

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63962**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

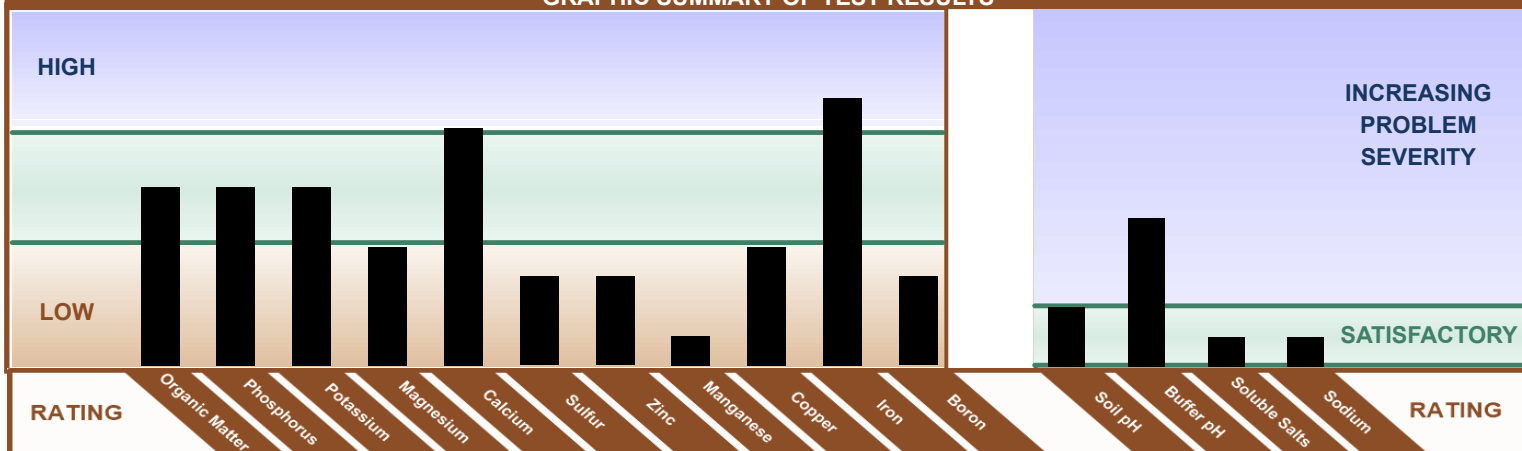
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
<b>B1_13-C2-1</b>	
Soil pH	<b>6.9</b>
Buffer Index	<b>7.2</b>
Soluble Salts mmhos/cm	<b>0.4</b>
Sodium ppm	<b>12.3</b>
% Organic Matter	<b>3.3</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>18</b>
Potassium	<b>172</b>
Magnesium	<b>365</b>
Calcium	<b>3832</b>
Sulfate Sulfur	<b>4</b>
Zinc	<b>0.7</b>
Manganese	<b>1.2</b>
Copper	<b>0.6</b>
Iron	<b>17.5</b>
Boron	<b>0.4</b>

FERTILIZER GUIDELINES IN: Lbs/Acre											
1st Option Intended Crop				2nd Option Intended Crop				3rd Option Intended Crop			
Yield Goal				Yield Goal				Yield Goal			
Preceding Crop				Preceding Crop				Preceding Crop			
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	
N				N				N			
P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>			
K <sub>2</sub> O				K <sub>2</sub> O				K <sub>2</sub> O			
MgO				MgO				MgO			
S				S				S			
Zn				Zn				Zn			
Mn				Mn				Mn			
Cu				Cu				Cu			
Fe				Fe				Fe			
B				B				B			
None				None				None			

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
10.3	0 - 5	1.7	65 - 75	11.9	2 - 7	75.8	15 - 20	0.2	0 - 5	25.2

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63963**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

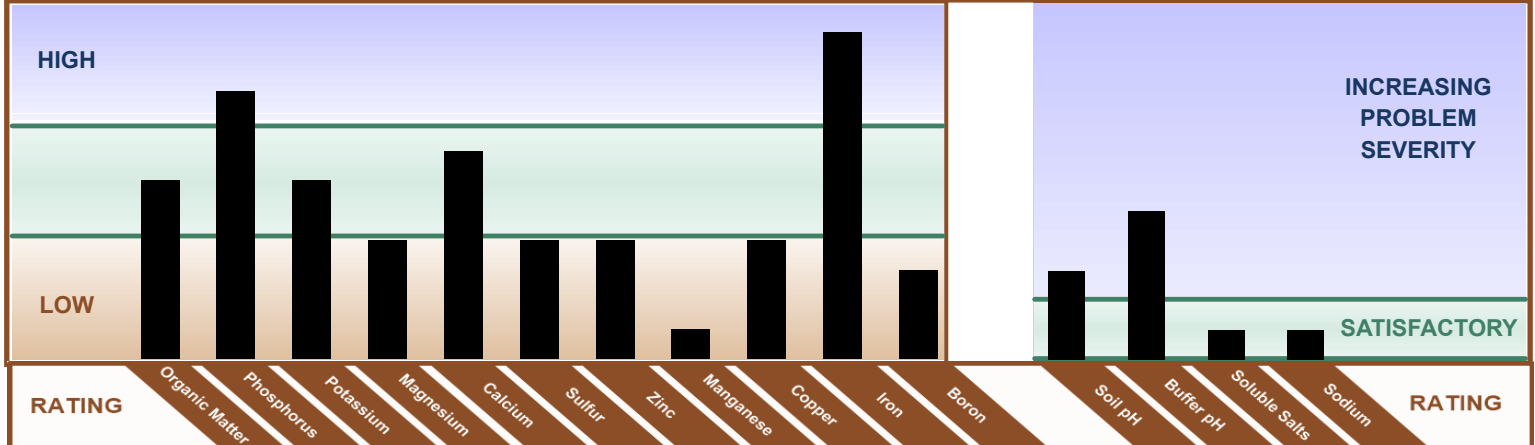
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
<b>B1_18_C4-1</b>	
Soil pH	<b>6.6</b>
Buffer Index	<b>7.1</b>
Soluble Salts mmhos/cm	<b>0.4</b>
Sodium ppm	<b>20.5</b>
% Organic Matter	<b>3.2</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>22</b>
--	--
--	--
Potassium	<b>178</b>
Magnesium	<b>310</b>
Calcium	<b>3213</b>
Sulfate Sulfur	<b>6</b>
Zinc	<b>0.8</b>
Manganese	<b>1.0</b>
Copper	<b>0.5</b>
Iron	<b>21.6</b>
Boron	<b>0.4</b>

FERTILIZER GUIDELINES IN: Lbs/Acre									
1st Option Intended Crop			2nd Option Intended Crop			3rd Option Intended Crop			
Yield Goal			Yield Goal			Yield Goal			
Preceding Crop			Preceding Crop			Preceding Crop			
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	
N			N			N			
P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>			
K <sub>2</sub> O			K <sub>2</sub> O			K <sub>2</sub> O			
MgO			MgO			MgO			
S			S			S			
Zn			Zn			Zn			
Mn			Mn			Mn			
Cu			Cu			Cu			
Fe			Fe			Fe			
B			B			B			
None			None			None			

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
13.6	0 - 5	2.1	65 - 75	11.5	2 - 7	72.5	15 - 20	0.4	0 - 5	22.1

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63964**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

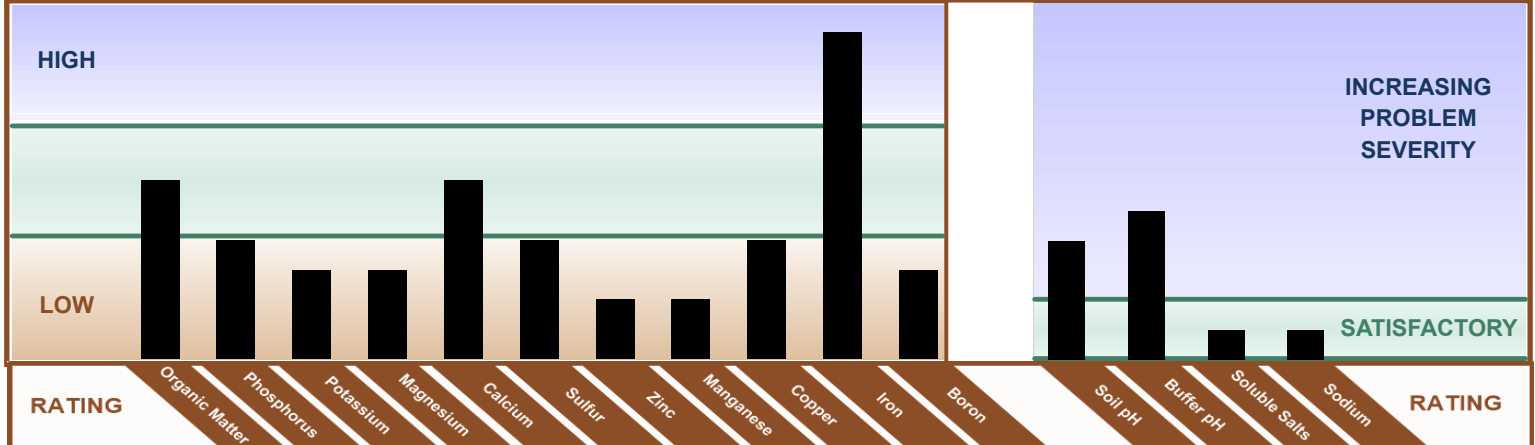
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
<b>B2_24_C2-1</b>	
Soil pH	<b>6.5</b>
Buffer Index	<b>7.1</b>
Soluble Salts mmhos/cm	<b>0.3</b>
Sodium ppm	<b>11.9</b>
% Organic Matter	<b>3.1</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>14</b>
--	--
--	--
Potassium	<b>140</b>
Magnesium	<b>247</b>
Calcium	<b>2737</b>
Sulfate Sulfur	<b>5</b>
Zinc	<b>0.5</b>
Manganese	<b>1.9</b>
Copper	<b>0.5</b>
Iron	<b>21.1</b>
Boron	<b>0.3</b>

FERTILIZER GUIDELINES IN: Lbs/Acre											
1st Option Intended Crop				2nd Option Intended Crop				3rd Option Intended Crop			
Yield Goal				Yield Goal				Yield Goal			
Preceding Crop				Preceding Crop				Preceding Crop			
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	
N				N				N			
P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>			
K <sub>2</sub> O				K <sub>2</sub> O				K <sub>2</sub> O			
MgO				MgO				MgO			
S				S				S			
Zn				Zn				Zn			
Mn				Mn				Mn			
Cu				Cu				Cu			
Fe				Fe				Fe			
B				B				B			
None				None				None			

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>18.2</b>	<b>0 - 5</b>	<b>1.8</b>	<b>65 - 75</b>	<b>10.3</b>	<b>2 - 7</b>	<b>69.4</b>	<b>15 - 20</b>	<b>0.3</b>	<b>0 - 5</b>	<b>19.7</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63965**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

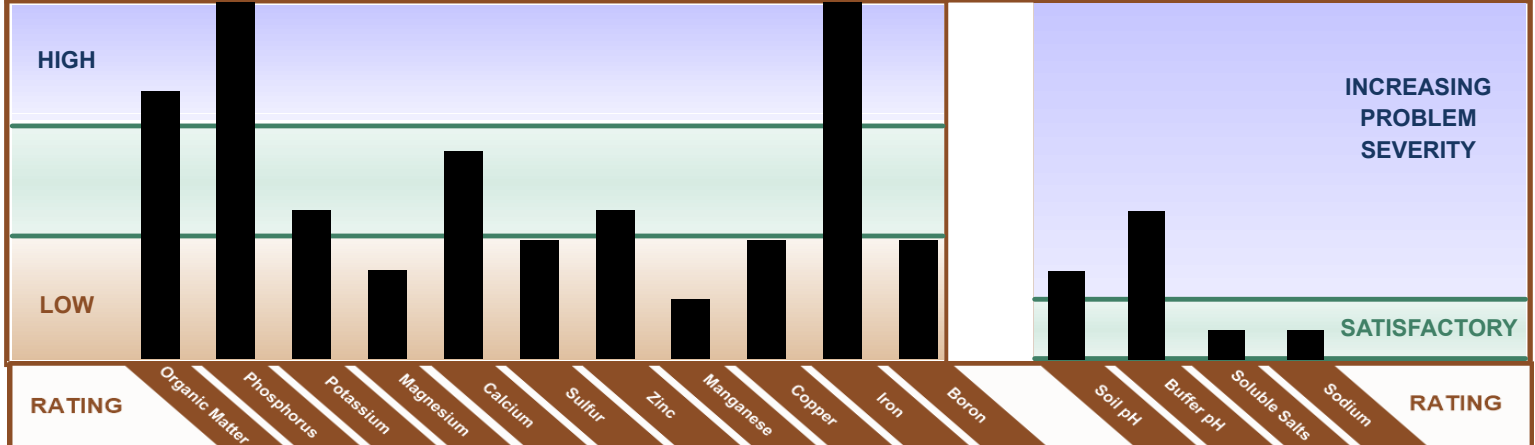
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
B2_28-C4-1	
Soil pH	6.5
Buffer Index	7.1
Soluble Salts mmhos/cm	0.4
Sodium ppm	23.3
% Organic Matter	4.7
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	35
--	--
--	--
Potassium	162
Magnesium	337
Calcium	3782
Sulfate Sulfur	6
Zinc	1.2
Manganese	2.4
Copper	0.7
Iron	25.1
Boron	0.5

FERTILIZER GUIDELINES IN: Lbs/Acre									
1st Option Intended Crop				2nd Option Intended Crop				3rd Option Intended Crop	
Yield Goal				Yield Goal				Yield Goal	
Preceding Crop				Preceding Crop				Preceding Crop	
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES	
N				N				N	
P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>	
K <sub>2</sub> O				K <sub>2</sub> O				K <sub>2</sub> O	
MgO				MgO				MgO	
S				S				S	
Zn				Zn				Zn	
Mn				Mn				Mn	
Cu				Cu				Cu	
Fe				Fe				Fe	
B				B				B	
None				None				None	

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
14.3	0 - 5	1.6	65 - 75	10.7	2 - 7	72.9	15 - 20	0.4	0 - 5	25.9

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63966**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

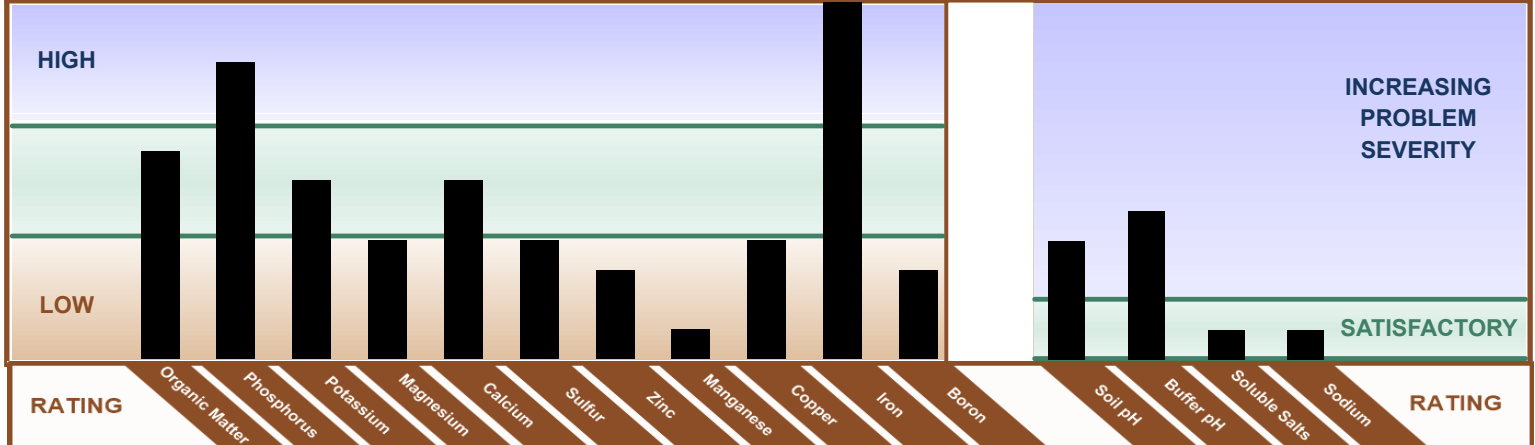
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
<b>B3_34_C2-1</b>	
Soil pH	<b>6.4</b>
Buffer Index	<b>7.0</b>
Soluble Salts mmhos/cm	<b>0.4</b>
Sodium ppm	<b>12.9</b>
% Organic Matter	<b>3.6</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>28</b>
--	--
--	--
Potassium	<b>174</b>
Magnesium	<b>396</b>
Calcium	<b>3468</b>
Sulfate Sulfur	<b>5</b>
Zinc	<b>0.6</b>
Manganese	<b>0.9</b>
Copper	<b>0.9</b>
Iron	<b>33.3</b>
Boron	<b>0.4</b>

FERTILIZER GUIDELINES IN: Lbs/Acre											
1st Option Intended Crop				2nd Option Intended Crop				3rd Option Intended Crop			
Yield Goal				Yield Goal				Yield Goal			
Preceding Crop				Preceding Crop				Preceding Crop			
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	
N				N				N			
P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>			
K <sub>2</sub> O				K <sub>2</sub> O				K <sub>2</sub> O			
MgO				MgO				MgO			
S				S				S			
Zn				Zn				Zn			
Mn				Mn				Mn			
Cu				Cu				Cu			
Fe				Fe				Fe			
B				B				B			
None				None				None			

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>16.3</b>	<b>0 - 5</b>	<b>1.8</b>	<b>65 - 75</b>	<b>13.0</b>	<b>2 - 7</b>	<b>68.8</b>	<b>15 - 20</b>	<b>0.2</b>	<b>0 - 5</b>	<b>25.1</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS



Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**

Laboratory Sample #  
**BG63967**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

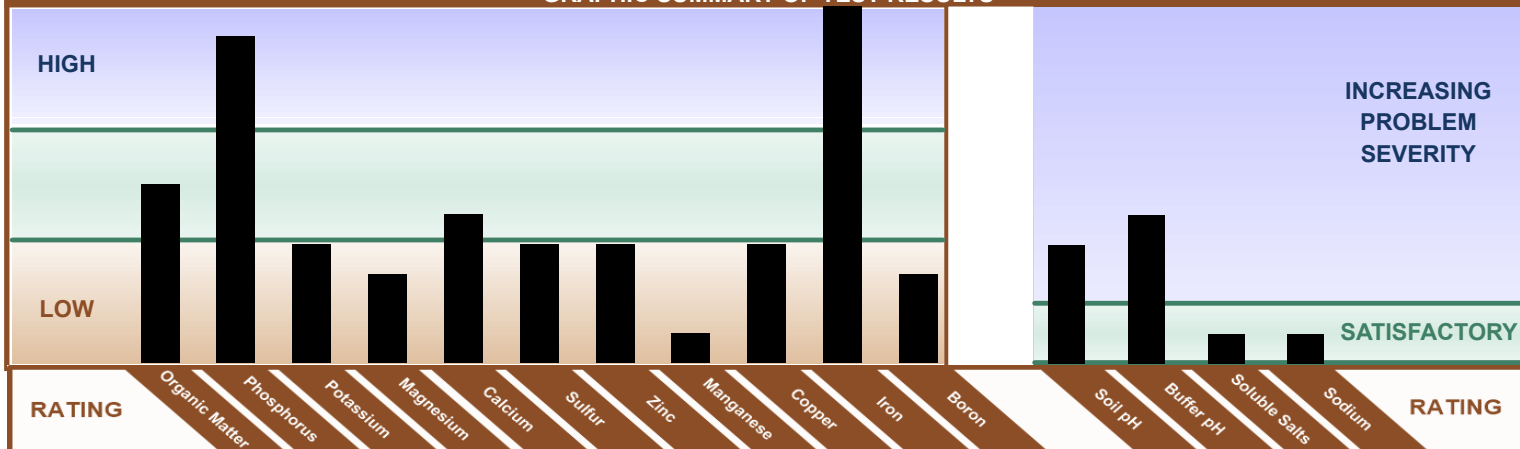
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
<b>B3_37_C4-1</b>	
Soil pH	<b>6.4</b>
Buffer Index	<b>7.0</b>
Soluble Salts mmhos/cm	<b>0.3</b>
Sodium ppm	<b>18.8</b>
% Organic Matter	<b>3.2</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>29</b>
--	--
--	--
Potassium	<b>153</b>
Magnesium	<b>254</b>
Calcium	<b>2594</b>
Sulfate Sulfur	<b>6</b>
Zinc	<b>0.7</b>
Manganese	<b>1.4</b>
Copper	<b>0.4</b>
Iron	<b>26.2</b>
Boron	<b>0.3</b>

FERTILIZER GUIDELINES IN: Lbs/Acre									
1st Option Intended Crop			2nd Option Intended Crop			3rd Option Intended Crop			
Yield Goal			Yield Goal			Yield Goal			
Preceding Crop			Preceding Crop			Preceding Crop			
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	
N			N			N			
P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>			
K <sub>2</sub> O			K <sub>2</sub> O			K <sub>2</sub> O			
MgO			MgO			MgO			
S			S			S			
Zn			Zn			Zn			
Mn			Mn			Mn			
Cu			Cu			Cu			
Fe			Fe			Fe			
B			B			B			
None			None			None			

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>20.9</b>	<b>0 - 5</b>	<b>2.0</b>	<b>65 - 75</b>	<b>10.6</b>	<b>2 - 7</b>	<b>66.1</b>	<b>15 - 20</b>	<b>0.4</b>	<b>0 - 5</b>	<b>19.6</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63968**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

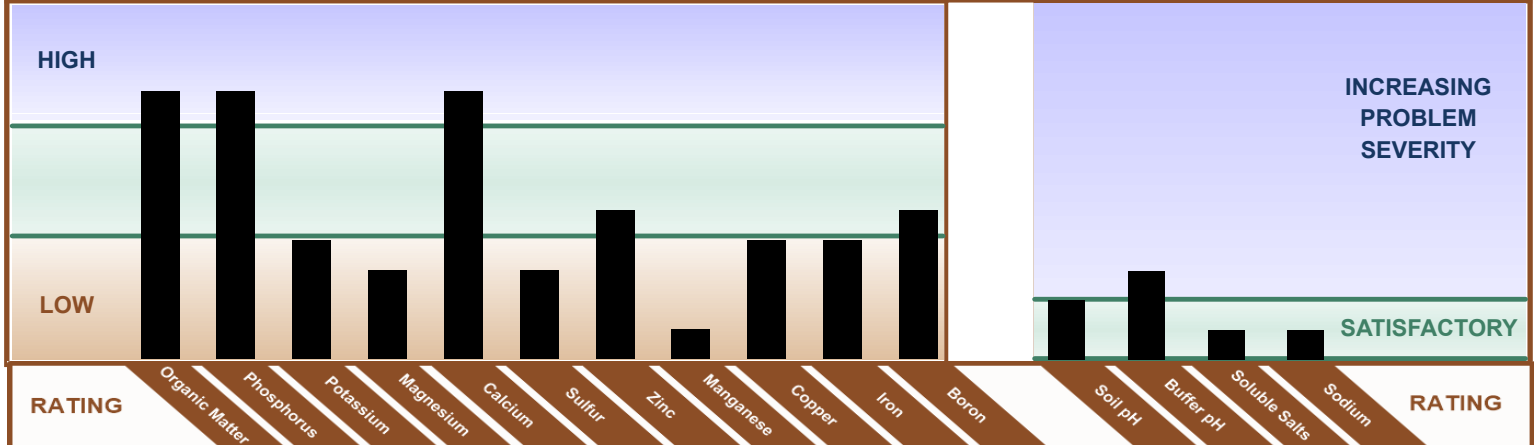
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
<b>B4_44_C2-1</b>	
Soil pH	<b>7.3</b>
Buffer Index	<b>7.3</b>
Soluble Salts mmhos/cm	<b>0.6</b>
Sodium ppm	<b>13.2</b>
% Organic Matter	<b>4.8</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>23</b>
--	--
Potassium	<b>142</b>
Magnesium	<b>396</b>
Calcium	<b>5716</b>
Sulfate Sulfur	<b>4</b>
Zinc	<b>1.3</b>
Manganese	<b>1.1</b>
Copper	<b>1.0</b>
Iron	<b>9.6</b>
Boron	<b>0.7</b>

FERTILIZER GUIDELINES IN: Lbs/Acre											
1st Option Intended Crop				2nd Option Intended Crop				3rd Option Intended Crop			
Yield Goal				Yield Goal				Yield Goal			
Preceding Crop				Preceding Crop				Preceding Crop			
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	
N				N				N			
P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>			
K <sub>2</sub> O				K <sub>2</sub> O				K <sub>2</sub> O			
MgO				MgO				MgO			
S				S				S			
Zn				Zn				Zn			
Mn				Mn				Mn			
Cu				Cu				Cu			
Fe				Fe				Fe			
B				B				B			
None				None				None			

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>0.0</b>	<b>0 - 5</b>	<b>1.1</b>	<b>65 - 75</b>	<b>10.1</b>	<b>2 - 7</b>	<b>88.6</b>	<b>15 - 20</b>	<b>0.2</b>	<b>0 - 5</b>	<b>32.2</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63969**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

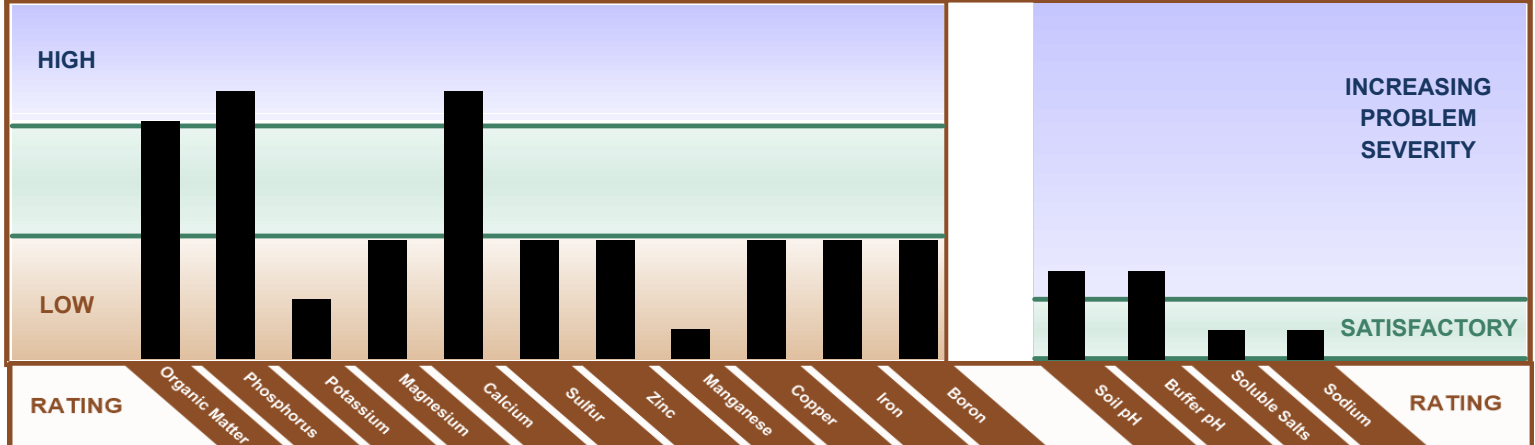
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
<b>B4_46_C4-1</b>	
Soil pH	<b>7.4</b>
Buffer Index	<b>7.4</b>
Soluble Salts mmhos/cm	<b>0.5</b>
Sodium ppm	<b>15.7</b>
% Organic Matter	<b>4.0</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>22</b>
--	--
--	--
Potassium	<b>96</b>
Magnesium	<b>309</b>
Calcium	<b>3604</b>
Sulfate Sulfur	<b>5</b>
Zinc	<b>0.8</b>
Manganese	<b>1.2</b>
Copper	<b>0.9</b>
Iron	<b>8.8</b>
Boron	<b>0.6</b>

FERTILIZER GUIDELINES IN: Lbs/Acre											
1st Option Intended Crop				2nd Option Intended Crop				3rd Option Intended Crop			
Yield Goal				Yield Goal				Yield Goal			
Preceding Crop				Preceding Crop				Preceding Crop			
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	
N				N				N			
P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>			
K <sub>2</sub> O				K <sub>2</sub> O				K <sub>2</sub> O			
MgO				MgO				MgO			
S				S				S			
Zn				Zn				Zn			
Mn				Mn				Mn			
Cu				Cu				Cu			
Fe				Fe				Fe			
B				B				B			
None				None				None			

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>0.0</b>	<b>0 - 5</b>	<b>1.2</b>	<b>65 - 75</b>	<b>12.2</b>	<b>2 - 7</b>	<b>86.2</b>	<b>15 - 20</b>	<b>0.3</b>	<b>0 - 5</b>	<b>20.9</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.



# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63971**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

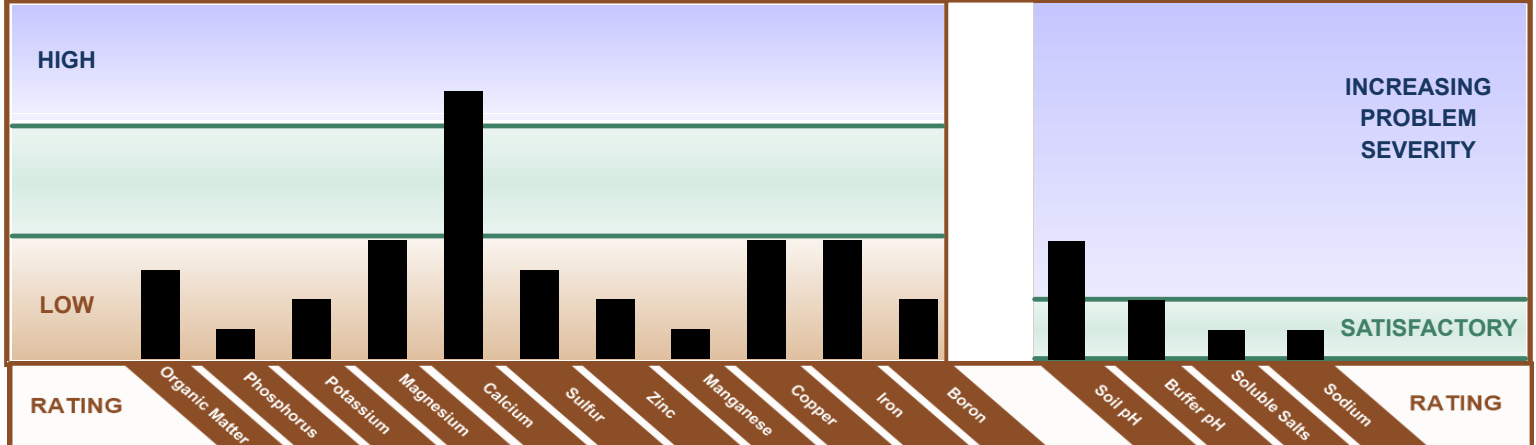
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



### REPORT OF ANALYSIS

YOUR SAMPLE NUMBER	
<b>B1_13_C2-2</b>	
Soil pH	<b>7.5</b>
Buffer Index	<b>7.4</b>
Soluble Salts mmhos/cm	<b>0.4</b>
Sodium ppm	<b>13.9</b>
% Organic Matter	<b>1.9</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>3</b>
--	--
--	--
Potassium	<b>73</b>
Magnesium	<b>401</b>
Calcium	<b>3870</b>
Sulfate Sulfur	<b>4</b>
Zinc	<b>0.2</b>
Manganese	<b>0.7</b>
Copper	<b>0.6</b>
Iron	<b>10.0</b>
Boron	<b>0.3</b>

### FERTILIZER GUIDELINES IN: Lbs/Acre

1st Option Intended Crop			2nd Option Intended Crop			3rd Option Intended Crop		
Yield Goal			Yield Goal			Yield Goal		
Preceding Crop			Preceding Crop			Preceding Crop		
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES
N			N			N		
P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>		
K <sub>2</sub> O			K <sub>2</sub> O			K <sub>2</sub> O		
MgO			MgO			MgO		
S			S			S		
Zn			Zn			Zn		
Mn			Mn			Mn		
Cu			Cu			Cu		
Fe			Fe			Fe		
B			B			B		
None			None			None		

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>0.0</b>	<b>0 - 5</b>	<b>0.8</b>	<b>65 - 75</b>	<b>14.4</b>	<b>2 - 7</b>	<b>84.5</b>	<b>15 - 20</b>	<b>0.3</b>	<b>0 - 5</b>	<b>22.9</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63972**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

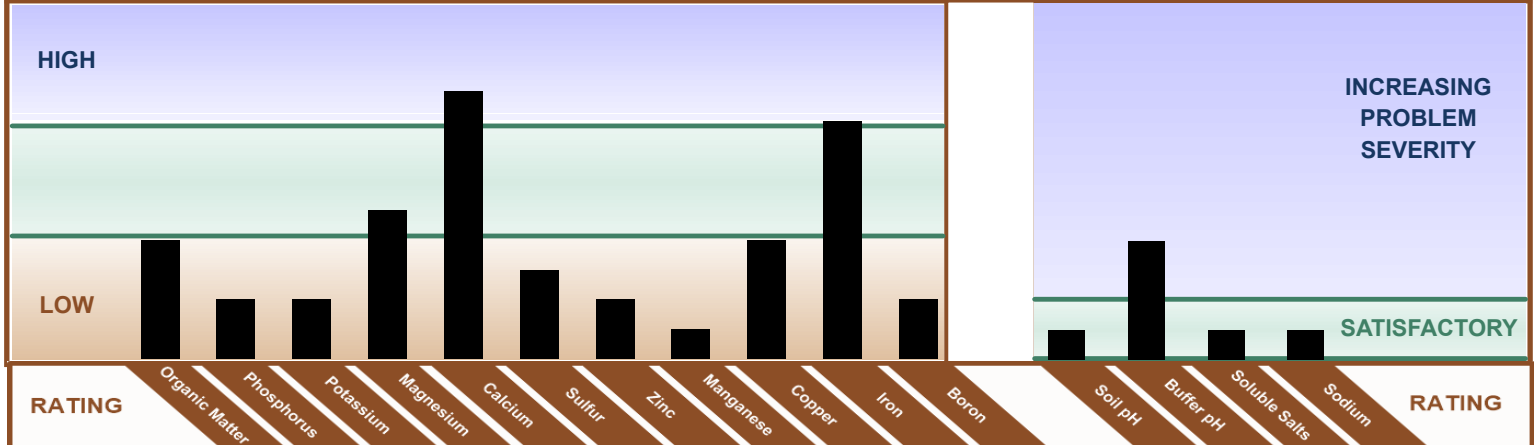
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
<b>B1_18_C4-2</b>	
Soil pH	<b>7.2</b>
Buffer Index	<b>7.3</b>
Soluble Salts mmhos/cm	<b>0.4</b>
Sodium ppm	<b>15.7</b>
% Organic Matter	<b>2.2</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>6</b>
--	--
--	--
Potassium	<b>71</b>
Magnesium	<b>375</b>
Calcium	<b>3274</b>
Sulfate Sulfur	<b>4</b>
Zinc	<b>0.3</b>
Manganese	<b>0.5</b>
Copper	<b>0.6</b>
Iron	<b>15.4</b>
Boron	<b>0.3</b>

FERTILIZER GUIDELINES IN: Lbs/Acre											
1st Option Intended Crop				2nd Option Intended Crop				3rd Option Intended Crop			
Yield Goal				Yield Goal				Yield Goal			
Preceding Crop				Preceding Crop				Preceding Crop			
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	
N				N				N			
P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>			
K <sub>2</sub> O				K <sub>2</sub> O				K <sub>2</sub> O			
MgO				MgO				MgO			
S				S				S			
Zn				Zn				Zn			
Mn				Mn				Mn			
Cu				Cu				Cu			
Fe				Fe				Fe			
B				B				B			
None				None				None			

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>0.1</b>	<b>0 - 5</b>	<b>0.9</b>	<b>65 - 75</b>	<b>15.7</b>	<b>2 - 7</b>	<b>83.0</b>	<b>15 - 20</b>	<b>0.3</b>	<b>0 - 5</b>	<b>19.7</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63973**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

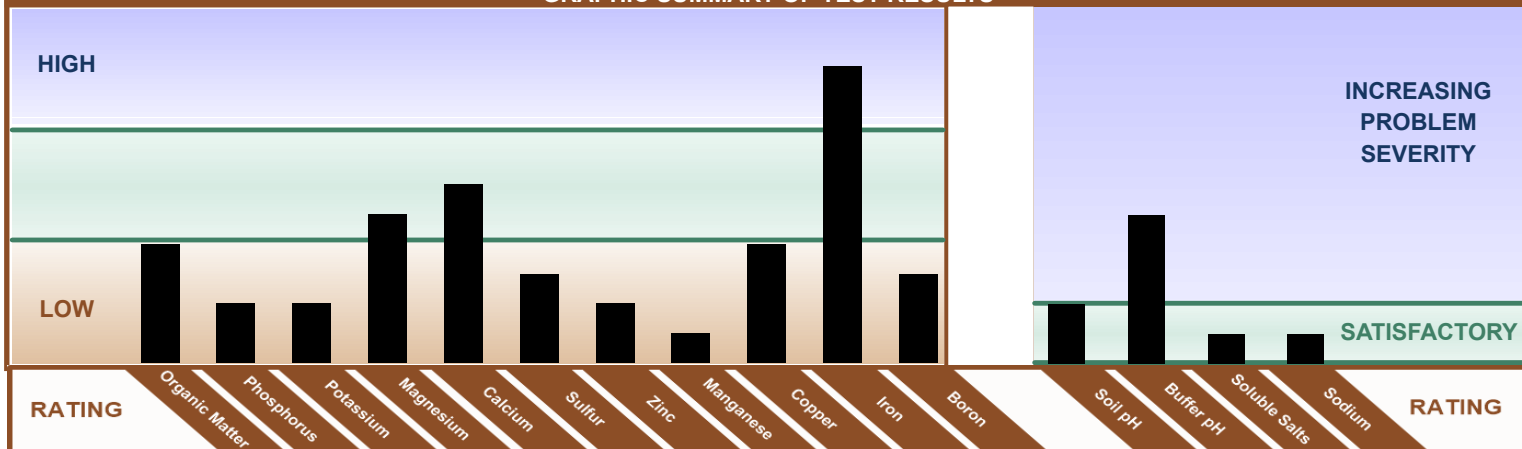
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



### REPORT OF ANALYSIS

YOUR SAMPLE NUMBER	
<b>B2_24_C2-2</b>	
Soil pH	<b>6.8</b>
Buffer Index	<b>7.2</b>
Soluble Salts mmhos/cm	
Sodium ppm	<b>0.3</b>
% Organic Matter	<b>14.6</b>
<b>ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)</b>	
Nitrate N	--
Phosphorus Mehlich III	<b>6</b>
--	--
--	--
Potassium	<b>91</b>
Magnesium	<b>382</b>
Calcium	<b>2816</b>
Sulfate Sulfur	<b>4</b>
Zinc	<b>0.3</b>
Manganese	<b>1.2</b>
Copper	<b>0.6</b>
Iron	<b>18.9</b>
Boron	<b>0.3</b>

### FERTILIZER GUIDELINES IN: Lbs/Acre

1st Option Intended Crop			2nd Option Intended Crop			3rd Option Intended Crop		
Yield Goal			Yield Goal			Yield Goal		
Preceding Crop			Preceding Crop			Preceding Crop		
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES
N			N			N		
P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>		
K <sub>2</sub> O			K <sub>2</sub> O			K <sub>2</sub> O		
MgO			MgO			MgO		
S			S			S		
Zn			Zn			Zn		
Mn			Mn			Mn		
Cu			Cu			Cu		
Fe			Fe			Fe		
B			B			B		
None			None			None		

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

### ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)

Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>13.9</b>	<b>0 - 5</b>	<b>1.1</b>	<b>65 - 75</b>	<b>15.5</b>	<b>2 - 7</b>	<b>69.2</b>	<b>15 - 20</b>	<b>0.3</b>	<b>0 - 5</b>	<b>20.3</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63974**

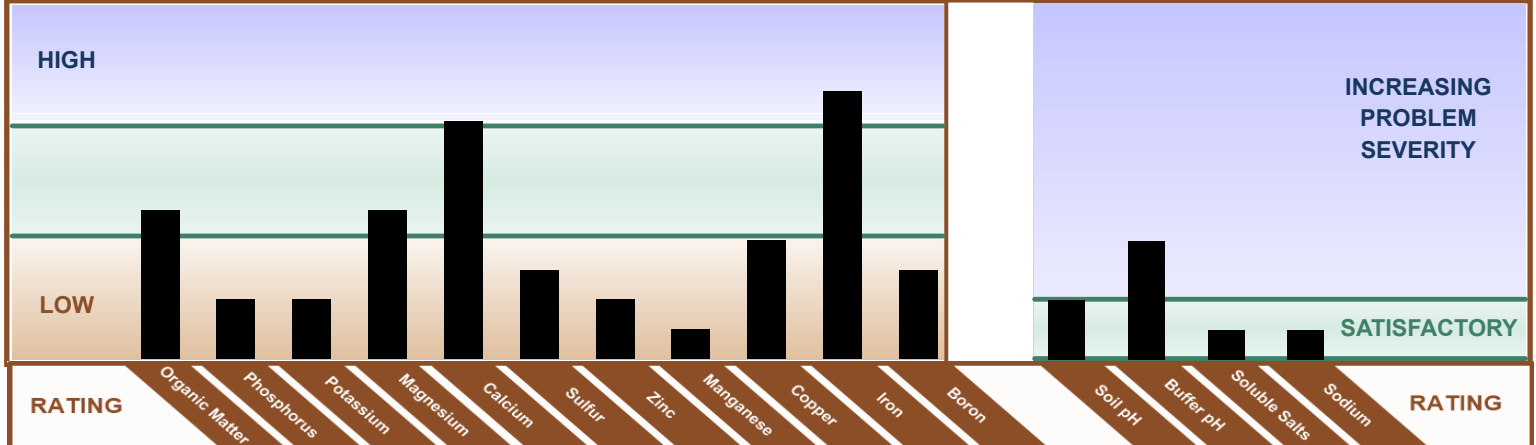
Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround **1 Day** Samples Will Be Stored Until **01-Jun-2018** Field Identification **BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



## REPORT OF ANALYSIS

YOUR SAMPLE NUMBER	
<b>B2_28_C4-2</b>	
Soil pH	<b>7.0</b>
Buffer Index	<b>7.3</b>
Soluble Salts mmhos/cm	
Sodium ppm	<b>0.4</b>
% Organic Matter	<b>19.1</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>7</b>
--	--
--	--
Potassium	<b>96</b>
Magnesium	<b>472</b>
Calcium	<b>3827</b>
Sulfate Sulfur	<b>3</b>
Zinc	<b>0.4</b>
Manganese	<b>0.5</b>
Copper	<b>0.6</b>
Iron	<b>16.7</b>
Boron	<b>0.4</b>

## FERTILIZER GUIDELINES IN: Lbs/Acre

1st Option Intended Crop			2nd Option Intended Crop			3rd Option Intended Crop		
Yield Goal			Yield Goal			Yield Goal		
Preceding Crop			Preceding Crop			Preceding Crop		
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES
N			N			N		
P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>		
K <sub>2</sub> O			K <sub>2</sub> O			K <sub>2</sub> O		
MgO			MgO			MgO		
S			S			S		
Zn			Zn			Zn		
Mn			Mn			Mn		
Cu			Cu			Cu		
Fe			Fe			Fe		
B			B			B		
None			None			None		

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>7.5</b>	<b>0 - 5</b>	<b>1.0</b>	<b>65 - 75</b>	<b>15.4</b>	<b>2 - 7</b>	<b>75.8</b>	<b>15 - 20</b>	<b>0.3</b>	<b>0 - 5</b>	<b>25.2</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63975**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

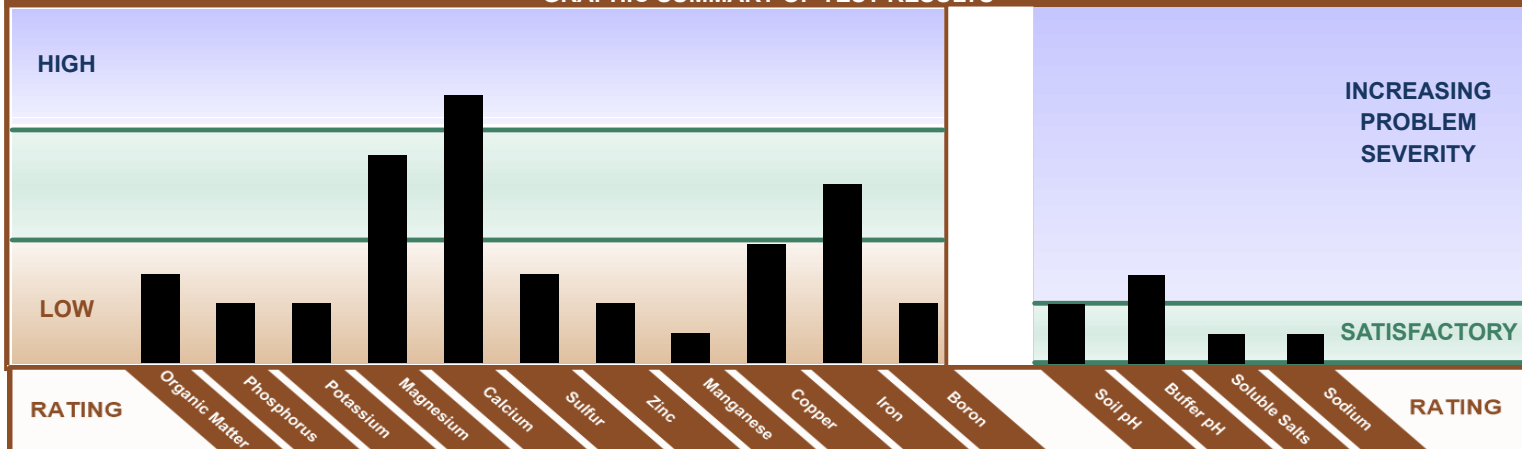
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
<b>B3_34_C2-2</b>	
Soil pH	<b>6.9</b>
Buffer Index	<b>7.4</b>
Soluble Salts mmhos/cm	
<b>0.4</b>	
Sodium ppm	<b>13.3</b>
% Organic Matter	<b>1.9</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>6</b>
--	--
--	--
Potassium	<b>98</b>
Magnesium	<b>500</b>
Calcium	<b>3430</b>
Sulfate Sulfur	<b>3</b>
Zinc	<b>0.2</b>
Manganese	<b>0.6</b>
Copper	<b>0.9</b>
Iron	<b>12.0</b>
Boron	<b>0.3</b>

FERTILIZER GUIDELINES IN: Lbs/Acre									
1st Option Intended Crop				2nd Option Intended Crop				3rd Option Intended Crop	
Yield Goal				Yield Goal				Yield Goal	
Preceding Crop				Preceding Crop				Preceding Crop	
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES	
N				N				N	
P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>	
K <sub>2</sub> O				K <sub>2</sub> O				K <sub>2</sub> O	
MgO				MgO				MgO	
S				S				S	
Zn				Zn				Zn	
Mn				Mn				Mn	
Cu				Cu				Cu	
Fe				Fe				Fe	
B				B				B	
None				None				None	

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>4.0</b>	<b>0 - 5</b>	<b>1.1</b>	<b>65 - 75</b>	<b>18.3</b>	<b>2 - 7</b>	<b>76.3</b>	<b>15 - 20</b>	<b>0.3</b>	<b>0 - 5</b>	<b>22.4</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63976**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

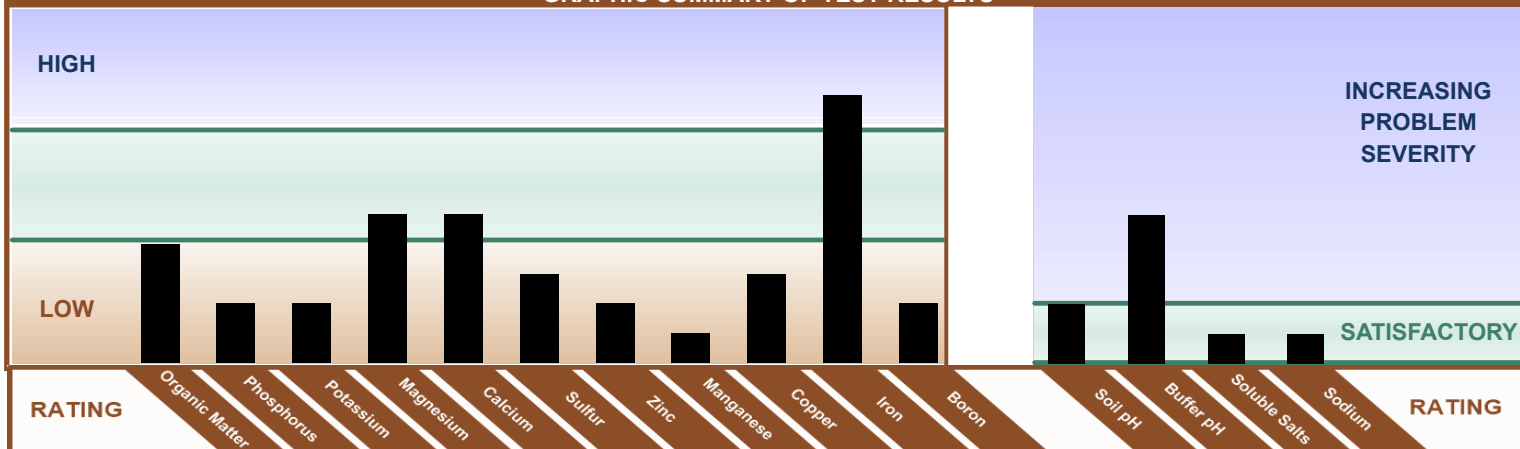
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



### REPORT OF ANALYSIS

YOUR SAMPLE NUMBER	
<b>B3_37_C4-2</b>	
Soil pH	<b>6.8</b>
Buffer Index	<b>7.2</b>
Soluble Salts mmhos/cm	
	<b>0.2</b>
Sodium ppm	<b>17.1</b>
% Organic Matter	<b>2.3</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>5</b>
--	--
--	--
Potassium	<b>59</b>
Magnesium	<b>345</b>
Calcium	<b>2309</b>
Sulfate Sulfur	<b>4</b>
Zinc	<b>0.2</b>
Manganese	<b>0.6</b>
Copper	<b>0.4</b>
Iron	<b>17.4</b>
Boron	<b>0.3</b>

### FERTILIZER GUIDELINES IN: Lbs/Acre

1st Option Intended Crop			2nd Option Intended Crop			3rd Option Intended Crop		
Yield Goal			Yield Goal			Yield Goal		
Preceding Crop			Preceding Crop			Preceding Crop		
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES
N			N			N		
P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>		
K <sub>2</sub> O			K <sub>2</sub> O			K <sub>2</sub> O		
MgO			MgO			MgO		
S			S			S		
Zn			Zn			Zn		
Mn			Mn			Mn		
Cu			Cu			Cu		
Fe			Fe			Fe		
B			B			B		
None			None			None		

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

### ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)

Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>15.6</b>	<b>0 - 5</b>	<b>0.9</b>	<b>65 - 75</b>	<b>16.4</b>	<b>2 - 7</b>	<b>66.6</b>	<b>15 - 20</b>	<b>0.4</b>	<b>0 - 5</b>	<b>17.3</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63977**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

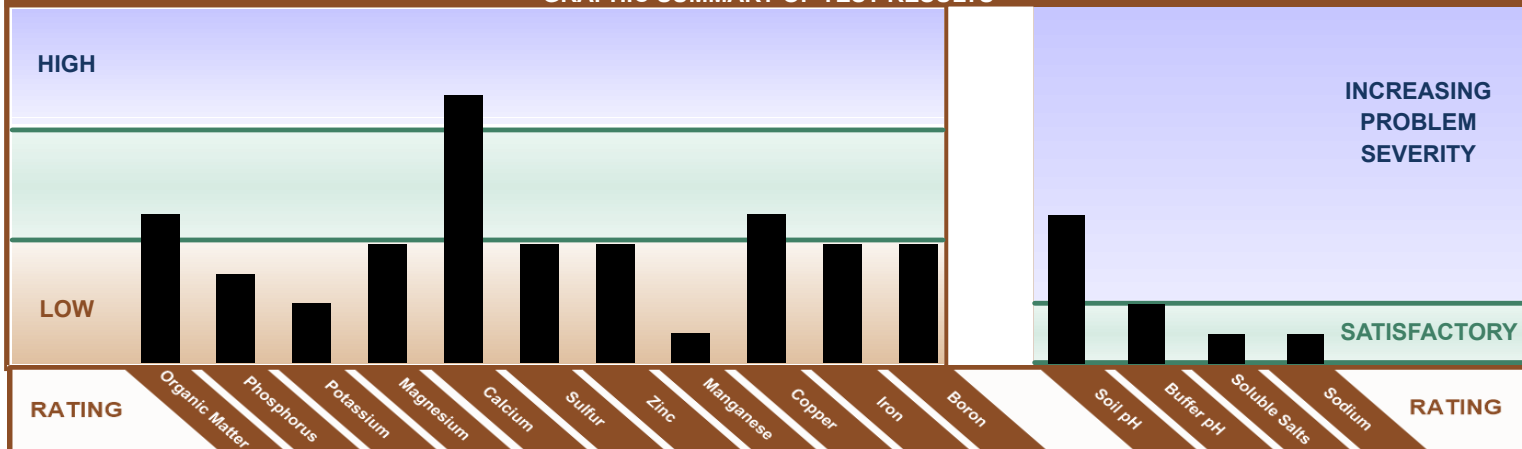
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
<b>B4_44_C2-2</b>	
Soil pH	<b>7.9</b>
Buffer Index	<b>7.5</b>
Soluble Salts mmhos/cm	<b>0.5</b>
Sodium ppm	<b>18.2</b>
% Organic Matter	<b>2.6</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>10</b>
--	--
--	--
Potassium	<b>110</b>
Magnesium	<b>452</b>
Calcium	<b>5727</b>
Sulfate Sulfur	<b>5</b>
Zinc	<b>0.8</b>
Manganese	<b>1.0</b>
Copper	<b>1.0</b>
Iron	<b>8.6</b>
Boron	<b>0.5</b>

FERTILIZER GUIDELINES IN: Lbs/Acre											
1st Option Intended Crop				2nd Option Intended Crop				3rd Option Intended Crop			
Yield Goal				Yield Goal				Yield Goal			
Preceding Crop				Preceding Crop				Preceding Crop			
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	
N				N				N			
P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>			
K <sub>2</sub> O				K <sub>2</sub> O				K <sub>2</sub> O			
MgO				MgO				MgO			
S				S				S			
Zn				Zn				Zn			
Mn				Mn				Mn			
Cu				Cu				Cu			
Fe				Fe				Fe			
B				B				B			
None				None				None			

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>0.0</b>	<b>0 - 5</b>	<b>0.9</b>	<b>65 - 75</b>	<b>11.4</b>	<b>2 - 7</b>	<b>87.5</b>	<b>15 - 20</b>	<b>0.2</b>	<b>0 - 5</b>	<b>32.7</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63978**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

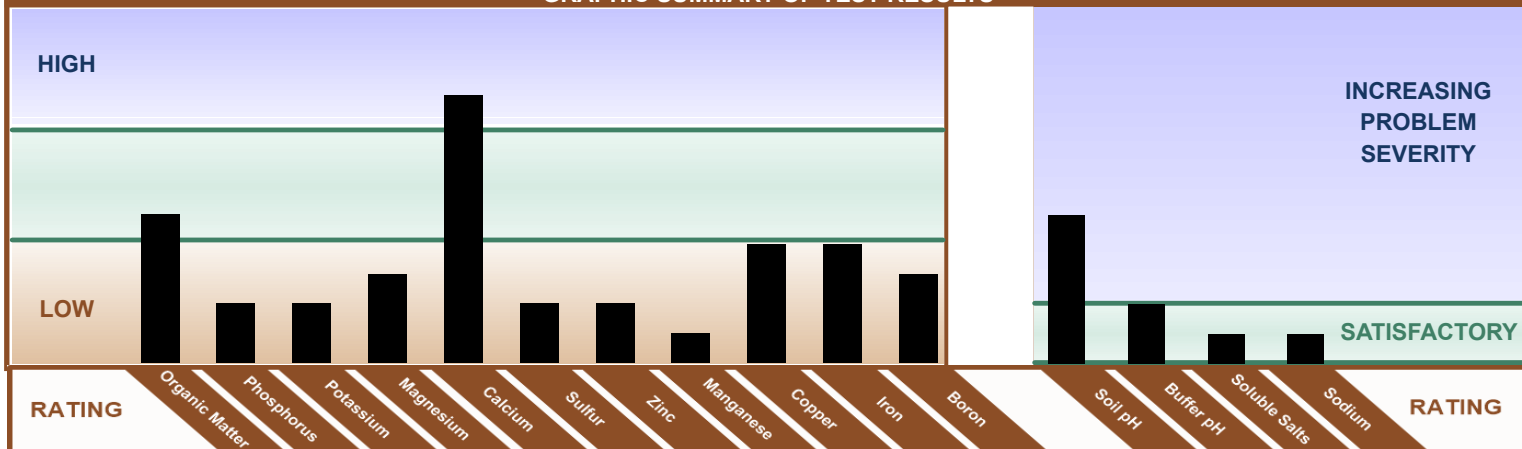
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
<b>B4_46_C4-2</b>	
Soil pH	<b>7.8</b>
Buffer Index	<b>7.4</b>
Soluble Salts mmhos/cm	<b>0.5</b>
Sodium ppm	<b>12.8</b>
% Organic Matter	<b>2.8</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>5</b>
--	--
--	--
Potassium	<b>91</b>
Magnesium	<b>404</b>
Calcium	<b>5836</b>
Sulfate Sulfur	<b>3</b>
Zinc	<b>0.5</b>
Manganese	<b>0.8</b>
Copper	<b>0.8</b>
Iron	<b>6.7</b>
Boron	<b>0.4</b>

FERTILIZER GUIDELINES IN: Lbs/Acre											
1st Option Intended Crop				2nd Option Intended Crop				3rd Option Intended Crop			
Yield Goal				Yield Goal				Yield Goal			
Preceding Crop				Preceding Crop				Preceding Crop			
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	
N				N				N			
P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>			
K <sub>2</sub> O				K <sub>2</sub> O				K <sub>2</sub> O			
MgO				MgO				MgO			
S				S				S			
Zn				Zn				Zn			
Mn				Mn				Mn			
Cu				Cu				Cu			
Fe				Fe				Fe			
B				B				B			
None				None				None			

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>0.0</b>	<b>0 - 5</b>	<b>0.7</b>	<b>65 - 75</b>	<b>10.2</b>	<b>2 - 7</b>	<b>88.9</b>	<b>15 - 20</b>	<b>0.2</b>	<b>0 - 5</b>	<b>32.7</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.



# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63979**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

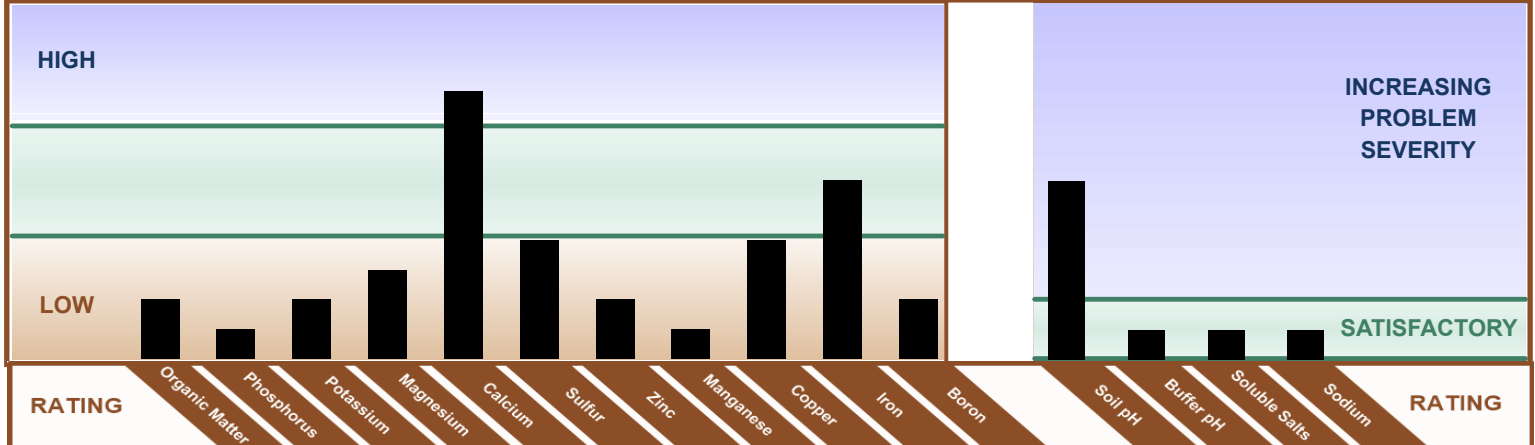
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
B1_13_C2-3	
Soil pH	8.0
Buffer Index	7.6
Soluble Salts mmhos/cm	0.4
Sodium ppm	14.8
% Organic Matter	1.1
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	3
--	--
--	--
Potassium	83
Magnesium	412
Calcium	6427
Sulfate Sulfur	7
Zinc	0.5
Manganese	1.2
Copper	0.6
Iron	11.6
Boron	0.2

FERTILIZER GUIDELINES IN: Lbs/Acre											
1st Option Intended Crop				2nd Option Intended Crop				3rd Option Intended Crop			
Yield Goal				Yield Goal				Yield Goal			
Preceding Crop				Preceding Crop				Preceding Crop			
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	
N				N				N			
P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>			
K <sub>2</sub> O				K <sub>2</sub> O				K <sub>2</sub> O			
MgO				MgO				MgO			
S				S				S			
Zn				Zn				Zn			
Mn				Mn				Mn			
Cu				Cu				Cu			
Fe				Fe				Fe			
B				B				B			
None				None				None			

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
0.0	0 - 5	0.6	65 - 75	9.5	2 - 7	89.7	15 - 20	0.2	0 - 5	35.7

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63980**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

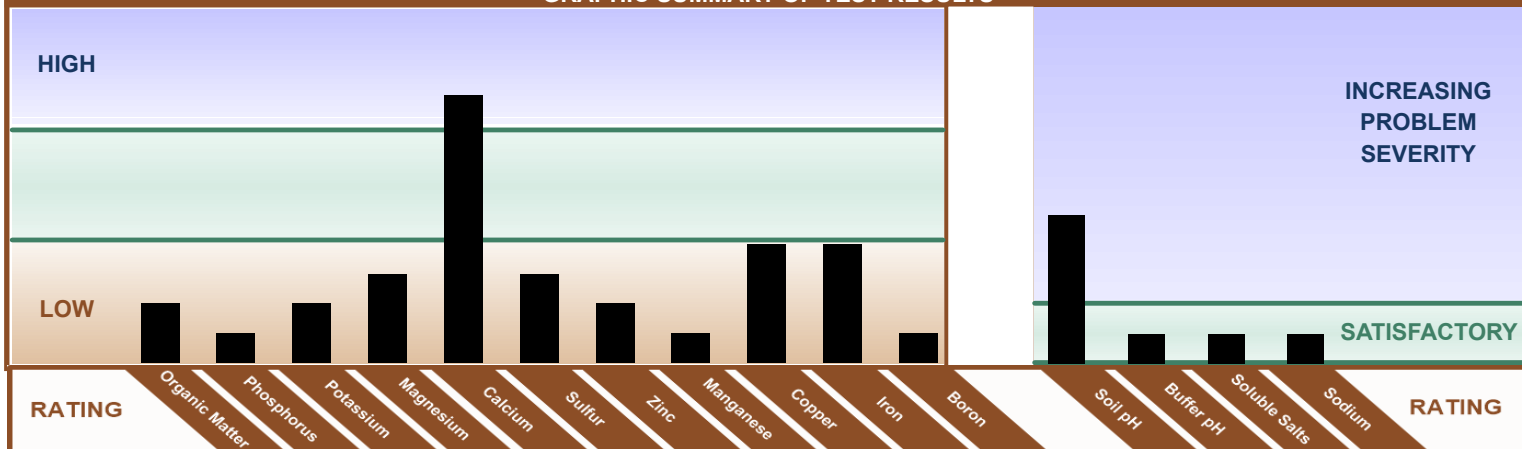
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
<b>B1_18_C4-3</b>	
Soil pH	<b>7.7</b>
Buffer Index	<b>7.5</b>
Soluble Salts mmhos/cm	<b>0.4</b>
Sodium ppm	<b>14.1</b>
% Organic Matter	<b>1.4</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>3</b>
--	--
--	--
Potassium	<b>60</b>
Magnesium	<b>337</b>
Calcium	<b>4355</b>
Sulfate Sulfur	<b>4</b>
Zinc	<b>0.3</b>
Manganese	<b>0.6</b>
Copper	<b>0.5</b>
Iron	<b>9.1</b>
Boron	<b>0.2</b>

FERTILIZER GUIDELINES IN: Lbs/Acre											
1st Option Intended Crop				2nd Option Intended Crop				3rd Option Intended Crop			
Yield Goal				Yield Goal				Yield Goal			
Preceding Crop				Preceding Crop				Preceding Crop			
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	
N				N				N			
P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>			
K <sub>2</sub> O				K <sub>2</sub> O				K <sub>2</sub> O			
MgO				MgO				MgO			
S				S				S			
Zn				Zn				Zn			
Mn				Mn				Mn			
Cu				Cu				Cu			
Fe				Fe				Fe			
B				B				B			
None				None				None			

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>0.0</b>	<b>0 - 5</b>	<b>0.6</b>	<b>65 - 75</b>	<b>11.2</b>	<b>2 - 7</b>	<b>87.9</b>	<b>15 - 20</b>	<b>0.2</b>	<b>0 - 5</b>	<b>24.7</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63981**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

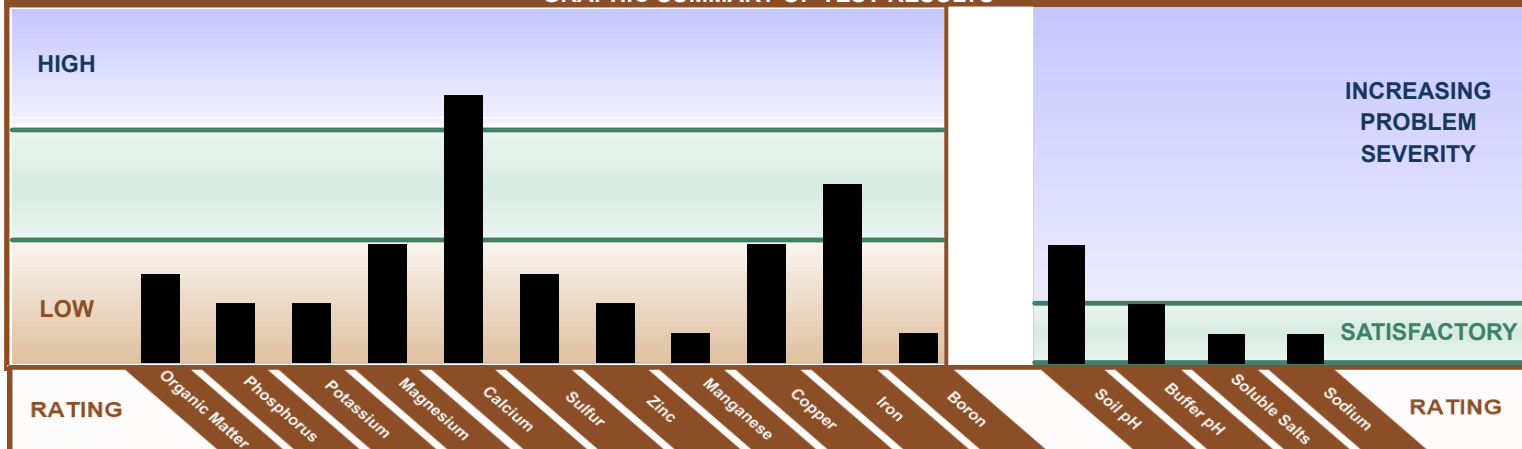
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
<b>B2_24_C2-3</b>	
Soil pH	<b>7.6</b>
Buffer Index	<b>7.4</b>
Soluble Salts mmhos/cm	<b>0.5</b>
Sodium ppm	<b>16.0</b>
% Organic Matter	<b>1.7</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>5</b>
--	--
--	--
Potassium	<b>103</b>
Magnesium	<b>458</b>
Calcium	<b>5292</b>
Sulfate Sulfur	<b>4</b>
Zinc	<b>0.3</b>
Manganese	<b>1.2</b>
Copper	<b>0.6</b>
Iron	<b>12.0</b>
Boron	<b>0.2</b>

FERTILIZER GUIDELINES IN: Lbs/Acre											
1st Option Intended Crop				2nd Option Intended Crop				3rd Option Intended Crop			
Yield Goal				Yield Goal				Yield Goal			
Preceding Crop				Preceding Crop				Preceding Crop			
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	
N				N				N			
P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>			
K <sub>2</sub> O				K <sub>2</sub> O				K <sub>2</sub> O			
MgO				MgO				MgO			
S				S				S			
Zn				Zn				Zn			
Mn				Mn				Mn			
Cu				Cu				Cu			
Fe				Fe				Fe			
B				B				B			
None				None				None			

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>0.0</b>	<b>0 - 5</b>	<b>0.9</b>	<b>65 - 75</b>	<b>12.3</b>	<b>2 - 7</b>	<b>86.5</b>	<b>15 - 20</b>	<b>0.2</b>	<b>0 - 5</b>	<b>30.5</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63982**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

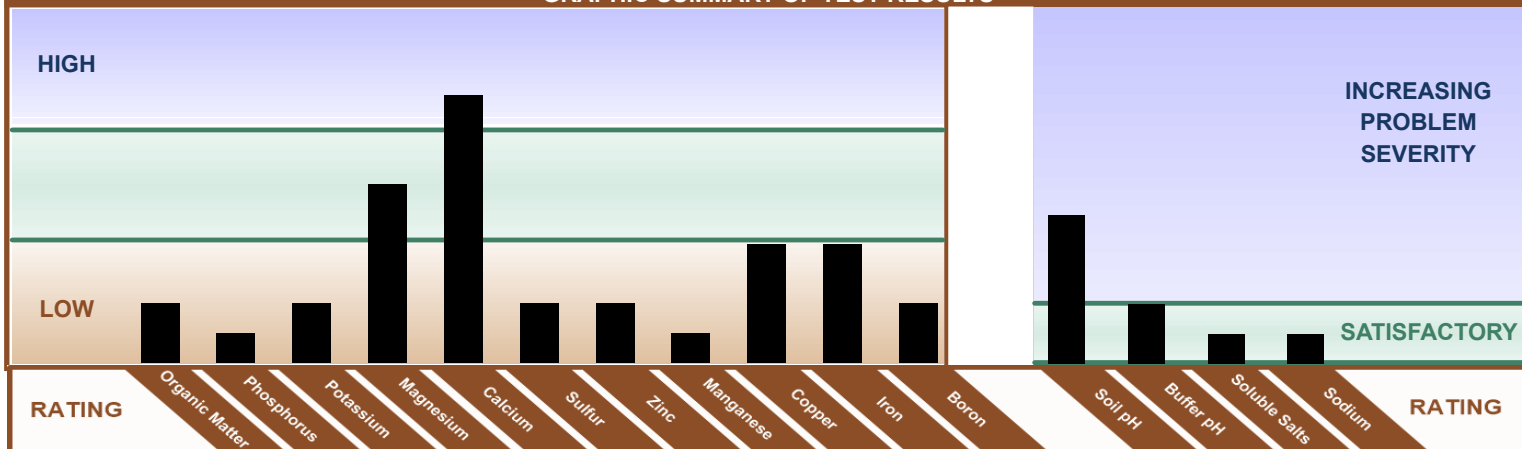
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
B2_28_C4-3	
Soil pH	7.8
Buffer Index	7.5
Soluble Salts mmhos/cm	0.4
Sodium ppm	18.9
% Organic Matter	1.3
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	3
--	--
--	--
Potassium	77
Magnesium	499
Calcium	4081
Sulfate Sulfur	2
Zinc	0.3
Manganese	0.9
Copper	0.6
Iron	8.4
Boron	0.3

FERTILIZER GUIDELINES IN: Lbs/Acre											
1st Option Intended Crop				2nd Option Intended Crop				3rd Option Intended Crop			
Yield Goal				Yield Goal				Yield Goal			
Preceding Crop				Preceding Crop				Preceding Crop			
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	
N				N				N			
P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>			
K <sub>2</sub> O				K <sub>2</sub> O				K <sub>2</sub> O			
MgO				MgO				MgO			
S				S				S			
Zn				Zn				Zn			
Mn				Mn				Mn			
Cu				Cu				Cu			
Fe				Fe				Fe			
B				B				B			
None				None				None			

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
0.0	0 - 5	0.8	65 - 75	16.6	2 - 7	82.3	15 - 20	0.3	0 - 5	24.8

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63983**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

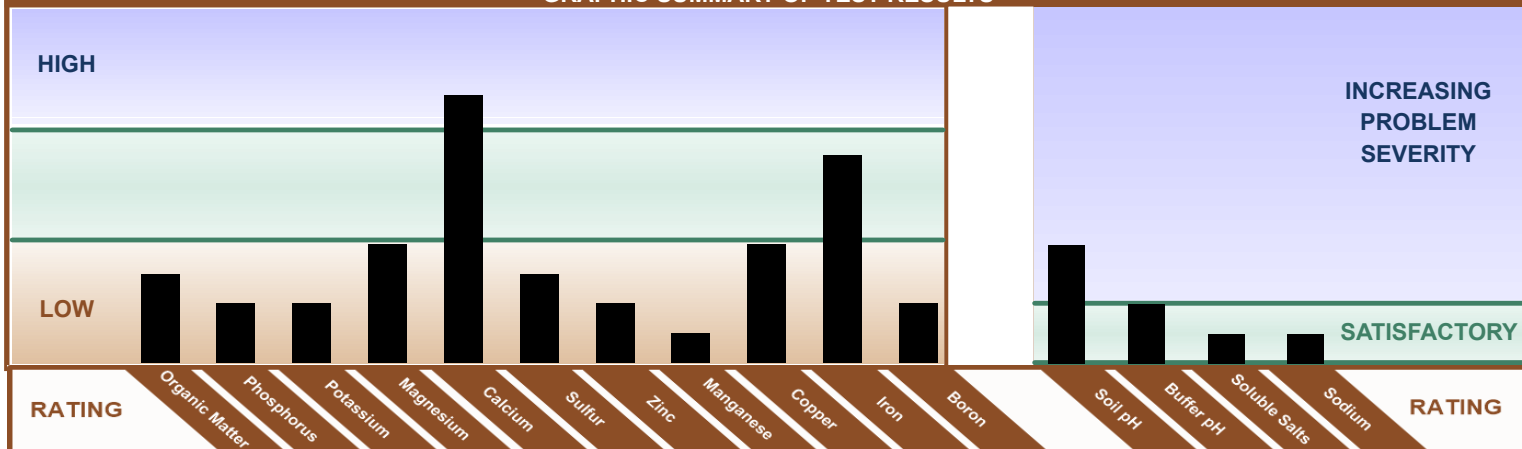
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



### REPORT OF ANALYSIS

YOUR SAMPLE NUMBER	
<b>B3_34_C2-3</b>	
Soil pH	<b>7.5</b>
Buffer Index	<b>7.5</b>
Soluble Salts mmhos/cm	<b>0.5</b>
Sodium ppm	<b>13.9</b>
% Organic Matter	<b>1.5</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>5</b>
--	--
--	--
Potassium	<b>106</b>
Magnesium	<b>473</b>
Calcium	<b>4508</b>
Sulfate Sulfur	<b>4</b>
Zinc	<b>0.5</b>
Manganese	<b>1.2</b>
Copper	<b>1.0</b>
Iron	<b>14.5</b>
Boron	<b>0.2</b>

### FERTILIZER GUIDELINES IN: Lbs/Acre

1st Option Intended Crop			2nd Option Intended Crop			3rd Option Intended Crop		
Yield Goal			Yield Goal			Yield Goal		
Preceding Crop			Preceding Crop			Preceding Crop		
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES
N			N			N		
P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>		
K <sub>2</sub> O			K <sub>2</sub> O			K <sub>2</sub> O		
MgO			MgO			MgO		
S			S			S		
Zn			Zn			Zn		
Mn			Mn			Mn		
Cu			Cu			Cu		
Fe			Fe			Fe		
B			B			B		
None			None			None		

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

### ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)

Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>0.0</b>	<b>0 - 5</b>	<b>1.0</b>	<b>65 - 75</b>	<b>14.6</b>	<b>2 - 7</b>	<b>84.2</b>	<b>15 - 20</b>	<b>0.2</b>	<b>0 - 5</b>	<b>26.7</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63984**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

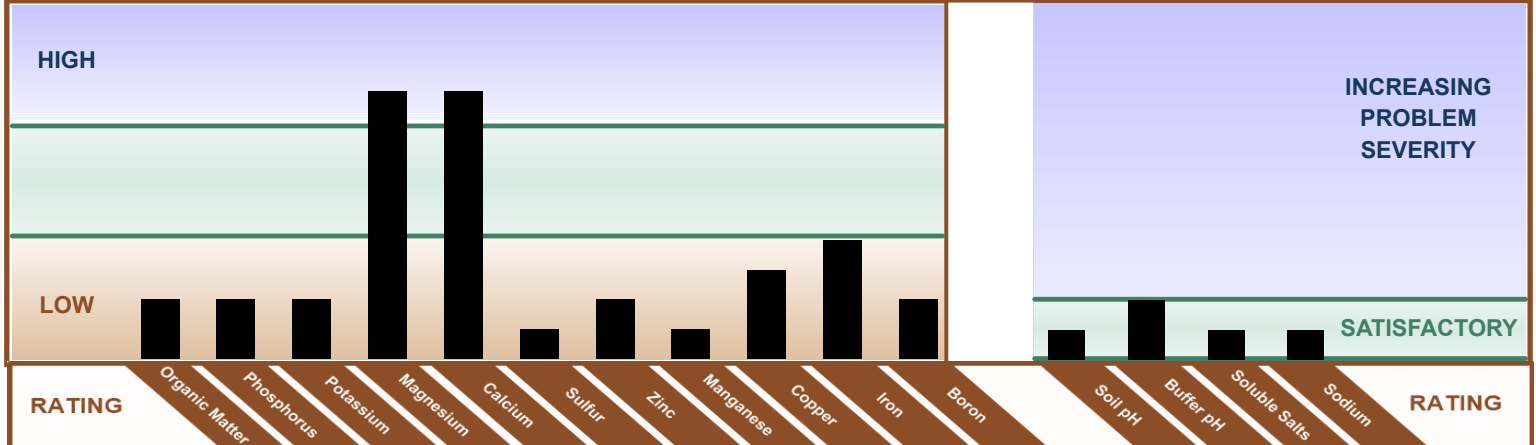
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
<b>B3_37_C4-3</b>	
Soil pH	<b>7.2</b>
Buffer Index	<b>7.4</b>
Soluble Salts mmhos/cm	
<b>0.3</b>	
Sodium ppm	<b>18.6</b>
% Organic Matter	<b>1.4</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>4</b>
--	--
--	--
Potassium	<b>57</b>
Magnesium	<b>347</b>
Calcium	<b>2100</b>
Sulfate Sulfur	<b>2</b>
Zinc	<b>0.3</b>
Manganese	<b>0.5</b>
Copper	<b>0.4</b>
Iron	<b>6.7</b>
Boron	<b>0.3</b>

FERTILIZER GUIDELINES IN: Lbs/Acre									
1st Option Intended Crop			2nd Option Intended Crop				3rd Option Intended Crop		
Yield Goal			Yield Goal				Yield Goal		
Preceding Crop			Preceding Crop				Preceding Crop		
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	
N			N			N			
P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>			
K <sub>2</sub> O			K <sub>2</sub> O			K <sub>2</sub> O			
MgO			MgO			MgO			
S			S			S			
Zn			Zn			Zn			
Mn			Mn			Mn			
Cu			Cu			Cu			
Fe			Fe			Fe			
B			B			B			
None			None			None			
Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.									

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>0.1</b>	<b>0 - 5</b>	<b>1.1</b>	<b>65 - 75</b>	<b>21.0</b>	<b>2 - 7</b>	<b>77.2</b>	<b>15 - 20</b>	<b>0.6</b>	<b>0 - 5</b>	<b>13.6</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63985**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

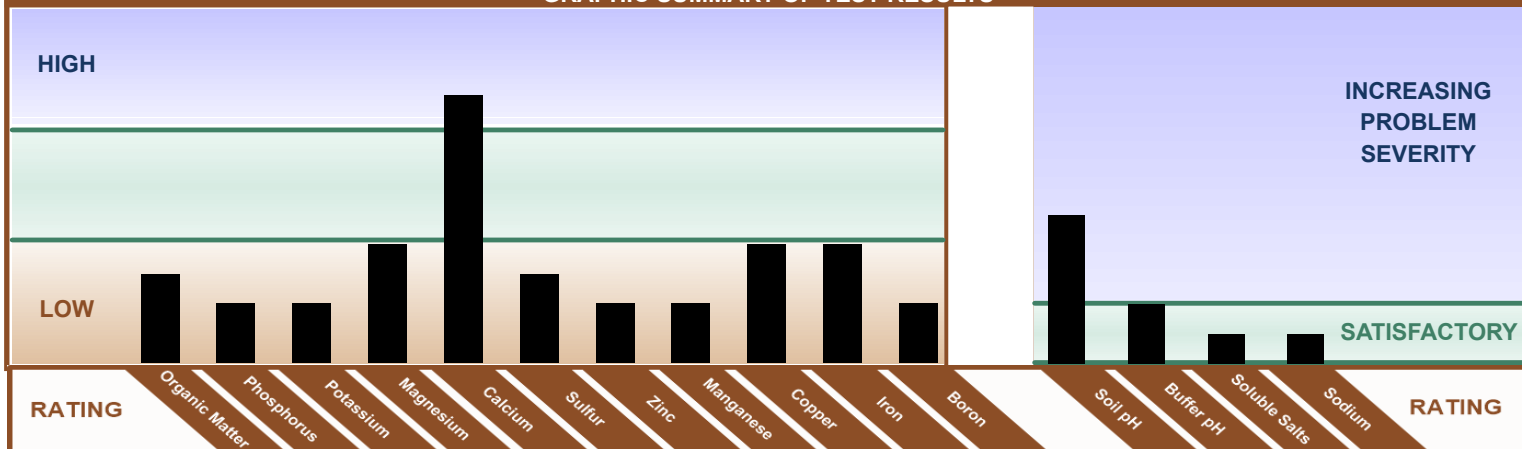
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



REPORT OF ANALYSIS	
YOUR SAMPLE NUMBER	
<b>B4_44_C2-3</b>	
Soil pH	<b>7.8</b>
Buffer Index	<b>7.5</b>
Soluble Salts mmhos/cm	<b>0.5</b>
Sodium ppm	<b>15.1</b>
% Organic Matter	<b>1.9</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>8</b>
--	--
--	--
Potassium	<b>99</b>
Magnesium	<b>441</b>
Calcium	<b>5125</b>
Sulfate Sulfur	<b>4</b>
Zinc	<b>0.5</b>
Manganese	<b>1.5</b>
Copper	<b>0.8</b>
Iron	<b>9.4</b>
Boron	<b>0.3</b>

FERTILIZER GUIDELINES IN: Lbs/Acre											
1st Option Intended Crop				2nd Option Intended Crop				3rd Option Intended Crop			
Yield Goal				Yield Goal				Yield Goal			
Preceding Crop				Preceding Crop				Preceding Crop			
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES		PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	
N				N				N			
P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>				P <sub>2</sub> O <sub>5</sub>			
K <sub>2</sub> O				K <sub>2</sub> O				K <sub>2</sub> O			
MgO				MgO				MgO			
S				S				S			
Zn				Zn				Zn			
Mn				Mn				Mn			
Cu				Cu				Cu			
Fe				Fe				Fe			
B				B				B			
None				None				None			

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)								ESTIMATED		
Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>0.0</b>	<b>0 - 5</b>	<b>0.9</b>	<b>65 - 75</b>	<b>12.3</b>	<b>2 - 7</b>	<b>86.6</b>	<b>15 - 20</b>	<b>0.2</b>	<b>0 - 5</b>	<b>29.5</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.

# SOIL ANALYSIS

Submitted by **EW50010106**  
**VIRGINIA NICHOLS**  
**2501 AGRONOMY HALL**  
**716 FARMHOUSE LN**  
**AMES, IA 50011-1051**

Submitted for  
**MARSDEN**



Laboratory Sample #  
**BG63986**

Date Received  
**17-May-2018**

Date Reported  
**18-May-2018**

Information Sheet #  
**0517-18**

Laboratory Turnaround

**1 Day**

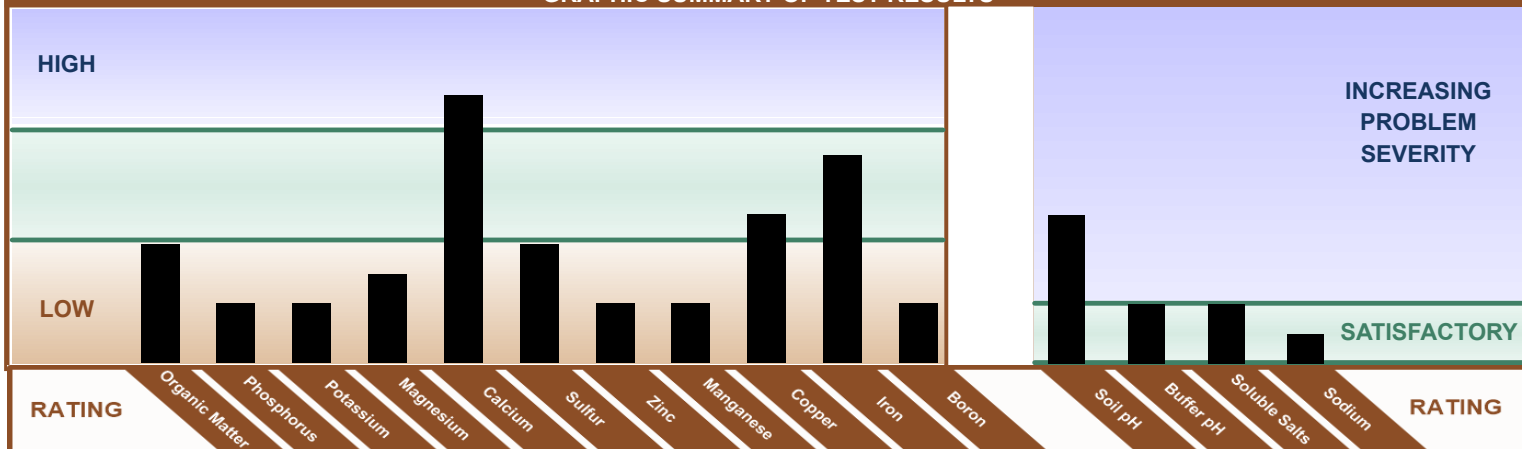
Samples Will Be Stored Until

**01-Jun-2018**

Field Identification

**BOONE**

## GRAPHIC SUMMARY OF TEST RESULTS



### REPORT OF ANALYSIS

YOUR SAMPLE NUMBER	
<b>B4_46_C4-3</b>	
Soil pH	<b>7.8</b>
Buffer Index	<b>7.5</b>
Soluble Salts mmhos/cm	
Sodium ppm	<b>0.6</b>
% Organic Matter	<b>15.7</b>
ANALYSIS OF NUTRIENT ELEMENTS IS IN PARTS PER MILLION (ppm)	
Nitrate N	--
Phosphorus Mehlich III	<b>7</b>
--	--
--	--
Potassium	<b>79</b>
Magnesium	<b>379</b>
Calcium	<b>5172</b>
Sulfate Sulfur	<b>6</b>
Zinc	<b>0.5</b>
Manganese	<b>2.1</b>
Copper	<b>1.1</b>
Iron	<b>13.1</b>
Boron	<b>0.3</b>

### FERTILIZER GUIDELINES IN: Lbs/Acre

1st Option Intended Crop			2nd Option Intended Crop			3rd Option Intended Crop		
Yield Goal			Yield Goal			Yield Goal		
Preceding Crop			Preceding Crop			Preceding Crop		
PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES	PLANT FOOD GUIDELINE RANGES		CROP REMOVAL RATES
N			N			N		
P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>		
K <sub>2</sub> O			K <sub>2</sub> O			K <sub>2</sub> O		
MgO			MgO			MgO		
S			S			S		
Zn			Zn			Zn		
Mn			Mn			Mn		
Cu			Cu			Cu		
Fe			Fe			Fe		
B			B			B		
None			None			None		

Lime Guidelines are for 100% Effective Calcium Carbonate (ECC) with a 6" Incorporation Depth.

### ACTUAL AND SUGGESTED PERCENT OF TOTAL CEC (BASE SATURATION)

### ESTIMATED

Actual % Hydrogen	Suggested Hydrogen	Actual % Potassium	Suggested Potassium	Actual % Magnesium	Suggested Magnesium	Actual % Calcium	Suggested Calcium	Actual % Sodium	Suggested Sodium	CEC for Your Soil
<b>0.0</b>	<b>0 - 5</b>	<b>0.7</b>	<b>65 - 75</b>	<b>10.7</b>	<b>2 - 7</b>	<b>88.4</b>	<b>15 - 20</b>	<b>0.2</b>	<b>0 - 5</b>	<b>29.2</b>

**DISCLAIMER:** Data and information in this report are intended solely for the individual(s) for whom samples were submitted. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures and deviations.



# Soil Analysis

Date Received:  
17-May-2018

Date Processed:  
18-May-2018

Information Sheet #  
0517-18



Submitted for MARSDEN

Field Identification BOONE

## Additional Tests

Sample Number	B1_13-C2	B1_18_C	B2_24_C	B2_28-C4	B3_34_C	B3_37_C	B4_44_C	B4_46_C	B1_13_C	B1_18_C
	-1	4-1	2-1	-1	2-1	4-1	2-1	4-1	2-2	4-2
Conductivity mmho/cm	0.43	0.41	0.30	0.43	0.38	0.28	0.58	0.51	0.38	0.35