KANSAS DOT RESEARCH PROJECTS
QUARTERLY PROGRESS REPORT

Lead Agency (University or Contractor): Kansas DOT

INSTRUCTIONS:

Project Managers and/or research project investigators should complete a quarterly progress report for each calendar quarter during which the projects are active. Please provide a project schedule status of the research activities tied to each task that is defined in the proposal; a percentage completion of each task; a concise discussion (2 or 3 sentences) of the current status, including accomplishments and problems encountered, if any. List all tasks, even if no work was done during this period.

KDOT Project Number RE-0738-01	**Transportation Pooled Fund Program - Report Period:** ☐Quarter 1 (January 1 – March 31, 2017) ☐Quarter 2 (April 1- June 30,2017) XQuarter 3 (July 1 – Sept 30, 2017) ☐Quarter 4 (October – December 31, 2017)
Project Title: Utilization of Laser Induced Breakdown Spectroscopy for Real-Time Quality Control Monitoring and Characterization of Aggregate Materials Used in Highway Construction using	
Project Manager: Randy Billinger, P.G., KS DOT, TAC Member **Phone:** 785-291-3037 **E-mail:** Randyb@ksdot.org	
Project Investigator: **Phone:** 516-431-4031 **E-mail:** wchesner@chesnerengineering.com Warren Chesner	

Lead Agency Project ID: RE-0738-01	**Other Project ID (i.e., contract**	**Project Start Date:** July 1, 2017
Original Project End Date: **June 30, 2020**	**Current Project End Date:** **June 30, 2020**	**Number of Extensions:** 0

Project schedule status:

X On schedule ☐On revised schedule ☐ Ahead of schedule ☐ Behind schedule

Overall Project Statistics:

Total Project Budget	Total Cost to Date for Project	Total Percentage of Work Completed
$870,000.	$86,357.17	9.93%

Quarterly Project Statistics:

Total Project Expenses This Quarter	Total Amount of Funds Expended This Quarter	Percentage of Work Complete This Quarter
$870,000.	$86,357.17	9.93%

Project Description:

The primary objectives of this research effort is to develop a near-real-time laser-scanning system to rapidly classify aggregates used in highway construction. The intent is to employ this classification process to

- Quantify specific engineering properties (e.g., acid insoluble residue, soundness, LA Loss, etc.)
- Assess whether an aggregate will pass or fail a defined engineering property test
- Identify and/or quantify the presence of deleterious materials (e.g., ASR, chert, shale, reactive aggregate)
- Determine the composition of blends in stockpiled aggregate
- Determine the source of an unknown aggregate

Six states are part of this TPF program. They include: KS, MD, OK, OH, NY and NM.
Each State is supplying aggregates that will be tested and evaluated to determine the efficacy of the technology; and an AASHTO standard of Practice will be prepared as part of the effort.

Progress this Quarter (includes meetings, work plan status, contract status, significant progress, etc.):
During this period the pooled fund study was initiated. Contracts were executed and contacts and teleconferences were held with each participating State Agency to plan out sample collection strategies. Work began on the development of a new laser scanning system prototype, which was the primary focus of the initial effort. A new prototype system is currently in fabrication. The research team moved into a new lab scanning facility. Expanded scanning of Phase 1 samples using the existing (SLT 1.0) prototype was initiated.

Anticipated work next quarter:
An upgraded laser scanning prototype system (referred to as SLT 2.0) will be ready for shakedown testing. Sample collection from the States that have samples ready for delivery will be initiated.

Significant Results:
The project began and work on an upgraded scanning system was initated.

Circumstance affecting project or budget. (Please describe any challenges encountered or anticipated that might affect the completion of the project within the time, scope and fiscal constraints set forth in the agreement, with recommended solutions to those problems).

None at this time.