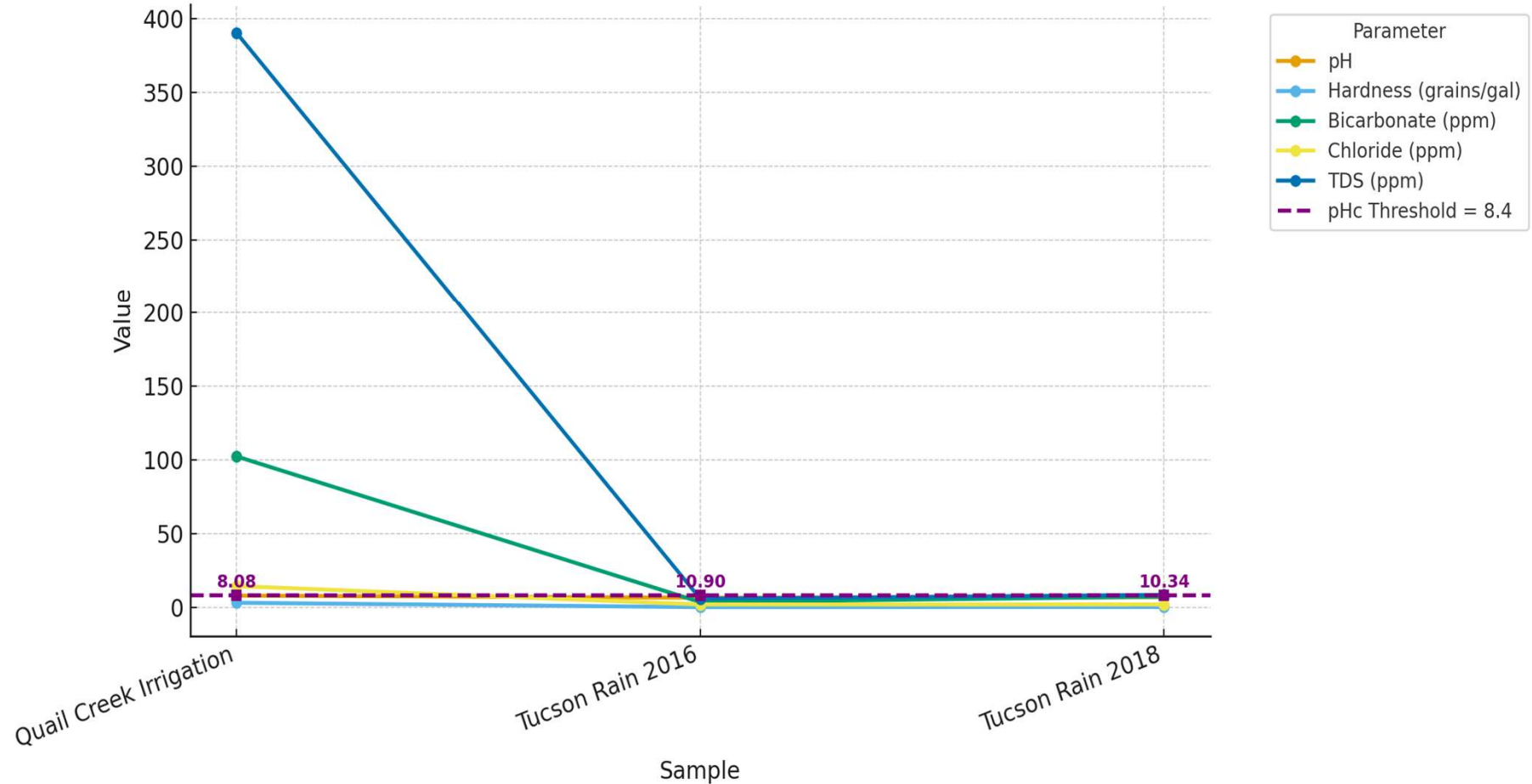




IRRIGATION WATER

Quail Creek Irrigation vs Tucson Rainwater – Water Quality with pHc Reference



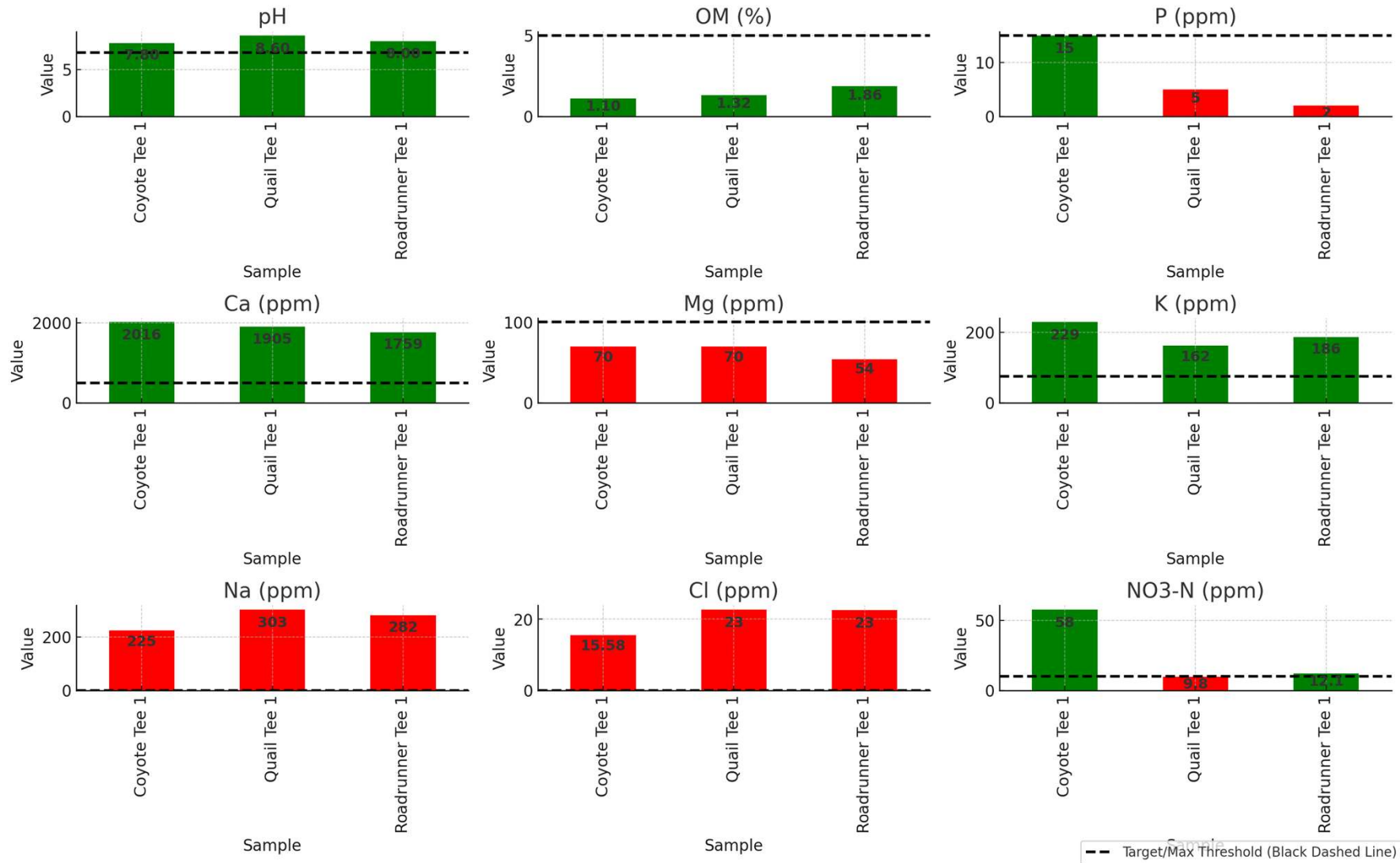
- The pHc is a number we rarely look at. Above 8.4 pHc and the water source will strip nutrients as it goes through the soil. The local rain does that. Your irrigation water deposits into the soil. That would then require good soil acidification, increasing as your amount of watering increases.





TEES

Quail Creek GC Tee Soil Test vs Acceptable Ranges (Excessive Na/Cl in Red)



- Sodium levels in the tees are high and only adds to desiccation as the temperatures get cooler. Address the magnesium deficiencies and water heavy after the application and sodium damage will be held back.

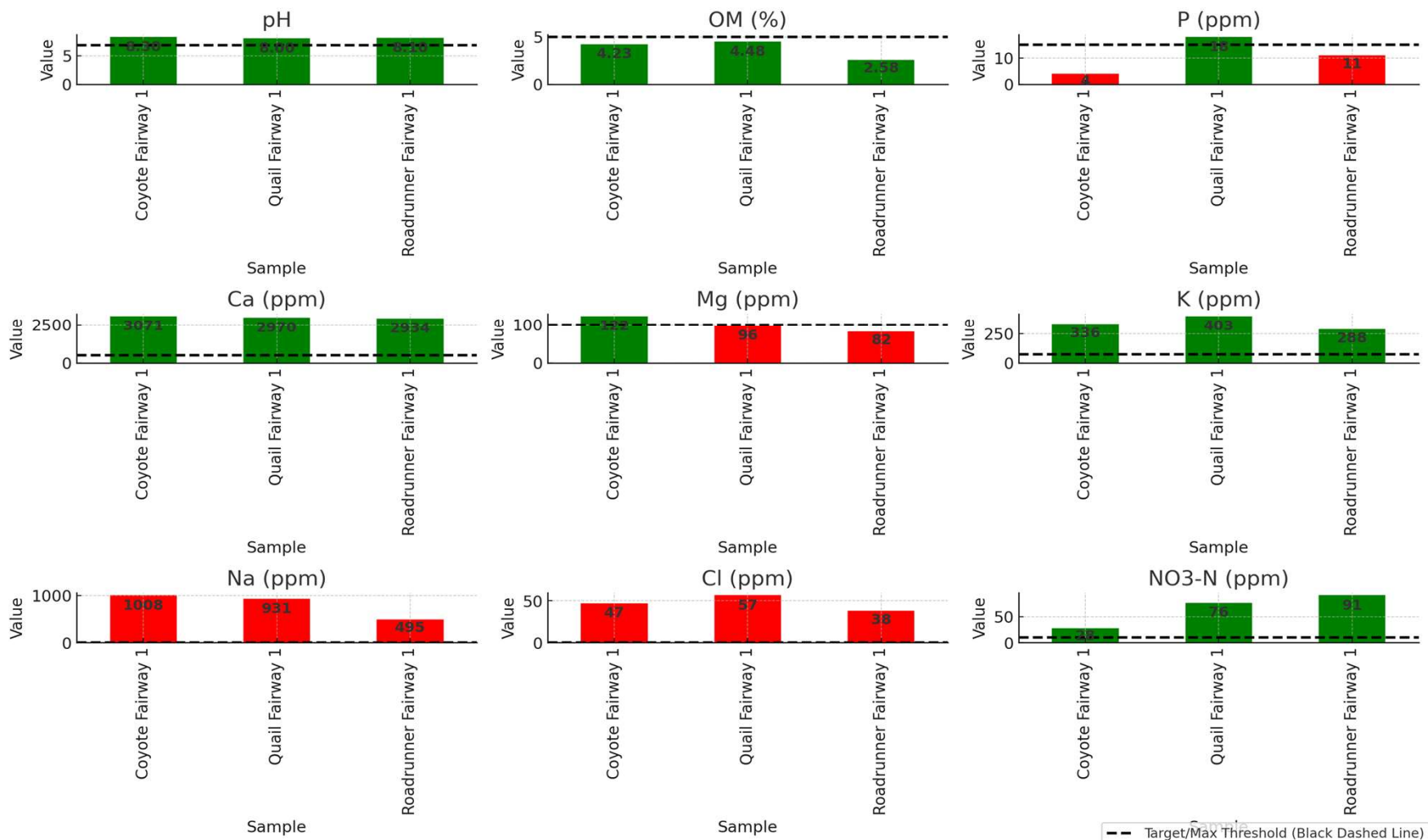
Quail Creek





FAIRWAYS

Quail Creek GC Fairway Soil Test vs Acceptable Ranges (Excessive Na/Cl in Red)



- The fairway's turf was in good condition. However, sodium is a big concern here too. It inhibits growth and effects recovery coming out of Winter. Heavy as possible irrigation cycles and soil acidification as often as possible this Fall.(pHacid, Blast, Hydration A+, etc.)

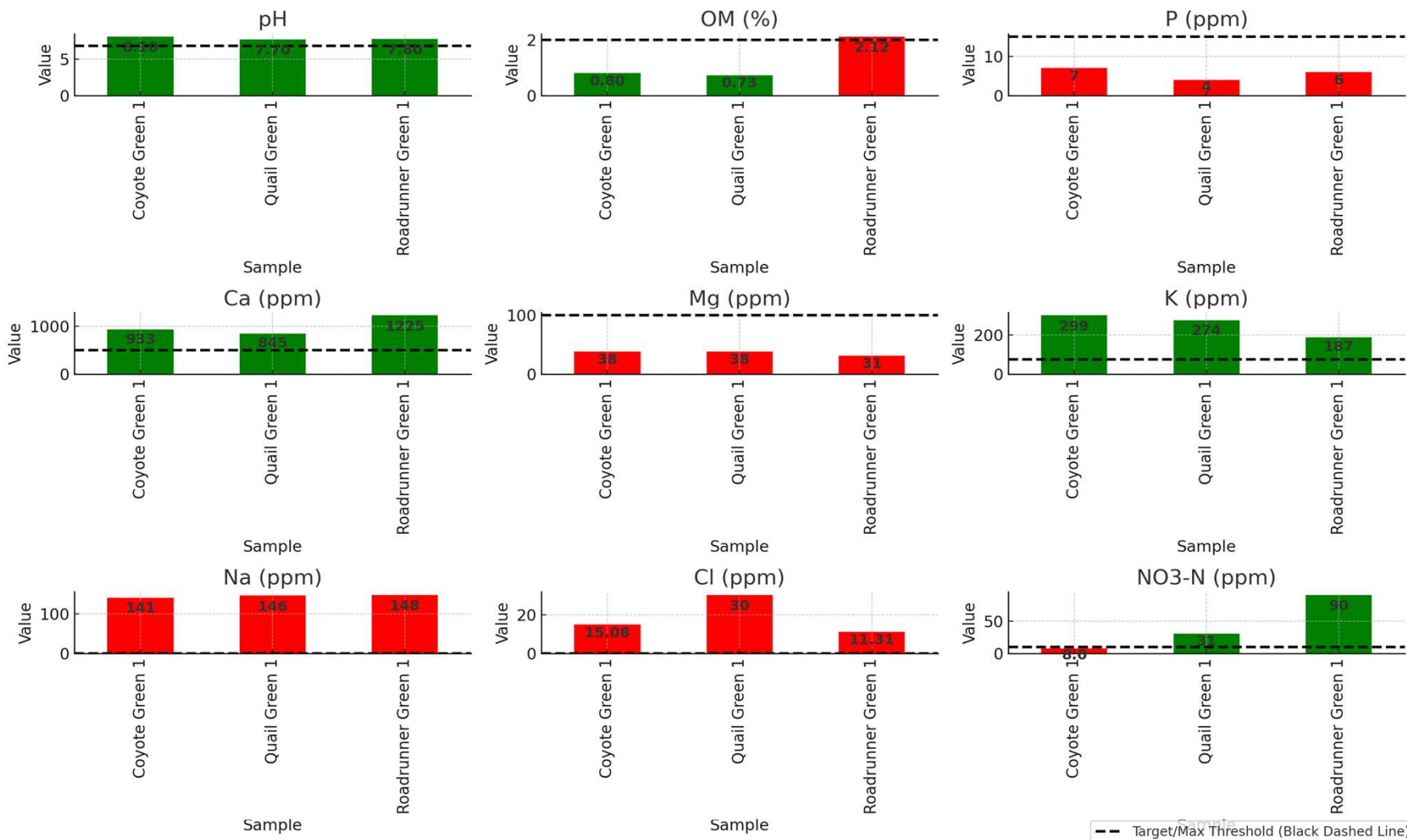
Quail Creek





GREENS

Quail Creek GC Green Soil Test vs Acceptable Ranges (Excessive Na/Cl in Red)



- Surfaces are physically good (OM under control on newer greens), but **low P/Mg and high salts** create major fertility stress. Nutrient tie-up at high pH makes it worse. More verti-cutting and aerification is required on the older set of greens.



SUMMARY- Fall 2025 Visit

Tees

- 1 pH very high (7.8–8.6) → nutrient tie-up likely.
- 2 Organic Matter low (1–2%) → firm and good for tees.
- 3 Phosphorus deficient at Quail and Roadrunner; Coyote adequate.
- 4 Calcium abundant (well above target).
- 5 Magnesium deficient (54–70 ppm).
- 6 Potassium excellent across all tees.
- 7 Sodium and Chloride high → salinity stress risk.
- 8 NO₃-N mostly good; Quail borderline low.

Fairways

- 1 pH very high (8.0–8.3).
- 2 Organic Matter reasonable (2.5–4.5%).
- 3 Phosphorus low at Coyote and Roadrunner; Quail near adequate.
- 4 Calcium extremely high.
- 5 Magnesium marginal to low.
- 6 Potassium strong (well above target).
- 7 Sodium and Chloride extremely high → major salinity concern.
- 8 NO₃-N very strong (27–91 ppm).

Greens

- 1 pH high (7.7–8.1).
- 2 Organic Matter very good (<2% target), only Roadrunner slightly high.
- 3 Phosphorus deficient (4–7 ppm).
- 4 Calcium adequate (800–1200 ppm).
- 5 Magnesium very deficient (31–38 ppm).
- 6 Potassium excellent (well above 75 ppm).
- 7 Sodium and Chloride high → consistent salt stress.
- 8 NO₃-N adequate to excessive (8–90 ppm).

Coefficient of Uniformity (Cu) in Soils and Sands

The **Coefficient of Uniformity (Cu)** describes how consistent or varied particle sizes are in a soil or sand. It is calculated as:

$$Cu = D_{60} / D_{10}$$

How It Works

- 1 **Low Cu (=1–2):** Uniform sands — particles are nearly the same size. Predictable drainage and air/water movement. Used in USGA putting green construction and topdressing.
- 2 **High Cu (>4–6):** Well-graded soils — wide particle range. Pack tightly with less pore space. Reduce infiltration and gas exchange; good for roadbeds, poor for turf.

Turf Implications

- 1 **Low Cu:** Encourages consistent porosity, infiltration, and root health. Best for sand-based greens and fairway topdressing.
- 2 **High Cu:** Holds water excessively, compacts easily, and reduces turf vigor.

Bottom Line: Golf turf thrives on **low Cu, uniform sands** that balance drainage and oxygen. High Cu “well-graded” mixes may work for construction, but they choke performance in turf systems.





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