



SOIL AND WATER CONSULTING

Data Collection Report

Fall 2018

Date of Collection: 9/29/18

Client: The Las Vegas Country Club



Testing Results

	<u>9/27/16</u>	<u>9/22/17</u>	<u>9/29/18</u>
Humidity/Air Temperature	20%/88°	35%/75°	15%/98°
Greens Temperature	70°	72°	(avg)68.2°
Fairway Temperature	72°	68°	(avg)70.65°

WATER	Acceptable Range For Water Sample	Hole #7 9/27/16	Hole #8 9/22/17	Hole #2 9/29/18
EC	<2.25 mmhos/cm	0.78	0.74	0.78
Sodium		17.87	19.72	18.90
Calcium	20 - 60 ppm	75.22	83.58	72.83
Magnesium	10 - 25 ppm	40.63	40.08	37.42
Potassium	5 - 20 ppm	10.48	3.93	6.72
Sulfur	30 - 90 ppm	182.70	200.52	182.76
Bicarbonate	<120 ppm	228.93	172.79	215.98
Boron	<0.67 ppm	0.09	0.09	0.09
Chloride	<177 ppm	26.38	18.72	14.30

TEE	Acceptable Range For Tissue Sample	2 9/29/18
Nitrogen	3.34%-5.10%	5.79
Phosphorus	0.35% - 0.55%	0.70
Potassium	2.0% - 3.42%	2.25
Calcium	0.25%-0.5%	1.23
Magnesium	0.16%-0.32%	0.54
Sodium	229-1107 ppm	1,550.00

FAIRWAY	Acceptable Range For Tissue Sample	2 9/29/18
Nitrogen	3.34%-5.10%	5.88
Phosphorus	0.35% - 0.55%	0.56
Potassium	2.0% - 3.42%	2.71
Calcium	0.25%-0.5%	0.71
Magnesium	0.16%-0.32%	0.37
Sodium	229-1107 ppm	863.00

GREENS	Acceptable Range For Tissue Sample	2,11 (avg) 9/29/18
Nitrogen	3.0%-6.5%	5.29
Phosphorus	0.2%-0.55%	0.72
Potassium	0.86%-2.55%	2.62
Calcium	0.21%-0.50%	0.67
Magnesium	0.09%-0.22%	0.32
Sodium	506- 2264 ppm	397.00

TEES	Acceptable Range For Alkaline Soils Sample	7 9/27/18	8 9/22/17	2,11(avg) 9/29/18
Organic Matter (Humus)	2 - 3%	2.13	3.26	2.46
Sulfur	12 - 16 ppm	43.00	49.00	294.00
Olsen - Phosphorus	13 - 20 ppm	15.00	15.00	26.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	4,022.00	4,392.00	4,830.00
Magnesium	>7% base saturation or at least 200 lbs/acre	19.38%/646	22.36%/844	18.07%/716
Potassium - TEC of 0 - 35	100 ppm	186.00	188.00	393.50
Manganese	>50 ppm	n/a	n/a	20.00

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	7 9/27/18	8 9/22/17	2,11(avg) 9/29/18
Organic Matter (Humus)	2 - 3%	3.72	5.17	5.25
Sulfur	12 - 16 ppm	179.00	224.00	8,789.50
Olsen - Phosphorus	13 - 20 ppm	20.00	25.00	36.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	5,084.00	6,588.00	29,344.00
Magnesium	>7% base saturation or at least 200 lbs/acre	17.13%/690	20.387%/1,112	7.49%/997
Potassium - TEC of 0 - 35	100 ppm	147.00	212.00	225.50
Manganese	>50 ppm	n/a	n/a	17.00

GREENS	Acceptable Range For Alkaline Soils Sample	7 9/27/18	8 9/22/17	2,11(avg) 9/29/18
Organic Matter (Humus)	2 - 3%	0.77	0.67	0.72
Sulfur	12 - 16 ppm	36.00	56.00	104.00
Olsen - Phosphorus	13 - 20 ppm	51.00	61.00	49.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,754.00	3,216.00	3,352.00
Magnesium	>7% base saturation or at least 200 lbs/acre	13.34%/274	12.15%/286	11.97%/291
Potassium - TEC of 0 - 35	150 ppm	58.00	62.00	59.00
Manganese	>50 ppm	n/a	n/a	16.50

TEE	Acceptable Range For Saturated Paste Sample	8,17(avg) 9/22/17	2 9/29/18
Nitrate - Ryegrass	5 - 10 ppm	13.50	3.00
Phosphorus	2 - 10 ppm	3.46	1.03
Potassium	40 - 100 ppm	48.09	31.96
Calcium	60 - 200 ppm	102.90	457.11
Magnesium	20 - 70 ppm	40.52	165.25
Sodium	0 - 30 ppm	22.18	57.91
Soluble Salts	<1,920 ppm	678.50	1,731.00
Bicarbonate	<60 ppm	173.27	202.55
Chloride	<1,000 ppm	24.00	69.00
SAR	<4%	0.47	0.59

FAIRWAYS	Acceptable Range For Saturated Paste Sample	8,17(avg) 9/22/17	2,11(avg) 9/29/18
Nitrate - Ryegrass	5 - 10 ppm	10.35	6.25
Phosphorus	2 - 10 ppm	0.70	1.23
Potassium	40 - 100 ppm	34.45	69.61
Calcium	60 - 200 ppm	166.19	467.61
Magnesium	20 - 70 ppm	82.55	196.04
Sodium	0 - 30 ppm	45.85	67.83
Soluble Salts	<1,920 ppm	934.50	1,881.50
Bicarbonate	<60 ppm	229.40	272.11
Chloride	<1,000 ppm	48.00	70.50
SAR	<4%	0.73	0.67

GREENS	Acceptable Range For Saturated Paste Sample	8,17(avg) 9/22/17	2,11 (avg) 9/29/18
Nitrate - Bentgrass	1-3 ppm	10.00	<0.5
Phosphorus	2 - 7 ppm	1.86	1.47
Potassium	25-40 ppm	17.92	51.86
Calcium	50- 75 ppm	82.65	152.60
Magnesium	15-30 ppm	43.13	57.26
Sodium	0 - 30 ppm	30.21	22.23
Soluble Salts	<1,000 ppm	505.00	746.50
Bicarbonate	<60 ppm	198.89	185.47
Chloride	<200 ppm	33.00	15.00
SAR	<4%	0.67	0.41