

BROOKSIDE LABORATORIES, INC.

SOIL AUDIT AND INVENTORY REPORT

Name Western Golf Properties City Lake Forest State CA

Independent Consultant Soil and Water Consulting Date 7/27/2020

Sample Location <u>BIRCH HILLS GC</u>			TEE	TEE	TEE	FAIRWAY	FAIRWAY
Sample Identification			3	14	16	3	14
Lab Number			0135-1	0136-1	0137-1	0138-1	0139-1
Total Exchange Capacity (ME/100 g)			6.10	9.06	8.42	24.07	25.83
pH (H ₂ O 1:1)			a 7.4	7.3	6.7	a 7.4	a 7.9
Organic Matter (360°C LOI) %			1.44	2.20	2.61	2.76	3.06
Estimated Nitrogen Release lb/A			49	64	72	75	81
ANIONS	SOLUBLE SULFUR* ppm		30	51	110	292	102
	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	87 19	133 29	< 5 < 1	18 4
EXCHANGEABLE CATIONS	CALCIUM* lb/A ppm		1816 908	2702 1351	2410 1205	6252 3126	7910 3955
	MAGNESIUM* lb/A ppm		210 105	328 164	276 138	1374 687	978 489
	POTASSIUM* lb/A ppm		166 83	202 101	190 95	222 111	346 173
	SODIUM* lb/A ppm		104 52	142 71	106 53	674 337	290 145
	BASE SATURATION PERCENT						
	Calcium %		74.43	74.56	71.56	64.94	76.56
	Magnesium %		14.34	15.08	13.66	23.78	15.78
	Potassium %		3.49	2.86	2.89	1.18	1.72
	Sodium %		3.71	3.41	2.74	6.09	2.44
	Other Bases %		4.00	4.10	4.70	4.00	3.50
	Hydrogen %		0.00	0.00	4.50	0.00	0.00
EXTRACTABLE MINORS							
Boron** (ppm)			0.60	0.60	0.64	0.78	0.62
Iron** (ppm)			161	164	220	148	80
Manganese** (ppm)			27	32	49	51	46
Copper** (ppm)			0.81	0.70	1.55	1.86	1.32
Zinc** (ppm)			5.71	5.84	11.51	2.84	2.24
Aluminum** (ppm)			111	141	136	338	117
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						
	NO ₃ -N (ppm)		12.9	15.0	20.1	3.3	3.1
	NH ₄ -N (ppm)		1.5	1.0	2.6	2.2	2.0

a - alkaline soil

* Ammonium Acetate Extractable (pH of 8.1)

** Mehlich III Extractable

BROOKSIDE LABORATORIES, INC.

SOIL AUDIT AND INVENTORY REPORT

Name Western Golf Properties City Lake Forest State CA

Independent Consultant Soil and Water Consulting Date 7/27/2020

Sample Location				BIRCH HILLS GC	FAIRWAY	GREEN	GREEN	GREEN	GREEN
Sample Identification					16	3	7	14	16
Lab Number					0140-1	0141-1	0142-1	0143-1	0144-1
Total Exchange Capacity (ME/100 g)					25.03	3.88	4.15	4.60	4.35
pH (H ₂ O 1:1)					a 7.4	a 7.9	a 7.7	a 8.0	a 7.8
Organic Matter (360°C LOI) %					3.99	0.78	1.03	0.54	0.58
Estimated Nitrogen Release lb/A					90	31	41	22	23
ANIONS	SOLUBLE SULFUR* ppm				353	29	26	23	35
	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		14 3	23 5	46 10	37 8	41 9
EXCHANGEABLE CATIONS	CALCIUM*		lb/A		7240	1110	1194	1322	1238
			ppm		3620	555	597	661	619
	MAGNESIUM*		lb/A		1058	108	98	132	120
			ppm		529	54	49	66	60
	POTASSIUM*		lb/A		304	258	338	314	330
			ppm		152	129	169	157	165
	SODIUM*		lb/A		518	86	80	84	80
			ppm		259	43	40	42	40
BASE SATURATION PERCENT									
Calcium %					72.31	71.52	71.93	71.85	71.15
Magnesium %					17.61	11.60	9.84	11.96	11.49
Potassium %					1.56	8.52	10.44	8.75	9.73
Sodium %					4.50	4.82	4.19	3.97	4.00
Other Bases %					4.00	3.50	3.70	3.40	3.60
Hydrogen %					0.00	0.00	0.00	0.00	0.00
EXTRACTABLE MINORS									
Boron** (ppm)					0.73	0.46	0.46	0.48	0.53
Iron** (ppm)					158	110	108	115	131
Manganese** (ppm)					44	42	60	60	66
Copper** (ppm)					1.65	0.88	1.26	1.24	1.47
Zinc** (ppm)					2.14	5.24	6.79	7.14	7.75
Aluminum** (ppm)					239	126	141	105	111
OTHER TESTS	Soluble Salts (mmhos/cm)								
	Chlorides (ppm)								
	NO3-N (ppm)				2.8	0.7	4.2	0.6	2.8
	NH4-N (ppm)				2.3	0.8	1.0	2.1	2.3

a - alkaline soil

* Ammonium Acetate Extractable (pH of 8.1)

** Mehlich III Extractable