



SOIL AND WATER CONSULTING

Data Collection Report

Summer 2018

Date of Collection: 6/19/18

Client: The Las Vegas Country Club



Testing Results

	<u>6/8/16</u>	<u>6/24/17</u>	<u>6/19/18</u>
Humidity/Air Temperature	10%/105°	5%/110°	10%/101°
Greens Temperature	83.3°	82°	71.35°
Fairway Temperature	82.6°	80°	72.3°

WATER	Acceptable Range For Water Sample	Hole #16 6/8/16	Hole #4 6/24/17	Hole #3 6/19/18
EC	<2.25 mmhos/cm	0.80	0.76	0.77
Sodium		20.40	18.35	17.64
Calcium	20 - 60 ppm	80.54	73.74	74.17
Magnesium	10 - 25 ppm	42.38	36.50	37.65
Potassium	5 - 20 ppm	4.55	3.34	6.32
Sulfur	30 - 90 ppm	213.72	168.27	175.71
Bicarbonate	<120 ppm	222.89	227.97	222.89
Boron	<0.67 ppm	0.10	0.09	0.09
Chloride	<177 ppm	20.60	20.77	21.11

TEE	Acceptable Range For Tissue Sample	3 6/19/18
Nitrogen	3.34%-5.10%	3.40
Phosphorus	0.35% - 0.55%	0.38
Potassium	2.0% - 3.42%	1.27
Calcium	0.25%-0.5%	0.52
Magnesium	0.16%-0.32%	0.20
Sodium	229-1107 ppm	407.00

FAIRWAY	Acceptable Range For Tissue Sample	3 6/19/18
Nitrogen	3.34%-5.10%	4.92
Phosphorus	0.35% - 0.55%	0.54
Potassium	2.0% - 3.42%	2.77
Calcium	0.25%-0.5%	0.70
Magnesium	0.16%-0.32%	0.36
Sodium	229-1107 ppm	990.00

GREENS	Acceptable Range For Tissue Sample	3,12 (avg) 6/19/18
Nitrogen	3.0%-6.5%	5.07
Phosphorus	0.2%-0.55%	0.53
Potassium	0.86%-2.55%	2.39
Calcium	0.21%-0.50%	0.69
Magnesium	0.09%-0.22%	0.34
Sodium	506- 2264 ppm	358.00

TEES	Acceptable Range For Alkaline Soils Sample	6 6/8/16	4 6/24/17	3,12(avg) 6/19/18
Organic Matter (Humus)	2 - 3%	3.94	1.20	3.23
Sulfur	12 - 16 ppm	96.00	268.00	396.00
Olsen - Phosphorus	13 - 20 ppm	22.00	9.00	31.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	4,422.00	5,582.00	4,941.00
Magnesium	>7% base saturation or at least 200 lbs/acre	23.45%/928	14.87%/634	20.76%/876
Potassium - TEC of 0 - 35	100 ppm	269.00	137.00	334.50
Manganese	>50 ppm	n/a	n/a	21.50

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	6 6/8/16	4 6/24/17	3,12(avg) 6/19/18
Organic Matter (Humus)	2 - 3%	5.12	5.13	5.26
Sulfur	12 - 16 ppm	894.00	3,557.00	5,597.50
Olsen - Phosphorus	13 - 20 ppm	23.00	48.00	30.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	6,738.00	13,456.00	18,390.00
Magnesium	>7% base saturation or at least 200 lbs/acre	20.86%/1,190	13.97%/1,430	11.78%/1128
Potassium - TEC of 0 - 35	100 ppm	264.00	382.00	210.50
Manganese	>50 ppm	n/a	n/a	15.50

GREENS	Acceptable Range For Alkaline Soils Sample	6 6/8/16	4 6/24/17	3,12(avg) 6/19/18
Organic Matter (Humus)	2 - 3%	0.57	0.82	1.11
Sulfur	12 - 16 ppm	37.00	139.00	221.00
Olsen - Phosphorus	13 - 20 ppm	45.00	53.00	77.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,514.00	3,610.00	3,236.00
Magnesium	>7% base saturation or at least 200 lbs/acre	13.03%/242	14.86%/412	16.39%/418
Potassium - TEC of 0 - 35	150 ppm	41.00	122.00	111.00
Manganese	>50 ppm	n/a	n/a	29.50

TEE	Acceptable Range For Saturated Paste Sample	4,13 (avg) 6/24/17	3 6/19/18
Nitrate -Ryegrass	5 - 10 ppm	49.65	4.60
Phosphorus	2 - 10 ppm	1.83	0.60
Potassium	40 - 100 ppm	60.95	12.38
Calcium	60 - 200 ppm	214.12	77.88
Magnesium	20 - 70 ppm	108.03	38.35
Sodium	0 - 30 ppm	67.22	30.64
Soluble Salts	<1,920 ppm	1,454.50	445.00
Bicarbonate	<60 ppm	302.61	173.27
Chloride	<1,000 ppm	80.50	36.00
SAR	<4%	0.95	0.71

FAIRWAY	Acceptable Range For Saturated Paste Sample	4,13 (avg) 6/24/17	3 6/19/18
Nitrate - Ryegrass	5 - 10 ppm	55.85	5.30
Phosphorus	2 - 10 ppm	1.26	0.36
Potassium	40 - 100 ppm	110.12	47.23
Calcium	60 - 200 ppm	599.42	489.28
Magnesium	20 - 70 ppm	260.59	180.44
Sodium	0 - 30 ppm	121.76	63.26
Soluble Salts	<1,920 ppm	2,700.50	1,830.00
Bicarbonate	<60 ppm	267.23	163.51
Chloride	<1,000 ppm	208.00	75.00
SAR	<4%	1.05	0.62

GREENS	Acceptable Range For Saturated Paste Sample	4,13 (avg) 6/24/17	3,12 (avg) 6/19/18
Nitrate - Bentgrass	1-3 ppm	14.00	<0.5
Phosphorus	2 - 7 ppm	2.00	1.25
Potassium	25-40 ppm	89.12	111.87
Calcium	50- 75 ppm	184.27	308.67
Magnesium	15-30 ppm	82.08	127.18
Sodium	0 - 30 ppm	48.32	65.35
Soluble Salts	<1,000 ppm	1,132.00	1,435.00
Bicarbonate	<60 ppm	198.90	228.18
Chloride	<200 ppm	50.50	78.00
SAR	<4%	0.76	0.79