



SOIL AND WATER CONSULTING

Data Collection Report

Spring 2021

Date of Collection: 3/24/21

Client: Canyon Gate Country Club



Testing Results

	<u>3/12/19</u>	<u>3/4/20</u>	<u>3/24/21</u>
Humidity/Air Temperature	70%/65°	19%/70°	20%/63°
Greens Temperature	(avg)49.2°	(avg)45°	(avg)43.3°
Fairway Temperature	(avg)50.15°	(avg)51°	(avg)48.3°

WATER	Acceptable Range For Water Sample	Hole #5 3/12/19	Hole #1 3/4/20	Hole #9 3/24/21
pH	6.0-6.5	6.87	8.11	7.91
EC	<2.25 mmhos/cm	1.73	0.85	0.87
Sodium		206.30	81.67	79.68
Calcium	20 - 60 ppm	69.94	68.51	65.26
Magnesium	10 - 25 ppm	20.79	22.65	23.19
Potassium	5 - 20 ppm	22.58	5.35	4.42
Nitrate	10 - 25 ppm	11.34	0.10	n/t
Phosphorus	5 - 20 ppm	0.82	<0.20	n/t
Sulfur	30 - 90 ppm	225.06	199.56	186.12
Bicarbonate	<120 ppm	187.42	134.91	182.14
Boron	<0.67 ppm	0.26	0.12	0.11
Chloride	<177 ppm	254.29	82.72	78.47

TEE	Acceptable Range For Tissue Sample	9 3/24/21
Nitrogen	3.34%-5.10%	5.23
Phosphorus	0.35% - 0.55%	0.56
Potassium	2.0% - 3.42%	2.69
Calcium	0.25%-0.5%	0.73
Magnesium	0.16%-0.32%	0.37
Sodium	229-1107 ppm	1,690.00

FAIRWAY	Acceptable Range For Tissue Sample	9 3/24/21
Nitrogen	3.34%-5.10%	5.54
Phosphorus	0.35% - 0.55%	0.52
Potassium	2.0% - 3.42%	2.53
Calcium	0.25%-0.5%	0.70
Magnesium	0.16%-0.32%	0.32
Sodium	229-1107 ppm	1,210.00

GREENS	Acceptable Range For Tissue Sample	9,18(avg) 3/24/21
Nitrogen	3.0%-6.5%	4.00
Phosphorus	0.2%-0.55%	0.44
Potassium	0.86%-2.55%	2.59
Calcium	0.21%-0.50%	0.74
Magnesium	0.09%-0.22%	0.27
Sodium	506- 2264 ppm	1,765.00

TEES	Acceptable Range For Alkaline Soils Sample	5,14(avg) 3/12/19	1,10(avg) 3/4/20	9,18(avg) 3/24/21
Organic Matter (Humus)	2 - 3%	3.89	3.55	4.82
Sulfur	12 - 16 ppm	20.00	60.50	76.00
Olsen - Phosphorus	13 - 20 ppm	39.50	34.50	35.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	4,377.00	4,198.00	4,495.00
Magnesium	>7% base saturation or at least 200 lbs/acre	16.65%/634	17.45%/625	23.09%/972
Potassium - TEC of 0 - 35	100 ppm	321.50	235.50	422.00
Manganese	>50 ppm	16.50	11.50	19.50

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	5,14(avg) 3/12/19	1,10(avg) 3/4/20	9,18(avg) 3/24/21
Organic Matter (Humus)	2 - 3%	5.76	5.26	6.26
Sulfur	12 - 16 ppm	30.50	91.00	106.50
Olsen - Phosphorus	13 - 20 ppm	66.00	77.50	89.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	5,295.00	5,415.00	5,306.00
Magnesium	>7% base saturation or at least 200 lbs/acre	18.99%/897	19.25%/892	21.99%/1,018
Potassium - TEC of 0 - 35	100 ppm	346.00	237.50	242.50
Manganese	>50 ppm	16.00	16.50	14.00

GREENS	Acceptable Range For Alkaline Soils Sample	5,14(avg) 3/12/19	1,10(avg) 3/4/20	9,18(avg) 3/24/21
Organic Matter (Humus)	2 - 3%	0.22	0.21	0.61
Sulfur	12 - 16 ppm	16.00	19.50	26.50
Olsen - Phosphorus	13 - 20 ppm	5.00	4.50	5.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,370.00	1,839.00	1,548.00
Magnesium	>7% base saturation or at least 200 lbs/acre	10.37%/109	9.22%/124	11.88%/138
Potassium - TEC of 0 - 35	150 ppm	74.00	53.00	59.00
Manganese	>50 ppm	27.50	29.50	18.50

TEES	Acceptable Range For Saturated Paste Sample	1 3/4/20	9 3/24/21
Nitrate - Bermudagrass	10 -15 ppm	<0.5	1.30
Phosphorus	2 - 10 ppm	3.66	2.40
Potassium	40 - 100 ppm	30.44	21.72
Calcium	60 - 200 ppm	130.62	114.25
Magnesium	20 - 70 ppm	48.54	53.10
Sodium	0 - 30 ppm	112.34	61.89
Soluble Salts	<1,920 ppm	739.00	671.00
Bicarbonate	<60 ppm	272.19	208.99
Chloride	<1,000 ppm	86.00	115.00
SAR	<4%	2.13	1.20

FAIRWAYS	Acceptable Range For Saturated Paste Sample	1 3/4/20	9 3/24/21
Nitrate - Bermudagrass	10 -15 ppm	<0.5	20.90
Phosphorus	2 - 10 ppm	2.89	3.25
Potassium	40 - 100 ppm	39.42	31.65
Calcium	60 - 200 ppm	122.96	147.23
Magnesium	20 - 70 ppm	48.56	58.55
Sodium	0 - 30 ppm	118.88	62.18
Soluble Salts	<1,920 ppm	780.00	774.00
Bicarbonate	<60 ppm	258.09	210.14
Chloride	<1,000 ppm	109.00	112.00
SAR	<4%	2.30	1.10

GREENS	Acceptable Range For Saturated Paste Sample	1,10(avg) 3/4/20	9,18(avg) 3/24/21
Nitrate - Dominator Bentgrass	1-3 ppm	<0.5	<0.5
Phosphorus	2 - 7 ppm	2.26	2.03
Potassium	25-40 ppm	16.27	20.76
Calcium	50- 75 ppm	53.49	53.95
Magnesium	15-30 ppm	14.22	15.04
Sodium	0 - 30 ppm	48.93	36.62
Soluble Salts	<1,000 ppm	340.00	341.00
Bicarbonate	<60 ppm	131.22	86.61
Chloride	<200 ppm	23.50	26.00
SAR	<4%	1.54	1.13