KLEINFELDER
Bright People. Right Solutions.

February 21, 2019

Utelite Corporation
6375 Three Mile Canyon Road,
Coalville, UT 84017

Attention: Mr. Jeff Barrick

Subject: Qualifications Testing of Utelite Structural Blend Lightweight Aggregate

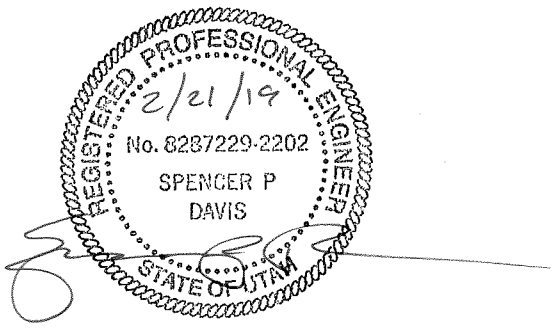
Dear: Mr. Jeff Barrick

Kleinfelder has performed testing, per your request, to verify the conformance of Utelite Structural Blend Lightweight Aggregate with ASTM C330-17 "Standard Specification for Lightweight Aggregates for Structural Concrete".

Upon review of the results, the Utelite Structural Blend Lightweight Aggregates meet C330-17 test requirements for the Calendar Year 2019.

See the following results.

Sincerely,



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Blended Aggregates

SIEVE ANALYSIS		
ASTM C136	AASHTO T27	
Sieve Size	Accum. % Passing	Specifications
12.5 mm (1/2")	100	100
9.5 mm (3/8")	97	90-100
4.75mm (No. 4)	83	65-90
2.36 mm (No. 8)	63	35-65
2.00 mm (No. 10)	54	---
1.18mm (No.16)	47	---
0.600 mm (No.30)	29	---
0.425mm (No. 40)	23	---
0.300mm (No. 50)	18	10-25
0.150mm (No.100)	12	5-15
0.075mm (No. 200)	9.2	0-10

TEST RESULTS				
Standard	CHEMICAL and PHYSICAL PROPERTIES		Results	Specification
ASTM C40	Organic Impurities	Color Comparison=	Lighter than Standard	Lighter than Standard
ASTM C641	Staining Index	Stain Index=	20	Less than 60
ASTM C114	Loss on Ignition	Loss, %=	0.27	Less Than 5 Percent
ASTM C142	Clay Lumps and Friable Particles	Fine Aggegate, %=	0.16	Less than 2 Percent
ASTM C29	Bulk Density: Dry Loose Condition	Unit Weight, lbs./cu.ft=	64.0	65 PCF Maximum
ASTM C29	Bulk Density: Saturated Loose Condition	Unit Weight, lbs./cu.ft=	75.8	No Requirement
ASTM C1761	Absorption of Lightweight Fine Aggregate	*Absorption, %=	15.7	No Requirement
ASTM C127/128	Relative Density of Fine Aggregate (SSD)	Relative Density, (SSD)=	1.839	No Requirement
ASTM C88	Soundness of Aggregtes (Sodium Sulfate)	Soundness Loss, %=	3.3	Less than 12 Percent
ASTM C88	Soundness of Aggregates (Magnesium)	Soundness Loss, %=	4.1	Less than 18 Percent
ASTM C39	Compressive Strength	Average Strength, psi=	6180	4,000 PSI Minimum
ASTM C496	Splitting Tensile Strength	Average Strength, psi=	450	330 PSI Minimum
ASTM C567	Fresh Concrete Density	Density, lbs./cu.ft=	118	No Requirement
ASTM C567	Oven Dry Density	Density, lbs./cu.ft=	112.5	No Requirement
ASTM C567	Approximate Equilibrium Density	Density, lbs./cu.ft=	115.6	No Requirement
ASTM C157	Drying Shrinkage	Shrinkage, %=	0.06	Less than 0.07
ASTM C151	Popouts	Popouts=	None	No Popouts
ASTM C1260	Potential Alkali Reactivity of Aggregates	Reactivity, %=	0.06	Less than 0.10

*Absorption is calculated using a minimum soak time of 24-hours