

BROOKSIDE LABORATORIES, INC.

SOIL AUDIT AND INVENTORY REPORT

Name Western Golf Properties City Lake Forest State CA

Independent Consultant Soil and Water Consulting Date 9/24/2019

Sample Location <u>SAN RAMON GC</u>		TEE	TEE	TEE	FAIRWAY	FAIRWAY
Sample Identification		4	8	16	4	8
Lab Number		0251-1	0252-1	0253-1	0254-1	0255-1
Total Exchange Capacity (ME/100 g)		21.47	17.20	21.64	33.58	33.05
pH (H ₂ O 1:1)		a 8.2	a 8.3	a 8.1	a 8.3	a 8.2
Organic Matter (360°C LOI) %		4.47	3.69	4.65	7.80	7.61
Estimated Nitrogen Release lb/A		95	87	96	114	113
ANIONS	SOLUBLE SULFUR* ppm	57	41	56	86	71
	PHOSPHORUS MEHLICH III lb/A P as P ₂ O ₅ ppm of P					
	BRAY II lb/A P as P ₂ O ₅ ppm of P					
	OLSEN lb/A P as P ₂ O ₅ ppm of P	110 24	105 23	124 27	115 25	87 19
EXCHANGEABLE CATIONS	CALCIUM* lb/A	5180	5072	5080	7386	7300
	ppm	2590	2536	2540	3693	3650
	MAGNESIUM* lb/A	1318	720	1488	2324	2566
	ppm	659	360	744	1162	1283
	POTASSIUM* lb/A	276	216	262	654	484
	ppm	138	108	131	327	242
	SODIUM* lb/A	916	328	776	1632	1118
	ppm	458	164	388	816	559
BASE SATURATION PERCENT						
Calcium %		60.32	73.72	58.69	54.99	55.22
Magnesium %		25.58	17.44	28.65	28.84	32.35
Potassium %		1.65	1.61	1.55	2.50	1.88
Sodium %		9.27	4.15	7.80	10.57	7.35
Other Bases %		3.20	3.10	3.30	3.10	3.20
Hydrogen %		0.00	0.00	0.00	0.00	0.00
EXTRACTABLE MINORS						
Boron** (ppm)		4.16	1.02	3.47	6.10	5.08
Iron** (ppm)		94	103	66	66	29
Manganese** (ppm)		28	26	32	24	44
Copper** (ppm)		3.97	1.79	4.68	3.15	2.72
Zinc** (ppm)		8.19	7.31	10.99	5.54	4.55
Aluminum** (ppm)		148	49	174	182	140
OTHER TESTS	Soluble Salts (mmhos/cm)					
	Chlorides (ppm)					
	NO ₃ -N (ppm)	14.6	10.4	10.1	15.3	11.8
	NH ₄ -N (ppm)	4.5	0.8	3.3	4.2	4.3

a - alkaline soil

* Ammonium Acetate Extractable (pH of 8.1)

** Mehlich III Extractable

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Sample Location <u>SAN RAMON GC</u>		FAIRWAY	GREEN	GREEN	GREEN	
Sample Identification		16	1	4	8	
Lab Number		0256-1	0257-1	0258-1	0259-1	
Total Exchange Capacity (ME/100 g)		37.69	13.18	15.97	12.96	
pH (H ₂ O 1:1)		a 8.4	a 8.2	a 8.5	a 8.3	
Organic Matter (360°C LOI) %		8.05	2.91	3.05	2.59	
Estimated Nitrogen Release lb/A		115	78	80	72	
ANIONS	SOLUBLE SULFUR* ppm	87	111	84	51	
	PHOSPHORUS MEHLICH III lb/A P as P ₂ O ₅ ppm of P					
	BRAY II lb/A P as P ₂ O ₅ ppm of P					
	OLSEN lb/A P as P ₂ O ₅ ppm of P	55 12	105 23	82 18	105 23	
EXCHANGEABLE CATIONS	CALCIUM* lb/A	7542	3784	4544	3798	
	ppm	3771	1892	2272	1899	
	MAGNESIUM* lb/A	3060	482	648	480	
	ppm	1530	241	324	240	
	POTASSIUM* lb/A	446	234	348	240	
	ppm	223	117	174	120	
	SODIUM* lb/A	2016	454	460	346	
	ppm	1008	227	230	173	
BASE SATURATION PERCENT						
Calcium %		50.03	71.78	71.13	73.26	
Magnesium %		33.83	15.24	16.91	15.43	
Potassium %		1.52	2.28	2.79	2.37	
Sodium %		11.63	7.49	6.26	5.80	
Other Bases %		3.00	3.20	2.90	3.10	
Hydrogen %		0.00	0.00	0.00	0.00	
EXTRACTABLE MINORS						
Boron** (ppm)		7.31	1.60	1.88	1.38	
Iron** (ppm)		30	144	119	90	
Manganese** (ppm)		38	37	34	26	
Copper** (ppm)		2.46	2.05	2.42	2.25	
Zinc** (ppm)		5.01	7.50	6.06	6.44	
Aluminum** (ppm)		202	65	80	29	
OTHER TESTS	Soluble Salts (mmhos/cm)					
	Chlorides (ppm)					
	NO ₃ -N (ppm)	5.8	0.7	3.0	3.3	
	NH ₄ -N (ppm)	11.7	1.1	3.1	2.5	

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Sample Location		SANRAMON GC	GREEN				
Sample Identification			16				
Lab Number			0260-1				
Total Exchange Capacity (ME/100 g)			13.94				
pH (H ₂ O 1:1)			a 8.6				
Organic Matter (360°C LOI) %			2.44				
Estimated Nitrogen Release lb/A			69				
ANIONS	SOLUBLE SULFUR*	ppm	76				
	PHOSPHORUS						
	MEHLICH III	lb/A P as P ₂ O ₅ ppm of P					
	BRAY II	lb/A P as P ₂ O ₅ ppm of P					
EXCHANGEABLE CATIONS	OLSEN	lb/A P as P ₂ O ₅ ppm of P	55 12				
	CALCIUM*	lb/A ppm	4222 2111				
	MAGNESIUM*	lb/A ppm	452 226				
	POTASSIUM*	lb/A ppm	234 117				
	SODIUM*	lb/A ppm	374 187				
BASE SATURATION PERCENT							
	Calcium	%	75.72				
	Magnesium	%	13.51				
	Potassium	%	2.15				
	Sodium	%	5.83				
	Other Bases	%	2.80				
	Hydrogen	%	0.00				
EXTRACTABLE MINORS							
	Boron** (ppm)		1.46				
	Iron** (ppm)		91				
	Manganese** (ppm)		39				
	Copper** (ppm)		2.44				
	Zinc** (ppm)		5.43				
	Aluminum** (ppm)		48				
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						
	NO ₃ -N (ppm)		2.0				
	NH ₄ -N (ppm)		1.6				

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