

FFA LAND JUDGING PLACARD – MINNESOTA – 2013

Pit Number _____ **1** _____

Lime Area _____ **1** _____ Flooding **none** _____

pH **_ 4.8_** SMP Buffer Index **_ 6.0_** Assumed Field Size **_ 100_ Acres**

P Test **_ 23** _____ lb./acres available phosphorus

Subsoil Phosphorus Level **_ high** _____

K Test **_ 250** _____ lb./acres exchangeable potassium

Subsoil Potassium Level **_ low** _____ Manure Applied **_ none** _____ Tons/Acre

Corn Yield Goal **_ NA** _____ bu./acres

Crop to be planted **_** _____ Managed Woodlot **_** _____

Past Crop **_** _____ Managed Woodlot **_** _____

Original Surface Soil Depth **_ 4** _____ inches

Slope Length **_ 400** _____ feet

Depth to permanent water table **_ 6** _____ feet _____

LAST HORIZONS GOES TO 60 in. adequate water **Site 1**

Minnesota FFA Soils Scorecard

Name Key 2013 Pit 1 School _____ Number _____

5/12

<p>Part 1: Surface Soil -</p> <p>A. Thickness in Inches</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">2</td> <td style="width: 15px; text-align: center;">1</td><td style="width: 15px; text-align: center;">2</td><td style="width: 15px; text-align: center;">3</td><td style="width: 15px; text-align: center;">4</td><td style="width: 15px; text-align: center;">5</td><td style="width: 15px; text-align: center;">6</td><td style="width: 15px; text-align: center;">7</td><td style="width: 15px; text-align: center;">8</td><td style="width: 15px; text-align: center;">9</td><td style="width: 15px; text-align: center;">10</td><td style="width: 15px; text-align: center;">11</td><td style="width: 15px; text-align: center;">12</td><td style="width: 15px; text-align: center;">13</td><td style="width: 15px; text-align: center;">14</td><td style="width: 15px; text-align: center;">15</td><td style="width: 15px; text-align: center;">16</td><td style="width: 15px; text-align: center;">17</td><td style="width: 15px; text-align: center;">18</td> </tr> <tr> <td></td> <td></td><td></td><td></td><td style="background-color: black;"></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td> <td style="text-align: center;">19</td><td style="text-align: center;">20</td><td style="text-align: center;">21</td><td style="text-align: center;">22</td><td style="text-align: center;">23</td><td style="text-align: center;">24</td><td style="text-align: center;">25</td><td style="text-align: center;">26</td><td style="text-align: center;">27</td><td style="text-align: center;">28</td><td style="text-align: center;">29</td><td style="text-align: center;">30</td><td style="text-align: center;">31</td><td style="text-align: center;">32</td><td style="text-align: center;">33</td><td style="text-align: center;">34</td><td style="text-align: center;">35</td><td style="text-align: center;">36</td> </tr> <tr> <td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table> <p style="text-align: center; font-size: small;">Allow 1 inch either way on thickness</p> <p>B. 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6	Class I	}	Land suitable for for Cultivated Crops	Score 6 points for correct answer - 3 points for 1 class off except for class 5. Allow 3 points between Class IV and VI.																																																																																																																																																																																																																																																																																																																																																																																																														
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	Class V	}	Land suitable for Permanent Vegetation																																																																																																																																																																																																																																																																																																																																																																																																															
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2	None- No limiting materials																																																																																																																																																																																																																																																																																																																																																																																																																	
	Bedrock - Soft or hard																																																																																																																																																																																																																																																																																																																																																																																																																	
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	Organic materials - Peat or muck																																																																																																																																																																																																																																																																																																																																																																																																																	
2	Very Deep - 60 inches or more																																																																																																																																																																																																																																																																																																																																																																																																																	
	Deep - 40 through 59 inches																																																																																																																																																																																																																																																																																																																																																																																																																	
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	Shallow - less than 20 inches																																																																																																																																																																																																																																																																																																																																																																																																																	
2	Very Rapid																																																																																																																																																																																																																																																																																																																																																																																																																	
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	Moderate																																																																																																																																																																																																																																																																																																																																																																																																																	
	Slow																																																																																																																																																																																																																																																																																																																																																																																																																	

E. Total Available Water capacity									
1. Available water in horizon per inch of soil									
1	<input type="checkbox"/> 0.05	a. Surface Horizon	Calculation Area						
	<input type="checkbox"/> 0.15		4 * .15 = .64						
	<input checked="" type="checkbox"/> 0.20								
1	<input type="checkbox"/> 0.05	b. Subsoil	26 * .2 = 5.2						
	<input type="checkbox"/> 0.15								
	<input checked="" type="checkbox"/> 0.20								
1	<input type="checkbox"/> 0.05	C. Underlying Material	30 * .2 = 6						
	<input type="checkbox"/> 0.15								
	<input checked="" type="checkbox"/> 0.20								
2. Available Water Capacity per Horizon									
a. Surface Horizon									
1	<input checked="" type="checkbox"/> 0-1.0	<input type="checkbox"/> 1.1-2.0	<input type="checkbox"/> 2.1-3.0	<input type="checkbox"/> 3.1-4.0	<input type="checkbox"/> 4.1-5.0	<input type="checkbox"/> 5.1-6.0	<input type="checkbox"/> 6.1-7.0	<input type="checkbox"/> 7.1-8.0	<input type="checkbox"/> 8.1->
b. Subsoil									
1	<input type="checkbox"/> 0-1.0	<input type="checkbox"/> 1.1-2.0	<input type="checkbox"/> 2.1-3.0	<input type="checkbox"/> 3.1-4.0	<input type="checkbox"/> 4.1-5.0	<input checked="" type="checkbox"/> 5.1-6.0	<input type="checkbox"/> 6.1-7.0	<input type="checkbox"/> 7.1-8.0	<input type="checkbox"/> 8.1->
c. Underlying Material									
1	<input type="checkbox"/> 0-1.0	<input type="checkbox"/> 1.1-2.0	<input type="checkbox"/> 2.1-3.0	<input type="checkbox"/> 3.1-4.0	<input type="checkbox"/> 4.1-5.0	<input checked="" type="checkbox"/> 5.1-6.0	<input type="checkbox"/> 6.1-7.0	<input type="checkbox"/> 7.1-8.0	<input type="checkbox"/> 8.1->
3. Total available water capacity in five feet of soil									
4	<input type="checkbox"/> Very low - Less than 3 inches								
	<input type="checkbox"/> Low - 3.1 to 6.0 inches								
	<input type="checkbox"/> Moderate - 6.1 to 9.0 inches								
	<input checked="" type="checkbox"/> High - over 9.0 inches								
4. Internal Drainage									
4	<input checked="" type="checkbox"/> Well Drained								
	<input type="checkbox"/> Moderately well drained								
	<input type="checkbox"/> Somewhat poorly drained								
	<input type="checkbox"/> Poorly or very poorly drained								

Part 7 Accelerated Erosion		
A. Amount of Erosion		
2	<input checked="" type="checkbox"/>	No erosion evident (less than 2 inches)
	<input type="checkbox"/>	Deposition (2 inches or greater)
	<input type="checkbox"/>	Erosion present (2 inches or greater)
B. Kind of Erosion		
2	<input checked="" type="checkbox"/>	None
	<input type="checkbox"/>	Active gully
	<input type="checkbox"/>	Wind erosion
	<input type="checkbox"/>	Sheet or rill
Part 8 - Need for Erosion Control		
A. Water Erosion		
3	<input type="checkbox"/>	None to slight
	<input type="checkbox"/>	Crop cover, sod cover, and conservation tillage
	<input type="checkbox"/>	Contour, strip crop and conservation tillage
	<input type="checkbox"/>	Grass waterways and gully control
	<input checked="" type="checkbox"/>	Woodland or permanent pasture
<input type="checkbox"/>	Wildlife or recreation	
B. Wind Erosion		
3	<input checked="" type="checkbox"/>	None to slight
	<input type="checkbox"/>	Mulch tillage, cover crop
Part 9 Drainage Required		
5	<input checked="" type="checkbox"/>	None required
	<input type="checkbox"/>	Surface and/or tile
Part 10 - Fertilizer and Lime Recommendations		
2	30	Nitrogen pounds per acre
2	30	Phosphorous pounds per acre
2	50	Potassium pounds per acre
2	7	Lime tons per acres

Part 11 - Land use Limitation (Points are for each section)									
3 Pts Each									
1 Point Each									
Use	Limitation	% Slope	Surface Soil Texture	Flooding	Internal Drainage Class	Permeability Class	Depth to Bedrock (inches)	Underlying Material (Shrink Swell Potential)	
9	Slight	<input checked="" type="checkbox"/> 0 to 6.0	<input checked="" type="checkbox"/> medium, moderate, coarse	<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well drained, mod. well drained		<input checked="" type="checkbox"/> more than 60	<input type="checkbox"/> coarse, mod.coarse, medium	
	Moderate	<input type="checkbox"/> 6.1 to 12.0	<input type="checkbox"/> coarse, fine, very fine				<input type="checkbox"/> 40 to 60	<input checked="" type="checkbox"/> fine texture	
	Severe	<input type="checkbox"/> More than 12.0		<input type="checkbox"/> Any flooding	<input type="checkbox"/> somewhat poorly to poorly drained		<input type="checkbox"/> less than 40	<input type="checkbox"/> very fine texture	
8	Slight	<input checked="" type="checkbox"/> 0 to 6.0		<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well to mod well drained	<input type="checkbox"/> very rapid to rapid	<input checked="" type="checkbox"/> more than 60		
	Moderate	<input type="checkbox"/> 6.1 to 12.0				<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60		
	Severe	<input type="checkbox"/> More than 12.0		<input type="checkbox"/> Any flooding	<input type="checkbox"/> somewhat poorly to poorly drained	<input type="checkbox"/> slow to very slow	<input type="checkbox"/> less than 40		
8	Slight	<input type="checkbox"/> 0 - 2.0		<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well to mod well drained	<input type="checkbox"/> Slow	<input checked="" type="checkbox"/> more than 60		
	Moderate	<input checked="" type="checkbox"/> 2.1 - 6.0			<input type="checkbox"/> somewhat poorly drained	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60		
	Severe	<input type="checkbox"/> More than 6.0		<input type="checkbox"/> Any Flooding	<input type="checkbox"/> poorly drained	<input type="checkbox"/> Rapid to very rapid	<input type="checkbox"/> less than 40		

FFA LAND JUDGING PLACARD -- MINNESOTA -- 2013

Pit Number _____ 2 _____
Lime Area _____ 1 _____ Flooding none ____
pH 6.5 SMP Buffer Index ____ -- Assumed Field Size 100 Acres
P Test 7 _____ lb./acres available phosphorus
Subsoil Phosphorus Level low _____
K Test 70 _____ lb./acres exchangeable potassium
Subsoil Potassium Level low _____ Manure Applied none _____ Tons/Acre
Corn Yield Goal _____ -- _____ bu./acres
Crop to be planted Wheat _____
Past Crop _____ Corn _____
Original Surface Soil Depth 12 inches
Slope Length 200 _____ feet
Depth to permanent water table 10 feet ____
LAST HORIZONS GOES TO 60 in. Site 2

Minnesota FFA Soils Scorecard

Name Key 2013 Pit 2 School _____ Number _____

5/12

Part 1: Surface Soil -																		
A. Thickness in Inches																		
2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
<i>Allow 1 inch either way on thickness</i>																		
B. Color																		
4		Dark																
		Medium																
		Light																
C. Texture																		
5		Coarse																
		Moderately Coarse																
		Medium																
		Fine																
	Very Fine																	
D. Gravel and Rock																		
2		None to Few																
		Gravelly																
		Very Gravelly																
		Extremely Gravelly																
Part 2: Subsurface Soil																		
A. Thickness in Inches																		
2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
<i>Allow 1 inch either way on thickness</i>																		
B. Color																		
4		Bright																
		Mottled																
		Dull																
C. Texture																		
5		Coarse																
		Moderately Coarse																
		Medium																
		Fine																
	Very Fine																	
D. Gravel and Rock																		
2		None to Few																
		Gravelly																
		Very Gravelly																
		Extremely Gravelly																
Part 3: Subsurface Soil																		
A. Thickness in Inches																		
2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
<i>Allow 1 inch either way on thickness</i>																		

Part 3 Parent Material - Continued																			
B. Texture																			
5		Coarse																	
		Moderately Coarse																	
		Medium																	
		Fine																	
	Very Fine																		
C. Gravel																			
2		None to Few																	
		Gravelly																	
		Very Gravelly																	
		Extremely Gravelly																	
Part 4 A Steepness of Slope																			
A. Steepness of Slope																			
3		Nearly level - 2% or less																	
		Gently sloping - 3 - 6 %																	
		Moderately sloping - 7-12%																	
		Strongly sloping - 13 to 18 %																	
	Steep - Greater than 18 %																		
B. Topography																			
3		Upland																	
		Terrace - Footslope																	
		Bottomland - Flood Plains																	
		Depressional Area - No Outlet																	
Part 5 - Land Capability Classification																			
6		Class I																} Land suitable for for Cultivated Crops	} <i>Score 6 points for correct answer - 3 points for 1 class off except for class 5. Allow 3 points between Class IV and VI.</i>
		Class II																	
		Class III																	
		Class IV																	
		Class V																	
		Class VI																} Land suitable for Permanent Vegetation	
		Class VII																	
		Class VIII																	
Part 6 Interpretation of Soil Features																			
A. Type of Material that Limits Depth																			
2		None- No limiting materials																	
		Bedrock - Soft or hard																	
		Harpan - Cemented																	
		Very gravelly sand or high water table																	
B. Parent Material																			
2		Bedrock - Soft or hard																	
		Alluvium/Outwash/Lacustrine																	
		Till/Loess/Aeolian Sand																	
		Organic materials - Peat or muck																	
C. Depth Favorable																			
2		Very Deep - 60 inches or more																	
		Deep - 40 through 59 inches																	
		Moderately Deep - 20 through 39 inches																	
		Shallow - less than 20 inches																	
D. Air and Water Movement (Subsoil Permeability)																			
2		Very Rapid																	
		Rapid																	
		Moderate																	
		Slow																	

E. Total Available Water capacity										Part 7 Accelerated Erosion			
1. Available water in horizon per inch of soil										A. Amount of Erosion			
1	<input type="checkbox"/> 0.05	a. Surface Horizon		Calculation Area 8 * .15 = 1.2						2	No erosion evident (less than 2 inches) Deposition (2 inches or greater) Erosion present (2 inches or greater)		
	<input checked="" type="checkbox"/> 0.15												
	<input type="checkbox"/> 0.20												
1	<input type="checkbox"/> 0.05	b. Subsoil		27 * .15 = 4.05						2	B. Kind of Erosion None Active gully Wind erosion Sheet or rill		
	<input checked="" type="checkbox"/> 0.15												
	<input type="checkbox"/> 0.20												
1	<input type="checkbox"/> 0.05	C. Underlying Material		Rock						2	Part 8 - Need for Erosion Control		
	<input checked="" type="checkbox"/> 0.15												
	<input type="checkbox"/> 0.20												
2. Available Water Capacity per Horizon										A. Water Erosion			
a. Surface Horizon										3	None to slight Crop cover, sod cover, and conservation tillage Contour, strip crop and conservation tillage Grass waterways and gully control Woodland or permanent pasture Wildlife or recreation		
1	<input type="checkbox"/> 0-1.0	<input type="checkbox"/> 1.1-2.0	<input type="checkbox"/> 2.1-3.0	<input type="checkbox"/> 3.1-4.0	<input type="checkbox"/> 4.1-5.0	<input type="checkbox"/> 5.1-6.0	<input type="checkbox"/> 6.1-7.0	<input type="checkbox"/> 7.1-8.0	<input type="checkbox"/> 8.1->				
b. Subsoil													
1	<input type="checkbox"/> 0-1.0	<input type="checkbox"/> 1.1-2.0	<input type="checkbox"/> 2.1-3.0	<input type="checkbox"/> 3.1-4.0	<input checked="" type="checkbox"/> 4.1-5.0	<input type="checkbox"/> 5.1-6.0	<input type="checkbox"/> 6.1-7.0	<input type="checkbox"/> 7.1-8.0	<input type="checkbox"/> 8.1->				
c. Underlying Material										B. Wind Erosion			
1	<input type="checkbox"/> 0-1.0	<input type="checkbox"/> 1.1-2.0	<input type="checkbox"/> 2.1-3.0	<input type="checkbox"/> 3.1-4.0	<input type="checkbox"/> 4.1-5.0	<input type="checkbox"/> 5.1-6.0	<input type="checkbox"/> 6.1-7.0	<input type="checkbox"/> 7.1-8.0	<input type="checkbox"/> 8.1->	3	None to slight Mulch tillage, cover crop		
3. Total available water capacity in five feet of soil										Part 9 Drainage Required			
4	<input type="checkbox"/> Very low - Less than 3 inches									5	None required Surface and/or tile		
	<input checked="" type="checkbox"/> Low - 3.1 to 6.0 inches												
	<input type="checkbox"/> Moderate - 6.1 to 9.0 inches												
	<input type="checkbox"/> High - over 9.0 inches												
4. Internal Drainage										Part 10 - Fertilizer and Lime Recommendations			
4	<input checked="" type="checkbox"/> Well Drained									2	80	Nitrogen pounds per acre	
	<input type="checkbox"/> Moderately well drained									2	50	Phosphorous pounds per acre	
	<input type="checkbox"/> Somewhat poorly drained									2	95	Potassium pounds per acre	
	<input type="checkbox"/> Poorly or very poorly drained									2	0	Lime tons per acres	

Part 11 - Land use Limitation (Points are for each section)									
Use	Limitation	3 Pts Each			1 Point Each				
		% Slope	Surface Soil Texture	Flooding	Internal Drainage Class	Permeability Class	Depth to Bedrock (inches)	Underlying Material (Shrink Swell Potential)	
9	Slight	<input checked="" type="checkbox"/> 0 to 6.0	<input checked="" type="checkbox"/> medium, moderate, coarse	<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well drained, mod. well drained		<input checked="" type="checkbox"/> more than 60	<input checked="" type="checkbox"/> coarse, mod.coarse, medium	
	Moderate	<input type="checkbox"/> 6.1 to 12.0	<input type="checkbox"/> coarse, fine, very fine				<input type="checkbox"/> 40 to 60	<input type="checkbox"/> fine texture	
	Severe	<input type="checkbox"/> More than 12.0		<input type="checkbox"/> Any flooding	<input type="checkbox"/> somewhat poorly to poorly drained		<input type="checkbox"/> less than 40	<input type="checkbox"/> very fine texture	
8	Slight	<input checked="" type="checkbox"/> 0 to 6.0		<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well to mod well drained	<input checked="" type="checkbox"/> very rapid to rapid	<input checked="" type="checkbox"/> more than 60		
	Moderate	<input type="checkbox"/> 6.1 to 12.0				<input type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60		
	Severe	<input type="checkbox"/> More than 12.0		<input type="checkbox"/> Any flooding	<input type="checkbox"/> somewhat poorly to poorly drained	<input type="checkbox"/> slow to very slow	<input type="checkbox"/> less than 40		
8	Slight	<input type="checkbox"/> 0 - 2.0		<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well to mod well drained	<input type="checkbox"/> Slow	<input checked="" type="checkbox"/> more than 60		
	Moderate	<input checked="" type="checkbox"/> 2.1 - 6.0			<input type="checkbox"/> somewhat poorly drained	<input type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60		
	Severe	<input type="checkbox"/> More than 6.0		<input type="checkbox"/> Any Flooding	<input type="checkbox"/> poorly drained	<input checked="" type="checkbox"/> Rapid to very rapid	<input type="checkbox"/> less than 40		

FFA LAND JUDGING PLACARD – MINNESOTA – 2013

Pit Number _____ 3 _____
Lime Area _____ 1 _____ Flooding _____ none _____
pH _____ 5.8 _____ SMP Buffer Index _____ 6.4 _____ Assumed Field Size _____ 200 _____ Acres
P Test _____ 50 _____ lb./acres available phosphorus
Subsoil Phosphorus Level _____ high _____
K Test _____ 35 _____ lb./acres exchangeable potassium
Subsoil Potassium Level _____ low _____ Manure Applied _____ none _____ Tons/Acre
Corn Yield Goal _____ " _____ bu./acres
Crop to be planted _____ Managed Woodlot _____
Past Crop _____ Managed Woodlot _____
Original Surface Soil Depth _____ 2 _____ inches
Slope Length _____ 150 _____ feet
Depth to permanent water table _____ 20 _____ feet _____

LAST HORIZONS GOES TO 60 in. – adequate water- Site 3

Minnesota FFA Soils Scorecard

Name Key 2013 Pit 3 School _____

Number _____

5/12

Part 1: Surface Soil -																		
A. Thickness in Inches																		
2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
<i>Allow 1 inch either way on thickness</i>																		
B. Color																		
4	<input type="checkbox"/>	Dark																
	<input checked="" type="checkbox"/>	Medium																
	<input type="checkbox"/>	Light																
C. Texture																		
5	<input checked="" type="checkbox"/>	Coarse																
	<input type="checkbox"/>	Moderately Coarse																
	<input type="checkbox"/>	Medium																
	<input type="checkbox"/>	Very Fine																
D. Gravel and Rock																		
2	<input checked="" type="checkbox"/>	None to Few																
	<input type="checkbox"/>	Gravelly																
	<input type="checkbox"/>	Very Gravelly																
	<input type="checkbox"/>	Extremely Gravelly																
Part 2: Subsurface Soil																		
A. Thickness in Inches																		
2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
<i>Allow 1 inch either way on thickness</i>																		
B. Color																		
4	<input checked="" type="checkbox"/>	Bright																
	<input type="checkbox"/>	Mottled																
	<input type="checkbox"/>	Dull																
C. Texture																		
5	<input checked="" type="checkbox"/>	Coarse																
	<input type="checkbox"/>	Moderately Coarse																
	<input type="checkbox"/>	Medium																
	<input type="checkbox"/>	Very Fine																
D. Gravel and Rock																		
2	<input checked="" type="checkbox"/>	None to Few																
	<input type="checkbox"/>	Gravelly																
	<input type="checkbox"/>	Very Gravelly																
	<input type="checkbox"/>	Extremely Gravelly																
Part 3: Subsurface Soil																		
A. Thickness in Inches																		
2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
<i>Allow 1 inch either way on thickness</i>																		

Part 3 Parent Material - Continued																		
B. Texture																		
5	<input type="checkbox"/>	Coarse																
	<input type="checkbox"/>	Moderately Coarse																
	<input type="checkbox"/>	Medium																
	<input type="checkbox"/>	Fine																
<input type="checkbox"/>	Very Fine																	
C. Gravel																		
2	<input type="checkbox"/>	None to Few																
	<input type="checkbox"/>	Gravelly																
	<input type="checkbox"/>	Very Gravelly																
	<input type="checkbox"/>	Extremely Gravelly																
Part 4 A Steepness of Slope																		
A. Steepness of Slope																		
3	<input type="checkbox"/>	Nearly level - 2% or less																
	<input type="checkbox"/>	Gently sloping - 3 - 6 %																
	<input type="checkbox"/>	Moderately sloping - 7-12%																
	<input checked="" type="checkbox"/>	Strongly sloping - 13 to 18 %																
<input type="checkbox"/>	Steep - Greater than 18 %																	
B. Topography																		
3	<input checked="" type="checkbox"/>	Upland																
	<input type="checkbox"/>	Terrace - Footslope																
	<input type="checkbox"/>	Bottomland - Flood Plains																
	<input type="checkbox"/>	Depressional Area - No Outlet																
Part 5 - Land Capability Classification																		
6	<input type="checkbox"/>	Class I																
	<input type="checkbox"/>	Class II																
	<input type="checkbox"/>	Class III																
	<input type="checkbox"/>	Class IV																
	<input type="checkbox"/>	Class V																
	<input type="checkbox"/>	Class VI																
	<input checked="" type="checkbox"/>	Class VII																
	<input type="checkbox"/>	Class VIII																
Land suitable for for Cultivated Crops Land suitable for Permanent Vegetation Score 6 points for correct answer - 3 points for 1 class off except for class 5. Allow 3 points between Class IV and VI.																		
Part 6 Interpretation of Soil Features																		
A. Type of Material that Limits Depth																		
2	<input type="checkbox"/>	None- No limiting materials																
	<input checked="" type="checkbox"/>	Bedrock - Soft or hard																
	<input type="checkbox"/>	Harpan - Cemented																
	<input type="checkbox"/>	Very gravelly sand or high water table																
B. Parent Material																		
2	<input checked="" type="checkbox"/>	Bedrock - Soft or hard																
	<input type="checkbox"/>	Alluvium/Outwash/Lacustrine																
	<input type="checkbox"/>	Till/Loess/Aeolian Sand																
	<input type="checkbox"/>	Organic materials - Peat or muck																
C. Depth Favorable																		
2	<input type="checkbox"/>	Very Deep - 60 inches or more																
	<input type="checkbox"/>	Deep - 40 through 59 inches																
	<input checked="" type="checkbox"/>	Moderately Deep - 20 through 39 inches																
	<input type="checkbox"/>	Shallow - less than 20 inches																
D. Air and Water Movement (Subsoil Permeability)																		
2	<input checked="" type="checkbox"/>	Very Rapid																
	<input type="checkbox"/>	Rapid																
	<input type="checkbox"/>	Moderate																
	<input type="checkbox"/>	Slow																

E. Total Available Water capacity										Part 7 Accelerated Erosion										
1. Available water in horizon per inch of soil										A. Amount of Erosion										
1	<input checked="" type="checkbox"/> 0.05	a. Surface Horizon		Calculation Area .05 * 2 = .1						2	<input checked="" type="checkbox"/> No erosion evident (less than 2 inches)	Deposition (2 inches or greater) Erosion present (2 inches or greater)								
	<input type="checkbox"/> 0.15																			
	<input type="checkbox"/> 0.20																			
1	<input checked="" type="checkbox"/> 0.05	b. Subsoil		.05 * 20 = 1						2	B. Kind of Erosion									
	<input type="checkbox"/> 0.15										None									
	<input type="checkbox"/> 0.20										Active gully Wind erosion Sheet or rill									
1	<input checked="" type="checkbox"/> 0.05	c. Underlying Material		Any						Part 8 - Need for Erosion Control										
	<input type="checkbox"/> 0.15									A. Water Erosion										
	<input type="checkbox"/> 0.20									None to slight Crop cover, sod cover, and conservation tillage Contour, strip crop and conservation tillage Grass waterways and gully control Woodland or permanent pasture Wildlife or recreation										
2. Available Water Capacity per Horizon										B. Wind Erosion										
a. Surface Horizon										None to slight Mulch tillage, cover crop										
1	0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-7.0	7.1-8.0	8.1->	3										
b. Subsoil										3										
1	0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-7.0	7.1-8.0	8.1->	3										
c. Underlying Material										3										
1	0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-7.0	7.1-8.0	8.1->	3										
3. Total available water capacity in five feet of soil										Part 9 Drainage Required										
4	<input checked="" type="checkbox"/> Very low - Less than 3 inches									5										
	<input type="checkbox"/> Low - 3.1 to 6.0 inches									<input checked="" type="checkbox"/> None required										
	<input type="checkbox"/> Moderate - 6.1 to 9.0 inches									<input type="checkbox"/> Surface and/or tile										
	<input type="checkbox"/> High - over 9.0 inches									Part 10 - Fertilizer and Lime Recommendations										
4. Internal Drainage										2	30	Nitrogen pounds per acre								
4	<input checked="" type="checkbox"/> Well Drained									2	0	Phosphorous pounds per acre								
	<input type="checkbox"/> Moderately well drained									2	110	Potassium pounds per acre								
	<input type="checkbox"/> Somewhat poorly drained									2	5	Lime tons per acres								
	<input type="checkbox"/> Poorly or very poorly drained																			

Part 11 - Land use Limitation (Points are for each section)									
		3 Pts Each			1 Point Each				
Use	Limitation	% Slope	Surface Soil Texture	Flooding	Internal Drainage Class	Permeability Class	Depth to Bedrock (inches)	Underlying Material (Shrink Swell Potential)	
9	Dwellings (lawns), foundations, basements	Slight	<input type="checkbox"/> 0 to 6.0	<input checked="" type="checkbox"/> medium, moderate, coarse	<input type="checkbox"/> None	<input checked="" type="checkbox"/> well drained, mod. well drained		<input type="checkbox"/> more than 60	<input checked="" type="checkbox"/> coarse, mod.coarse, medium
		Moderate	<input type="checkbox"/> 6.1 to 12.0	<input type="checkbox"/> coarse, fine, very fine				<input type="checkbox"/> 40 to 60	<input type="checkbox"/> fine texture
		Severe	<input checked="" type="checkbox"/> More than 12.0		<input type="checkbox"/> Any flooding	<input type="checkbox"/> somewhat poorly to poorly drained		<input checked="" type="checkbox"/> less than 40	<input type="checkbox"/> very fine texture
8	Septic tank absorption fields	Slight	<input type="checkbox"/> 0 to 6.0		<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well to mod well drained	<input checked="" type="checkbox"/> very rapid to rapid	<input type="checkbox"/> more than 60	
		Moderate	<input type="checkbox"/> 6.1 to 12.0				<input type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60	
		Severe	<input checked="" type="checkbox"/> More than 12.0		<input type="checkbox"/> Any flooding	<input type="checkbox"/> somewhat poorly to poorly drained	<input type="checkbox"/> slow to very slow	<input type="checkbox"/> less than 40	
8	Farm lagoons and holding basins	Slight	<input type="checkbox"/> 0 - 2.0		<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> well to mod well drained	<input type="checkbox"/> Slow	<input type="checkbox"/> more than 60	
		Moderate	<input type="checkbox"/> 2.1 - 6.0			<input type="checkbox"/> somewhat poorly drained	<input type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60	
		Severe	<input checked="" type="checkbox"/> More than 6.0		<input type="checkbox"/> Any Flooding	<input type="checkbox"/> poorly drained	<input checked="" type="checkbox"/> Rapid to very rapid	<input checked="" type="checkbox"/> less than 40	

FFA LAND JUDGING PLACARD – MINNESOTA – 2013

Pit Number _____ **4** _____

Lime Area _____ **1** _____ Flooding none _____

pH 6.0 SMP Buffer Index 6.7 Assumed Field Size 120 Acres

P Test 13 _____ lb./acres available phosphorus

Subsoil Phosphorus Level high _____

K Test 50 _____ lb./acres exchangeable potassium

Subsoil Potassium Level low _____ Manure Applied none _____ Tons/Acre

Corn Yield Goal -250 _____ bu./acres

Crop to be planted _____ Corn _____

Past Crop _____ Good Alfalfa/clover _____

Original Surface Soil Depth 12 inches

Slope Length _____ 190 _____ feet

Depth to permanent water table _____ 5 feet _____

LAST HORIZONS GOES TO 60 in. – adequate water- Site 4

Minnesota FFA Soils Scorecard

Name Key 2013 Pit 4 School _____ Number _____

5/12

Part 1: Surface Soil -
A. Thickness in Inches

2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Allow 1 inch either way on thickness

B. Color

4	<input checked="" type="checkbox"/>	Dark
	<input type="checkbox"/>	Medium
	<input type="checkbox"/>	Light

C. Texture

5	<input type="checkbox"/>	Coarse
	<input type="checkbox"/>	Moderately Coarse
	<input checked="" type="checkbox"/>	Medium
	<input type="checkbox"/>	Fine
	<input type="checkbox"/>	Very Fine

D. Gravel and Rock

2	<input checked="" type="checkbox"/>	None to Few
	<input type="checkbox"/>	Gravelly
	<input type="checkbox"/>	Very Gravelly
	<input type="checkbox"/>	Extremely Gravelly

Part 2: Subsurface Soil
A. Thickness in Inches

2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Allow 1 inch either way on thickness

B. Color

4	<input type="checkbox"/>	Bright
	<input checked="" type="checkbox"/>	Mottled
	<input type="checkbox"/>	Dull

C. Texture

5	<input type="checkbox"/>	Coarse
	<input type="checkbox"/>	Moderately Coarse
	<input type="checkbox"/>	Medium
	<input checked="" type="checkbox"/>	Fine
	<input type="checkbox"/>	Very Fine

D. Gravel and Rock

2	<input checked="" type="checkbox"/>	None to Few
	<input type="checkbox"/>	Gravelly
	<input type="checkbox"/>	Very Gravelly
	<input type="checkbox"/>	Extremely Gravelly

Part 3: Subsurface Soil
A. Thickness in Inches

2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Allow 1 inch either way on thickness

Part 3 Parent Material - Continued
B. Texture

5	<input type="checkbox"/>	Coarse
	<input type="checkbox"/>	Moderately Coarse
	<input type="checkbox"/>	Medium
	<input checked="" type="checkbox"/>	Fine
	<input type="checkbox"/>	Very Fine

C. Gravel

2	<input checked="" type="checkbox"/>	None to Few
	<input type="checkbox"/>	Gravelly
	<input type="checkbox"/>	Very Gravelly
	<input type="checkbox"/>	Extremely Gravelly

Part 4 A Steepness of Slope
A. Steepness of Slope

3	<input type="checkbox"/>	Nearly level - 2% or less
	<input checked="" type="checkbox"/>	Gently sloping - 3 - 6 %
	<input type="checkbox"/>	Moderately sloping - 7-12%
	<input type="checkbox"/>	Strongly sloping - 13 to 18 %
	<input type="checkbox"/>	Steep - Greater than 18 %

B. Topography

3	<input checked="" type="checkbox"/>	Upland
	<input type="checkbox"/>	Terrace - Footslope
	<input type="checkbox"/>	Bottomland - Flood Plains
	<input type="checkbox"/>	Depressional Area - No Outlet

Part 5 - Land Capability Classification

6	<input type="checkbox"/>	Class I	}	Land suitable for for Cultivated Crops	<i>Score 6 points for correct answer - 3 points for 1 class off except for class 5. Allow 3 points between Class IV and VI.</i>
	<input checked="" type="checkbox"/>	Class II			
	<input type="checkbox"/>	Class III			
	<input type="checkbox"/>	Class IV			
	<input type="checkbox"/>	Class V	}	Land suitable for Permanent Vegetation	
	<input type="checkbox"/>	Class VI			
	<input type="checkbox"/>	Class VII			
	<input type="checkbox"/>	Class VIII			

Part 6 Interpretation of Soil Features
A. Type of Material that Limits Depth

2	<input checked="" type="checkbox"/>	None- No limiting materials
	<input type="checkbox"/>	Bedrock - Soft or hard
	<input type="checkbox"/>	Harpan - Cemented
	<input type="checkbox"/>	Very gravelly sand or high water table

B. Parent Material

2	<input type="checkbox"/>	Bedrock - Soft or hard
	<input type="checkbox"/>	Alluvium/Outwash/Lacustrine
	<input checked="" type="checkbox"/>	Till/Loess/Aeolian Sand
	<input type="checkbox"/>	Organic materials - Peat or muck

C. Depth Favorable

2	<input checked="" type="checkbox"/>	Very Deep - 60 inches or more
	<input type="checkbox"/>	Deep - 40 through 59 inches
	<input type="checkbox"/>	Moderately Deep - 20 through 39 inches
	<input type="checkbox"/>	Shallow - less than 20 inches

D. Air and Water Movement (Subsoil Permeability)

2	<input type="checkbox"/>	Very Rapid
	<input type="checkbox"/>	Rapid
	<input checked="" type="checkbox"/>	Moderate
	<input type="checkbox"/>	Slow

E. Total Available Water capacity									
1. Available water in horizon per inch of soil									
1	<input type="checkbox"/> 0.05	a. Surface Horizon	Calculation Area						
	<input type="checkbox"/> 0.15		.2 * 11 = 2.2						
	<input checked="" type="checkbox"/> 0.20								
1	<input type="checkbox"/> 0.05	b. Subsoil	.2 * 19 = 3.8						
	<input type="checkbox"/> 0.15								
	<input checked="" type="checkbox"/> 0.20								
1	<input type="checkbox"/> 0.05	C. Underlying Material	.2 * 30 = 6						
	<input type="checkbox"/> 0.15								
	<input checked="" type="checkbox"/> 0.20								
2. Available Water Capacity per Horizon									
a. Surface Horizon									
1	0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-7.0	7.1-8.0	8.1->
b. Subsoil									
1	0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-7.0	7.1-8.0	8.1->
c. Underlying Material									
1	0-1.0	1.1-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-7.0	7.1-8.0	8.1->
3. Total available water capacity in five feet of soil									
4	<input type="checkbox"/> Very low - Less than 3 inches								
	<input type="checkbox"/> Low - 3.1 to 6.0 inches								
	<input type="checkbox"/> Moderate - 6.1 to 9.0 inches								
	<input checked="" type="checkbox"/> High - over 9.0 inches								
4. Internal Drainage									
4	<input type="checkbox"/> Well Drained								
	<input type="checkbox"/> Moderately well drained								
	<input checked="" type="checkbox"/> Somewhat poorly drained								
	<input type="checkbox"/> Poorly or very poorly drained								

Part 7 Accelerated Erosion		
A. Amount of Erosion		
2	<input checked="" type="checkbox"/>	No erosion evident (less than 2 inches)
	<input type="checkbox"/>	Deposition (2 inches or greater)
	<input type="checkbox"/>	Erosion present (2 inches or greater)
B. Kind of Erosion		
2	<input checked="" type="checkbox"/>	None
	<input type="checkbox"/>	Active gully
	<input type="checkbox"/>	Wind erosion
	<input type="checkbox"/>	Sheet or rill
Part 8 - Need for Erosion Control		
A. Water Erosion		
3	<input type="checkbox"/>	None to slight
	<input type="checkbox"/>	Crop cover, sod cover, and conservation tillage
	<input checked="" type="checkbox"/>	Contour, strip crop and conservation tillage
	<input type="checkbox"/>	Grass waterways and gully control
	<input type="checkbox"/>	Woodland or permanent pasture
<input type="checkbox"/>	Wildlife or recreation	
B. Wind Erosion		
3	<input checked="" type="checkbox"/>	None to slight
	<input type="checkbox"/>	Mulch tillage, cover crop
Part 9 Drainage Required		
5	<input checked="" type="checkbox"/>	None required
	<input type="checkbox"/>	Surface and/or tile
Part 10 - Fertilizer and Lime Recommendations		
2	50	Nitrogen pounds per acre
2	50	Phosphorous pounds per acre
2	140	Potassium pounds per acre
2	5	Lime tons per acres

Part 11 - Land use Limitation (Points are for each section)									
		3 Pts Each			1 Point Each				
Use	Limitation	% Slope	Surface Soil Texture	Flooding	Internal Drainage Class	Permeability Class	Depth to Bedrock (inches)	Underlying Material (Shrink Swell Potential)	
9	Dwellings (lawns), foundations, basements	Slight	<input checked="" type="checkbox"/> 0 to 6.0	<input checked="" type="checkbox"/> medium, moderate, coarse	<input checked="" type="checkbox"/> None	<input type="checkbox"/> well drained, mod. well drained		<input checked="" type="checkbox"/> more than 60	<input type="checkbox"/> coarse, mod.coarse, medium
		Moderate	<input type="checkbox"/> 6.1 to 12.0	<input type="checkbox"/> coarse, fine, very fine				<input type="checkbox"/> 40 to 60	<input checked="" type="checkbox"/> fine texture
		Severe	<input type="checkbox"/> More than 12.0		<input type="checkbox"/> Any flooding	<input checked="" type="checkbox"/> somewhat poorly to poorly drained		<input type="checkbox"/> less than 40	<input type="checkbox"/> very fine texture
8	Septic tank absorption fields	Slight	<input checked="" type="checkbox"/> 0 to 6.0		<input checked="" type="checkbox"/> None	<input type="checkbox"/> well to mod well drained	<input type="checkbox"/> very rapid to rapid	<input checked="" type="checkbox"/> more than 60	
		Moderate	<input type="checkbox"/> 6.1 to 12.0				<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60	
		Severe	<input type="checkbox"/> More than 12.0		<input type="checkbox"/> Any flooding	<input checked="" type="checkbox"/> somewhat poorly to poorly drained	<input type="checkbox"/> slow to very slow	<input type="checkbox"/> less than 40	
8	Farm lagoons and holding basins	Slight	<input type="checkbox"/> 0 - 2.0		<input type="checkbox"/> None	<input type="checkbox"/> well to mod well drained	<input type="checkbox"/> Slow	<input checked="" type="checkbox"/> more than 60	
		Moderate	<input checked="" type="checkbox"/> 2.1 - 6.0			<input checked="" type="checkbox"/> somewhat poorly drained	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> 40 to 60	
		Severe	<input type="checkbox"/> More than 6.0		<input type="checkbox"/> Any Flooding	<input type="checkbox"/> poorly drained	<input type="checkbox"/> Rapid to very rapid	<input type="checkbox"/> less than 40	