

SPRING 2017
Data Collection Report
Soil & Water Consulting



Coyote Springs Golf Club



SOIL and WATER CONSULTING

Course Name: Coyote Springs Golf Club

Date of Visit: March 25, 2017

	<u>3/24/16</u>	<u>6/9/16</u>	<u>9/22/16</u>	<u>3/25/17</u>
Humidity/Air Temperature	15%/70°	10%/100°	33%/85°	54%/83°
Greens Temperature	57.8°	79°	72°	58°
Fairway Temperature	57.4°	78°	72°	58°

	Acceptable Range For Water Sample	Hole #5 <u>3/24/16</u>	Hole #6 <u>6/9/16</u>	Hole #6 <u>9/22/16</u>	Hole #1 <u>3/25/17</u>
EC	<2.25 mmhos/cm	0.79	0.76	0.77	0.81
Sodium		84.04	89.22	81.08	86.14
Calcium	20 - 60 ppm	48.50	42.63	47.39	50.97
Magnesium	10 - 25 ppm	19.93	18.44	21.23	22.44
Potassium	5 - 20 ppm	10.68	11.75	13.63	18.46
Sulfur	30 - 90 ppm	99.60	90.12	100.80	110.94
Bicarbonate	<120 ppm	311.00	278.79	236.13	285.09
Boron	<0.67 ppm	0.33	0.35	0.33	0.36
Chloride	<177 ppm	31.83	30.64	36.59	29.45



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TEE	Acceptable Range For Alkaline Soils Sample	5 3/24/16	6 6/9/16	6 9/22/16	1 3/25/17
Organic Matter (Humus)	2 - 3%	0.43	0.69	1.04	1.02
Sulfur	12 - 16 ppm	19.00	34.00	22.00	28.00
Olsen - Phosphorus	13 - 20 ppm	8.00	13.00	16.00	15.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	4,512.00	4,132.00	4,230.00	4,488.00
Magnesium	>7% base saturation or at least 200 lbs/acre	15.59%/586	17.90%/666	16.67%/614	15.96%/588
Potassium - TEC of 0 - 35	100 ppm	391.00	471.00	434.00	286.00
Copper	>0.8 ppm	0.31	0.35	0.49	0.24
Manganese	>1 ppm	<1	1.00	1.00	<1
Zinc	>1 - 2 ppm	0.44	0.61	0.98	0.53

FAIRWAY	Acceptable Range For Alkaline Soils Sample	5 3/24/16	6 6/9/16	6 9/22/16	1 3/25/17
Organic Matter (Humus)	2 - 3%	0.33	0.53	1.32	0.93
Sulfur	12 - 16 ppm	37.00	28.00	49.00	29.00
Olsen - Phosphorus	13 - 20 ppm	16.00	22.00	59.00	25.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	4,420.00	4,218.00	3,964.00	4,152.00
Magnesium	>7% base saturation or at least 200 lbs/acre	17.08%/662	18.30%/698	17.28%/628	17.71%/624
Potassium - TEC of 0 - 35	100 ppm	496.00	478.00	471.00	329.00
Copper	>0.8 ppm	<0.2	0.22	0.32	<0.2
Manganese	>1 ppm	<1	<1	<1	<1
Zinc	>1 - 2 ppm	0.90	0.47	0.75	0.53

GREEN	Acceptable Range For Alkaline Soils Sample	5 3/24/16	6 6/9/16	6 9/22/16	1 3/25/17
Organic Matter (Humus)	2 - 3%	0.27	0.59	0.72	0.59
Sulfur	12 - 16 ppm	25.00	25.00	21.00	22.00
Olsen - Phosphorus	13 - 20 ppm	19.00	17.00	22.00	10.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,228.00	3,658.00	3,664.00	3,044.00
Magnesium	>7% base saturation or at least 200 lbs/acre	12.45%/320	12.48%/352	12.27%/340	12.58%/294
Potassium - TEC of 0 - 35	150 ppm	233.00	183.00	141.00	131.00
Copper	>0.8 ppm	0.74	0.89	0.91	0.90
Manganese	4 ppm or more	1.00	1.00	1.00	2.00
Zinc	>1 - 2 ppm	2.03	2.60	2.19	2.68



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TEE	Acceptable Range For Saturated Paste Sample	6,16 (avg) 9/22/16	1,10 (avg) 3/25/17
Nitrate - Ryegrass	5 - 10 ppm	<0.5	<0.5
Phosphorus	2 - 10 ppm	3.46	2.38
Potassium	40 - 100 ppm	44.51	32.37
Calcium	60 - 200 ppm	42.37	57.78
Magnesium	20 - 70 ppm	22.68	30.75
Sodium	0 - 30 ppm	139.64	105.77
Soluble Salts	<1,920 ppm	598.00	549.00
Bicarbonate	<60 ppm	380.71	374.60
Chloride	<1,000 ppm	46.50	33.00
SAR	<4%	4.33	2.81

FAIRWAY	Acceptable Range For Saturated Paste Sample	6,16 (avg) 9/22/16	1,10 (avg) 3/25/17
Nitrate - Ryegrass	5 - 10 ppm	<0.5	<0.5
Phosphorus	2 - 10 ppm	4.42	3.99
Potassium	40 - 100 ppm	56.49	42.91
Calcium	60 - 200 ppm	63.14	69.25
Magnesium	20 - 70 ppm	33.21	36.27
Sodium	0 - 30 ppm	183.06	104.32
Soluble Salts	<1,920 ppm	795.00	569.50
Bicarbonate	<60 ppm	409.99	420.97
Chloride	<1,000 ppm	74.50	30.00
SAR	<4%	4.62	2.54

GREEN	Acceptable Range For Saturated Paste Sample	6,16 (avg) 9/22/16	1,10 (avg) 3/25/17
Nitrate - Bentgrass	1-3 ppm	<0.5	<0.5
Phosphorus	2 - 7 ppm	3.07	2.42
Potassium	25-40 ppm	28.97	18.22
Calcium	50- 75 ppm	42.15	35.14
Magnesium	15-30 ppm	18.49	13.66
Sodium	0 - 30 ppm	61.78	63.65
Soluble Salts	<1,000 ppm	393.00	326.50
Bicarbonate	<60 ppm	263.57	189.13
Chloride	<200 ppm	25.50	21.00



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TEE	Acceptable Range For Tissue Sample	1,10 (avg) 3/25/17
Nitrogen	3.34%-5.10%	3.38
Phosphorus	0.35% - 0.55%	0.44
Potassium	2.0% - 3.42%	2.31
Calcium	0.25%-0.5%	0.64
Magnesium	0.16%-0.32%	0.29
Sulfur	0.27% - 0.56%	0.43
Boron	5-17 ppm	58.45
Iron	97-934 ppm	357.00
Manganese	30-73 ppm	36.55
Copper	6-38 ppm	11.85
Zinc	16-84ppm	30.95
Aluminum	52-92 ppm	314.00
Sodium	229-1107 ppm	1,170.00

FAIRWAY	Acceptable Range For Tissue Sample	1,10 (avg) 3/25/17
Nitrogen	3.34%-5.10%	4.10
Phosphorus	0.35% - 0.55%	0.51
Potassium	2.0% - 3.42%	2.34
Calcium	0.25%-0.5%	0.61
Magnesium	0.16%-0.32%	0.29
Sulfur	0.27% - 0.56%	0.41
Boron	5-17 ppm	48.70
Iron	97-934 ppm	162.50
Manganese	30-73 ppm	29.40
Copper	6-38 ppm	11.75
Zinc	16-84ppm	35.35
Aluminum	52-92 ppm	142.00
Sodium	229-1107 ppm	1,036.00

GREEN	Acceptable Range For Tissue Sample	1,10 (avg) 3/25/17
Nitrogen	3.0%-6.5%	2.98
Phosphorus	0.2%-0.55%	0.58
Potassium	0.86%-2.55%	2.14
Calcium	0.21%-0.50%	0.88
Magnesium	0.09%-0.22%	0.31
Sulfur	0.23%-0.39%	0.47
Boron	5-24 ppm	53.65
Iron	99-500 ppm	337.00
Manganese	30-160 ppm	81.60
Copper	9-40 ppm	23.55
Zinc	5-60 ppm	70.65
Aluminum	63- 408 ppm	264.50
Sodium	506- 2264 ppm	1,940.00



RECOMMENDATIONS



Thoughts on the course visit

It was a little rainy and overcast the day of my visit. I can't remember the last time I saw that in the area in March. The course still looked a little "wintry" but warmer temperatures should take care of that. I do see changes each time I come. Newly landscaped areas, some landscapes that have been cleared out, etc. All these things are noticeable to the golfers I am sure.

One thing I did notice driving around, and it may have been due to the weather that day, was that the ryegrass could use a little more rigid and hardier look. After my visit I mentioned that an application of granular 0-0-50 would help and get the Spring off to a faster start. The only fertility recommendations for tees and fairways is 200 pounds of product per acre of potash. I think what it allows you to do is continue on with some of the changes in the programs that you have implemented since you took over last year. Look at the application of 0-0-50 as a base on which you can build on top of. Spray programs can be beneficial to the overall health of the turf but it does make the grass a little "whimpy" and therefore harder to stand on its own. You had done some solid tine aerification on the fairways and that will help. A goal of 3 times (minimum) per year would be great to meet.

Notes from the visit

- Greens mowing height- 0.140'
- Recently sprayed with 7-7-7.
- Needle tined aerified two weeks prior to my visit.
- Starting April 1st- Verti-cutting.
- May 10th thru 11th is first aerification for 2017.
- Alternating Primo Maxx and Trimmitt weekly.
- Fairway mowing height- 0.350"
- Solid tined fairways one week prior to my visit.
- Recently sprayed 7-7-7, Barricade and fungicide.
- Raining the day of my visit.
- Applying Wonder Soil on strategic areas of the ryegrass. (30,000 pounds ordered)

Fertilizer and Product Recommendations

Tee & Fairways

Potassium- 200 pounds of product per acre.

*** Continue to use 7-7-7 and any Manganese based products on ryegrass areas.**

Greens (AT NEXT CORE AERIFICATION)

Calcium- 10 pounds of product per 1,000 square feet. (Gypsum)

Potassium- 4 pounds of product per 1,000 square feet (0-0-50)