Anaheim Office
September 17, 2019
Report 19-248-0030

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

Attn: Beto Ochoa

RE: ZZ Top Soil processed on 9/5/19

The first sheet is the actual test data and the second sheet is a calculated table showing the percent of each required nutrient that is now readily available compared to the total present. Further decomposition of the organic fraction will release many of these nutrients as available for plant utilization. The third sheet evaluates the potential rate limiting factors in the top table and in this case, there are no chemical characteristics that would limit the rate to less than normally employed for amendments. The primary limiting factor for use of this material as a direct planting media would be boron, followed by salinity. The bottom table on that sheet uses an example rate of 32% that is based on the amount of organic matter generally required to amend soils of low organic content. At the example rate, the degree to which the compost would satisfy the immediate requirement for each required nutrient is indicated.

Approximately 96% of the amendment passes the 6.4 mm (1/4 inch) screen and 75% passes the 2.36 mm (about 1/8 inch). The amount of very fine material present indicates this material will have the potential for issues with dustiness at the low as-received moisture level. Actual organic matter content is favorable at 308 pounds per cubic yard. Organic content at 35% is low for an amendment material.

The carbon to nitrogen ratio at 83.8 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 controlled release product should offset the requirement of the amendment but the planting should still be on a regular nitrogen fertilization program.

At the example rate of 32% volume this amendment would provide a favorable amount of organic matter to benefit soil structure and satisfy the organic matter need for most soil types. At this rate the amendment would also provide a significant nutrient contribution of immediately available magnesium 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 cubic yards per 1000 square feet for blending to 6 inches depth. This would be adding 1848 pounds organic matter, which would increase organic content of a sandy loam soil by about 6.5% on a dry weight basis.

Reaction is moderately acidic at a pH of 6.0. Salinity and soluble levels of sodium, chloride and boron are safely low for use at the recommended rate. If this material will be used for direct planting it should receive several thorough leaching irrigations with good quality water in order to decrease the salinity and particularly boron levels to a safer range.

The table that follows the data page shows what nutrients are present in total amounts as well as what portion is immediately available. For convenience these results are expressed both on a cubic yard basis and as weight of nutrient and organic matter per as-received ton of ZZ Top Soil. Further release from the organic complex will continue to help satisfy plant needs for many of the nutrients.

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If we can be of any further assistance, please feel free to contact us.

Annmarie Lucchesi
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Emailed 5 Pages: beto@zankerrecycling.com

Waypoint ANALYTICAL

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COMPOST / AMENDMENT EVALUATION

Send To :	Project :	
Zanker Landscape Materials 675 Los Esteros Road San Jose CA 95134	ZZ Top Soil	Report Number : **19-248-0030** Customer Number : 01002 Date printed : 09/11/2019 Date received : 09/05/2019 Page : 1 of 3 Lab Number : 75250

Sample Id : **ZZ Top Soil**

Nutrient	Total - Dry Weight	Extractable - Dry Weight	Saturation Extract	Sufficiency Factor
Nitrogen (N)	0.25 %	15 ppm		0.1
NH_4-N		12 ppm		
NO_3-N		3 ppm		
Phosphorus (P)	0.05 %	52 ppm		0.6
Phosphorus (P_2O_5)	0.11 %	119 ppm		
Potassium (K)	0.11 %	571 ppm	4.4 meq/L	1.6
Potassium (K_2O)	0.13 %	691 ppm		
Calcium (Ca)	2.07 %	2707 ppm	22.7 meq/L	1.0
Magnesium (Mg)	0.92 %	937 ppm	11.3 meq/L	2.4
Sodium (Na)	0.05 %		7.6 meq/L	
Sulfur (S)	0.07 %			
Sulfate (SO_4)			42.9 meq/L	14.3
Chloride (Cl)			6.1 meq/L	
Copper (Cu)	36.5 ppm	1.6 ppm		0.8
Zinc (Zn)	67.4 ppm	8 ppm		1.0
Manganese (Mn)	266 ppm	10 ppm		0.6
Iron (Fe)	20000 ppm	44 ppm		0.6
Dilute Acid Fe		0.12 %		
Boron (B)	36.3 ppm		2.09 ppm	7.0

Test	Result
pH (sat paste)	6.0 s.u.
% Half Sat.	69
TEC	180 meq/kg
Qualitative Lime	Low
Salinity (EC of sat ext.)	3.0 dS/m
SAR (Sodium adsorption ratio)	1.85
Sodium as % of ECe	23 %
Bulk Density - Dry	880 lbs/yd³
Bulk Density - As Received	961 lbs/yd³
Moisture - As Received	8.4 %
Organic	35.0 %
Weight of organic / yd³	308 lbs/yd³
Weight of mineral / yd³	572 lbs/yd³
C/N Ratio	83.8

Gradation	
Wt Percent Retained 1"	0.0 %
Wt Percent Retained 1/2"	0.4 %

Fraction Passing 1/2 inch Screen - Dry Weight Basis	
Screen Opening	% Passing
Passing 9.5mm	99.4 %
Passing 6.4mm (1/4")	95.9 %
Passing 4.75mm	91.2 %
Passing 2.36mm	75.1 %
Passing 1.00mm	56.6 %
Passing 0.50mm	41.4 %

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NUTRIENT SUMMARY

Test	Amount Per Cubic Yard				Amount Per Ton, As Rec'd				Available as a % Of Total
	Total		Available		Total		Available		
Nitrogen	2.2	lbs	0.01	lbs	4.58	lbs	0.03	lbs	1
Phosphorus (P)	0.44	lbs	0.05	lbs	0.92	lbs	0.1	lbs	11
Phosphorus (P_2O_5)	1.01	lbs	0.1	lbs	2.11	lbs	0.22	lbs	10
Potassium (K)	1	lbs	0.5	lbs	2.08	lbs	1.05	lbs	50
Potassium (K_2O)	1.21	lbs	0.61	lbs	2.52	lbs	1.27	lbs	50
Calcium	18.21	lbs	2.38	lbs	37.9	lbs	4.96	lbs	13
Magnesium	8.13	lbs	0.82	lbs	16.93	lbs	1.72	lbs	10
Sulfur	0.6	lbs	0.83	lbs	1.26	lbs	1.73	lbs	137
Copper	0.51	ozs	0.02	ozs	1.07	ozs	0.05	ozs	5
Zinc	0.95	ozs	0.11	ozs	1.98	ozs	0.23	ozs	12
Manganese	3.75	ozs	0.14	ozs	7.8	ozs	0.29	ozs	4
Iron	281.6	ozs	0.62	ozs	586.24	ozs	1.29	ozs	0
Boron	0.51	ozs	0.04	ozs	1.06	ozs	0.08	ozs	8
Organic Matter	308	lbs			641	lbs			

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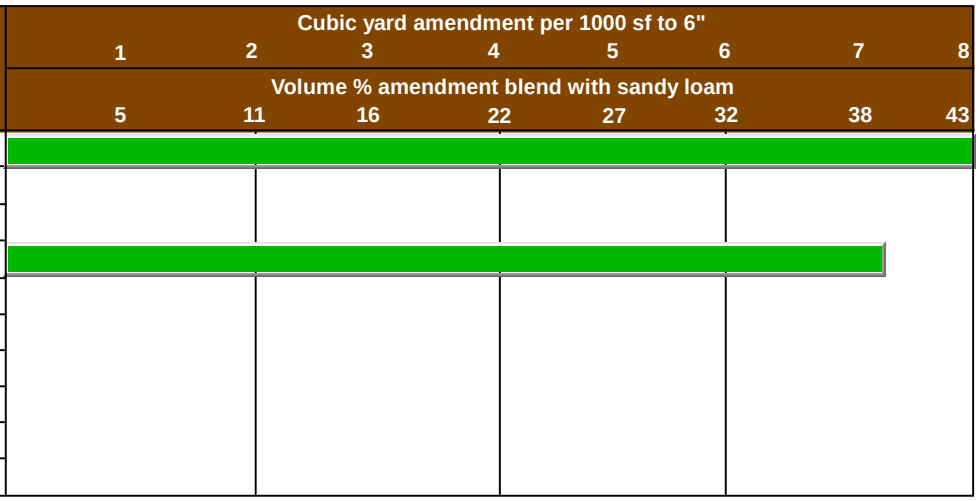
POTENTIAL RATE LIMIT FACTORS

Test	% Volume rate limit
EC sat. ext.	82 %
Sodium sol.	No Limit
Chloride sol.	No Limit
Boron sol.	39 %
NH_4-N	No Limit
Available	
Nitrogen	No Limit
PO_4P	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 32 %	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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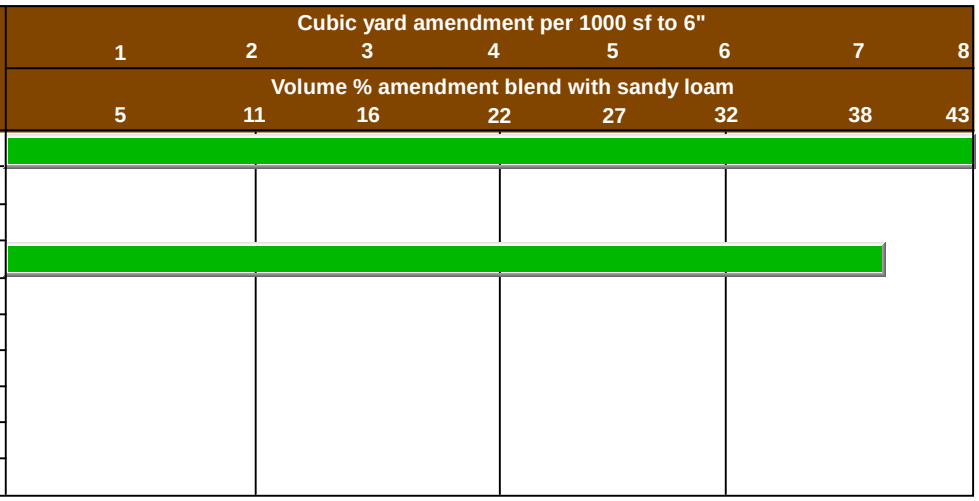

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