



SOIL AND WATER CONSULTING

Data Collection Report

Fall 2020

Date of Collection: 10/21/20

Client: Tucson Country Club



Testing Results

	<u>9/24/18</u>	<u>9/18/19</u>	<u>10/21/20</u>
Humidity/Air Temperature	50%/90°	30%/97°	10%/96°
Greens Temperature	(avg)79.75°	(avg)75°	(avg)52°
Fairway Temperature	(avg)78°	(avg)78°	(avg)61°

	<u>Acceptable Range For Water Sample</u>	<u>Hole #2 9/24/18</u>	<u>Hole #7 9/18/19</u>	<u>Hole #8 10/21/20</u>
EC	<2.25 mmhos/cm	0.41	0.38	0.37
Sodium		64.83	60.38	52.30
Calcium	20 - 60 ppm	17.79	24.78	26.12
Magnesium	10 - 25 ppm	1.33	2.21	1.53
Potassium	5 - 20 ppm	5.55	1.75	5.10
Sulfur	30 - 90 ppm	34.32	26.83	32.04
Bicarbonate	<120 ppm	124.55	163.26	136.49
Boron	<0.67 ppm	0.09	0.12	0.07
Chloride	<177 ppm	37.28	27.91	30.81

<i>TEE</i>	<u>Acceptable Range For Tissue Sample</u>	<u>17 10/21/20</u>
Nitrogen	3.34%-5.10%	3.77
Phosphorus	0.35% - 0.55%	0.89
Potassium	2.0% - 3.42%	3.79
Calcium	0.25%-0.5%	1.16
Magnesium	0.16%-0.32%	0.35
Sodium	229-1107 ppm	5,200.00

<i>FAIRWAY</i>	<u>Acceptable Range For Tissue Sample</u>	<u>17 10/21/20</u>
Nitrogen	3.34%-5.10%	3.69
Phosphorus	0.35% - 0.55%	0.88
Potassium	2.0% - 3.42%	3.94
Calcium	0.25%-0.5%	1.19
Magnesium	0.16%-0.32%	0.30
Sodium	229-1107 ppm	3,850.00

<i>GREENS</i>	<u>Acceptable Range For Tissue Sample</u>	<u>8,17(avg) 10/21/20</u>
Nitrogen	3.0%-6.5%	3.19
Phosphorus	0.2%-0.55%	0.70
Potassium	0.86%-2.55%	2.00
Calcium	0.21%-0.50%	0.77
Magnesium	0.09%-0.22%	0.18
Sodium	506- 2264 ppm	1,980.00

TEES	Acceptable Range For Alkaline Soils Sample	2,11(avg) 9/24/18	7,16(avg) 9/18/19	8,17(avg) 10/21/20
Organic Matter (Humus)	2 - 3%	2.34	2.73	2.13
Sulfur	12 - 16 ppm	35.50	51.50	13.50
Olsen - Phosphorus	13 - 20 ppm	7.50	8.00	4.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,821.00	3,633.00	2,727.00
Magnesium	>7% base saturation or at least 200 lbs/acre	8.07%/239	7.95%/218	7.56%/155
Potassium - TEC of 0 - 35	100 ppm	220.50	151.50	167.50
Manganese	50-80 ppm	59.00	45.00	32.50

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	2,11(avg) 9/24/18	7,16(avg) 9/18/19	8,17(avg) 10/21/20
Organic Matter (Humus)	2 - 3%	3.00	3.07	2.78
Sulfur	12 - 16 ppm	26.50	42.50	28.50
Olsen - Phosphorus	13 - 20 ppm	14.00	16.00	10.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,505.00	3,365.00	3,229.00
Magnesium	>7% base saturation or at least 200 lbs/acre	8.29%/229	9.14%/251	8.47%/216
Potassium - TEC of 0 - 35	100 ppm	277.50	330.50	265.50
Manganese	50-80 ppm	48.00	43.50	41.00

GREENS	Acceptable Range For Alkaline Soils Sample	2,11(avg) 9/24/18	7,16(avg) 9/18/19	8,17(avg) 10/21/20
Organic Matter (Humus)	2 - 3%	0.85	0.68	0.65
Sulfur	12 - 16 ppm	9.50	7.50	8.00
Olsen - Phosphorus	13 - 20 ppm	10.50	10.00	6.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,784.00	2,008.00	1,856.00
Magnesium	>7% base saturation or at least 200 lbs/acre	10.46%/168	11.38%/206	10.81%/170
Potassium - TEC of 0 - 35	150 ppm	328.50	398.00	268.50
Manganese	50-80 ppm	69.00	79.50	58.50

TEE	Acceptable Range For Saturated Paste Sample	16 9/18/19	17 10/21/20
Nitrate - Ryegrass	5-10 ppm	6.00	21.20
Phosphorus	2 - 10 ppm	1.00	2.39
Potassium	40 - 100 ppm	19.80	30.65
Calcium	60 - 200 ppm	70.90	55.66
Magnesium	20 - 70 ppm	8.42	9.03
Sodium	0 - 30 ppm	120.60	100.20
Soluble Salts	<1,920 ppm	541.00	455.00
Bicarbonate	<60 ppm	192.79	179.73
Chloride	<1,000 ppm	61.00	53.00
SAR	<4%	3.61	3.28

FAIRWAY	Acceptable Range For Saturated Paste Sample	16 9/18/19	17 10/21/20
Nitrate - Ryegrass	5-10 ppm	9.60	34.00
Phosphorus	2 - 10 ppm	1.27	1.77
Potassium	40 - 100 ppm	56.74	45.74
Calcium	60 - 200 ppm	65.09	41.91
Magnesium	20 - 70 ppm	10.72	7.30
Sodium	0 - 30 ppm	156.85	136.89
Soluble Salts	<1,920 ppm	787.00	527.00
Bicarbonate	<60 ppm	266.00	203.72
Chloride	<1,000 ppm	91.00	46.00
SAR	<4%	4.75	5.13

GREENS	Acceptable Range For Saturated Paste Sample	7,16(avg) 9/18/19	8,17(avg) 10/21/20
Dominant Plus Bentgrass	1-3 ppm	2.05	4.30
Phosphorus	2 - 7 ppm	2.86	2.91
Potassium	25-40 ppm	22.68	25.81
Calcium	50- 75 ppm	13.96	18.28
Magnesium	15-30 ppm	3.30	4.08
Sodium	0 - 30 ppm	41.79	57.40
Soluble Salts	<1,000 ppm	214.00	270.50
Bicarbonate	<60 ppm	102.50	127.18
Chloride	<200 ppm	20.50	26.50
SAR	<4%	2.61	3.14