



SOIL AND WATER CONSULTING

Data Collection Report

Spring 2022

Date of Collection: 3/17/22

Client: Canyon Gate Country Club



Testing Results

	<u>3/4/20</u>	<u>3/24/21</u>	<u>3/17/22</u>
Humidity/Air Temperature	19%/70°	20%/63°	10%/68°
Greens Temperature	(avg)45°	(avg)43.3°	(avg)45.1°
Fairway Temperature	(avg)51°	(avg)48.3°	(avg)50°

WATER	Acceptable Range For Water Sample	Hole #1 3/4/20	Hole #9 3/24/21	Hole #9 3/17/22
pH	6.0-6.5	8.11	7.91	7.03
EC	<2.25 mmhos/cm	0.85	0.87	0.91
Sodium		81.67	79.68	88.13
Calcium	20 - 60 ppm	68.51	65.26	71.19
Magnesium	10 - 25 ppm	22.65	23.19	24.33
Potassium	5 - 20 ppm	5.35	4.42	4.52
Sulfur	30 - 90 ppm	199.56	186.12	204.27
Bicarbonate	<120 ppm	134.91	182.14	192.22
Boron	<0.67 ppm	0.12	0.11	0.13
Chloride	<177 ppm	82.72	78.47	91.91

TEE	Acceptable Range For Tissue Sample	5 3/17/22
Nitrogen	3.34%-5.10%	7.43
Phosphorus	0.35% - 0.55%	0.65
Potassium	2.0% - 3.42%	2.56
Calcium	0.25%-0.5%	0.80
Magnesium	0.16%-0.32%	0.33
Sodium	229-1107 ppm	2,070.00

FAIRWAY	Acceptable Range For Tissue Sample	5 3/17/22
Nitrogen	3.34%-5.10%	7.20
Phosphorus	0.35% - 0.55%	0.64
Potassium	2.0% - 3.42%	2.75
Calcium	0.25%-0.5%	0.72
Magnesium	0.16%-0.32%	0.32
Sodium	229-1107 ppm	1,520.00

GREENS	Acceptable Range For Tissue Sample	5,14(avg) 3/17/22
Nitrogen	3.0%-6.5%	4.22
Phosphorus	0.2%-0.55%	0.44
Potassium	0.86%-2.55%	2.25
Calcium	0.21%-0.50%	0.83
Magnesium	0.09%-0.22%	0.27
Sodium	506- 2264 ppm	2,325.00

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	5,14(avg) 3/17/22
Organic Matter (Humus)	2 - 3%	3.89	3.55	4.82	3.87
Sulfur	12 - 16 ppm	20.00	60.50	76.00	71.00
Olsen - Phosphorus	13 - 20 ppm	39.50	34.50	35.50	21.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	4,377.00	4,198.00	4,495.00	4,306.00
Magnesium	>7% base saturation or at least 200 lbs/acre	16.65%/634	17.45%/625	23.09%/972	17.79%/650
Potassium - TEC of 0 - 35	100 ppm	321.50	235.50	422.00	231.50
Manganese	>50 ppm	16.50	11.50	19.50	14.00

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	5,14(avg) 3/17/22
Organic Matter (Humus)	2 - 3%	5.76	5.26	6.26	7.58
Sulfur	12 - 16 ppm	30.50	91.00	106.50	105.50
Olsen - Phosphorus	13 - 20 ppm	66.00	77.50	89.50	57.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	5,295.00	5,415.00	5,306.00	5,004.00
Magnesium	>7% base saturation or at least 200 lbs/acre	18.99%/897	19.25%/892	21.99%/1,018	20.35%/888
Potassium - TEC of 0 - 35	100 ppm	346.00	237.50	242.50	275.50
Manganese	>50 ppm	16.00	16.50	14.00	16.00

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	5,14(avg) 3/17/22
Organic Matter (Humus)	2 - 3%	0.22	0.21	0.61	0.68
Sulfur	12 - 16 ppm	16.00	19.50	26.50	33.00
Olsen - Phosphorus	13 - 20 ppm	5.00	4.50	5.00	5.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,370.00	1,839.00	1,548.00	1,697.00
Magnesium	>7% base saturation or at least 200 lbs/acre	10.37%/109	9.22%/124	11.88%/138	12.65%/164
Potassium - TEC of 0 - 35	150 ppm	74.00	53.00	59.00	65.00
Manganese	>50 ppm	27.50	29.50	18.50	23.50

TEES	Acceptable Range For Saturated Paste Sample	9 3/24/21	5 3/17/22
Nitrate - Ryegrass	5-10 ppm	1.30	128.50
Phosphorus	2 - 10 ppm	2.40	6.42
Potassium	40 - 100 ppm	21.72	52.82
Calcium	60 - 200 ppm	114.25	247.13
Magnesium	20 - 70 ppm	53.10	106.63
Sodium	0 - 30 ppm	61.89	103.36
Soluble Salts	<1,920 ppm	671.00	1,441.00
Bicarbonate	<60 ppm	208.99	156.69
Chloride	<1,000 ppm	115.00	182.00
SAR	<4%	1.20	1.38

FAIRWAYS	Acceptable Range For Saturated Paste Sample	9 3/24/21	5 3/17/22
Nitrate - Ryegrass	5-10 ppm	20.90	30.50
Phosphorus	2 - 10 ppm	3.25	3.57
Potassium	40 - 100 ppm	31.65	51.90
Calcium	60 - 200 ppm	147.23	237.12
Magnesium	20 - 70 ppm	58.55	98.88
Sodium	0 - 30 ppm	62.18	114.40
Soluble Salts	<1,920 ppm	774.00	1,227.00
Bicarbonate	<60 ppm	210.14	249.80
Chloride	<1,000 ppm	112.00	205.00
SAR	<4%	1.10	1.57

GREENS	Acceptable Range For Saturated Paste Sample	9,18(avg) 3/24/21	5,14(avg) 3/17/22
Nitrate - Dominator Bentgrass	1-3 ppm	<0.5	<0.5
Phosphorus	2 - 7 ppm	2.03	2.78
Potassium	25-40 ppm	20.76	36.89
Calcium	50- 75 ppm	53.95	87.58
Magnesium	15-30 ppm	15.04	29.42
Sodium	0 - 30 ppm	36.62	59.28
Soluble Salts	<1,000 ppm	341.00	471.50
Bicarbonate	<60 ppm	86.61	140.27
Chloride	<200 ppm	26.00	55.50
SAR	<4%	1.13	1.41