



SOIL AND WATER CONSULTING

Data Collection Report

Summer 2018

Date of Collection: 6/3/18

Client: Tucson Country Club



Testing Results

	<u>6/25/16</u>	<u>6/2/17</u>	<u>6/3/18</u>
Humidity/Air Temperature	22%/99°	20%/90°	7%/105°
Greens Temperature	78°	82°	83.3°
Fairway Temperature	78°	80°	84.3°

WATER	Acceptable Range For Water Sample	Potable Lake <u>6/25/16</u>	Effluent Lake <u>6/25/16</u>	Hole #4 <u>6/2/17</u>	Effluent Lake <u>6/3/18</u>
EC	<2.25 mmhos/cm	0.40	0.13	0.37	1.27
Sodium		45.59	91.06	37.46	138.90
Calcium	20 - 60 ppm	32.28	47.90	32.68	84.37
Magnesium	10 - 25 ppm	2.00	7.27	1.80	17.57
Potassium	5 - 20 ppm	2.55	4.56	3.06	15.91
Sulfur	30 - 90 ppm	n/t	1.62	<0.10	170.37
Bicarbonate	<120 ppm	n/t	0.21	0.24	246.85
Boron	<0.67 ppm	35.16	87.81	28.66	0.21
Chloride	<177 ppm	146.66	206.92	131.41	163.40

TEE	Acceptable Range For Tissue Sample	3 6/3/18
Nitrogen	3.34%-5.10%	4.51
Phosphorus	0.35% - 0.55%	0.49
Potassium	2.0% - 3.42%	2.49
Calcium	0.25%-0.5%	0.45
Magnesium	0.16%-0.32%	0.17
Sodium	229-1107 ppm	1,520.00

FAIRWAY	Acceptable Range For Tissue Sample	3 6/3/18
Nitrogen	3.34%-5.10%	4.23
Phosphorus	0.35% - 0.55%	0.56
Potassium	2.0% - 3.42%	3.13
Calcium	0.25%-0.5%	0.57
Magnesium	0.16%-0.32%	0.19
Sodium	229-1107 ppm	2,190.00

GREENS	Acceptable Range For Tissue Sample	3,12 (avg) 6/3/18
Nitrogen	3.0%-6.5%	3.95
Phosphorus	0.2%-0.55%	0.58
Potassium	0.86%-2.55%	2.28
Calcium	0.21%-0.50%	0.51
Magnesium	0.09%-0.22%	0.18
Sodium	506- 2264 ppm	1,635.00

TEES	Acceptable Range For Alkaline Soils Sample	6 6/25/16	4 6/2/17	3,12(avg) 6/3/18
Organic Matter (Humus)	2 - 3%	2.60	2.49	2.62
Sulfur	12 - 16 ppm	30.00	35.00	16.50
Olsen - Phosphorus	13 - 20 ppm	13.00	14.00	12.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	4,178.00	4,572.00	3,131.00
Magnesium	>7% base saturation or at least 200 lbs/acre	7.68%/242	8.24%/286	8.18%/194
Potassium - TEC of 0 - 35	100 ppm	136.00	193.00	151.50
Manganese	>50 ppm	n/a	n/a	39.00

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	6 6/25/16	4 6/2/17	3,12(avg) 6/3/18
Organic Matter (Humus)	2 - 3%	3.65	3.64	3.90
Sulfur	12 - 16 ppm	71.00	53.00	44.00
Olsen - Phosphorus	13 - 20 ppm	14.00	27.00	30.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	5,012.00	3,394.00	3,260.00
Magnesium	>7% base saturation or at least 200 lbs/acre	8.62%/342	10.31%/290	10.65%/292
Potassium - TEC of 0 - 35	100 ppm	371.00	269.00	299.00
Manganese	>50 ppm	n/a	n/a	30.00

GREENS	Acceptable Range For Alkaline Soils Sample	6 6/25/16	4 6/2/17	3,12(avg) 6/3/18
Organic Matter (Humus)	2 - 3%	0.77	0.62	0.85
Sulfur	12 - 16 ppm	12.00	11.00	18.50
Olsen - Phosphorus	13 - 20 ppm	13.00	11.00	13.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,502.00	2,232.00	1,782.00
Magnesium	>7% base saturation or at least 200 lbs/acre	6.76%/132	8.62%/162	10.37%/165
Potassium - TEC of 0 - 35	150 ppm	278.00	370.00	334.50
Manganese	>50 ppm	n/a	n/a	56.50

TEE	Acceptable Range For Saturated Paste Sample	4,13 (avg) 6/2/17	3 6/3/18
Nitrate -Ryegrass	5 - 10 ppm	<0.5	<0.5
Phosphorus	2 - 10 ppm	2.00	2.91
Potassium	40 - 100 ppm	13.61	33.49
Calcium	60 - 200 ppm	43.38	80.04
Magnesium	20 - 70 ppm	6.64	11.30
Sodium	0 - 30 ppm	116.33	127.43
Soluble Salts	<1,920 ppm	471.00	547.00
Bicarbonate	<60 ppm	214.76	290.41
Chloride	<1,000 ppm	51.50	71.00
SAR	<4%	4.30	3.53

FAIRWAY	Acceptable Range For Saturated Paste Sample	4,13 (avg) 6/2/17	3 6/3/18
Nitrate - Ryegrass	5 - 10 ppm	<0.7	3.30
Phosphorus	2 - 10 ppm	2.81	3.48
Potassium	40 - 100 ppm	41.32	58.19
Calcium	60 - 200 ppm	60.07	98.55
Magnesium	20 - 70 ppm	10.19	15.35
Sodium	0 - 30 ppm	138.95	221.79
Soluble Salts	<1,920 ppm	652.00	846.00
Bicarbonate	<60 ppm	178.15	241.60
Chloride	<1,000 ppm	85.50	132.00
SAR	<4%	4.38	5.49

GREENS	Acceptable Range For Saturated Paste Sample	4,13 (avg) 6/2/17	3,12 (avg) 6/3/18
Nitrate - Bentgrass/Poa	1-3 ppm	<0.5	<0.5
Phosphorus	2 - 7 ppm	1.95	3.22
Potassium	25-40 ppm	20.37	42.78
Calcium	50- 75 ppm	26.72	40.75
Magnesium	15-30 ppm	4.06	8.81
Sodium	0 - 30 ppm	38.15	85.46
Soluble Salts	<1,000 ppm	233.50	422.50
Bicarbonate	<60 ppm	125.68	153.75
Chloride	<200 ppm	23.00	60.50
SAR	<4%	1.84	3.12