



Anaheim Office  
May 3, 2021  
Report 21-112-0027

Zanker Landscape Materials  
675 Los Esteros Road  
San Jose, CA 95134

Attn: Marin

RE: Soil Amendment processed 4/22/2021

The first sheet is the actual test data and the second sheet evaluates the potential rate limiting factors in the top table and in this case, boron is the only potentially rate limiting factor. Boron does not limit the use of this material at the recommended amendment rate. The bottom table on that sheet uses an example rate of 35% based on organic content. At the example rate, the degree to which the compost would satisfy the immediate requirement for each required nutrient is indicated.

Approximately 90% of the amendment passes the 6.4 mm (1/4 inch) screen and 54% passes the 2.36 mm (about 1/8 inch). Actual organic matter content is favorable at 281 pounds per cubic yard. Organic content at 69.2% is favorable. The as-received moisture level is a little low at 19.6% and this may lead to some dustiness.

The carbon to nitrogen ratio at 109 is not sufficient to meet the anticipated decomposition requirement and there will be a consumption of nitrogen as the microbes break down the less resistant organic matter. To ensure that this does not compete with the plants for nitrogen this could be dealt with at the time of use by simultaneously incorporating Ureaform 38-0-0 (27% water insoluble nitrogen) at a rate of 1 1/2 pound per cubic yard of amendment. This slow release product should offset the requirement of the amendment but the planting should still be on a regular nitrogen fertilization program.

Reaction is slightly acidic at a pH of 6.4. Salinity, sodium and boron are safely low for use at the recommended rate.

At the example rate of 35% volume this material would provide an abundant amount of zinc, manganese and sulfate and a moderate amount of potassium. These contributions at the example rate are noted on the last page. This volume rate is equivalent to 6.5 cubic yards per 1000 square feet for blending to 6 inches depth. This type of product will often be used at between 2 and 6 cubic yards per 1000 ft.<sup>2</sup> for incorporation to a 6 inch depth.

A handwritten signature in black ink that reads "William Darlington".

William Darlington, M.S., CCA

wdarlington@wpacorp.com

**COMPOST / AMENDMENT EVALUATION**

Send To : Zanker Landscape Materials 675 Los Esteros Road San Jose CA 95134	Project : Soil Amendment	Report Number : <b>21-112-0027</b> Customer Number : 01002 Date printed : 04/27/2021 Date received : 04/22/2021 Page : 1 of 2 Lab Number : 90537
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Sample Id : **Soil Amendment**

Nutrient	Total - Dry Weight	Extractable - Dry Weight	Saturation Extract	Sufficiency Factor
Nitrogen (N)	0.38 %	27 ppm		0.1
NH <sub>4</sub> -N		16 ppm		
NO <sub>3</sub> -N		11 ppm		
Phosphorus (P )		52 ppm		0.3
Phosphorus (P <sub>2</sub> O <sub>5</sub> )		119 ppm		
Potassium (K)		937 ppm	3.4 meq/L	1.7
Potassium (K <sub>2</sub> O )		1134 ppm		
Calcium (Ca)		3333 ppm	12.8 meq/L	1.0
Magnesium (Mg)		514 ppm	4.1 meq/L	1.1
Sodium (Na)			3.6 meq/L	
Sulfur (S)				
Sulfate (SO <sub>4</sub> )			12.5 meq/L	4.2
Chloride (Cl)				
Copper (Cu)		1.7 ppm		0.7
Zinc (Zn)		19 ppm		2.1
Manganese (Mn)		44 ppm		2.2
Iron (Fe)		10 ppm		0.1
Dilute Acid Fe		0.09 %		
Boron (B)			1.10 ppm	3.7

Test	Result
pH (sat paste)	6.4 s.u.
% Half Sat.	134
TEC	182 meq/kg
Qualitative Lime	None
Salinity (EC of sat ext.)	1.7 dS/m
SAR (Sodium adsorption ratio)	1.23
Sodium as % of ECe	19 %
Bulk Density - Dry	407 lbs/yd <sup>3</sup>
Bulk Density - As Received	506 lbs/yd <sup>3</sup>
Moisture - As Received	19.6 %
Organic	69.2 %
Weight of organic / yd <sup>3</sup>	281 lbs/yd <sup>3</sup>
Weight of mineral / yd <sup>3</sup>	125 lbs/yd <sup>3</sup>
C/N Ratio	109.0

Gradation	
Wt Percent Retained 1"	0.0 %
Wt Percent Retained 1/2"	1.2 %
<b>Fraction Passing 1/2 inch Screen - Dry Weight Basis</b>	
<b>Screen Opening</b>	<b>% Passing</b>
Passing 9.5mm	98.1 %
Passing 6.4mm ( 1/4")	90.9 %
Passing 4.75mm	80.6 %
Passing 2.36mm	54.0 %
Passing 1.00mm	30.3 %
Passing 0.50mm	21.2 %

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**POTENTIAL RATE LIMIT FACTORS**

Test	% Volume rate limit	Cubic yard amendment per 1000 sf to 6"							
		1	2	3	4	5	6	7	8
		Volume % amendment blend with sandy loam							
		5	11	16	22	27	32	38	43
EC sat. ext.	No Limit								
Sodium sol.	No Limit								
Chloride sol.									
Boron sol.	70 %								
NH <sub>4</sub> -N	No Limit								
Available									
Nitrogen	No Limit								
PO <sub>4</sub> P	No Limit								
Copper	No Limit								
Zinc	No Limit								

Rate limit estimates based on amending a non-problematic sandy loam

**RELATIVE IMMEDIATE NUTRIENT AND ORGANIC VALUE**

* Example Rate 35 %	Slight	Moderate	Abundant
Nitrogen			
Phosphorus	█		
Potassium	██████████		
Calcium	██████████		
Magnesium	██████████		
Copper	█		
Zinc	██████████		
Manganese	██████████		
Iron			
Sulfate	██████████		
Organic Matter	██		

\* If no chemical characteristics are rate limiting, the example rate is based on organic content of the amendment (up to a max of 43%).

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