

lb/A

# BROOKSIDE LABORATORIES, INC.

84786-5

## SOIL AUDIT AND INVENTORY REPORT

Name Brown Dog Farm City Palmer State AK

Independent Consultant Home Office Date 10/27/2023

Sample Location		1	2	3	4	5	
COVER CROP							
Sample Identification							
Lab Number		0046-1	0047-1	0048-1	0049-1	0050-1	
Total Exchange Capacity (ME/100 g)		11.04	9.02	12.23	8.76	9.79	
pH	Buffer (SMP/Sikora)	7.2	7.0	7.1	7.0	7.1	
	H <sub>2</sub> O (1:1)	6.0	6.0	6.0	6.1	5.6	
Organic Matter (360°C LOI) %		11.19	9.60	10.82	9.17	7.49	
Estimated Nitrogen Release lb/A		126	123	125	121	112	
ANIONS	SOLUBLE SULFUR* ppm		10	11	9	10	15
	PHOSPHORUS	MEHLICH III lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P	252	197	293	169	142
		BRAY II lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P	55	43	64	37	31
		OLSEN lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P					
EXCHANGABLE CATIONS	CALCIUM* lb/A		2764	2316	3114	2228	2012
	ppm		1382	1158	1557	1114	1006
	MAGNESIUM* lb/A		312	248	344	256	228
	ppm		156	124	172	128	114
	POTASSIUM* lb/A		372	212	324	312	356
	ppm		186	106	162	156	178
	SODIUM* lb/A		48	38	48	40	46
	ppm		24	19	24	20	23
BASE SATURATION PERCENT							
Calcium %		62.59	64.19	63.65	63.58	51.38	
Magnesium %		11.78	11.46	11.72	12.18	9.70	
Potassium %		4.32	3.01	3.40	4.57	4.66	
Sodium %		0.95	0.92	0.85	0.99	1.02	
Other Bases %		5.40	5.40	5.40	5.20	6.20	
Hydrogen %		15.00	15.00	15.00	13.50	27.00	
EXTRACTABLE MINORS							
Boron* (ppm)		0.73	0.37	0.63	0.39	0.35	
Iron* (ppm)		552	560	580	508	391	
Manganese* (ppm)		18	13	16	12	10	
Copper* (ppm)		2.08	1.90	2.01	2.27	2.44	
Zinc* (ppm)		7.81	3.58	8.30	3.86	2.99	
Aluminum* (ppm)		1225	1335	1259	1444	1666	
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						
	NO <sub>3</sub> -N (ppm)		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	NH <sub>4</sub> -N (ppm)		1.9	1.8	< 0.5	2.1	1.9

\* Mehlich III Extractable

lb/A

**BROOKSIDE LABORATORIES, INC.**

84786-5

**SOIL AUDIT AND INVENTORY REPORT**Name Brown Dog Farm City Palmer State AKIndependent Consultant Home Office Date 10/27/2023

Sample Location		COVER	CROP	6	7	8	9	10	
Sample Identification									
Lab Number				0052-1	0053-1	0054-1	0055-1	0056-1	
Total Exchange Capacity (ME/100 g)				8.90	9.20	8.87	9.13	8.49	
pH	Buffer (SMP/Sikora)			6.9	6.8	6.9	6.9	6.9	
	H <sub>2</sub> O (1:1)			5.7	5.7	5.8	5.6	5.8	
Organic Matter (360°C LOI) %				8.81	10.23	10.19	7.50	7.21	
Estimated Nitrogen Release lb/A				119	125	125	112	111	
ANIONS	SOLUBLE SULFUR*			ppm	11	9	8	9	10
	PHOSPHORUS	MEHLICH III	lb/A P as P <sub>2</sub> O <sub>5</sub>	ppm of P	206	307	293	142	128
		BRAY II	lb/A P as P <sub>2</sub> O <sub>5</sub>	ppm of P	45	67	64	31	28
		OLSEN	lb/A P as P <sub>2</sub> O <sub>5</sub>	ppm of P					
EXCHANGABLE CATIONS	CALCIUM*			lb/A	1954	1970	1914	1922	2068
				ppm	977	985	957	961	1034
	MAGNESIUM*			lb/A	240	278	318	242	196
				ppm	120	139	159	121	98
	POTASSIUM*			lb/A	180	216	232	154	116
				ppm	90	108	116	77	58
	SODIUM*			lb/A	52	38	38	40	36
				ppm	26	19	19	20	18
<b>BASE SATURATION PERCENT</b>									
Calcium %				54.89	53.53	53.95	52.63	60.90	
Magnesium %				11.24	12.59	14.94	11.04	9.62	
Potassium %				2.59	3.01	3.35	2.16	1.75	
Sodium %				1.27	0.90	0.93	0.95	0.92	
Other Bases %				6.00	6.00	5.80	6.20	5.80	
Hydrogen %				24.00	24.00	21.00	27.00	21.00	
<b>EXTRACTABLE MINORS</b>									
Boron* (ppm)				0.43	0.44	0.43	0.34	0.30	
Iron* (ppm)				594	624	616	580	589	
Manganese* (ppm)				16	16	13	11	12	
Copper* (ppm)				2.10	1.38	1.42	2.12	1.95	
Zinc* (ppm)				2.65	5.44	5.33	2.85	1.54	
Aluminum* (ppm)				1479	1210	1210	1506	1514	
OTHER TESTS	Soluble Salts (mmhos/cm)								
	Chlorides (ppm)								
	NO <sub>3</sub> -N (ppm)			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
	NH <sub>4</sub> -N (ppm)			1.8	1.8	2.9	2.2	1.1	

\* Mehlich III Extractable

lb/A

# BROOKSIDE LABORATORIES, INC.

84786-5

## SOIL AUDIT AND INVENTORY REPORT

Name Brown Dog Farm City Palmer State AK

Independent Consultant Home Office Date 10/27/2023

Sample Location		ANNUALS	-				
Sample Identification							
Lab Number			0057-1				
Total Exchange Capacity (ME/100 g)			10.83				
pH	Buffer (SMP/Sikora)		6.9				
	H <sub>2</sub> O (1:1)		5.9				
Organic Matter (360°C LOI) %			7.29				
Estimated Nitrogen Release		lb/A	111				
ANIONS	SOLUBLE SULFUR*		ppm	34			
	PHOSPHORUS	MEHLICH III	lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P	169			
		BRAY II	lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P	37			
		OLSEN	lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P				
EXCHANGABLE CATIONS	CALCIUM*		lb/A	2740			
			ppm	1370			
	MAGNESIUM*		lb/A	248			
			ppm	124			
	POTASSIUM*		lb/A	170			
		ppm	85				
SODIUM*		lb/A	78				
		ppm	39				
BASE SATURATION PERCENT							
	Calcium	%		63.25			
	Magnesium	%		9.54			
	Potassium	%		2.01			
	Sodium	%		1.57			
	Other Bases	%		5.60			
	Hydrogen	%		18.00			
EXTRACTABLE MINORS							
	Boron* (ppm)			0.26			
	Iron* (ppm)			424			
	Manganese* (ppm)			8			
	Copper* (ppm)			2.49			
	Zinc* (ppm)			1.33			
	Aluminum* (ppm)			1696			
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						
	NO <sub>3</sub> -N (ppm)			7.1			
	NH <sub>4</sub> -N (ppm)			2.0			

\* Mehlich III Extractable

lb/A

# BROOKSIDE LABORATORIES, INC.

84786-5

## SOIL AUDIT AND INVENTORY REPORT

Name Brown Dog Farm City Palmer State AK

Independent Consultant Home Office Date 10/27/2023

Sample Location		LITTLE TUNNELS	-				
Sample Identification							
Lab Number			0058-1				
Total Exchange Capacity (ME/100 g)			9.41				
pH	Buffer (SMP/Sikora)		7.0				
	H <sub>2</sub> O (1:1)		5.8				
Organic Matter (360°C LOI) %			10.43				
Estimated Nitrogen Release		lb/A	125				
ANIONS	SOLUBLE SULFUR*		ppm	34			
	PHOSPHORUS	MEHLICH III	lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P	234			
		BRAY II	lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P	51			
		OLSEN	lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P				
EXCHANGABLE CATIONS	CALCIUM*		lb/A	2084			
			ppm	1042			
	MAGNESIUM*		lb/A	288			
			ppm	144			
	POTASSIUM*		lb/A	222			
		ppm	111				
SODIUM*		lb/A	90				
		ppm	45				
BASE SATURATION PERCENT							
	Calcium	%		55.37			
	Magnesium	%		12.75			
	Potassium	%		3.02			
	Sodium	%		2.08			
	Other Bases	%		5.80			
	Hydrogen	%		21.00			
EXTRACTABLE MINORS							
	Boron* (ppm)			0.31			
	Iron* (ppm)			600			
	Manganese* (ppm)			9			
	Copper* (ppm)			1.76			
	Zinc* (ppm)			2.72			
	Aluminum* (ppm)			1409			
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						
	NO <sub>3</sub> -N (ppm)			1.3			
	NH <sub>4</sub> -N (ppm)			2.5			

\* Mehlich III Extractable

lb/A

# BROOKSIDE LABORATORIES, INC.

84786-5

## SOIL AUDIT AND INVENTORY REPORT

Name Brown Dog Farm City Palmer State AK

Independent Consultant Home Office Date 10/27/2023

Sample Location		BIG TUNNELS	-				
Sample Identification							
Lab Number			0059-1				
Total Exchange Capacity (ME/100 g)			15.17				
pH	Buffer (SMP/Sikora)		7.0				
	H <sub>2</sub> O (1:1)		5.9				
Organic Matter (360°C LOI) %			10.28				
Estimated Nitrogen Release		lb/A	125				
ANIONS	SOLUBLE SULFUR*		ppm	113			
	PHOSPHORUS	MEHLICH III	lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P	344			
		BRAY II	lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P	75			
		OLSEN	lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P				
EXCHANGABLE CATIONS	CALCIUM*		lb/A	3450			
			ppm	1725			
	MAGNESIUM*		lb/A	524			
			ppm	262			
	POTASSIUM*		lb/A	370			
		ppm	185				
SODIUM*		lb/A	142				
		ppm	71				
BASE SATURATION PERCENT							
	Calcium	%		56.86			
	Magnesium	%		14.39			
	Potassium	%		3.13			
	Sodium	%		2.03			
	Other Bases	%		5.60			
	Hydrogen	%		18.00			
EXTRACTABLE MINORS							
	Boron* (ppm)			0.44			
	Iron* (ppm)			573			
	Manganese* (ppm)			12			
	Copper* (ppm)			2.01			
	Zinc* (ppm)			2.82			
	Aluminum* (ppm)			1517			
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						
	NO <sub>3</sub> -N (ppm)			8.3			
	NH <sub>4</sub> -N (ppm)			1.4			

\* Mehlich III Extractable