



SOIL AND WATER CONSULTING

Data Collection Report

Summer 2019

Date of Collection: 6/19/19

Client: The Las Vegas Country Club



Testing Results

	<u>6/24/17</u>	<u>6/19/18</u>	<u>6/19/19</u>
Humidity/Air Temperature	5%/110°	10%/101°	15%/107°
Greens Temperature	82°	71.35°	(avg)85.4°
Fairway Temperature	80°	72.3°	(avg)86.2°

WATER	Acceptable Range For Water Sample	Hole #4 6/24/17	Hole #3 6/19/18	Hole #6 6/19/19
EC	<2.25 mmhos/cm	0.76	0.77	0.67
Sodium		18.35	17.64	16.16
Calcium	20 - 60 ppm	73.74	74.17	70.61
Magnesium	10 - 25 ppm	36.50	37.65	38.91
Potassium	5 - 20 ppm	3.34	6.32	3.84
Sulfur	30 - 90 ppm	168.27	175.71	183.12
Bicarbonate	<120 ppm	227.97	222.89	219.99
Boron	<0.67 ppm	0.09	0.09	0.09
Chloride	<177 ppm	20.77	21.11	15.32

TEE	Acceptable Range For Tissue Sample	15 6/19/19
Nitrogen	3.34%-5.10%	2.85
Phosphorus	0.35% - 0.55%	0.33
Potassium	2.0% - 3.42%	0.79
Calcium	0.25%-0.5%	0.64
Magnesium	0.16%-0.32%	0.21
Sodium	229-1107 ppm	334.00

FAIRWAY	Acceptable Range For Tissue Sample	15 6/19/19
Nitrogen	3.34%-5.10%	3.94
Phosphorus	0.35% - 0.55%	0.47
Potassium	2.0% - 3.42%	2.00
Calcium	0.25%-0.5%	0.64
Magnesium	0.16%-0.32%	0.30
Sodium	229-1107 ppm	593.00

GREENS	Acceptable Range For Tissue Sample	6,15 (avg) 6/19/19
Nitrogen	3.0%-6.5%	5.22
Phosphorus	0.2%-0.55%	0.59
Potassium	0.86%-2.55%	2.15
Calcium	0.21%-0.50%	0.62
Magnesium	0.09%-0.22%	0.25
Sodium	506- 2264 ppm	578.00

TEES	Acceptable Range For Alkaline Soils Sample	4 6/24/17	3,12(avg) 6/19/18	6,15(avg) 6/19/19
Organic Matter (Humus)	2 - 3%	1.20	3.23	4.83
Sulfur	12 - 16 ppm	268.00	396.00	72.00
Olsen - Phosphorus	13 - 20 ppm	9.00	31.50	20.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	5,582.00	4,941.00	4,606.00
Magnesium	>7% base saturation or at least 200 lbs/acre	14.87%/634	20.76%/876	24.76%/1,017
Potassium - TEC of 0 - 35	100 ppm	137.00	334.50	224.50
Manganese	>50 ppm	n/a	21.50	23.00

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	4 6/24/17	3,12(avg) 6/19/18	6,15(avg) 6/19/19
Organic Matter (Humus)	2 - 3%	5.13	5.26	5.34
Sulfur	12 - 16 ppm	3,557.00	5,597.50	2,209.50
Olsen - Phosphorus	13 - 20 ppm	48.00	30.00	24.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	13,456.00	18,390.00	9,704.00
Magnesium	>7% base saturation or at least 200 lbs/acre	13.97%/1,430	11.78%/1,128	16.86%/1,084
Potassium - TEC of 0 - 35	100 ppm	382.00	210.50	203.00
Manganese	>50 ppm	n/a	15.50	11.50

GREENS	Acceptable Range For Alkaline Soils Sample	4 6/24/17	3,12(avg) 6/19/18	6,15(avg) 6/19/19
Organic Matter (Humus)	2 - 3%	0.82	1.11	1.14
Sulfur	12 - 16 ppm	139.00	221.00	159.00
Olsen - Phosphorus	13 - 20 ppm	53.00	77.00	91.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,610.00	3,236.00	3,121.00
Magnesium	>7% base saturation or at least 200 lbs/acre	14.86%/412	16.39%/418	18.40%/472
Potassium - TEC of 0 - 35	150 ppm	122.00	111.00	139.00
Manganese	>50 ppm	n/a	29.50	57.00

TEE	Acceptable Range For Saturated Paste Sample	3 6/19/18	15 6/19/19
Nitrate -Ryegrass	5 - 10 ppm	4.60	1.00
Phosphorus	2 - 10 ppm	0.60	2.42
Potassium	40 - 100 ppm	12.38	47.59
Calcium	60 - 200 ppm	77.88	136.61
Magnesium	20 - 70 ppm	38.35	83.66
Sodium	0 - 30 ppm	30.64	38.57
Soluble Salts	<1,920 ppm	445.00	780.00
Bicarbonate	<60 ppm	173.27	244.04
Chloride	<1,000 ppm	36.00	61.00
SAR	<4%	0.71	0.64

FAIRWAY	Acceptable Range For Saturated Paste Sample	3 6/19/18	15 6/19/19
Nitrate - Ryegrass	5 - 10 ppm	5.30	19.90
Phosphorus	2 - 10 ppm	0.36	1.36
Potassium	40 - 100 ppm	47.23	75.89
Calcium	60 - 200 ppm	489.28	481.73
Magnesium	20 - 70 ppm	180.44	215.40
Sodium	0 - 30 ppm	63.26	63.95
Soluble Salts	<1,920 ppm	1,830.00	1,924.00
Bicarbonate	<60 ppm	163.51	224.52
Chloride	<1,000 ppm	75.00	93.00
SAR	<4%	0.62	0.61

GREENS	Acceptable Range For Saturated Paste Sample	3,12 (avg) 6/19/18	6,15 (avg) 6/19/19
Nitrate - Bentgrass	1-3 ppm	<0.5	<0.5
Phosphorus	2 - 7 ppm	1.25	2.37
Potassium	25-40 ppm	111.87	100.98
Calcium	50- 75 ppm	308.67	211.08
Magnesium	15-30 ppm	127.18	107.34
Sodium	0 - 30 ppm	65.35	54.36
Soluble Salts	<1,000 ppm	1,435.00	1,287.00
Bicarbonate	<60 ppm	228.18	292.85
Chloride	<200 ppm	78.00	84.00
SAR	<4%	0.79	0.75