



IRRIGATION WATER

Gainey Ranch
GOLF CLUB

GAINEY RANCH GOLF CLUB IRRIGATION WATER QUALITY COMPARISON



DATE OF VISIT:
June 12, 2026

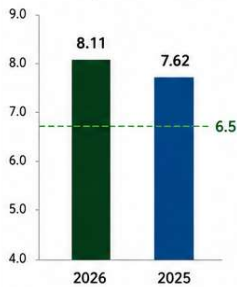
2026 vs. 2025

2026 Sample (June 12, 2026)

2025 Sample (March 4, 2025)

pH

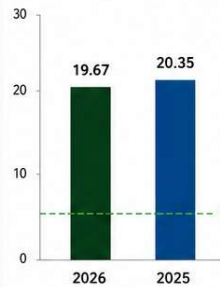
pH
(pH units)
Target: 6.5



Change: ↑ +0.49 (+6.43%)

GH

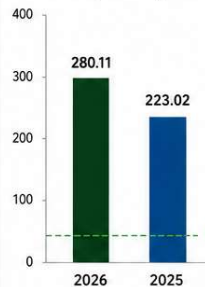
Hardness
(grains/gal)
Target: ≤ 5.0



Change: ↓ -0.68 (-3.34%)

Na

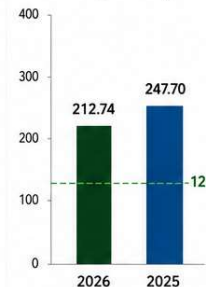
Sodium
(ppm)
Target: ≤ 35 ppm



Change: ↑ +57.09 (+25.60%)

HCO₃

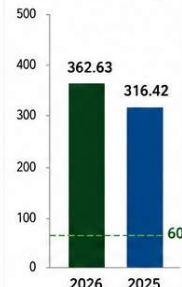
Bicarbonate
(ppm)
Target: < 120 ppm



Change: ↓ -34.96 (-14.12%)

Cl

Chloride
(ppm)
Target: ≤ 60 ppm



Change: ↑ +46.21 (+14.60%)

SUMMARY INSIGHTS

↔ pH

Higher in 2026 and well above the 6.5 target.

↓ Hardness

Slightly lower in 2026 and well above the 5.0 grains/gal target.

↑ Sodium

Much higher in 2026 and well above the 35 ppm target.

↓ Bicarbonate

Lower in 2026 but still well above the 120 ppm target.

↑ Chloride

Higher in 2026 and well above the 60 ppm target.

BENCHMARK TARGETS

pH: 6.5
Hardness: ≤ 5.0 grains/gal
Sodium: ≤ 35 ppm
Bicarbonate: < 120 ppm
Chloride: ≤ 60 ppm

PARAMETER	TARGET / BENCHMARK	2026 SAMPLE (June 12, 2026)	2025 SAMPLE (March 4, 2025)	CHANGE	CHANGE (%)	COMPARISON
pH	pH (pH units)	8.11	7.62	+0.49	+6.43%	↑ Higher (Above Target)
GH	Hardness (grains/gal)	19.67	20.35	-0.68	-3.34%	↓ Lower (Still Above Target)
Na	Sodium (ppm)	280.11	223.02	+57.09	+25.60%	↑ Higher (Above Target)
HCO ₃	Bicarbonate (ppm)	212.74	247.70	-34.96	-14.12%	↓ Lower (Above Target)
Cl	Chloride (ppm)	362.63	316.42	+46.21	+14.60%	↑ Higher (Above Target)

IRRIGATION WATER
QUALITY BENCHMARKS

pH

6.5

GH

≤ 5.0
grains/gal

Na

≤ 35 ppm

HCO₃

< 120 ppm

Cl

≤ 60 ppm

All results are averages of irrigation
water samples for each respective period.

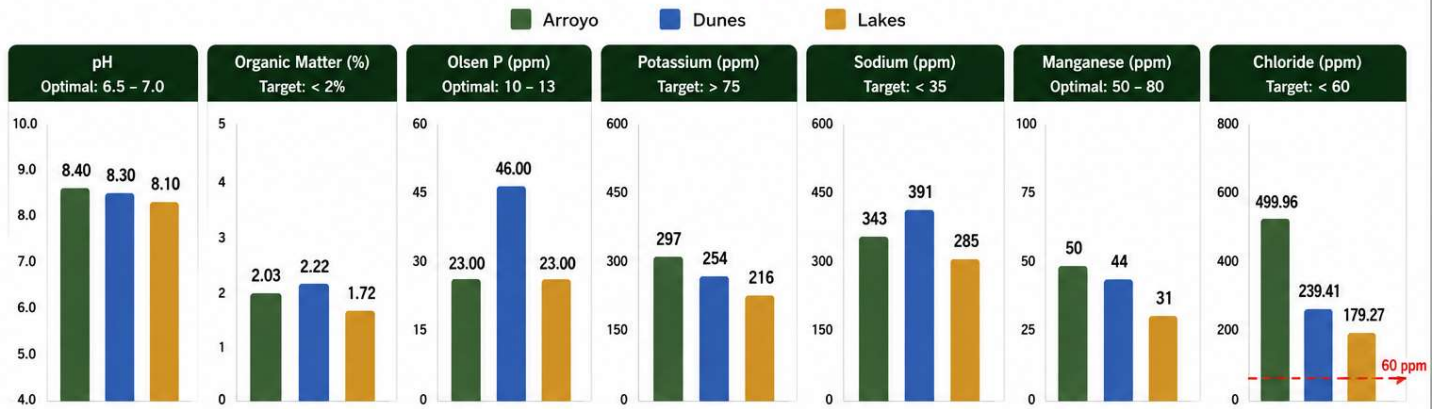
- Although it is not exactly accurate to compare a spring sample to a summer sample, due to seasonal changes, your water source seems very consistent.



TEE SOIL ANALYSIS SUMMARY

 Visit Date:
 June 12, 2026

Average Results by Course



Course	pH	Organic Matter (%)	Olsen P (ppm)	Potassium (ppm)	Sodium (ppm)	Manganese (ppm)	Chloride (ppm)
Arroyo	8.40	2.03	23.00	297	343	50	499.96
Dunes	8.30	2.22	46.00	254	391	44	239.41
Lakes	8.10	1.72	23.00	216	285	31	179.27
Average	8.27	1.99	30.67	255.67	339.67	41.67	306.21

SOIL HEALTH STANDARDS (Benchmarks)

pH 6.5 – 7.0	Organic Matter (Tees & Greens) < 2%	Organic Matter (Fairways) < 5%	Olsen P 10 – 13 ppm	Calcium ≥ 500 ppm	Magnesium ≥ 100 ppm	Potassium ≥ 75 ppm	Sodium ≤ 35 ppm	K : Na Ratio 2 : 1 Ideal	Irrigation Water pH 6.5 Ideal	Irrigation Water Bicarbonate < 120 ppm
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Note: Soil test results are from samples collected on the dates shown.
 Results represent laboratory analysis of the tee samples.

- Something to note on this report is that I have no year-over-year seasonal data on the golf course yet. Our first visit was in the spring of 2025 and now we will have a track for summertime.
- For the future, you may want to consider a Fall visit for 2027. That way we will have each season sampled one time and then, after that, you have more flexibility in the time of year the visit takes place.
- The K to Na ratio is less than 1 to 1. Ideally, potassium should be at least 2:1 compared to sodium. Although it is very difficult with your irrigation water source, an application of O-O-50 would help strengthen the grass going into this summer when controlling water loss is important.



FAIRWAYS

Gainey Ranch
GOLF CLUB

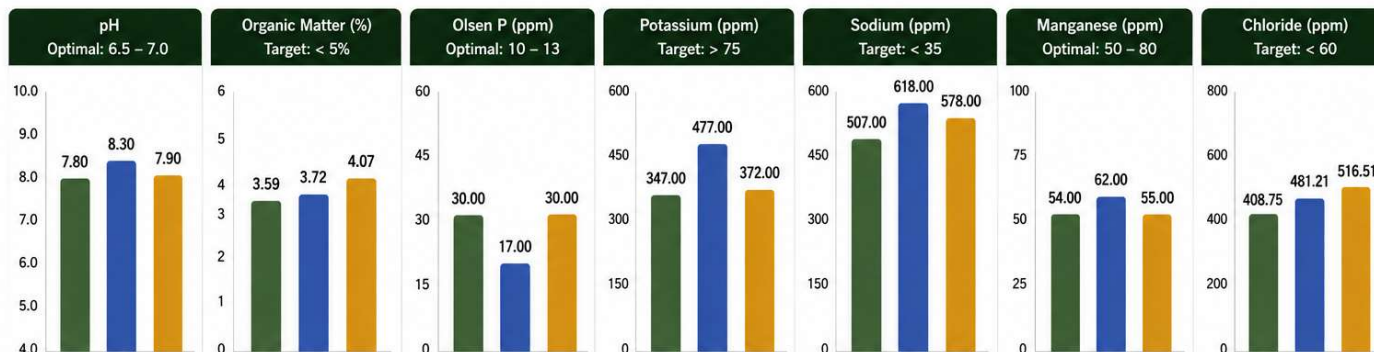
FAIRWAY SOIL ANALYSIS SUMMARY

Average Results by Course



Visit Date:
June 12, 2026

Arroyo Dunes Lakes



Course	pH	Organic Matter (%)	Olsen P (ppm)	Potassium (ppm)	Sodium (ppm)	Manganese (ppm)	Chloride (ppm)
Arroyo	7.80	3.59	30.00	347.00	507.00	54.00	408.75
Dunes	8.30	3.72	17.00	477.00	618.00	62.00	481.21
Lakes	7.90	4.07	30.00	372.00	578.00	55.00	516.51
Average	8.00	3.79	25.67	398.67	567.67	57.00	468.82

SOIL HEALTH STANDARDS (Benchmarks)

pH 6.5 – 7.0	Organic Matter (Tees & Greens) < 2%	Organic Matter (Fairways) < 5%	Olsen P 10 – 13 ppm	Calcium ≥ 500 ppm	Magnesium ≥ 100 ppm	Potassium ≥ 75 ppm	Sodium ≤ 35 ppm	K : Na Ratio 2 : 1 Ideal	Irrigation Water pH 6.5 Ideal	Irrigation Water Bicarbonate < 120 ppm
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Note: Soil test results are from samples collected on the dates shown.
Results represent laboratory analysis of the fairway samples.

- Your numbers are good for your area. However, the amount of chloride and sodium that is loaded into the soil every day is something to consider.
- Sod was being installed the day I was there for my visit. They were some of the usual areas that you do each year. Of the areas I saw, the most noticeable similarities were they were compacted areas because of traffic **or** lower lying areas where water doesn't drain well.



GREENS

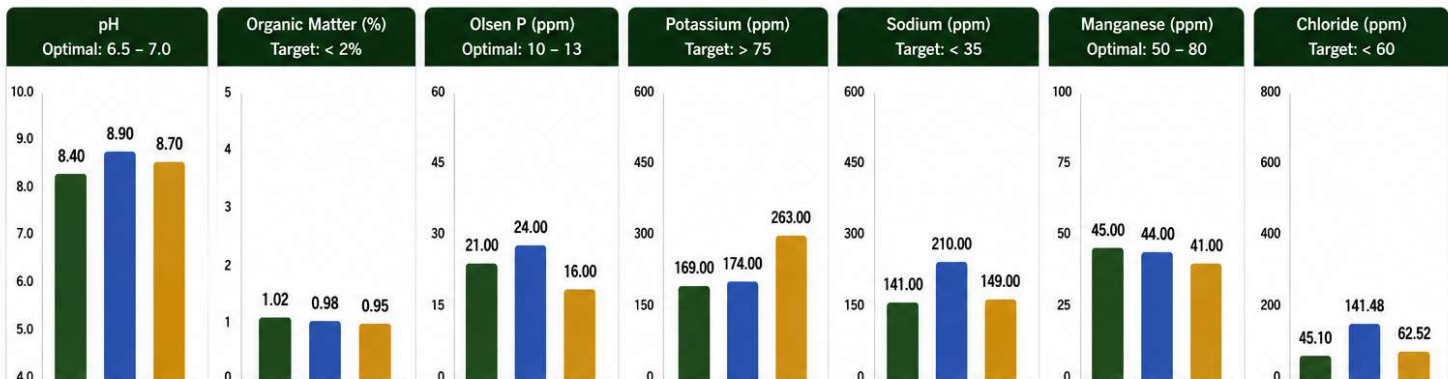
GREEN SOIL ANALYSIS SUMMARY

Average Results by Course



Visit Date:
June 12, 2026

Arroyo Dunes Lakes



Course	pH	Organic Matter (%)	Olsen P (ppm)	Potassium (ppm)	Sodium (ppm)	Manganese (ppm)	Chloride (ppm)
Arroyo	8.40	1.02	21.00	169.00	141.00	45.00	45.10
Dunes	8.90	0.98	24.00	174.00	210.00	44.00	141.48
Lakes	8.70	0.95	16.00	263.00	149.00	41.00	62.52
Average	8.67	0.98	20.33	202.00	166.67	43.33	83.03

SOIL HEALTH STANDARDS (Benchmarks)

pH 6.5 – 7.0	Organic Matter (Tees & Greens) < 2%	Organic Matter (Fairways) < 5%	Olsen P 10 – 13 ppm	Calcium ≥ 500 ppm	Magnesium ≥ 100 ppm	Potassium ≥ 75 ppm	Sodium ≤ 35 ppm	K : Na Ratio 2 : 1 Ideal	Irrigation Water pH 6.5 Ideal	Irrigation Water Bicarbonate < 120 ppm
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Note: Soil test results are from samples collected on the dates shown.
Results represent laboratory analysis of the green samples.

- You have done a good job of keeping the OM % low on the greens. I did note in the summary page that I noticed a 1 1/2" layer that seems to hold water a little too long. Because your underlying greens mix has very little organic material in it, these OM numbers on the chart will be somewhat "diluted", meaning that most of the OM is in the top couple of inches in the greens.
- Although sodium is easier to address on sand-based greens compared to Fairways, you have mostly a one-to-one relationship between potassium and sodium on the greens.

SUMMARY

- ❑ Arroyo Course Green #3 exhibited acceptable surface firmness and did not feel soft or “thatchy” underfoot; however, the profile revealed a noticeable organic matter layer in the upper rootzone that should remain an area of focus.
- ❑ Continue the current program of sand topdressing, aerification, and cultivation to dilute the surface organic layer, improve infiltration, and maintain long-term firmness and consistency.
- ❑ The underlying sand-based rootzone appeared uniform beneath the organic layer, indicating that continued dilution practices should effectively improve profile integration and rootzone performance over time.
- ❑ The bermudagrass transition is progressing well, with approximately 4-6 pallets of sod being installed during the visit to strengthen low-lying and historically poor-performing turf areas. These targeted repairs should improve turf uniformity and reduce recurring problem spots.
- ❑ Fairway turf health was excellent, with rooting extending beyond the 6-inch probe depth, reflecting strong growing conditions and a healthy, resilient root system.

Next Steps: Continue monitoring organic matter accumulation through periodic profile evaluations while tracking establishment of the newly sodded bermudagrass areas. Maintain current cultural practices to preserve the excellent rooting observed in the fairways.





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