



SOIL AND WATER CONSULTING

Data Collection Report

Fall 2020

Date of Collection: 10/16/20

Client: Canyon Gate Country Club



Testing Results

	<u>9/24/19</u>	<u>10/16/20</u>
Humidity/Air Temperature	16%/90°	15%/85°
Greens Temperature	(avg)60°	(avg)51°
Fairway Temperature	(avg)63°	(avg)56°

WATER	Acceptable Range For Water Sample	Hole #7 9/24/19	Hole #17 10/16/20
pH	6.0-6.5	7.90	7.88
EC	<2.25 mmhos/cm	0.90	0.68
Sodium		78.31	23.73
Calcium	20 - 60 ppm	69.95	57.89
Magnesium	10 - 25 ppm	23.43	29.21
Potassium	5 - 20 ppm	4.50	5.34
Nitrate	10 - 25 ppm	0.22	1.37
Phosphorus	5 - 20 ppm	<0.20	<0.20
Sulfur	30 - 90 ppm	196.53	93.78
Bicarbonate	<120 ppm	168.93	224.34
Boron	<0.67 ppm	0.11	<0.05
Chloride	<177 ppm	72.51	34.38

TEE	Acceptable Range For Tissue Sample	8 10/16/20
Nitrogen	3.34%-5.10%	5.00
Phosphorus	0.35% - 0.55%	0.57
Potassium	2.0% - 3.42%	3.32
Calcium	0.25%-0.5%	0.84
Magnesium	0.16%-0.32%	0.46
Sodium	229-1107 ppm	825.00

FAIRWAY	Acceptable Range For Tissue Sample	8 10/16/20
Nitrogen	3.34%-5.10%	4.77
Phosphorus	0.35% - 0.55%	0.65
Potassium	2.0% - 3.42%	4.06
Calcium	0.25%-0.5%	0.71
Magnesium	0.16%-0.32%	0.40
Sodium	229-1107 ppm	698.00

GREENS	Acceptable Range For Tissue Sample	8,17(avg) 10/16/20
Nitrogen	3.0%-6.5%	3.79
Phosphorus	0.2%-0.55%	0.58
Potassium	0.86%-2.55%	2.65
Calcium	0.21%-0.50%	0.72
Magnesium	0.09%-0.22%	0.31
Sodium	506- 2264 ppm	442.50

TEES	Acceptable Range For Alkaline Soils Sample	7 9/30/11	7,16(avg) 9/24/19	8,17(avg) 10/16/20
Organic Matter (Humus)	2 - 3%	3.49	4.25	1.95
Sulfur	12 - 16 ppm	41.00	41.50	20.50
Olsen - Phosphorus	13 - 20 ppm	36.00	33.50	12.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	4,160.00	4,919.00	1,980.00
Magnesium	>7% base saturation or at least 200 lbs/acre	14.62%/510	17.42%/693	22.33%/886
Potassium - TEC of 0 - 35	100 ppm	282.00	203.00	292.00
Manganese	>50 ppm	n/t	16.00	20.00

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	7 9/30/11	7,16(avg) 9/24/19	8,17(avg) 10/16/20
Organic Matter (Humus)	2 - 3%	6.28	6.18	3.04
Sulfur	12 - 16 ppm	88.00	160.50	39.00
Olsen - Phosphorus	13 - 20 ppm	78.00	68.50	36.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	5,056.00	5,901.00	2,706.00
Magnesium	>7% base saturation or at least 200 lbs/acre	15.78%/680	17.18%/818	21.69%/1,035
Potassium - TEC of 0 - 35	100 ppm	331.00	252.00	312.50
Manganese	>50 ppm	n/t	23.00	16.50

GREENS	Acceptable Range For Alkaline Soils Sample	7 9/30/11	7,16(avg) 9/24/19	8,17(avg) 10/16/20
Organic Matter (Humus)	2 - 3%	0.54	0.29	0.49
Sulfur	12 - 16 ppm	41.00	32.00	16.00
Olsen - Phosphorus	13 - 20 ppm	20.00	7.00	3.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,910.00	1,620.00	1,751.00
Magnesium	>7% base saturation or at least 200 lbs/acre	10.56%/222	12.32%/150	16.59%/228
Potassium - TEC of 0 - 35	150 ppm	52.00	54.50	59.00
Manganese	>50 ppm	n/t	27.00	32.50

TEES	Acceptable Range For Saturated Paste Sample	7 9/24/19	8 10/16/20
Nitrate - Bermudagrass	10 -15 ppm	9.30	70.50
Phosphorus	2 - 10 ppm	1.88	3.63
Potassium	40 - 100 ppm	19.47	21.16
Calcium	60 - 200 ppm	89.39	109.60
Magnesium	20 - 70 ppm	36.32	50.85
Sodium	0 - 30 ppm	48.14	45.80
Soluble Salts	<1,920 ppm	570.00	723.00
Bicarbonate	<60 ppm	139.10	89.09
Chloride	<1,000 ppm	78.00	65.00
SAR	<4%	1.08	0.91

FAIRWAYS	Acceptable Range For Saturated Paste Sample	7 9/24/19	8 10/16/20
Nitrate - Bermudagrass	10 -15 ppm	42.90	105.10
Phosphorus	2 - 10 ppm	2.30	3.46
Potassium	40 - 100 ppm	30.92	52.51
Calcium	60 - 200 ppm	112.92	150.75
Magnesium	20 - 70 ppm	41.33	59.19
Sodium	0 - 30 ppm	50.71	36.84
Soluble Salts	<1,920 ppm	671.00	980.00
Bicarbonate	<60 ppm	146.42	103.06
Chloride	<1,000 ppm	85.00	57.00
SAR	<4%	1.04	0.64

GREENS	Acceptable Range For Saturated Paste Sample	7,16(avg) 9/24/19	8,17(avg) 10/16/20
Nitrate - Dominator Bentgrass	1-3 ppm	<2.0	<0.65
Phosphorus	2 - 7 ppm	2.73	2.14
Potassium	25-40 ppm	14.57	27.48
Calcium	50- 75 ppm	24.67	62.99
Magnesium	15-30 ppm	8.58	27.35
Sodium	0 - 30 ppm	26.87	24.24
Soluble Salts	<1,000 ppm	238.00	433.50
Bicarbonate	<60 ppm	85.41	86.90
Chloride	<200 ppm	27.00	26.50