

FALL 2017
Data Collection Report
Soil & Water Consulting



Canyon Gate Country Club



SOIL and WATER CONSULTING

Course Name: Canyon Gate Country Club

Date of Visit: September 20, 2017

<u>9/20/17</u>	
Humidity/Air Temperature	20%/95°
Greens Temperature	(avg)76°

WATER	Acceptable Range For Water Sample	<u>9/28/15</u>	Hole #10 <u>9/27/16</u>	Greenside head <u>9/20/17</u>
EC	<2.25 mmhos/cm	1.28	1.10	1.26
Sodium		139.10	102.40	133.60
Calcium	20 - 60 ppm	73.65	67.39	77.80
Magnesium	10 - 25 ppm	24.97	29.84	30.22
Potassium	5 - 20 ppm	11.27	14.84	14.14
Phosphorus	0.1 - 0.4 ppm	0.87	0.90	0.84
Nitrate	5 - 50 ppm	6.59	9.09	7.17
Sulfur	30 - 90 ppm	208.41	129.51	149.34
Bicarbonate	<120 ppm	129.93	179.98	238.13
Boron	<0.67 ppm	0.19	0.17	0.19
Chloride	<177 ppm	174.12	148.42	175.65



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GREENS	Acceptable Range For <u>Alkaline Soils Sample</u>	1,5,7,13,15,PG(avg) <u>9/20/17</u>
Organic Matter (Humus)	2 - 3%	0.18
Sulfur	12 - 16 ppm	32.17
Olsen - Phosphorus	13 - 20 ppm	17.17
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,061.00
Magnesium	>7% base saturation or at least 200 lbs/acre	10.22%/157.33
Potassium - TEC of 0 - 35	150 ppm	92.83
Copper	>0.8 ppm	0.52
Manganese	4 ppm or more	3.00
Zinc	>1 - 2 ppm	2.14

GREENS	Acceptable Range For <u>Saturated Paste Sample</u>	1,5,7,13,15,PG(avg) <u>9/20/17</u>
Nitrate - Bentgrass	1-3 ppm	17.30
Phosphorus	2 - 7 ppm	5.75
Potassium	25-40 ppm	37.87
Calcium	50- 75 ppm	56.73
Magnesium	15-30 ppm	19.08
Sodium	0 - 30 ppm	60.78
Soluble Salts	<1,000 ppm	522.17
Bicarbonate	<60 ppm	151.71
Chloride	<200 ppm	46.50
SAR	<4%	1.80

GREENS	Acceptable Range <u>For Tissue Sample</u>	1,3,5,7,9,11, 13,15,PG (avg) <u>9/20/17</u>
Nitrogen	3.0%-6.5%	6.77
Phosphorus	0.2%-0.55%	0.78
Potassium	0.86%-2.55%	2.26
Calcium	0.21%-0.50%	1.02
Magnesium	0.09%-0.22%	0.49
Sodium	506- 2264 ppm	7,248.57



RECOMMENDATIONS



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Thoughts on the Visit

The data had good numbers for availability of nutrients. However, it may have been skewed a bit by recent Nitrogen applications. Because they were low pH products, it does acidify the sand and make nutrition available temporarily. Or it could have been the injection of the Impact 7. Either way, acidification will be the key for the new greens. The sand you chose is calcareous and does have good minerals in it but at the high pH of the product much of that nutrition is not available.

The reason I wanted to do more tissue samples than soil samples, is because we already know a lot about this sand. With no organic material added to it, there will be very little change in the sand for years. Maybe physically it will change but hardly chemically. So, tissue samples will be the best way to monitor your progress and see month to month changes based on what programs you have in place. We did discuss getting on a monthly regiment of clipping collection and a routine program for tissue testing to help you with this.

On this report, I only put historical water data on the second page. Obviously, there is no reason to show old greens data as these are a completely different 'animal'. The water is very much the same as it was in any previous September. I still believe you should use what positive constituents that are in the effluent water, even though the negative salts aren't helpful. The greens-mix will drain rapidly and both good and bad in the water will only have temporary chemical effects.



Notes from the visit

- Greens mowing heights were at different stages during my visit.
- Recent fertility was 10-4-16 twice and 15-5-3 the morning prior to sample collection.
- Injecting Impact 7.
- Greens #13-#17 had been completely reseeded 14 days prior to my visit.
- July 10th was the first day of seeding.
- Greens #1, #7 and #9 lag behind.
- I recommended Primo and topdressing in meeting with GM and Regional manager.

Fertilizer and Product Recommendations

Greens (Monthly applications)

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

Magnesium- 3 pounds of product per 1,000 square feet. (Pro-Mag)

* Continue pHacid spray program.