



SOIL AND WATER CONSULTING

Data Collection Report

Summer 2022

Date of Collection: 6/6/22

Client: Anthem Country Club



Testing Results

	<u>7/5/21</u>	<u>6/6/22</u>
Humidity/Air Temperature	40%/100°	20%/100°
Greens Temperature	(avg)79.45°	(avg)67.52°
Fairway Temperature	(avg)80.5°	(avg)70.1°

WATER	Acceptable Range For Water Sample	Ironwood Course 7/5/21	Persimmon Course 7/5/21	Ironwood Course 6/6/22	Persimmon Course 6/6/22
pH	6.3-6.5	6.59	6.12	6.28	6.21
EC	<2.25 mmhos/cm	1.48	1.49	1.48	1.49
Sodium		174.90	172.80	174.60	180.00
Calcium	20 - 60 ppm	66.20	67.84	61.35	56.75
Magnesium	10 - 25 ppm	27.87	27.76	27.48	27.25
Potassium	5 - 20 ppm	12.74	11.95	10.28	10.34
Phosphorus	0.1 - 0.4 ppm	0.32	0.21	n/r	n/r
Nitrate	5 - 50 ppm	0.73	0.73	n/r	n/r
Sulfur	30 - 90 ppm	315.60	289.38	313.80	318.90
Bicarbonate	<120 ppm	49.78	34.41	82.79	69.83
Boron	<0.67 ppm	0.25	0.25	0.24	0.25
Chloride	<177 ppm	208.85	212.42	198.63	203.06

IRONWOOD FAIRWAYS	Acceptable Range For Alkaline Soils Sample	3,13,16(avg) 7/5/21	7,14,15(avg) 6/6/22
Organic Matter (Humus)	2 - 3%	5.37	4.06
Sulfur	12 - 16 ppm	1,543.67	469.67
Olsen - Phosphorus	13 - 20 ppm	22.67	16.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	8,690.00	7,171.33
Magnesium	>7% base saturation or at least 200 lbs/acre	12.07%/871.33	11.63%/688.66
Potassium - TEC of 0 - 35	100 ppm	458.67	319.67
Manganese	>50 ppm	46.00	36.33

IRONWOOD GREENS	Acceptable Range For Alkaline Soils Sample	3,13,16(avg) 7/5/21	7,14,15(avg) 6/6/22
Organic Matter (Humus)	2 - 3%	0.50	0.69
Sulfur	12 - 16 ppm	33.67	16.33
Olsen - Phosphorus	13 - 20 ppm	5.00	4.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,345.33	1,645.33
Magnesium	>7% base saturation or at least 200 lbs/acre	14.7%/179.3	14.43%/211.33
Potassium - TEC of 0 - 35	150 ppm	158.33	192.00
Manganese	>50 ppm	19.33	16.33

IRONWOOD FAIRWAYS	Acceptable Range For Saturated Paste Sample	3,13,16(avg) 7/5/21	7,14,15(avg) 6/6/22
Nitrate - Bermudagrass	10-15 ppm	13.50	<0.5
Phosphorus	2 - 10 ppm	0.37	0.92
Potassium	40 - 100 ppm	59.94	60.91
Calcium	60 - 200 ppm	350.93	296.39
Magnesium	20 - 70 ppm	82.59	71.40
Sodium	0 - 30 ppm	493.85	478.12
Soluble Salts	<1,920 ppm	2,186.33	2,206.33
Bicarbonate	<60 ppm	72.59	152.92
Chloride	<1,000 ppm	470.00	560.33
SAR	<4%	6.15	6.49

IRONWOOD GREENS	Acceptable Range For Saturated Paste Sample	3,13,16(avg) 7/5/21	7,14,15(avg) 6/6/22
Nitrate - Mini verde	1-3 ppm	2.67	<0.5
Phosphorus	2 - 7 ppm	1.69	1.52
Potassium	25-40 ppm	16.14	17.69
Calcium	50- 75 ppm	31.16	24.96
Magnesium	15-30 ppm	10.36	7.70
Sodium	0 - 30 ppm	80.90	83.25
Soluble Salts	<1,000 ppm	398.67	330.33
Bicarbonate	<60 ppm	73.40	103.43
Chloride	<200 ppm	57.33	55.67
SAR	<4%	3.23	3.74

PERSIMMON FAIRWAYS	Acceptable Range For Alkaline Soils Sample	5,8,16(avg) 7/5/21	4,6,12(avg) 6/6/22
Organic Matter (Humus)	2 - 3%	5.24	5.05
Sulfur	12 - 16 ppm	1,107.00	1,137.33
Olsen - Phosphorus	13 - 20 ppm	56.56	41.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	8,093.78	8,612.67
Magnesium	>7% base saturation or at least 200 lbs/acre	10.55%/673.3	10.1%/686.66
Potassium - TEC of 0 - 35	100 ppm	330.56	310.00
Manganese	>50 ppm	39.89	32.00

PERSIMMON GREENS	Acceptable Range For Alkaline Soils Sample	5,8,16(avg) 7/5/21	4,6,12(avg) 6/6/22
Organic Matter (Humus)	2 - 3%	2.05	1.36
Sulfur	12 - 16 ppm	64.11	70.33
Olsen - Phosphorus	13 - 20 ppm	12.56	5.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,944.67	2,224.67
Magnesium	>7% base saturation or at least 200 lbs/acre	17.76%/351.3	17.23%/380
Potassium - TEC of 0 - 35	150 ppm	206.89	267.67
Manganese	>50 ppm	48.22	39.00

PERSIMMON FAIRWAYS	Acceptable Range For Saturated Paste Sample	5,8,16(avg) 7/5/21	4,6,12(avg) 6/6/22
Nitrate - Bermudagrass	10-15 ppm	23.66	<0.5
Phosphorus	2 - 10 ppm	1.57	1.70
Potassium	40 - 100 ppm	63.68	62.61
Calcium	60 - 200 ppm	419.35	411.75
Magnesium	20 - 70 ppm	83.86	82.00
Sodium	0 - 30 ppm	493.16	502.13
Soluble Salts	<1,920 ppm	2,267.33	2,484.67
Bicarbonate	<60 ppm	81.68	118.15
Chloride	<1,000 ppm	352.56	583.33
SAR	<4%	5.75	5.92

PERSIMMON GREENS	Acceptable Range For Saturated Paste Sample	5,8,16(avg) 7/5/21	4,6,12(avg) 6/6/22
Nitrate - Mini verde	1-3 ppm	3.97	<0.5
Phosphorus	2 - 7 ppm	1.70	1.03
Potassium	25-40 ppm	25.19	42.50
Calcium	50- 75 ppm	43.23	56.59
Magnesium	15-30 ppm	15.97	17.47
Sodium	0 - 30 ppm	175.28	211.79
Soluble Salts	<1,000 ppm	719.44	823.33
Bicarbonate	<60 ppm	139.08	109.49
Chloride	<200 ppm	134.56	192.67
SAR	<4%	5.56	6.41