



SOIL AND WATER CONSULTING

Data Collection Report

Fall 2019

Date of Collection: 9/21/19

Client: The Las Vegas Country Club



Testing Results

	<u>9/22/17</u>	<u>9/29/18</u>	<u>9/21/19</u>
Humidity/Air Temperature	35%/75°	15%/98°	10%/90°
Greens Temperature	72°	(avg)68.2°	(avg)63°
Fairway Temperature	68°	(avg)70.65°	(avg)62.5°



WATER	Acceptable Range For Water Sample	Hole #8 9/22/17	Hole #2 9/29/18	Hole #7 9/21/19
EC	<2.25 mmhos/cm	0.74	0.78	0.68
Sodium		19.72	18.90	17.24
Calcium	20 - 60 ppm	83.58	72.83	75.16
Magnesium	10 - 25 ppm	40.08	37.42	39.70
Potassium	5 - 20 ppm	3.93	6.72	3.70
Sulfur	30 - 90 ppm	200.52	182.76	164.49
Bicarbonate	<120 ppm	172.79	215.98	238.67
Boron	<0.67 ppm	0.09	0.09	0.09
Chloride	<177 ppm	18.72	14.30	18.72

GREENS	Acceptable Range For Tissue Sample	7,16(avg) 9/21/19
Nitrogen	3.0%-6.5%	5.49
Phosphorus	0.2%-0.55%	0.52
Potassium	0.86%-2.55%	2.03
Calcium	0.21%-0.50%	1.03
Magnesium	0.09%-0.22%	0.44
Sodium	506- 2264 ppm	875.50

TEES	Acceptable Range For Alkaline Soils Sample	8 9/22/17	2,11(avg) 9/29/18	7,16(avg) 9/21/19
Organic Matter (Humus)	2 - 3%	3.26	2.46	2.88
Sulfur	12 - 16 ppm	49.00	294.00	35.50
Olsen - Phosphorus	13 - 20 ppm	15.00	26.50	24.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	4,392.00	4,830.00	4,203.00
Magnesium	>7% base saturation or at least 200 lbs/acre	22.36%/844	18.07%/716	21.60%/791
Potassium - TEC of 0 - 35	100 ppm	188.00	393.50	218.50
Manganese	>50 ppm	n/a	20.00	24.00

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	8 9/22/17	2,11(avg) 9/29/18	7,16(avg) 9/21/19
Organic Matter (Humus)	2 - 3%	5.17	5.25	3.53
Sulfur	12 - 16 ppm	224.00	8,789.50	7,033.50
Olsen - Phosphorus	13 - 20 ppm	25.00	36.00	29.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	6,588.00	29,344.00	22,107.00
Magnesium	>7% base saturation or at least 200 lbs/acre	20.387%/1,112	7.49%/997	7.46%/879
Potassium - TEC of 0 - 35	100 ppm	212.00	225.50	178.50
Manganese	>50 ppm	n/a	17.00	17.00

GREENS	Acceptable Range For Alkaline Soils Sample	8 9/22/17	2,11(avg) 9/29/18	7,16(avg) 9/21/19
Organic Matter (Humus)	2 - 3%	0.67	0.72	0.88
Sulfur	12 - 16 ppm	56.00	104.00	327.00
Olsen - Phosphorus	13 - 20 ppm	61.00	49.00	105.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,216.00	3,352.00	3,350.00
Magnesium	>7% base saturation or at least 200 lbs/acre	12.15%/286	11.97%/291	18.95%/516
Potassium - TEC of 0 - 35	150 ppm	62.00	59.00	209.00
Manganese	>50 ppm	n/a	16.50	50.00

TEE	Acceptable Range For Saturated Paste Sample	2 9/29/18	16 9/21/19
Nitrate -Ryegrass	5 - 10 ppm	3.00	<0.5
Phosphorus	2 - 10 ppm	1.03	1.71
Potassium	40 - 100 ppm	31.96	13.45
Calcium	60 - 200 ppm	457.11	58.66
Magnesium	20 - 70 ppm	165.25	32.32
Sodium	0 - 30 ppm	57.91	23.56
Soluble Salts	<1,920 ppm	1,731.00	353.00
Bicarbonate	<60 ppm	202.55	187.91
Chloride	<1,000 ppm	69.00	22.00
SAR	<4%	0.59	0.61

FAIRWAYS	Acceptable Range For Saturated Paste Sample	2,11(avg) 9/29/18	16 9/21/19
Nitrate - Ryegrass	5 - 10 ppm	6.25	1.50
Phosphorus	2 - 10 ppm	1.23	0.94
Potassium	40 - 100 ppm	69.61	41.72
Calcium	60 - 200 ppm	467.61	465.55
Magnesium	20 - 70 ppm	196.04	163.16
Sodium	0 - 30 ppm	67.83	50.51
Soluble Salts	<1,920 ppm	1,881.50	1,583.00
Bicarbonate	<60 ppm	272.11	202.55
Chloride	<1,000 ppm	70.50	52.00
SAR	<4%	0.67	0.51

GREENS	Acceptable Range For Saturated Paste Sample	2,11 (avg) 9/29/18	7,16(avg) 9/21/19
Nitrate - Bentgrass	1-3 ppm	<0.5	<0.6
Phosphorus	2 - 7 ppm	1.47	0.75
Potassium	25-40 ppm	51.86	97.18
Calcium	50- 75 ppm	152.60	383.55
Magnesium	15-30 ppm	57.26	206.40
Sodium	0 - 30 ppm	22.23	87.29
Soluble Salts	<1,000 ppm	746.50	1,718.50
Bicarbonate	<60 ppm	185.47	234.28
Chloride	<200 ppm	15.00	106.00
SAR	<4%	0.41	0.88