

SOIL AUDIT AND INVENTORY REPORT

Name Western Golf Properties City Lake Forest State CAIndependent Consultant Soil and Water Consulting Date 09/18/2018

Sample Location		SANRAMON GC	TEE				
Sample Identification			1				
Lab Number			0159-1				
Total Exchange Capacity (ME/100 g)			13.83				
pH (H ₂ O 1:1)			a 8.5				
Organic Matter (360°C LOI) %			4.29				
Estimated Nitrogen Release lb/A			93				
ANIONS	SOLUBLE SULFUR*	ppm	45				
	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	60 13				
	CALCIUM*	lb/A ppm	3442 1721				
	MAGNESIUM*	lb/A ppm	768 384				
	POTASSIUM*	lb/A ppm	200 100				
	SODIUM*	lb/A ppm	628 314				
BASE SATURATION PERCENT							
	Calcium	%	62.22				
	Magnesium	%	23.14				
	Potassium	%	1.85				
	Sodium	%	9.87				
	Other Bases	%	2.90				
	Hydrogen	%	0.00				
EXTRACTABLE MINORS							
	Boron** (ppm)		2.10				
	Iron** (ppm)		253				
	Manganese** (ppm)		28				
	Copper** (ppm)		2.08				
	Zinc** (ppm)		6.92				
	Aluminum** (ppm)		234				
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						
	NO ₃ -N (ppm)		2.6				
	NH ₄ -N (ppm)		2.0				

a - alkaline soil

* Ammonium Acetate Extractable (pH of 8.1)

** Mehlich III Extractable

BROOKSIDE LABORATORIES, INC.

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Sample Location <u>SAN RAMON GC</u>		TEE	TEE			
Sample Identification		9	18			
Lab Number		0160-1	0161-1			
Total Exchange Capacity (ME/100 g)		12.29	23.16			
pH (H ₂ O 1:1)		a 8.2	a 8.5			
Organic Matter (360°C LOI) %		3.84	4.82			
Estimated Nitrogen Release lb/A		88	98			
ANIONS	SOLUBLE SULFUR* ppm	45	52			
	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	115 25	115 25			
EXCHANGEABLE CATIONS	CALCIUM* lb/A	3226	5358			
	ppm	1613	2679			
	MAGNESIUM* lb/A	620	1510			
	ppm	310	755			
	POTASSIUM* lb/A	146	232			
	ppm	73	116			
	SODIUM* lb/A	490	1154			
	ppm	245	577			
BASE SATURATION PERCENT						
Calcium %		65.62	57.84			
Magnesium %		21.02	27.17			
Potassium %		1.52	1.28			
Sodium %		8.67	10.83			
Other Bases %		3.20	2.90			
Hydrogen %		0.00	0.00			
EXTRACTABLE MINORS						
Boron** (ppm)		2.33	5.32			
Iron** (ppm)		187	89			
Manganese** (ppm)		24	51			
Copper** (ppm)		4.64	6.27			
Zinc** (ppm)		15.81	12.52			
Aluminum** (ppm)		196	173			
OTHER TESTS	Soluble Salts (mmhos/cm)					
	Chlorides (ppm)					
	NO ₃ -N (ppm)	7.8	9.5			
	NH ₄ -N (ppm)	2.4	3.6			

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Sample Location <u>SANRAMON GC</u>		FAIRWAY	FAIRWAY	FAIRWAY	GREEN	GREEN
Sample Identification		1	9	18	1	9
Lab Number		0162-1	0163-1	0164-1	0165-1	0166-1
Total Exchange Capacity (ME/100 g)		27.34	26.58	29.06	12.74	7.19
pH (H ₂ O 1:1)		a 8.1	a 8.4	a 8.4	a 8.3	a 8.3
Organic Matter (360°C LOI) %		7.67	6.52	5.87	2.75	1.51
Estimated Nitrogen Release lb/A		113	108	104	75	50
ANIONS	SOLUBLE SULFUR* ppm	47	49	58	89	19
	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	64 14	50 11	37 8	60 13	23 5
EXCHANGEABLE CATIONS	CALCIUM* lb/A	6308	5836	5900	3628	2134
	ppm	3154	2918	2950	1814	1067
	MAGNESIUM* lb/A	1892	1928	2168	486	282
	ppm	946	964	1084	243	141
	POTASSIUM* lb/A	418	284	338	230	88
	ppm	209	142	169	115	44
	SODIUM* lb/A	1036	1286	1828	440	160
	ppm	518	643	914	220	80
BASE SATURATION PERCENT						
Calcium %		57.68	54.89	50.76	71.19	74.20
Magnesium %		28.83	30.22	31.09	15.89	16.34
Potassium %		1.96	1.37	1.49	2.31	1.57
Sodium %		8.24	10.52	13.67	7.51	4.84
Other Bases %		3.30	3.00	3.00	3.10	3.10
Hydrogen %		0.00	0.00	0.00	0.00	0.00
EXTRACTABLE MINORS						
Boron** (ppm)		4.92	5.70	8.46	1.88	1.09
Iron** (ppm)		52	50	73	137	125
Manganese** (ppm)		29	44	113	33	34
Copper** (ppm)		3.26	3.12	4.13	2.53	0.76
Zinc** (ppm)		6.27	4.24	5.12	8.92	5.47
Aluminum** (ppm)		188	168	173	90	91
OTHER TESTS	Soluble Salts (mmhos/cm)					
	Chlorides (ppm)					
	NO ₃ -N (ppm)	10.6	8.7	6.8	2.0	0.7
	NH ₄ -N (ppm)	6.7	3.6	4.7	2.5	1.8

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Sample Location <u>SAN RAMON GC</u>		GREEN	GREEN			
Sample Identification		12	18			
Lab Number		0167-1	0168-1			
Total Exchange Capacity (ME/100 g)		8.10	7.15			
pH (H ₂ O 1:1)		a 8.5	a 8.3			
Organic Matter (360°C LOI) %		1.14	1.10			
Estimated Nitrogen Release lb/A		43	42			
ANIONS	SOLUBLE SULFUR* ppm	20	20			
	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	50 11	50 11			
EXCHANGEABLE CATIONS	CALCIUM* lb/A	2310	2122			
	ppm	1155	1061			
	MAGNESIUM* lb/A	356	278			
	ppm	178	139			
	POTASSIUM* lb/A	132	108			
	ppm	66	54			
	SODIUM* lb/A	200	150			
	ppm	100	75			
BASE SATURATION PERCENT						
Calcium %		71.30	74.20			
Magnesium %		18.31	16.20			
Potassium %		2.09	1.94			
Sodium %		5.37	4.56			
Other Bases %		2.90	3.10			
Hydrogen %		0.00	0.00			
EXTRACTABLE MINORS						
Boron** (ppm)		1.07	0.95			
Iron** (ppm)		161	123			
Manganese** (ppm)		43	44			
Copper** (ppm)		0.92	0.77			
Zinc** (ppm)		5.74	5.80			
Aluminum** (ppm)		130	68			
OTHER TESTS	Soluble Salts (mmhos/cm)					
	Chlorides (ppm)					
	NO ₃ -N (ppm)	1.2	< 0.5			
	NH ₄ -N (ppm)	2.5	2.8			

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