

CAF – Contractor of the Year Award Nomination – Professional & Engineering Services**Project Description: Laser Scan of US Steel Gary Works QBOP Shop (\$27,750)***

*Screen shot of laser scanner output. Each pixel represents 3D measurement.

Scope: In preparation for an extended crane repair outage, US Steel contracted Falk PLI to provide a survey of the as-built condition of the runway system and associated crane. Additionally, Falk PLI provided a redline report highlighting recommended repairs.

Innovative Methodology: Through the use of Laser Scanning technology, Falk PLI was able to collect all the necessary measurements prior to the outage from the ground or from the crane without shutting down the operation and without putting anyone in harm's way. Conventional survey methods would have required an extended shutdown of the crane bays and lockout of the hot rails as well as the utilization of fall protection and man-lifts in order to obtain the necessary measurements. These manual and extensive efforts would only include reporting the centerline deviations of the crane rails and would require additional measurements for the structural members.

Additionally, our comprehensive approach ties in the rail alignment, girder alignment, camber and deflection of the girder, plumbness of the structural columns supporting the girder, along with the gauge between the rails. This process provided our client a whole new perspective into the structural integrity and required maintenance of the entire crane structure. The quantity and quality of data gathered by the use of Laser Scanning expands the information available to make adjustments not only to the rails and girders but the entire support structure often getting to the root cause of crane failure. This information is used for preventive maintenance to avoid costly downtime.

This information assisted US Steel in planning and prioritizing the project and avoided costly delays, field re-work, and the need for repeat measurements.

*Costs only reflect Falk PLI's scope of project.