



SOIL AND WATER CONSULTING

Data Collection Report

Fall 2019

Date of Collection: 9/24/19

Client: The Summit Club



Testing Results

	<u>9/20/17</u>	<u>9/28/18</u>	<u>9/24/19</u>
Humidity/Air Temperature	20%/95°	10%/97°	16%/90°
Greens Temperature	62°	(avg) 71°	(avg) 72°
Fairway Temperature	70°	(avg) 76.2°	(avg) 72°

WATER	Acceptable Range For Water Sample	Green #8 9/28/18	Wet Well 9/28/18	Hole #7 9/24/19
EC	<2.25 mmhos/cm	0.94	0.82	0.86
Sodium		82.92	57.24	83.55
Calcium	20 - 60 ppm	66.69	67.76	71.51
Magnesium	10 - 25 ppm	19.60	24.99	22.88
Potassium	5 - 20 ppm	4.92	5.20	5.07
Nitrate	10 - 25 ppm	0.49	0.75	n/t
Phosphorus	5 - 20 ppm	<0.20	<0.20	n/t
Sulfur	30 - 90 ppm	178.89	160.32	201.33
Bicarbonate	<120 ppm	173.50	199.42	185.74
Boron	<0.67 ppm	0.11	0.09	0.12
Chloride	<177 ppm	89.36	60.25	82.21

TEE	Acceptable Range For Tissue Sample	7 9/24/19
Nitrogen	3.34%-5.10%	5.60
Phosphorus	0.35% - 0.55%	0.83
Potassium	2.0% - 3.42%	1.98
Calcium	0.25%-0.5%	1.15
Magnesium	0.16%-0.32%	0.42
Sodium	229-1107 ppm	3,960.00

FAIRWAY	Acceptable Range For Tissue Sample	7 9/24/19
Nitrogen	3.34%-5.10%	5.07
Phosphorus	0.35% - 0.55%	0.73
Potassium	2.0% - 3.42%	2.37
Calcium	0.25%-0.5%	1.53
Magnesium	0.16%-0.32%	0.57
Sodium	229-1107 ppm	4,690.00

GREENS	Acceptable Range For Tissue Sample	7,16(avg) 9/24/19
Nitrogen	3.0%-6.5%	4.73
Phosphorus	0.2%-0.55%	0.55
Potassium	0.86%-2.55%	1.44
Calcium	0.21%-0.50%	0.97
Magnesium	0.09%-0.22%	0.32
Sodium	506- 2264 ppm	1,830.00

TEES	Acceptable Range For Alkaline Soils Sample	8 9/20/17	2,5,6(avg) 8/18/18	7,16(avg) 9/24/19
Organic Matter (Humus)	2 - 3%	0.25	0.61	0.88
Sulfur	12 - 16 ppm	90.00	59.67	142.00
Olsen - Phosphorus	13 - 20 ppm	12.00	16.00	20.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,718.00	2,108.67	3,158.00
Magnesium	>7% base saturation or at least 200 lbs/acre	7.40%/146	12.36%/198.66	9.85%/224
Potassium - TEC of 0 - 35	100 ppm	83.00	77.33	81.00
Manganese	>50 ppm	n/r	10.67	19.00

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	8 9/20/17	3,8,12(avg) 8/18/18	7,16(avg) 9/24/19
Organic Matter (Humus)	2 - 3%	0.29	0.55	0.62
Sulfur	12 - 16 ppm	90.00	33.00	37.00
Olsen - Phosphorus	13 - 20 ppm	16.00	21.33	27.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,280.00	2,538.67	3,515.00
Magnesium	>7% base saturation or at least 200 lbs/acre	8.92%/154	10.76%/204	9.32%/234
Potassium - TEC of 0 - 35	100 ppm	80.00	74.33	88.50
Manganese	>50 ppm	n/r	6.67	15.50

GREENS	Acceptable Range For Alkaline Soils Sample	8 9/20/17	2,8,11(avg) 9/28/18	7,16(avg) 9/24/19
Organic Matter (Humus)	2 - 3%	0.72	0.74	0.67
Sulfur	12 - 16 ppm	36.00	29.00	44.50
Olsen - Phosphorus	13 - 20 ppm	10.00	10.33	10.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,914.00	1,916.67	1,822.00
Magnesium	>7% base saturation or at least 200 lbs/acre	14.09%/212	13.17%/195.33	12.12%/168
Potassium - TEC of 0 - 35	150 ppm	66.00	69.67	69.00
Manganese	>50 ppm	n/r	14.67	12.50

TEES	Acceptable Range For Saturated Paste Sample	2,5,6(avg) 8/18/18	7 9/24/19
Nitrate-Ryegrass	10 -15 ppm	25.22	<0.5
Phosphorus	2 - 10 ppm	4.97	2.75
Potassium	40 - 100 ppm	54.09	45.45
Calcium	60 - 200 ppm	153.26	158.64
Magnesium	20 - 70 ppm	45.43	43.27
Sodium	0 - 30 ppm	80.48	82.76
Soluble Salts	<1,920 ppm	892.67	792.00
Bicarbonate	<60 ppm	218.01	234.28
Chloride	<1,000 ppm	88.67	82.00
SAR	<4%	1.48	1.50

FAIRWAYS	Acceptable Range For Saturated Paste Sample	3,8,12(avg) 8/18/18	7 9/24/19
Nitrate-Ryegrass	10 -15 ppm	<0.6	<0.5
Phosphorus	2 - 10 ppm	2.82	3.76
Potassium	40 - 100 ppm	48.94	37.43
Calcium	60 - 200 ppm	167.54	92.08
Magnesium	20 - 70 ppm	48.16	29.14
Sodium	0 - 30 ppm	99.07	96.41
Soluble Salts	<1,920 ppm	902.00	640.00
Bicarbonate	<60 ppm	230.21	219.64
Chloride	<1,000 ppm	90.33	78.00
SAR	<4%	1.70	2.24

GREENS	Acceptable Range For Saturated Paste Sample	2,8,11(avg) 9/28/18	7,16(avg) 9/24/19
Nitrate - Dominator Bentgrass	1-3 ppm	<0.5	<0.5
Phosphorus	2 - 7 ppm	6.84	3.57
Potassium	25-40 ppm	39.11	36.60
Calcium	50- 75 ppm	76.37	65.36
Magnesium	15-30 ppm	23.87	19.54
Sodium	0 - 30 ppm	85.73	65.28
Soluble Salts	<1,000 ppm	593.00	493.00
Bicarbonate	<60 ppm	224.52	141.55
Chloride	<200 ppm	57.33	51.00
SAR	<4%	2.20	1.86