

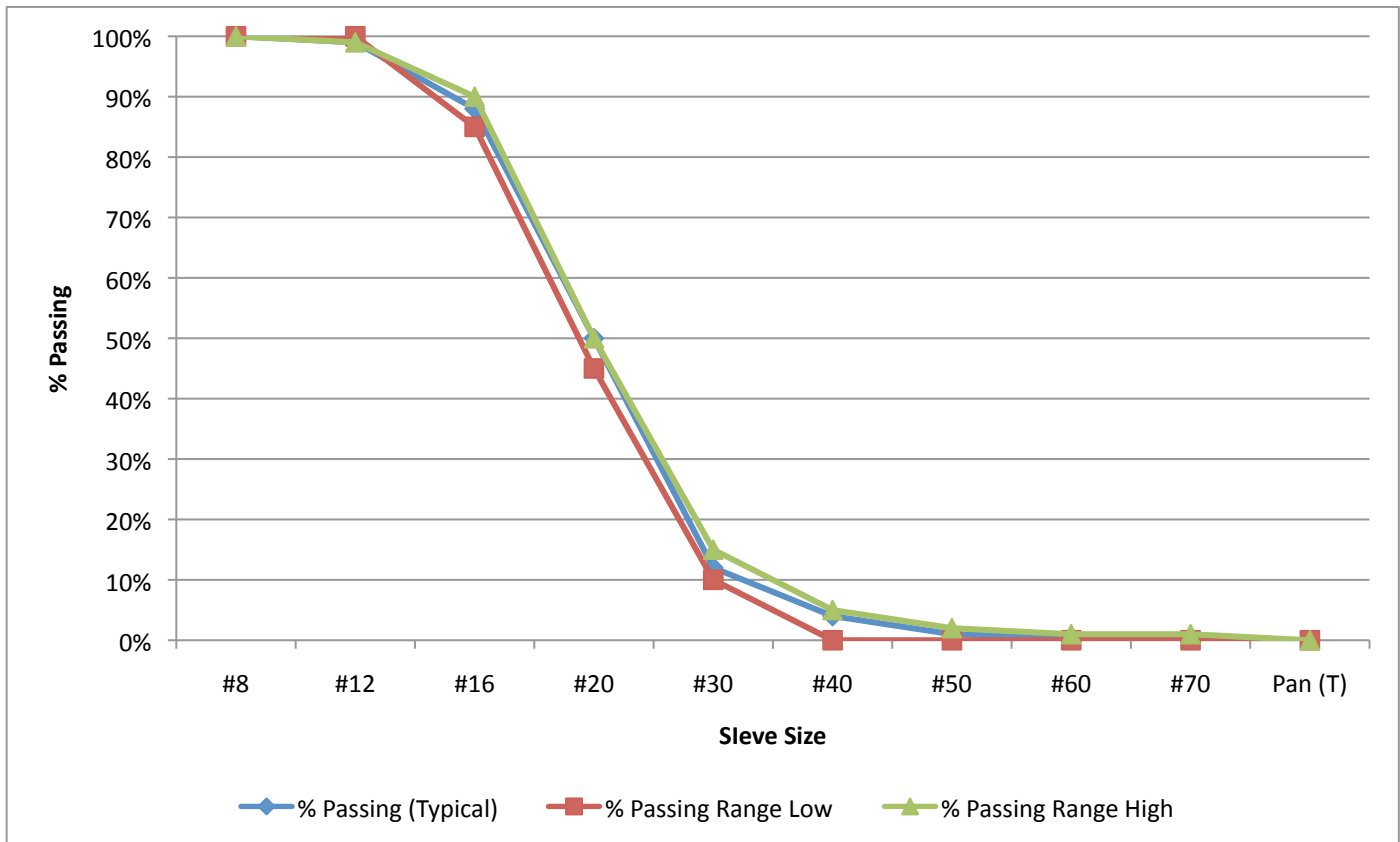


Top Dressing Sand Medium

Typical Gradation Analysis

Sieve Size	% Passing (Typical)	% Passing Range		% Retained (Individual)
		Low	High	
#8	100%	100%	100%	0%
#12	99.0%	100%	99%	1.0%
#16	88.0%	85%	90%	11.0%
#20	50.0%	45%	50%	38.0%
#30	12.0%	10%	15%	38.0%
#40	4.0%	0%	5%	8.0%
#50	1.0%	0%	2%	3.0%
#60	0.5%	0%	1%	0.5%
#70	0%	0%	1%	0%
Pan (T)	0%	0%	0%	0.5%

Fineness Modulus: 4.46

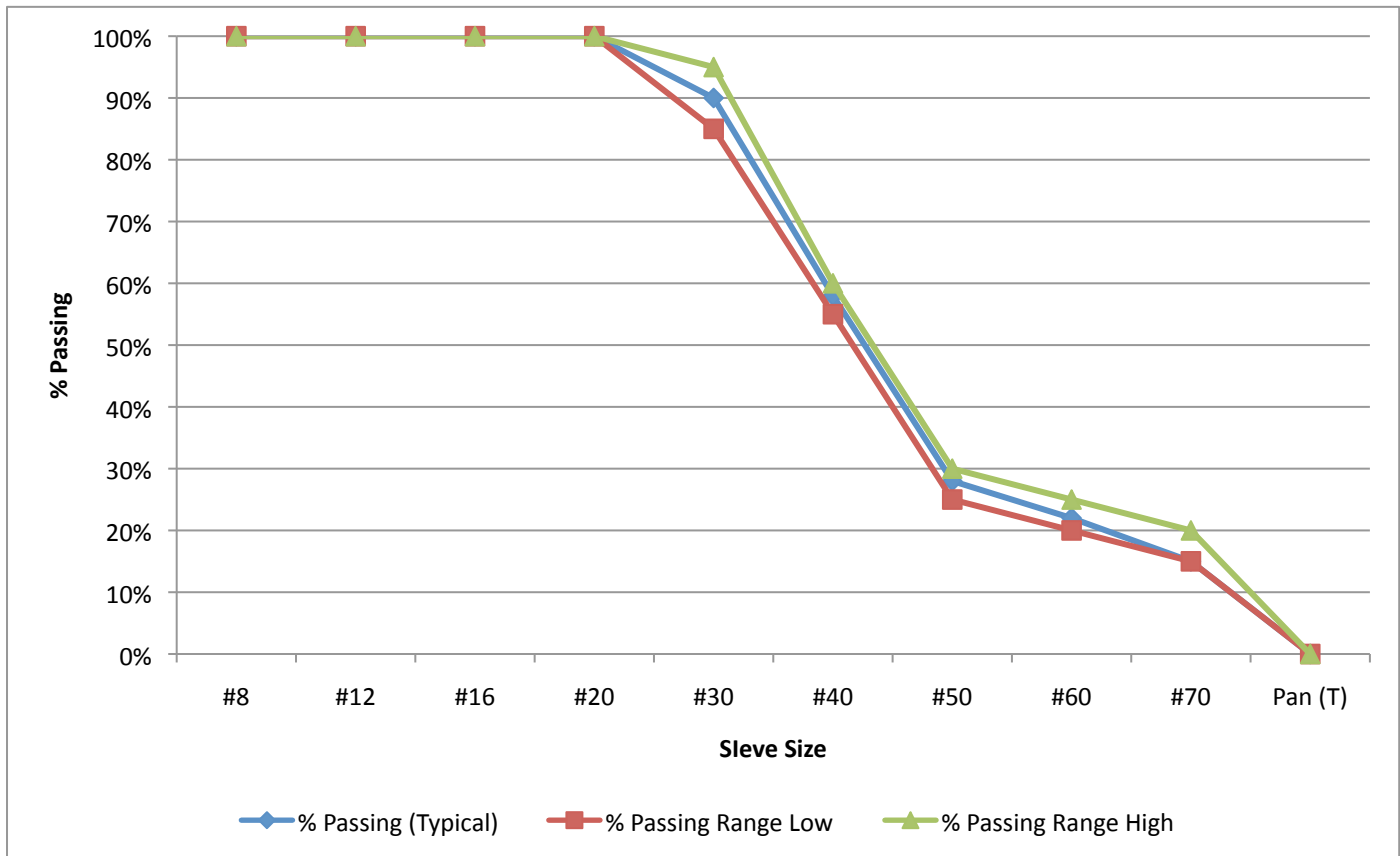




Typical Gradation Analysis

Sieve Size	% Passing (Typical)	% Passing Range		% Retained (Individual)
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#8	100%	100%	100%	0%
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#16	100%	100%	100%	0%
#20	100%	100%	100%	0%
#30	90%	85%	95%	10%
#40	58%	55%	60%	32%
#50	28%	25%	30%	30%
#60	22%	20%	25%	6%
#70	15%	15%	20%	7%
Pan (T)	0%	0%	0%	15%

Fineness Modulus: 2.02





Chemical Analysis

E104

Sample Date: March 18, 2002

Selected Elemental %		0.0001 % = 1PPM	
Aluminum (Al)	0.0610%	Nickel (Nj)	
Antimony (Sb)		Niobium (Nb)	
Ansenic (As)		Nitrogen (N)	
Barium (Ba)		Palledium (Pd)	
Berylium (Be)		Phosphorus (P)	
Bismuth (Bi)		Platinum (Pt)	
Boron (B)		Potassium (K)	
Calcium (Ca)	0.1300%	Radium (Ra)	
Cadmium (Cd)		Sodium (Na)	0.0026%
Cerium (Ce)		Selenium (Se)	
Cesium (Cs)		Silver (Ag)	
Chromium (Cr)	0.0030%	Stontium (Sr)	
Cobalt (Co)		Sulfur (S)	0.0018%
Copper (Cu)	0.0020%	Tantium (Ta)	
Gold (Au)		Tellurium (Te)	
Hafnium (Hf)		Thallium (Ti)	
Indium (In)		Thorium (Th)	
Iron (Fe)	0.0800%	Titanium (Ti)	0.0100%
Lanthanum (La)		Uranium (U)	
Lead (Pb)	0.0007%	Vanadium (V)	
Lithium (Li)		Wolfram (W)	
Magnesium (Mg)	0.0020%	Yitrium (Y)	
Manganese (Mn)		Zinc (Zn)	
Mercury (Hg)		Zirconium (Zr)	
Molybdenum (Mo)		Other	0.0002%

Selected Oxide %

Al2O3	0.1153%	PbO	0.0007%	UO2
CaO	0.1819%	P2O5		V02
Cr2O3	0.0005%	K2O		V2O5
CuO	0.0002%	S1O2	99.0500%	WO3
FeO		Na2O	0.0350%	Y2O3
Fe2O3	0.1144%	SO3		ZnO 0.0016%
MgO	0.0033%	SO4	0.0055%	ZrO2
MnO		T1O2	0.0167%	
MnO2		SnO2		

Additional Properties

Bromine		Carbon	
Chlorine		PH	
Fluorine		Loss on Ignition	0.5000%
Iodine		Total Oxide Percentages	99.4939%
NH4		Solble Salts	Mmhos/cm
% x 20 = lbs/ton Cd			
0.2 ppms			