

lb/A

BROOKSIDE LABORATORIES, INC.

80046-26

SOIL AUDIT AND INVENTORY REPORT

Name Western Golf Properties City Lake Forest State CAIndependent Consultant Soil and Water Consulting Date 6/15/2023

Sample Location <u>BIRCH HILLS GC</u>			TEE	TEE	TEE	FAIRWAY	FAIRWAY
Sample Identification			4	5	8	4	5
Lab Number			0733-1	0734-1	0735-1	0736-1	0737-1
Total Exchange Capacity (ME/100 g)			9.61	8.05	8.87	18.54	21.16
pH (H ₂ O 1:1)			a 7.5	7.2	a 7.5	a 7.8	a 7.5
Organic Matter (360°C LOI) %			2.01	2.61	2.58	6.37	4.91
Estimated Nitrogen Release lb/A			60	72	72	107	99
ANIONS	SOLUBLE SULFUR* ppm		21	18	15	90	785
	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	23 5	92 20	115 25	32 7	41 9
EXCHANGEABLE CATIONS	CALCIUM* lb/A ppm		2940 1470	2502 1251	2796 1398	5674 2837	6614 3307
	MAGNESIUM* lb/A ppm		356 178	270 135	270 135	682 341	710 355
	POTASSIUM* lb/A ppm		188 94	166 83	200 100	302 151	258 129
	SODIUM* lb/A ppm		76 38	56 28	70 35	210 105	236 118
	BASE SATURATION PERCENT						
	Calcium	%	76.48	77.70	78.80	76.51	78.14
	Magnesium	%	15.44	13.98	12.68	15.33	13.98
	Potassium	%	2.51	2.64	2.89	2.09	1.56
	Sodium	%	1.72	1.51	1.72	2.46	2.42
	Other Bases	%	3.90	4.20	3.90	3.60	3.90
	Hydrogen	%	0.00	0.00	0.00	0.00	0.00
EXTRACTABLE MINORS							
Boron** (ppm)			0.62	0.63	0.82	1.03	0.76
Iron** (ppm)			147	256	242	310	173
Manganese** (ppm)			39	43	28	40	46
Copper** (ppm)			0.62	1.63	1.12	2.10	1.68
Zinc** (ppm)			6.21	12.28	6.20	5.11	3.18
Aluminum** (ppm)			165	123	132	126	191
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						
	NO ₃ -N (ppm)		2.1	5.0	5.5	5.5	6.0
	NH ₄ -N (ppm)		0.6	3.2	3.6	1.8	3.1

a - alkaline soil

* Ammonium Acetate Extractable (pH of 8.1)

** Mehlich III Extractable

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Sample Location				BIRCH HILLS GC	FAIRWAY	GREEN	GREEN	GREEN	GREEN
Sample Identification					8	4	5	8	9
Lab Number					0738-1	0739-1	0740-1	0741-1	0742-1
Total Exchange Capacity (ME/100 g)					20.59	3.41	3.51	3.25	3.51
pH (H ₂ O 1:1)					a 8.0	a 8.0	a 7.7	a 7.6	7.3
Organic Matter (360°C LOI) %					4.60	0.55	0.65	0.51	0.82
Estimated Nitrogen Release lb/A					96	22	26	20	33
ANIONS	SOLUBLE SULFUR* ppm				28	12	10	9	8
	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	32 7	32 7	37 8	23 5	23 5
EXCHANGEABLE CATIONS	CALCIUM*		lb/A	6396	1060	1090	994	1094	
			ppm	3198	530	545	497	547	
	MAGNESIUM*		lb/A	788	88	92	82	86	
			ppm	394	44	46	41	43	
	POTASSIUM*		lb/A	214	144	128	148	132	
			ppm	107	72	64	74	66	
	SODIUM*		lb/A	158	42	50	52	46	
			ppm	79	21	25	26	23	
BASE SATURATION PERCENT									
Calcium %					77.66	77.71	77.64	76.46	77.92
Magnesium %					15.95	10.75	10.92	10.51	10.21
Potassium %					1.33	5.41	4.68	5.84	4.82
Sodium %					1.67	2.68	3.10	3.48	2.85
Other Bases %					3.40	3.40	3.70	3.80	4.10
Hydrogen %					0.00	0.00	0.00	0.00	0.00
EXTRACTABLE MINORS									
Boron** (ppm)					0.62	0.31	0.37	0.40	0.41
Iron** (ppm)					86	106	129	101	158
Manganese** (ppm)					28	38	57	33	48
Copper** (ppm)					1.21	0.96	1.72	1.10	1.47
Zinc** (ppm)					2.30	4.82	9.02	4.68	8.48
Aluminum** (ppm)					109	129	142	172	125
OTHER TESTS	Soluble Salts (mmhos/cm)								
	Chlorides (ppm)								
	NO3-N (ppm)				3.5	0.6	0.6	0.9	0.9
	NH4-N (ppm)				0.5	< 0.5	< 0.5	< 0.5	< 0.5

a - alkaline soil

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** Mehlich III Extractable