



Client: Heritage Golf Club
Spring 2024 Report

	<u>4/23/21</u>	<u>5/2/24</u>
Humidity/Air Temperature	30%/63°	55%/80°
Green Temperature	(avg)42.93°	(avg)60°
Fairway Temperature	(avg)45.53°	(avg)62°

WATER	Acceptable Range For Water Sample	Irrigation Pond <u>4/23/21</u>	Irrigation Pond <u>5/2/24</u>
EC	<2.25 mmhos/cm	0.18	0.33
Sodium		17.94	47.06
Calcium	20 - 60 ppm	12.04	12.77
Magnesium	10 - 25 ppm	2.92	2.75
Potassium	5 - 20 ppm	4.55	2.77
Sulfur	30 - 90 ppm	26.25	18.01
Bicarbonate	<120 ppm	33.55	29.27
Boron	<0.67 ppm	<0.05	0.08
Chloride	<177 ppm	24.68	77.44



SOIL AND WATER CONSULTING

ROUGHS	Acceptable Range For Standard Soil Sample	Between 8&9 <u>5/12/22</u>	Between 8&9 <u>5/2/24</u>	4,14,17(avg) <u>5/12/22</u>	6,14,18(avg) <u>5/2/24</u>
pH	6.3-6.5	5.30	5.70	5.88	6.53
Organic Matter (Humus)	2 - 3%	5.08	8.16	4.71	4.33
Sulfur	50 - 100 ppm	12.00	27.00	20.44	25.00
Mehlich III - Phosphorus	150 lbs/acre	463.00	435.00	325.00	504.00
Calcium	68%	46.47	58.59	58.22	74.79
Magnesium	15%	7.65	6.74	12.97	7.72
Potassium	5%	1.68	2.44	2.75	3.59
Sodium	<2%	1.42	2.20	1.56	2.01
Boron	1 - 1.5 ppm	0.22	0.33	0.28	0.36
Iron	120 ppm	420.00	354.00	369.78	289.00
Manganese	50 ppm	6.00	6.00	9.78	5.33

TEE	Acceptable Range For Standard Soil Sample	14,18(avg) 4/23/21	6,14(avg) 5/2/24
Organic Matter (Humus)	2 - 3%	2.59	3.31
Sulfur	50 - 100 ppm	14.00	20.00
Mehlich III - Phosphorus	150 lbs/acre	722.23	882.00
Calcium	68%	70.14	66.44
Magnesium	15%	11.33	12.18
Potassium	5%	3.92	5.03
Sodium	<2%	2.19	2.33
Boron	1 - 1.5 ppm	0.45	0.34
Iron	120 ppm	258.00	226.50
Manganese	50 ppm	20.00	28.00

FAIRWAY	Acceptable Range For Standard Soil Sample	6,14,18(avg) 4/23/21	6,14,18(avg) 5/2/24
Organic Matter (Humus)	2 - 3%	3.96	4.09
Sulfur	50 - 100 ppm	23.67	24.33
Mehlich III - Phosphorus	150 lbs/acre	488.67	647.33
Calcium	68%	71.56	67.18
Magnesium	15%	10.67	9.55
Potassium	5%	4.11	5.21
Sodium	<2%	1.89	2.55
Boron	1 - 1.5 ppm	0.44	0.41
Iron	120 ppm	298.33	249.67
Manganese	50 ppm	4.00	6.67

GREENS	Acceptable Range For Standard Soil Sample	6,14,18(avg) 4/23/21	6,14,18(avg) 5/2/24
Organic Matter (Humus)	2 - 3%	3.86	3.81
Sulfur	50 - 100 ppm	18.67	43.00
Mehlich III - Phosphorus	150 lbs/acre	1,226.00	1,549.33
Calcium	68%	74.21	69.47
Magnesium	15%	8.41	7.83
Potassium	5%	3.60	4.31
Sodium	<2%	1.34	1.74
Boron	1 - 1.5 ppm	0.61	0.45
Iron	120 ppm	361.33	388.67
Manganese	50 ppm	12.67	19.67

TEE	Acceptable Range For Saturated Paste Sample	6,18(avg) 4/23/21	6,18(avg) 5/2/24
Nitrate-Cool season	5 - 10 ppm	<0.5	<0.5
Phosphorus	2 - 10 ppm	1.55	1.93
Potassium	40 - 100 ppm	16.46	21.76
Calcium	60 - 200 ppm	23.19	21.36
Magnesium	20 - 70 ppm	6.03	5.13
Sodium	0 - 30 ppm	10.79	12.63
Soluble Salts	<1,920 ppm	162.50	185.50
Bicarbonate	<60 ppm	39.95	22.80
Chloride	<1,000 ppm	18.50	24.00
SAR	<4%	0.52	0.64

FAIRWAY	Acceptable Range For Saturated Paste Sample	6,18(avg) 4/23/21	6,18(avg) 5/2/24
Nitrate-Cool season	5 - 10 ppm	<0.5	<0.5
Phosphorus	2 - 10 ppm	0.54	2.15
Potassium	40 - 100 ppm	18.29	29.83
Calcium	60 - 200 ppm	42.88	30.56
Magnesium	20 - 70 ppm	8.69	6.21
Sodium	0 - 30 ppm	12.38	22.30
Soluble Salts	<1,920 ppm	214.00	260.50
Bicarbonate	<60 ppm	81.00	55.03
Chloride	<1,000 ppm	18.00	49.50
SAR	<4%	0.46	0.96

GREENS	Acceptable Range For Saturated Paste Sample	6,18(avg) 4/23/21	6,18(avg) 5/2/24
Nitrate - Bentgrass/Poa	1-3 ppm	0.50	2.98
Phosphorus	2 - 7 ppm	1.74	2.07
Potassium	25-40 ppm	17.71	25.11
Calcium	50- 75 ppm	14.13	37.36
Magnesium	15-30 ppm	2.86	5.66
Sodium	0 - 30 ppm	8.04	11.40
Soluble Salts	<1,000 ppm	118.50	248.00
Bicarbonate	<60 ppm	26.41	13.01
Chloride	<200 ppm	6.50	8.50
SAR	<4%	0.52	0.47

Nutrient Deficiencies

		pH	Mg	K
GREENS	6			25
GREENS	14			18
GREENS	18			16
ROUGH	6	6.6	144	
ROUGH	14	6.5	164	
ROUGH	18	6.5	134	
ROUGH	8&9	5.7	160	

Magnesium can be added to the roughs in the form of Dolomitic lime at a rate of 1,000 pounds of product per acre

Manganese can be added in the form of Manganese Oxide at a rate of 3 pounds of product per 1,000 sq ft in June, September and October

Comments and Next Level Cultural Practices

- The Roughs have improved with the recent 2 years of Hi-Cal Lime applications. I recommend one more application using Dolomitic Limestone to raise the pH slightly and address the slight imbalance in the Base Saturation Percentages.
- Continue with more routine veti-cutting and topdressing on the greens. Plan for one time per month until October.
- The soil temperatures are much higher this year vs. last year. However, bentgrass and poa have been behind due to overcast conditions. This week (5/21) all grasses should be growing as expected for the beginning of the growing season.