

lb/A

BROOKSIDE LABORATORIES, INC.

SOIL AUDIT AND INVENTORY REPORT

89490-3

Name Quail Creek Golf Club City Green Valley State AZIndependent Consultant Soil and Water Consulting Date 3/20/2024

Sample Location	COYOTE	TEE				
Sample Identification		5				
Lab Number		0211-1				
Total Exchange Capacity (ME/100 g)		5.36				
pH (H ₂ O 1:1)		a 8.0				
Organic Matter (360°C LOI) %		0.75				
Estimated Nitrogen Release lb/A		30				
ANIONS	SOLUBLE SULFUR*	ppm	18			
	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			
EXCHANGEABLE CATIONS	CALCIUM*	lb/A	1694			
		ppm	847			
	MAGNESIUM*	lb/A	84			
		ppm	42			
	POTASSIUM*	lb/A	186			
		ppm	93			
	SODIUM*	lb/A	164			
		ppm	82			
BASE SATURATION PERCENT						
	Calcium %		79.01			
	Magnesium %		6.53			
	Potassium %		4.45			
	Sodium %		6.65			
	Other Bases %		3.40			
	Hydrogen %		0.00			
EXTRACTABLE MINORS						
	Boron** (ppm)		0.44			
	Iron** (ppm)		86			
	Manganese** (ppm)		61			
	Copper** (ppm)		1.19			
	Zinc** (ppm)		1.01			
	Aluminum** (ppm)		130			
OTHER TESTS	Soluble Salts (mmhos/cm)					
	Chlorides (ppm)					
	NO ₃ -N (ppm)		0.5			
	NH ₄ -N (ppm)		1.4			

a - alkaline soil

* Ammonium Acetate Extractable (pH of 8.1)

** Mehlich III Extractable

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Sample Location		QUAIL	TEE				
Sample Identification			5				
Lab Number			0212-1				
Total Exchange Capacity (ME/100 g)			10.10				
pH (H ₂ O 1:1)			a 8.3				
Organic Matter (360°C LOI) %			0.92				
Estimated Nitrogen Release lb/A			37				
ANIONS	SOLUBLE SULFUR*	ppm	11				
	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	18 4				
EXCHANGEABLE CATIONS	CALCIUM*	lb/A ppm	3452 1726				
	MAGNESIUM*	lb/A ppm	138 69				
	POTASSIUM*	lb/A ppm	140 70				
	SODIUM*	lb/A ppm	184 92				
BASE SATURATION PERCENT							
	Calcium	%	85.45				
	Magnesium	%	5.69				
	Potassium	%	1.78				
	Sodium	%	3.96				
	Other Bases	%	3.10				
	Hydrogen	%	0.00				
EXTRACTABLE MINORS							
	Boron** (ppm)		0.61				
	Iron** (ppm)		67				
	Manganese** (ppm)		35				
	Copper** (ppm)		1.08				
	Zinc** (ppm)		4.14				
	Aluminum** (ppm)		30				
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						
	NO ₃ -N (ppm)		1.9				
	NH ₄ -N (ppm)		1.2				

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Sample Location	ROADRUNNER	TEE				
Sample Identification		5				
Lab Number		0213-1				
Total Exchange Capacity (ME/100 g)		10.73				
pH (H ₂ O 1:1)		a 7.5				
Organic Matter (360°C LOI) %		1.90				
Estimated Nitrogen Release lb/A		58				
ANIONS	SOLUBLE SULFUR*	ppm	220			
	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	143			
EXCHANGEABLE CATIONS	CALCIUM*	lb/A	3046			
		ppm	1523			
	MAGNESIUM*	lb/A	108			
		ppm	54			
	POTASSIUM*	lb/A	252			
		ppm	126			
	SODIUM*	lb/A	884			
		ppm	442			
BASE SATURATION PERCENT						
	Calcium %		70.97			
	Magnesium %		4.19			
	Potassium %		3.01			
	Sodium %		17.91			
	Other Bases %		3.90			
	Hydrogen %		0.00			
EXTRACTABLE MINORS						
	Boron** (ppm)		0.74			
	Iron** (ppm)		46			
	Manganese** (ppm)		23			
	Copper** (ppm)		1.03			
	Zinc** (ppm)		4.17			
	Aluminum** (ppm)		82			
OTHER TESTS	Soluble Salts (mmhos/cm)					
	Chlorides (ppm)					
	NO ₃ -N (ppm)		5.3			
	NH ₄ -N (ppm)		1.4			

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Sample Location		COYOTE	FAIRWAY				
Sample Identification			5				
Lab Number			0214-1				
Total Exchange Capacity (ME/100 g)			11.44				
pH (H ₂ O 1:1)			a 7.7				
Organic Matter (360°C LOI) %			3.29				
Estimated Nitrogen Release lb/A			83				
ANIONS	SOLUBLE SULFUR*	ppm	60				
	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				
EXCHANGEABLE CATIONS	CALCIUM*	lb/A ppm	3376 1688				
	MAGNESIUM*	lb/A ppm	166 83				
	POTASSIUM*	lb/A ppm	484 242				
	SODIUM*	lb/A ppm	582 291				
BASE SATURATION PERCENT							
	Calcium	%	73.78				
	Magnesium	%	6.05				
	Potassium	%	5.42				
	Sodium	%	11.06				
	Other Bases	%	3.70				
	Hydrogen	%	0.00				
EXTRACTABLE MINORS							
	Boron** (ppm)		1.31				
	Iron** (ppm)		196				
	Manganese** (ppm)		75				
	Copper** (ppm)		2.29				
	Zinc** (ppm)		4.98				
	Aluminum** (ppm)		158				
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						
	NO ₃ -N (ppm)		5.0				
	NH ₄ -N (ppm)		1.7				

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Sample Location	QUAIL	FAIRWAY				
Sample Identification		5				
Lab Number		0215-1				
Total Exchange Capacity (ME/100 g)		18.97				
pH (H ₂ O 1:1)		a 8.0				
Organic Matter (360°C LOI) %		5.02				
Estimated Nitrogen Release lb/A		100				
ANIONS	SOLUBLE SULFUR*	ppm	93			
	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			
EXCHANGEABLE CATIONS	CALCIUM*	lb/A	6152			
		ppm	3076			
	MAGNESIUM*	lb/A	198			
		ppm	99			
	POTASSIUM*	lb/A	562			
		ppm	281			
	SODIUM*	lb/A	644			
		ppm	322			
BASE SATURATION PERCENT						
	Calcium	%	81.08			
	Magnesium	%	4.35			
	Potassium	%	3.80			
	Sodium	%	7.38			
	Other Bases	%	3.40			
	Hydrogen	%	0.00			
EXTRACTABLE MINORS						
	Boron** (ppm)		1.71			
	Iron** (ppm)		58			
	Manganese** (ppm)		25			
	Copper** (ppm)		1.95			
	Zinc** (ppm)		13.15			
	Aluminum** (ppm)		10			
OTHER TESTS	Soluble Salts (mmhos/cm)					
	Chlorides (ppm)					
	NO ₃ -N (ppm)		13.2			
	NH ₄ -N (ppm)		3.3			

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Sample Location		ROADRUNNER	FAIRWAY				
Sample Identification			5				
Lab Number			0216-1				
Total Exchange Capacity (ME/100 g)			17.72				
pH (H ₂ O 1:1)			a 8.0				
Organic Matter (360°C LOI) %			3.99				
Estimated Nitrogen Release lb/A			90				
ANIONS	SOLUBLE SULFUR*	ppm	198				
	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				
EXCHANGEABLE CATIONS	CALCIUM*	lb/A ppm	5236 2618				
	MAGNESIUM*	lb/A ppm	240 120				
	POTASSIUM*	lb/A ppm	384 192				
	SODIUM*	lb/A ppm	1168 584				
BASE SATURATION PERCENT							
	Calcium	%	73.87				
	Magnesium	%	5.64				
	Potassium	%	2.78				
	Sodium	%	14.33				
	Other Bases	%	3.40				
	Hydrogen	%	0.00				
EXTRACTABLE MINORS							
	Boron** (ppm)		1.34				
	Iron** (ppm)		36				
	Manganese** (ppm)		19				
	Copper** (ppm)		1.56				
	Zinc** (ppm)		2.30				
	Aluminum** (ppm)		1				
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						
	NO ₃ -N (ppm)		3.3				
	NH ₄ -N (ppm)		1.7				

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Sample Location	COYOTE	GREEN				
Sample Identification		5				
Lab Number		0217-1				
Total Exchange Capacity (ME/100 g)		5.71				
pH (H ₂ O 1:1)		a 8.6				
Organic Matter (360°C LOI) %		0.29				
Estimated Nitrogen Release lb/A		12				
ANIONS	SOLUBLE SULFUR*	ppm	9			
	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			
EXCHANGEABLE CATIONS	CALCIUM*	lb/A ppm	1800 900			
	MAGNESIUM*	lb/A ppm	60 30			
	POTASSIUM*	lb/A ppm	260 130			
	SODIUM*	lb/A ppm	214 107			
BASE SATURATION PERCENT						
	Calcium	%	78.81			
	Magnesium	%	4.38			
	Potassium	%	5.84			
	Sodium	%	8.15			
	Other Bases	%	2.80			
	Hydrogen	%	0.00			
EXTRACTABLE MINORS						
	Boron** (ppm)		0.22			
	Iron** (ppm)		68			
	Manganese** (ppm)		16			
	Copper** (ppm)		0.40			
	Zinc** (ppm)		0.69			
	Aluminum** (ppm)		204			
OTHER TESTS	Soluble Salts (mmhos/cm)					
	Chlorides (ppm)					
	NO ₃ -N (ppm)		0.9			
	NH ₄ -N (ppm)		0.6			

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Sample Location		QUAIL	GREEN				
Sample Identification			5				
Lab Number			0218-1				
Total Exchange Capacity (ME/100 g)			5.96				
pH (H ₂ O 1:1)			a 8.8				
Organic Matter (360°C LOI) %			0.17				
Estimated Nitrogen Release lb/A			7				
ANIONS	SOLUBLE SULFUR*	ppm	6				
	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				
EXCHANGEABLE CATIONS	CALCIUM*	lb/A ppm	1920 960				
	MAGNESIUM*	lb/A ppm	82 41				
	POTASSIUM*	lb/A ppm	124 62				
	SODIUM*	lb/A ppm	234 117				
BASE SATURATION PERCENT							
	Calcium	%	80.54				
	Magnesium	%	5.73				
	Potassium	%	2.67				
	Sodium	%	8.54				
	Other Bases	%	2.60				
	Hydrogen	%	0.00				
EXTRACTABLE MINORS							
	Boron** (ppm)		< 0.20				
	Iron** (ppm)		65				
	Manganese** (ppm)		15				
	Copper** (ppm)		0.44				
	Zinc** (ppm)		0.58				
	Aluminum** (ppm)		170				
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						
	NO ₃ -N (ppm)		< 0.5				
	NH ₄ -N (ppm)		< 0.5				

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Sample Location			ROADRUNNER	GREEN				
Sample Identification				5				
Lab Number				0219-1				
Total Exchange Capacity (ME/100 g)				5.42				
pH (H ₂ O 1:1)				a 7.9				
Organic Matter (360°C LOI) %				1.07				
Estimated Nitrogen Release			lb/A	41				
ANIONS	SOLUBLE SULFUR*			ppm	9			
	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	18 4			
EXCHANGEABLE CATIONS	CALCIUM*		lb/A	1700				
			ppm	850				
	MAGNESIUM*		lb/A	66				
			ppm	33				
	POTASSIUM*		lb/A	158				
			ppm	79				
	SODIUM*		lb/A	232				
			ppm	116				
BASE SATURATION PERCENT								
Calcium %				78.41				
Magnesium %				5.07				
Potassium %				3.74				
Sodium %				9.31				
Other Bases %				3.50				
Hydrogen %				0.00				
EXTRACTABLE MINORS								
Boron** (ppm)				0.26				
Iron** (ppm)				54				
Manganese** (ppm)				17				
Copper** (ppm)				1.64				
Zinc** (ppm)				4.00				
Aluminum** (ppm)				64				
OTHER TESTS	Soluble Salts (mmhos/cm)							
	Chlorides (ppm)							
	NO3-N (ppm)			3.3				
	NH4-N (ppm)			1.0				

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