



SOIL AND WATER CONSULTING

Data Collection Report

Spring 2019

Date of Collection: 3/12/19

Client: Canyon Gate Country Club



Testing Results

<u>3/12/19</u>	
Humidity/Air Temperature	70%/65°
Greens Temperature	(avg)49.2°
Fairway Temperature	(avg)50.15°

WATER	Acceptable Range For Water Sample	Lake #9 3/1/07	Lake #9 3/12/19	Hole #5 3/12/19
pH	6.0-6.5	6.83	7.23	6.87
EC	<2.25 mmhos/cm	1.54	1.84	1.73
Sodium		186.58	218.70	206.30
Calcium	20 - 60 ppm	90.57	70.56	69.94
Magnesium	10 - 25 ppm	29.21	21.42	20.79
Potassium	5 - 20 ppm	21.85	24.58	22.58
Nitrate	10 - 25 ppm	12.63	5.91	11.34
Phosphorus	5 - 20 ppm	2.59	1.61	0.82
Sulfur	30 - 90 ppm	286.27	212.70	225.06
Bicarbonate	<120 ppm	178.60	301.63	187.42
Boron	<0.67 ppm	0.40	0.28	0.26

TEE	Acceptable Range For Tissue Sample	5 3/12/19
Nitrogen	3.34%-5.10%	5.56
Phosphorus	0.35% - 0.55%	0.68
Potassium	2.0% - 3.42%	2.57
Calcium	0.25%-0.5%	0.55
Magnesium	0.16%-0.32%	0.24
Sodium	229-1107 ppm	2,070.00

FAIRWAY	Acceptable Range For Tissue Sample	5 3/12/19
Nitrogen	3.34%-5.10%	5.70
Phosphorus	0.35% - 0.55%	0.67
Potassium	2.0% - 3.42%	2.64
Calcium	0.25%-0.5%	0.55
Magnesium	0.16%-0.32%	0.22
Sodium	229-1107 ppm	1,580.00

GREENS	Acceptable Range For Tissue Sample	5,14(avg) 3/20/19
Nitrogen	3.0%-6.5%	5.85
Phosphorus	0.2%-0.55%	0.68
Potassium	0.86%-2.55%	2.86
Calcium	0.21%-0.50%	0.57
Magnesium	0.09%-0.22%	0.30
Sodium	506- 2264 ppm	3,045.00

TEES	Acceptable Range For Alkaline Soils Sample	5 3/20/11	5,14(avg) 3/12/19
Organic Matter (Humus)	2 - 3%	2.93	3.89
Sulfur	12 - 16 ppm	41.00	20.00
Olsen - Phosphorus	13 - 20 ppm	27.00	39.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	4,638.00	4,377.00
Magnesium	>7% base saturation or at least 200 lbs/acre	13.83%/594	16.65%/634
Potassium - TEC of 0 - 35	100 ppm	612.00	321.50
Manganese	>50 ppm	n/r	16.50

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	5 3/20/11	5,14(avg) 3/12/19
Organic Matter (Humus)	2 - 3%	5.85	5.76
Sulfur	12 - 16 ppm	68.00	30.50
Olsen - Phosphorus	13 - 20 ppm	54.00	66.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	5,396.00	5,295.00
Magnesium	>7% base saturation or at least 200 lbs/acre	15.10%/690	18.99%/897
Potassium - TEC of 0 - 35	100 ppm	301.00	346.00
Manganese	>50 ppm	n/r	16.00

GREENS	Acceptable Range For Alkaline Soils Sample	5 3/20/11	5,14(avg) 3/12/19
Organic Matter (Humus)	2 - 3%	n/r	0.22
Sulfur	12 - 16 ppm	n/r	16.00
Olsen - Phosphorus	13 - 20 ppm	n/r	5.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	n/r	1,370.00
Magnesium	>7% base saturation or at least 200 lbs/acre	n/r	10.37%/109
Potassium - TEC of 0 - 35	150 ppm	n/r	74.00
Manganese	>50 ppm	n/r	27.50

TEES	Acceptable Range For Saturated Paste Sample	5 3/12/19
Nitrate - Bermudagrass	10 -15 ppm	<0.5
Phosphorus	2 - 10 ppm	4.72
Potassium	40 - 100 ppm	18.37
Calcium	60 - 200 ppm	39.58
Magnesium	20 - 70 ppm	15.05
Sodium	0 - 30 ppm	120.41
Soluble Salts	<1,920 ppm	535.00
Bicarbonate	<60 ppm	183.03
Chloride	<1,000 ppm	83.00
SAR	<4%	4.13

FAIRWAYS	Acceptable Range For Saturated Paste Sample	5 3/12/19
Nitrate - Bermudagrass	10 -15 ppm	<0.5
Phosphorus	2 - 10 ppm	5.72
Potassium	40 - 100 ppm	22.85
Calcium	60 - 200 ppm	56.04
Magnesium	20 - 70 ppm	22.36
Sodium	0 - 30 ppm	137.61
Soluble Salts	<1,920 ppm	646.00
Bicarbonate	<60 ppm	261.12
Chloride	<1,000 ppm	85.00
SAR	<4%	3.93

GREENS	Acceptable Range For Saturated Paste Sample	5,14(avg) 3/12/19
Nitrate - Dominator Bentgrass	1-3 ppm	<0.5
Phosphorus	2 - 7 ppm	3.50
Potassium	25-40 ppm	34.39
Calcium	50- 75 ppm	22.13
Magnesium	15-30 ppm	7.07
Sodium	0 - 30 ppm	55.35
Soluble Salts	<1,000 ppm	284.00
Bicarbonate	<60 ppm	97.62
Chloride	<200 ppm	33.50
SAR	<4%	2.64