



# Case Study

## \$1 Million per Year Benefit from Increase in Throughput Wins RIT/USA Today Quality Cup

### The Opportunity

Evans Clay of McIntyre, Georgia, is a miner, producer, and marketer of air floated kaolin clay for the filler, extender, paper, fiberglass, and ceramics industries. Low levels of productivity and throughput forced the company to outsource business to competitors to keep up with demand. 1994 was a turnaround year for the company, which closed its corporate offices and raised prices. The next step was increased productivity. With downtime already at a minimum, the company looked for ways to increase throughput in its two impact mills. They needed dramatic improvement, fast, in order to survive.

With less than 60 employees and few technical resources, no one had free time for extensive training or endless meetings.

### The Results

The experiment was completed in just five weeks and indicated that throughput increased significantly when the Type 2 dust collection bag was combined with management of the dust collection horn. The significant findings were implemented immediately. With no capital expenditures, throughput increased to 670 tons per day—a 10% increase—for \$1 million additional revenue annually. The company can now meet demand without outsourcing. In just over a month, the company discovered specific solutions that allowed it to keep a happy customer base and take advantage of further industry growth. In addition to increasing throughput, the company earned the 1996 RIT/USA Today Quality Cup for Small Business.

### The Approach

The company identified the key measure to drive improvement—tons of clay produced per day. This was easily measured at the plant level, but not so easily at the mill level. To overcome this, a leased pressure differential railcar with the capacity to hold 90 tons of clay was used. Clay produced at the mill being studied was delivered directly into the railcar, which was weighed at the end of each day. Analysis of the key measure control chart showed a stable, but incapable process. The company set out to design an experiment to increase throughput at the plant by two percent to 610 tons per day.

### The Test

Project participants brainstormed 35 ideas which might increase throughput. They narrowed the list to 11 ideas which were practical, fast, and cost free to test. The following ideas were tested in a few weeks using just 12 experimental runs in an MVT® format. Each morning the team would set up or reconfirm conditions for that day's run and each evening weighed the clay in the railcar.

<i>Idea</i>	<i>Old</i>	<i>New</i>
Dust Collection Bag	Type 1	Type 2
Crude Clay	Type 1	Type 2
Air flow	Normal	Modified with relief duct
Extra man	No	Yes (to watch feed)
Hammer Configuration	#1	#2
Hammer Life	New	Worn
Hammer Type	Single	Double
Dust Collector Horn Frequency	Normal	Increase
Horn Duration	Short	Long
Blast Frequency	Long	Short
Air pressure	Normal	Increased