



Testing Laboratory
Certificate #1552-01



ISTRC NEW MIX LAB, L.L.C.

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Report of Test Results

Report To: Mr. Steve Beck

WESTERN POZZOLAN CORPORATION

Address: 1748 Senecio Drive

Larkspur, CO 80118

Report Date: December 26, 2008

Date Received: December 17, 2008

Test Dates: December 17 to 24

Condition of Sample(s): Intact

Re: None Specified

Lab ID & Job Sequence: 08110001 A

Physical Properties¹

Sample # & Type	Sample Description	Porosity [%]							Organic Matter ³ [% by wt.]
		Infiltration Rate [in./hr. Ksat]	Particle Density ⁴ [g/cm ³]	Bulk Density [g/cm ³]	Water Holding ² [%]	Total	Water ³ [Capillary]	Aeration [Non-Capillary]	
	USGA Recommended Specifications:	At least 6				35 to 55	15 to 25	15 to 30	
1 S	Silica sand from Texas	30.17	2.634	1.66	7.06	37.17	11.69	25.48	0.04
2 M	80/20 lab mix; Silica sand from Texas : Lassenite greens grade	16.33	2.626	1.49	12.45	43.44	18.53	24.91	0.03

¹ASTM F1815 - Reported values are the average of two test samples; ²Water [Capillary] porosity & Water Holding determined at -30 cm tension; ³Method 1 of ASTM F1647; ⁴SSSA PD w/Vacuum Desiccator



Particle Size Analysis*

Sample # & Type	Sample Description	Soil Textural Components [Reported Values are % of the whole]				Sand Distribution by Size Size reported as Mesh # & mm [Value Reported is % Retained]						
		Sand .05 -2.0	Silt .002 -05	Clay < .002	#10 Gravel 2.0 mm	#18 v. Coarse 1.0 mm	#35 Coarse 0.5 mm	#60 Medium 0.25 mm	#80 Fine 0.18 mm	#100 Fine 0.15 mm	#140 v. Fine 0.10 mm	#270 v. Fine 0.05 mm
		USGA Recommended Specifications for Root Zone Mixes		≥ 89% of Total	≤ 5% ≤ 10% w/ #140 + #270	≤ 3% ≤ 10% #10 + #18	≤ 10%	≥ 60% #35 + #60		≤ 20% #80 + #100		≤ 5% #140 + #270 & ≤ 10% w/ Silt + Clay
1 S	Silica sand from Texas	98.58	0.62	0.53	0.27	8.45	43.26	35.28	8.47	1.73	1.14	0.25
2 M	80/20 lab mix; Silica sand from Texas : Lassenite greens grade	97.54	1.23	0.98	0.25	7.56	42.42	35.67	8.65	1.72	1.16	0.37

*ASTM F1632 & C136 - Reported values are the average of two test samples

Particle Shape / Size Parameters / pH / EC

Sample # & Type	Sample Description	Sphericity / Angularity	D85 [mm]	pH*		EC ⁺
				H ₂ O	CaCl	
1 S	Silica sand from Texas	Low to Medium to High Sphericity, Angular to Sub-Angular to Sub-Rounded	0.93	5.00	4.31	0.15
2 M	80/20 lab mix; Silica sand from Texas : Lassenite greens grade	Low to Medium to High Sphericity, Angular to Sub-Angular to Sub-Rounded	0.92	4.88	4.85	0.29

*ASTM D4972 Method A [pH meter] with water & Calcium Chloride solutions, ⁺Agron. 9, Pt 2, 167-173

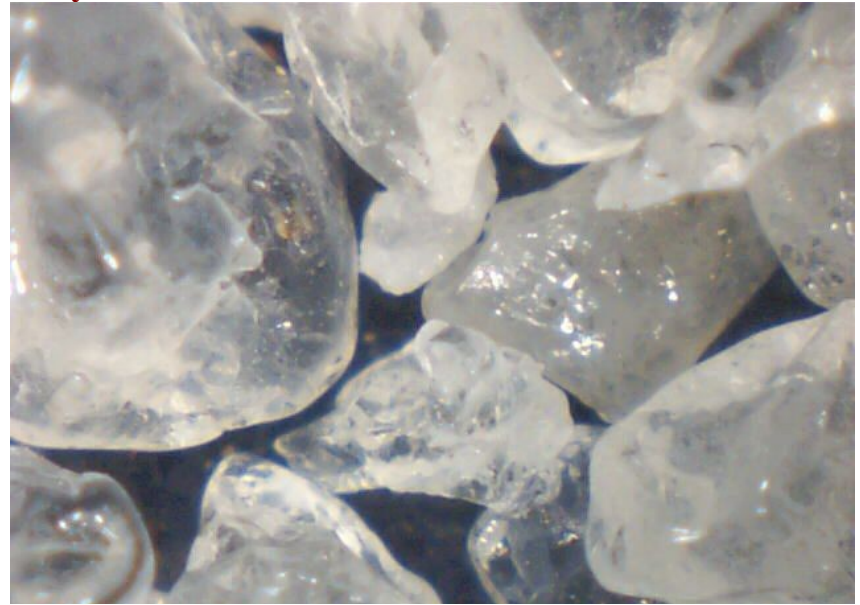
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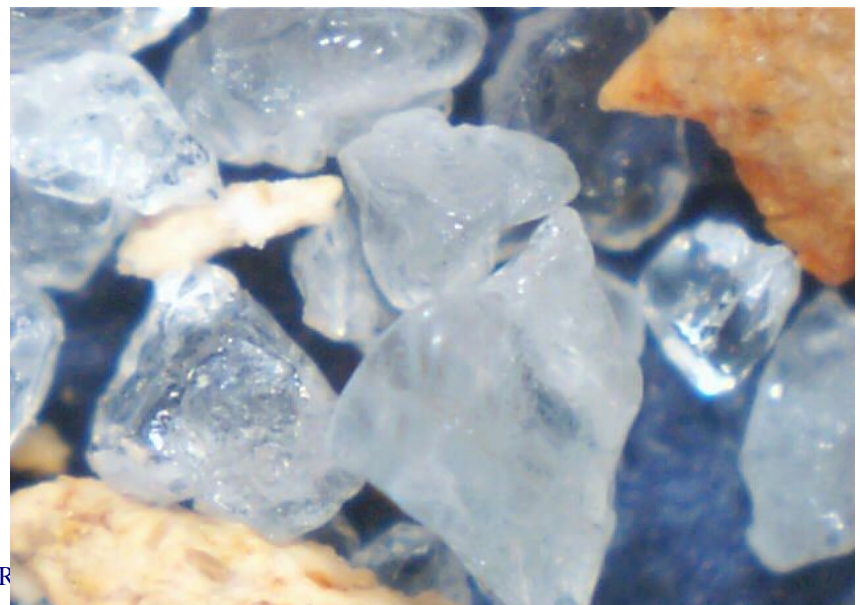
Sphericity & Angularity



Silica sand
from Texas



80/20 Lassenite
lab mix



on permission of ISTR

as received and/or in requested lab mixes, whichever is applicable.



Comments:

1. A silica sand from Texas was selected to blend with the Lassenite greens grade material. The selected sand complied with USGA recommended particle size specifications.

2. The sand was evaluated to establish a baseline to measure the impact of the Lassenite. An 80/20 blend of sand:Lassenite was created in the lab. The particle size analysis found that the Lassenite had little impact on the particle size distribution of the sand. The implication is two-fold: (a) the Lassenite is a light weight material, and (b) the particle size distribution of the Lassenite was similar to the Texas silica sand. The 80/20 mix complied with the USGA's particle size recommendations. The mix, like the sand, was very low in fine sand components passing the 60 sieve. The silt and clay remained very low even though there was a modest increase in both relative to the sand.

3. Physically, the Lassenite added water porosity and water holding. Air [non-capillary] porosity declined a minuscule 0.57%. The bulk density declined from the sand's 1.66 g/cc to 1.49 g/cc reflecting the light weight of the Lassenite. The infiltration rate declined from 30.17 in./hr. for the sand, to 16.33 in./hr. for the 80/20 mix. The infiltration rate and porosity properties complied with the USGA's recommendations.

[Note: The opinions expressed in this report are outside the scope of the A2LA certification in accordance with ISO/IEC 17025, as amended from time to time.]

Sincerely;

New Mix Lab

by:

Robert S. Oppold, COO
Quality Manager