



Client: Braemar Country Club

Summer 2023 Report

	<u>6/18/21</u>	<u>6/14/22</u>	<u>6/7/23</u>
Humidity/Air Temperature	40%/93°	40%/88°	55%/68°
Greens Temperature	(avg)69.8°	(avg)65.3°	n/r
Fairway Temperature	(avg)74.2°	(avg)71.26°	n/r

WATER	Acceptable Range For Water Sample	Masters Hole #2 6/18/21	US Open Hole #8 6/14/22	P.G. Quick Coupler 6/7/23
EC	<2.25 mmhos/cm	0.67	0.68	0.51
Sodium		54.62	63.30	47.67
Calcium	20 - 60 ppm	44.15	52.48	33.97
Magnesium	10 - 25 ppm	13.81	12.44	12.85
Potassium	5 - 20 ppm	3.30	1.99	5.94
Sulfur	30 - 90 ppm	95.61	120.21	78.39
Bicarbonate	<120 ppm	151.01	143.98	162.07
Boron	<0.67 ppm	0.27	0.25	0.75
Chloride	<177 ppm	54.64	64.51	34.04

TEE CAPPING MIX	Acceptable Range For Alkaline Soils Sample	6/7/23
Organic Matter (Humus)	2 - 3%	<0.10
Sulfur	12 - 16 ppm	9.00
Olsen - Phosphorus	13 - 20 ppm	2.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,560.00
Magnesium	>7% base saturation or at least 200 lbs/acre	8.15%/90
Potassium - TEC of 0 - 35	100 ppm	29.00
Manganese	50-80 ppm	<1

90/10 GREENS-MIX	Acceptable Range For Alkaline Soils Sample	6/7/23
Organic Matter (Humus)	2 - 3%	0.75
Sulfur	12 - 16 ppm	15.00
Olsen - Phosphorus	13 - 20 ppm	<1
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,186.00
Magnesium	>7% base saturation or at least 200 lbs/acre	10.79%/172
Potassium - TEC of 0 - 35	150 ppm	35.00
Manganese	3-5 ppm	1.00

Magnesium can be added in the form of Pro-Mag 36 at a rate of 3 pounds of product per 1,000 sq ft before seeding or sodding.

Potassium can be added in the form of 0-0-50 at a rate of 4 pounds of product per 1,000 sq ft before seeding or sodding.

Phosphorus can be added in the form of a starter fertilizer before seeding or sodding.

Manganese can be added in the form of Manganese Oxide at a rate of 3 pounds of product per 1,000 sq ft before seeding or sodding.

Tee Capping Material		USGA Recommendations
Silt and Clay	1.90	$\leq 8.0\%$
Sand	98.10	94 - 100%
Gravel	0.00	
Organic Material	0.20	
<u>Sieve #:</u>		
Fine Gravel 10	0.00	2.0mm $\leq 3.0\%$
Very Coarse Sand 18	7.30	2.0mm + 1.0mm $\leq 10\%$
Coarse Sand 35	44.60	
Medium Sand 60	34.60	0.5mm + 0.25mm $\geq 60\%$
Fine Sand 100	8.50	0.15mm $\leq 20\%$
Very Fine Sand 140	2.30	0.106mm + 0.053mm $\leq 5.0\%$
Very Fine Sand 270	0.80	
Saturated Hydraulic Conductivity in/hr	52.9"	Greater than 6" per hour
Coefficient of Uniformity	3.03	1.8 to 3.5 for peat and sand mixes
Recommended Depth	9.44"	

WCS&G 50/50 Bunker Sand 6/2023		USGA/Brown and Thomas Recommendations
Silt and Clay	2.20	Less than or equal to 3%
Sand	97.50	Greater than or equal to 95%
Gravel	0.30	Less than or equal to 2%
Organic Material	0.15	
<u>Sieve #:</u>		
Fine Gravel 10	0.30	Less than or equal to 2%
Very Coarse Sand 18	7.90	Less than or equal to 15%
Coarse Sand 35	41.20	35+60+100+140 between 78% and 100%
Medium Sand 60	38.20	
Fine Sand 100	7.80	
Very Fine Sand 140	1.50	
Very Fine Sand 270	0.90	Less than or equal to 5%
Saturated Hydraulic Conductivity in/hr	51.4"	
Coefficient of Uniformity	2.8	
Recommended Depth	9"	
Ball Lie Rating	2.5	Greater than 2.4
Visual Classification	subangular to subrounded	Subrounded/Mixed or Angular

WCS&G 90/10		USGA Recommendations
Silt and Clay	2.40	$\leq 8.0\%$
Sand	97.60	94 - 100%
Gravel	0.00	
Organic Material	0.75	
<u>Sieve #:</u>		
Fine Gravel 10	0.00	2.0mm $\leq 3.0\%$
Very Coarse Sand 18	6.70	2.0mm + 1.0mm $\leq 10\%$
Coarse Sand 35	44.20	
Medium Sand 60	35.10	0.5mm + 0.25mm $\geq 60\%$
Fine Sand 100	8.90	0.15mm $\leq 20\%$
Very Fine Sand 140	1.90	0.106mm + 0.053mm $\leq 5.0\%$
Very Fine Sand 270	0.80	
Saturated Hydraulic Conductivity in/hr	5.7"	Greater than 6" per hour
Coefficient of Uniformity	3.04	1.8 to 3.5 for peat and sand mixes
Recommended Depth	10.63"	

Comments

- On page 1, the red numbers indicate deficiencies that need to be addressed with the mix you are using for pre-plant.
- The Bunker sand meets all reputable recommendations/specifications, but I always warn of the subjectivity of how bunker sand is perceived by golfers.
- The WCS&G 90/10 greens-mix is very similar and consistent with other testing I have completed on projects I am currently working on. I am not concerned with the lower-than-expected Infiltration Rate.
- I do recommend doing Quality Control testing throughout the project on any product prior to delivery. Although WCS&G is very good, you are ultimately responsible for the end product and how it performs. Let me know if I can help with this.

