

lb/A

BROOKSIDE LABORATORIES, INC.

90696-2

SOIL AUDIT AND INVENTORY REPORT

Name Rio Verde Country Club City Rio Verde State AZIndependent Consultant Soil and Water Consulting Date 3/19/2024

Sample Location <u>QUAIL RUN COURSE</u>			TEE	TEE	TEE	FAIRWAY	FAIRWAY
Sample Identification			1	5	18	1	5
Lab Number			1002-1	1003-1	1004-1	1005-1	1006-1
Total Exchange Capacity (ME/100 g)			7.34	10.02	9.02	12.14	14.08
pH (H ₂ O 1:1)			a 7.7	a 8.0	a 7.8	a 8.0	a 8.2
Organic Matter (360°C LOI) %			2.40	3.14	2.39	3.73	3.90
Estimated Nitrogen Release lb/A			68	81	68	87	89
ANIONS	SOLUBLE SULFUR* ppm		24	38	47	77	62
	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	41 9	64 14	50 11	60 13
EXCHANGEABLE CATIONS	CALCIUM* lb/A ppm		1944 972	2706 1353	2494 1247	3284 1642	3882 1941
	MAGNESIUM* lb/A ppm		156 78	232 116	214 107	254 127	302 151
	POTASSIUM* lb/A ppm		376 188	362 181	346 173	486 243	594 297
	SODIUM* lb/A ppm		496 248	682 341	516 258	846 423	876 438
	BASE SATURATION PERCENT						
	Calcium	%	66.21	67.51	69.12	67.63	68.93
	Magnesium	%	8.86	9.65	9.89	8.72	8.94
	Potassium	%	6.57	4.63	4.92	5.13	5.41
	Sodium	%	14.69	14.80	12.44	15.15	13.53
	Other Bases	%	3.70	3.40	3.60	3.40	3.20
	Hydrogen	%	0.00	0.00	0.00	0.00	0.00
EXTRACTABLE MINORS							
Boron** (ppm)			1.84	2.45	2.10	4.21	3.90
Iron** (ppm)			78	89	131	145	111
Manganese** (ppm)			22	21	26	50	38
Copper** (ppm)			0.87	0.84	1.08	2.82	2.49
Zinc** (ppm)			4.45	3.41	3.36	10.45	11.80
Aluminum** (ppm)			78	84	100	101	82
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						
	NO ₃ -N (ppm)		5.2	5.0	5.9	6.4	10.2
	NH ₄ -N (ppm)		3.6	3.1	2.9	4.9	4.5

a - alkaline soil

* Ammonium Acetate Extractable (pH of 8.1)

** Mehlich III Extractable

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Sample Location				QUAIL RUN COURSE	FAIRWAY	GREEN	GREEN	GREEN	
Sample Identification					18	1	5	18	
Lab Number					1007-1	1008-1	1009-1	1010-1	
Total Exchange Capacity (ME/100 g)					12.84	7.45	6.56	6.79	
pH (H ₂ O 1:1)					a 8.1	a 7.8	a 7.9	a 8.2	
Organic Matter (360°C LOI) %					3.36	1.12	0.99	0.89	
Estimated Nitrogen Release					lb/A	84	42	40	36
ANIONS	SOLUBLE SULFUR*				ppm	121	26	19	18
	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	46 10	27 6	18 4	14 3	
EXCHANGEABLE CATIONS	CALCIUM*		lb/A	3454	2050	1790	1834		
			ppm	1727	1025	895	917		
	MAGNESIUM*		lb/A	276	124	132	120		
			ppm	138	62	66	60		
	POTASSIUM*		lb/A	516	382	316	410		
			ppm	258	191	158	205		
	SODIUM*		lb/A	908	482	416	444		
			ppm	454	241	208	222		
BASE SATURATION PERCENT									
Calcium					%	67.25	68.79	68.22	67.53
Magnesium					%	8.96	6.94	8.38	7.36
Potassium					%	5.15	6.57	6.18	7.74
Sodium					%	15.37	14.06	13.79	14.22
Other Bases					%	3.30	3.60	3.50	3.20
Hydrogen					%	0.00	0.00	0.00	0.00
EXTRACTABLE MINORS									
Boron** (ppm)					3.81	0.96	0.90	0.97	
Iron** (ppm)					141	102	95	87	
Manganese** (ppm)					31	52	41	41	
Copper** (ppm)					2.39	2.04	1.55	1.61	
Zinc** (ppm)					9.94	11.51	5.64	9.67	
Aluminum** (ppm)					75	125	101	99	
OTHER TESTS	Soluble Salts (mmhos/cm)								
	Chlorides (ppm)								
	NO3-N (ppm)				8.2	3.3	2.4	1.3	
	NH4-N (ppm)				3.2	2.1	1.7	1.4	

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Independent Consultant Soil and Water Consulting Date 3/19/2024

Sample Location	WHITE WING COURSE	TEE	TEE	TEE	FAIRWAY	FAIRWAY
Sample Identification		1	5	17	1	5
Lab Number		1011-1	1012-1	1013-1	1014-1	1015-1
Total Exchange Capacity (ME/100 g)		10.34	5.01	9.92	11.67	15.52
pH (H ₂ O 1:1)		a 7.8	a 7.5	a 8.0	a 7.4	a 8.0
Organic Matter (360°C LOI) %		3.63	1.73	2.50	4.45	3.56
Estimated Nitrogen Release lb/A		86	55	70	94	86
ANIONS	SOLUBLE SULFUR* ppm	97	25	48	50	113
	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	< 9 < 2	< 9 < 2	50 11	27 6	27 6
EXCHANGEABLE CATIONS	CALCIUM* lb/A	3038	1282	2668	3360	4366
	ppm	1519	641	1334	1680	2183
	MAGNESIUM* lb/A	202	142	254	252	380
	ppm	101	71	127	126	190
	POTASSIUM* lb/A	498	276	480	538	744
	ppm	249	138	240	269	372
	SODIUM* lb/A	412	304	570	490	708
	ppm	206	152	285	245	354
BASE SATURATION PERCENT						
	Calcium %	73.45	63.97	67.24	71.98	70.33
	Magnesium %	8.14	11.81	10.67	9.00	10.20
	Potassium %	6.17	7.06	6.20	5.91	6.15
	Sodium %	8.66	13.19	12.49	9.13	9.92
	Other Bases %	3.60	3.90	3.40	4.00	3.40
	Hydrogen %	0.00	0.00	0.00	0.00	0.00
EXTRACTABLE MINORS						
	Boron** (ppm)	2.39	1.50	3.02	3.25	2.82
	Iron** (ppm)	83	177	168	207	144
	Manganese** (ppm)	21	24	26	23	25
	Copper** (ppm)	0.92	0.61	1.03	2.22	1.44
	Zinc** (ppm)	3.78	3.68	4.74	15.70	10.58
	Aluminum** (ppm)	69	69	78	95	96
OTHER TESTS	Soluble Salts (mmhos/cm)					
	Chlorides (ppm)					
	NO ₃ -N (ppm)	1.5	1.9	2.6	6.3	2.4
	NH ₄ -N (ppm)	2.1	2.2	2.8	5.8	3.0

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Sample Location	WHITE WING COURSE	FAIRWAY	GREEN	GREEN	GREEN	
Sample Identification		17	1	5	17	
Lab Number		1016-1	1017-1	1018-1	1019-1	
Total Exchange Capacity (ME/100 g)		14.53	6.78	5.79	6.49	
pH (H ₂ O 1:1)		a 7.8	a 8.1	a 8.0	a 7.8	
Organic Matter (360°C LOI) %		3.50	0.92	0.86	1.02	
Estimated Nitrogen Release lb/A		85	37	34	40	
ANIONS	SOLUBLE SULFUR*	ppm	223	20	16	27
	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	87 19	14 3	32 7	37 8
EXCHANGEABLE CATIONS	CALCIUM*	lb/A ppm	3876 1938	1826 913	1548 774	1796 898
	MAGNESIUM*	lb/A ppm	330 165	150 75	136 68	144 72
	POTASSIUM*	lb/A ppm	704 352	354 177	324 162	294 147
	SODIUM*	lb/A ppm	936 468	418 209	342 171	364 182
BASE SATURATION PERCENT						
	Calcium	%	66.69	67.33	66.84	69.18
	Magnesium	%	9.46	9.22	9.79	9.24
	Potassium	%	6.21	6.69	7.17	5.81
	Sodium	%	14.00	13.40	12.84	12.19
	Other Bases	%	3.60	3.30	3.40	3.60
	Hydrogen	%	0.00	0.00	0.00	0.00
EXTRACTABLE MINORS						
	Boron** (ppm)		4.10	0.92	0.85	1.10
	Iron** (ppm)		229	105	94	124
	Manganese** (ppm)		36	42	39	63
	Copper** (ppm)		2.56	1.44	1.07	1.32
	Zinc** (ppm)		9.29	7.94	7.80	6.48
	Aluminum** (ppm)		100	100	85	101
OTHER TESTS	Soluble Salts (mmhos/cm)					
	Chlorides (ppm)					
	NO ₃ -N (ppm)		6.9	1.8	2.0	2.3
	NH ₄ -N (ppm)		5.8	1.3	2.0	3.5

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