



SOIL AND WATER CONSULTING

Data Collection Report

Fall 2022

Date of Collection: 9/7/22

Client: Tucson Country Club



Testing Results

	<u>9/18/19</u>	<u>9/7/22</u>
Humidity/Air Temperature	30%/97°	15%/102°
Greens Temperature	(avg)75°	(avg)84.1°
Fairway Temperature	(avg)78°	(avg)81.5°

	<u>Acceptable Range For Water Sample</u>	<u>Hole #7 9/18/19</u>	<u>Hole #7 9/7/22</u>
EC	<2.25 mmhos/cm	0.38	0.28
Sodium		60.38	30.49
Calcium	20 - 60 ppm	24.78	22.76
Magnesium	10 - 25 ppm	2.21	2.31
Potassium	5 - 20 ppm	1.75	2.19
Sulfur	30 - 90 ppm	26.83	22.61
Bicarbonate	<120 ppm	163.26	109.89
Boron	<0.67 ppm	0.12	0.06
Chloride	<177 ppm	27.91	16.85

TEE	<u>Acceptable Range For Tissue Sample</u>	16 9/7/22
Nitrogen	2.49%-4.56%	3.36
Phosphorus	0.26% - 0.38%	0.35
Potassium	0.95% - 1.97%	1.81
Calcium	0.50%-0.90%	0.48
Magnesium	0.13%-0.16%	0.13
Sodium	622-1709 ppm	1,050.00

FAIRWAY	<u>Acceptable Range For Tissue Sample</u>	16 9/7/22
Nitrogen	2.49%-4.56%	3.63
Phosphorus	0.26% - 0.38%	0.42
Potassium	0.95% - 1.97%	2.03
Calcium	0.50%-0.90%	0.58
Magnesium	0.13%-0.16%	0.14
Sodium	622-1709 ppm	1,630.00

GREENS	<u>Acceptable Range For Tissue Sample</u>	7,16(avg) 9/7/22
Nitrogen	3.0%-6.5%	3.66
Phosphorus	0.2%-0.55%	0.62
Potassium	0.86%-2.55%	1.95
Calcium	0.21%-0.50%	0.47
Magnesium	0.09%-0.22%	0.15
Sodium	506- 2264 ppm	1,880.00

TEES	Acceptable Range For Alkaline Soils Sample	7,16(avg) 9/18/19	7,16(avg) 9/7/22
Organic Matter (Humus)	2 - 3%	2.73	2.83
Sulfur	12 - 16 ppm	51.50	46.50
Olsen - Phosphorus	13 - 20 ppm	8.00	5.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,633.00	3,416.50
Magnesium	>7% base saturation or at least 200 lbs/acre	7.95%/218	7.57%/193
Potassium - TEC of 0 - 35	100 ppm	151.50	122.50
Manganese	50-80 ppm	45.00	35.00

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	7,16(avg) 9/18/19	7,16(avg) 9/7/22
Organic Matter (Humus)	2 - 3%	3.07	3.03
Sulfur	12 - 16 ppm	42.50	61.00
Olsen - Phosphorus	13 - 20 ppm	16.00	20.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,365.00	3,097.00
Magnesium	>7% base saturation or at least 200 lbs/acre	9.14%/251	8.74%/222
Potassium - TEC of 0 - 35	100 ppm	330.50	252.00
Manganese	50-80 ppm	43.50	41.50

GREENS	Acceptable Range For Alkaline Soils Sample	7,16(avg) 9/18/19	7,16(avg) 9/7/22
Organic Matter (Humus)	2 - 3%	0.68	0.51
Sulfur	12 - 16 ppm	7.50	22.00
Olsen - Phosphorus	13 - 20 ppm	10.00	8.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,008.00	1,860.00
Magnesium	>7% base saturation or at least 200 lbs/acre	11.38%/206	10.96%/177
Potassium - TEC of 0 - 35	150 ppm	398.00	270.00
Manganese	50-80 ppm	79.50	72.00

TEE	Acceptable Range For Saturated Paste Sample	16 9/18/19	16 9/7/22
Nitrate - Bermudagrass	10 - 15 ppm	6.00	2.10
Phosphorus	2 - 10 ppm	1.00	1.43
Potassium	40 - 100 ppm	19.80	11.19
Calcium	60 - 200 ppm	70.90	22.61
Magnesium	20 - 70 ppm	8.42	5.69
Sodium	0 - 30 ppm	120.60	58.24
Soluble Salts	<1,920 ppm	541.00	251.00
Bicarbonate	<60 ppm	192.79	106.15
Chloride	<1,000 ppm	61.00	25.00
SAR	<4%	3.61	2.83

FAIRWAY	Acceptable Range For Saturated Paste Sample	16 9/18/19	16 9/7/22
Nitrate - Bermudagrass	10 - 15 ppm	9.60	22.10
Phosphorus	2 - 10 ppm	1.27	1.70
Potassium	40 - 100 ppm	56.74	22.04
Calcium	60 - 200 ppm	65.09	50.35
Magnesium	20 - 70 ppm	10.72	8.39
Sodium	0 - 30 ppm	156.85	132.92
Soluble Salts	<1,920 ppm	787.00	548.00
Bicarbonate	<60 ppm	266.00	111.23
Chloride	<1,000 ppm	91.00	57.00
SAR	<4%	4.75	4.57

GREENS	Acceptable Range For Saturated Paste Sample	7,16(avg) 9/18/19	7,16(avg) 9/7/22
Dominant Plus Bentgrass	1-3 ppm	2.05	2.35
Phosphorus	2 - 7 ppm	2.87	2.10
Potassium	25-40 ppm	22.38	19.59
Calcium	50- 75 ppm	14.23	23.20
Magnesium	15-30 ppm	3.36	4.86
Sodium	0 - 30 ppm	43.09	63.58
Soluble Salts	<1,000 ppm	211.50	301.00
Bicarbonate	<60 ppm	100.06	112.85
Chloride	<200 ppm	20.25	33.50
SAR	<4%	2.67	3.11