



SOIL AND WATER CONSULTING

Data Collection Report

Spring 2018

Date of Collection: 3/3/18

Client: Tucson Country Club



Testing Results

	<u>3/12/16</u>	<u>3/20/17</u>	<u>3/3/18</u>
Humidity/Air Temperature	46%/72°	20%/92°	8%/80°
Greens Temperature	51.6°	78°	62°
Fairway Temperature	52.8°	79°	60.7°

WATER	Acceptable Range For Water Sample	Potable Lake <u>3/12/16</u>	Effluent Lake <u>3/12/16</u>	Hole #1 <u>3/20/17</u>	Potable Lake <u>3/3/18</u>	Effluent Lake <u>3/3/18</u>
EC	<2.25 mmhos/cm	0.39	0.44	0.33	0.37	0.36
Sodium		30.79	55.70	29.04	45.00	53.32
Calcium	20 - 60 ppm	34.87	25.08	32.35	33.89	22.67
Magnesium	10 - 25 ppm	2.80	1.76	2.64	1.99	1.67
Potassium	5 - 20 ppm	2.28	1.93	3.55	4.31	2.29
Sulfur	30 - 90 ppm	39.69	35.88	29.10	26.10	20.57
Bicarbonate	<120 ppm	125.99	143.98	118.79	151.01	155.37
Boron	<0.67 ppm	0.06	0.11	0.05	0.08	0.10
Chloride	<177 ppm	22.30	30.98	12.25	16.85	15.66

TEE	Acceptable Range For Tissue Sample	9 <u>3/3/18</u>
Nitrogen	3.34%-5.10%	4.02
Phosphorus	0.35% - 0.55%	0.57
Potassium	2.0% - 3.42%	3.17
Calcium	0.25%-0.5%	0.59
Magnesium	0.16%-0.32%	0.16
Sodium	229-1107 ppm	880.00

FAIRWAY	Acceptable Range For Tissue Sample	9 <u>3/3/18</u>
Nitrogen	3.34%-5.10%	4.13
Phosphorus	0.35% - 0.55%	0.61
Potassium	2.0% - 3.42%	3.43
Calcium	0.25%-0.5%	0.56
Magnesium	0.16%-0.32%	0.17
Sodium	229-1107 ppm	1,150.00

GREENS	Acceptable Range For Tissue Sample	9,18 (avg) <u>3/3/18</u>
Nitrogen	3.0%-6.5%	3.73
Phosphorus	0.2%-0.55%	0.59
Potassium	0.86%-2.55%	3.10
Calcium	0.21%-0.50%	0.56
Magnesium	0.09%-0.22%	0.19
Sodium	506- 2264 ppm	1,040.00

TEES	Acceptable Range For Alkaline Soils Sample	5 3/12/16	1 3/20/17	9,18(avg) 3/3/18
Organic Matter (Humus)	2 - 3%	2.92	2.56	3.07
Sulfur	12 - 16 ppm	18.00	17.00	23.50
Olsen - Phosphorus	13 - 20 ppm	14.00	19.00	11.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	5,064.00	3,360.00	4,518.00
Magnesium	>7% base saturation or at least 200 lbs/acre	7.13%/262	9.71%/246	6.9%/227
Potassium - TEC of 0 - 35	100 ppm	150.00	116.00	172.50
Manganese	>50 ppm	n/a	n/a	50.00

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	5 3/12/16	1 3/20/17	9,18(avg) 3/3/18
Organic Matter (Humus)	2 - 3%	4.11	2.37	3.61
Sulfur	12 - 16 ppm	22.00	23.00	28.00
Olsen - Phosphorus	13 - 20 ppm	28.00	34.00	29.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,462.00	3,054.00	3,699.00
Magnesium	>7% base saturation or at least 200 lbs/acre	9.09%/246	10.23%/250	8.92%/261
Potassium - TEC of 0 - 35	100 ppm	213.00	229.00	278.00
Manganese	>50 ppm	n/a	n/a	41.00

GREENS	Acceptable Range For Alkaline Soils Sample	5 3/12/16	1 3/20/17	9,18(avg) 3/3/18
Organic Matter (Humus)	2 - 3%	0.52	0.80	0.91
Sulfur	12 - 16 ppm	15.00	11.00	4.00
Olsen - Phosphorus	13 - 20 ppm	16.00	17.00	18.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,492.00	2,134.00	2,105.00
Magnesium	>7% base saturation or at least 200 lbs/acre	7.25%/148	9.40%/166	10.33%/179
Potassium - TEC of 0 - 35	150 ppm	384.00	284.00	276.00
Manganese	>50 ppm	n/a	n/a	60.50

TEE	Acceptable Range For Saturated Paste Sample	1,10 (avg) 3/20/17	9 3/3/18
Nitrate - Ryegrass	5 - 10 ppm	<0.5	9.10
Phosphorus	2 - 10 ppm	1.15	0.95
Potassium	40 - 100 ppm	14.27	11.33
Calcium	60 - 200 ppm	55.38	42.22
Magnesium	20 - 70 ppm	6.47	4.43
Sodium	0 - 30 ppm	59.97	45.05
Soluble Salts	<1,920 ppm	344.50	275.00
Bicarbonate	<60 ppm	230.62	90.29
Chloride	<1,000 ppm	30.50	17.00
SAR	<4%	2.02	1.76

FAIRWAY	Acceptable Range For Saturated Paste Sample	1,10 (avg) 3/20/17	9 3/3/18
Nitrate - Ryegrass	5 - 10 ppm	<0.5	4.20
Phosphorus	2 - 10 ppm	1.64	0.55
Potassium	40 - 100 ppm	29.45	25.41
Calcium	60 - 200 ppm	59.26	61.14
Magnesium	20 - 70 ppm	8.71	18.09
Sodium	0 - 30 ppm	91.04	39.80
Soluble Salts	<1,920 ppm	456.50	401.00
Bicarbonate	<60 ppm	261.12	185.47
Chloride	<1,000 ppm	39.50	32.00
SAR	<4%	2.94	1.15

GREENS	Acceptable Range For Saturated Paste Sample	1,10 (avg) 3/20/17	9,18 (avg) 3/3/18
Nitrate - Bentgrass/Poa	1-3 ppm	<0.5	3.00
Phosphorus	2 - 7 ppm	2.31	2.42
Potassium	25-40 ppm	13.61	14.23
Calcium	50- 75 ppm	17.55	14.02
Magnesium	15-30 ppm	2.73	3.14
Sodium	0 - 30 ppm	34.12	25.60
Soluble Salts	<1,000 ppm	171.50	148.50
Bicarbonate	<60 ppm	102.50	91.52
Chloride	<200 ppm	13.50	8.00
SAR	<4%	2.00	1.61