

SUMMER 2016
Data Collection Report
Soil & Water Consulting



CanyonGate Country Club



SOIL and WATER CONSULTING

Course Name: CanyonGate Country Club

Date of Visit: June 7, 2016

	<u>6/17/15</u>	<u>9/23/15</u>	<u>3/23/16</u>	<u>6/7/16</u>
Humidity/Air Temperature	15%/107°	15%/100°	25%/70°	10%/105°
Greens Temperature	80°	66°	43.9°	(avg)72°

WATER	Acceptable Range For Water Sample	<u>6/17/15</u>	<u>9/28/15</u>	<u>3/23/16</u>	<u>6/7/16</u>
EC	<2.25 mmhos/cm	1.11	1.28	1.49	0.99
Sodium		100.10	139.10	179.10	87.78
Calcium	20 - 60 ppm	70.00	73.65	70.19	67.94
Magnesium	10 - 25 ppm	28.50	24.97	21.70	27.78
Potassium	5 - 20 ppm	10.18	11.27	16.12	8.91
Phosphorus	0.1 - 0.4 ppm	0.41	0.87	1.50	0.45
Nitrate	5 - 50 ppm	7.18	6.59	15.83	5.90
Sulfur	30 - 90 ppm	134.82	208.41	236.46	135.09
Bicarbonate	<120 ppm	217.81	129.93	155.50	224.34
Boron	<0.67 ppm	0.17	0.19	0.25	0.13
Chloride	<177 ppm	146.04	174.12	193.19	119.32



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GREENS	Acceptable Range For Alkaline Soils Sample	PG,3,5,8,9,12, 16,17,18 (avg) 6/17/14	1,3,6,7,9,10, 11,16,18 (avg) 9/28/15	2,4,5,8,12,13, 14,15,17 (avg) 3/23/16	PG,3,5,8,9,12, 16,17,18 (avg) 6/7/16
Organic Matter (Humus)	2 - 3%	0.80	0.70	0.67	0.75
Sulfur	12 - 16 ppm	32.33	27.00	41.56	68.11
Olsen - Phosphorus	13 - 20 ppm	35.33	32.89	25.78	44.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,725.56	2,712.67	2,761.11	2,925.56
Magnesium	>7% base saturation or at least 200 lbs/acre	10.67%/217.7	11.19%/223.56	10.20%/191.4	10.32%/224
Potassium - TEC of 0 - 35	150 ppm	106.22	53.67	100.78	91.89
Copper	>0.8 ppm	0.72	0.56	0.68	0.84
Manganese	4 ppm or more	1.00	1.44	1.44	3.67
Zinc	>1 - 2 ppm	4.27	4.28	4.84	6.51

GREENS	Acceptable Range For Saturated Paste Sample	5,12,13,14,15,17 (avg) 3/23/16	PG,3,9,12,17,18 (avg) 6/7/16
Nitrate - Bentgrass	1-3 ppm	7.47	55.77
Phosphorus	2 - 7 ppm	7.02	4.71
Potassium	25-40 ppm	48.38	50.39
Calcium	50- 75 ppm	57.35	128.03
Magnesium	15-30 ppm	20.28	30.40
Sodium	0 - 30 ppm	127.07	62.83
Soluble Salts	<1,000 ppm	680.83	958.33
Bicarbonate	<60 ppm	98.03	153.75
Chloride	<200 ppm	115.17	79.67
SAR	<4%	3.68	1.31

GREENS	Acceptable Range For Tissue Sample	PG, 3,5,18 avg) 6/7/16
Nitrogen	3.0%-6.5%	4.54
Phosphorus	0.2%-0.55%	0.61
Potassium	0.86%-2.55%	2.37
Calcium	0.21%-0.50%	0.77
Magnesium	0.09%-0.22%	0.34
Sulfur	0.23%-0.39%	0.55
Boron	5-24 ppm	29.73
Iron	99-500 ppm	358.75
Manganese	30-160 ppm	103.68
Copper	9-40 ppm	30.05
Zinc	5-60 ppm	91.35
Aluminum	63- 408 ppm	202.75
Sodium	506- 2264 ppm	1,737.50



RECOMMENDATIONS



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Thoughts on the Visit

It is always great to see aerification in progress! Especially as the heat had already been turned up. The day prior you had done a gypsum flush so the numbers on this data will show you what you get from that. The numbers are very good; all things considered. Sodium levels were low, available potassium levels were great and of course, calcium was high. Another part of the data that was good at the time was the water sample. I had made a note that it might have been a blended sample so, except for the Nitrate N it was good. That may explain why your nitrogen levels were so high because the 6" samples I take would have been "saturated" with the N from the water. This goes to a point that Nitrogen is almost never your limiting factor for growth and overall health. You had scheduled a 10-4-16 application after aerification. I would say that a gypsum flush followed by a pHacid spray and 0-0-50 application would yield the same results.



Focus of This Report

One thing I discussed with many Superintendents during my week in the area was major projects that their course needed. It ranged from new irrigation systems to renovation of the greens. When I first moved to Las Vegas in 2005, many courses were still considered new. Of course, Canyon Gate CC was built in the mid- 1980's and has had a greens renovation since. So, as a 30 year old golf course in the desert, you are going to have some renovations needing attention soon!

My point is, that since the 2008/2009 economic and housing market crash, there has been a lot of deferred maintenance. What we consider the basics such as reel grinders and decent mowing equipment have been lacking in town for a few years. Most clubs have a hard time looking past the next 6 months let alone see the value in a million dollar irrigation system. (even though we know the money savings over 10-15 years would be huge) However, Las Vegas is a very difficult place to maintain a golf course and is punishing on equipment and parts in the field.

It is often hard to convey this message to someone from outside the area. Your local knowledge alone, saves the club thousands of dollars per year. I know this from watching very good Superintendents that are new to the area go through a very steep learning curve- maybe two years or more. Keep pushing for what you see as the major infrastructure needs of the golf course. You will be the one to secure the future of the Club.

Notes from the visit

- Aerified the greens day before my visit.
- Nursery green seeded using 007.
- Possibility of greens being renovated in 2017.
- This water sample may be blended.
- Greens fertilization: 0.17 pound rate of N using 20-20-20. 10-4-16 application upcoming.
- Gypsum application and 2-3 hour flush of greens day prior.

Fertilizer and Product Recommendations

Greens (Monthly applications)

Calcium- 5 pounds of product per 1,000 square feet. (Gypsum)
AT FLUSHES and AERIFICATIONS ONLY!

Potassium- 2 pounds of product per 1,000 square feet. (0-0-50)

Manganese- Spray 3 ounces per 1,000 square feet rate.
(techmagnum)

*** Continue every 2 week pHacid spray program.**