Lehigh Cement Company, LLC
Alternative Fuel Proposal

Presentation to the Warren County Economic Growth & Development Committee ▪ April 29, 2019

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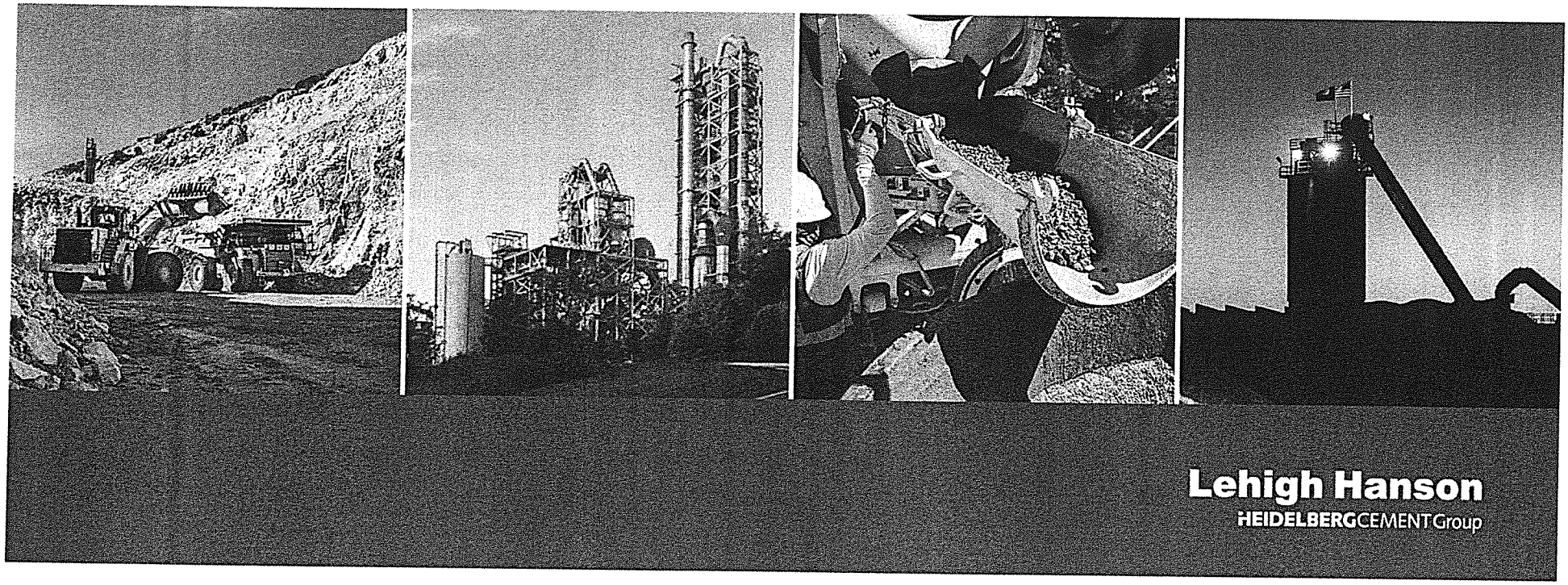
IRON CLAD

trust earned daily



Introducing Our Team

David Dreyer
Plant Manager

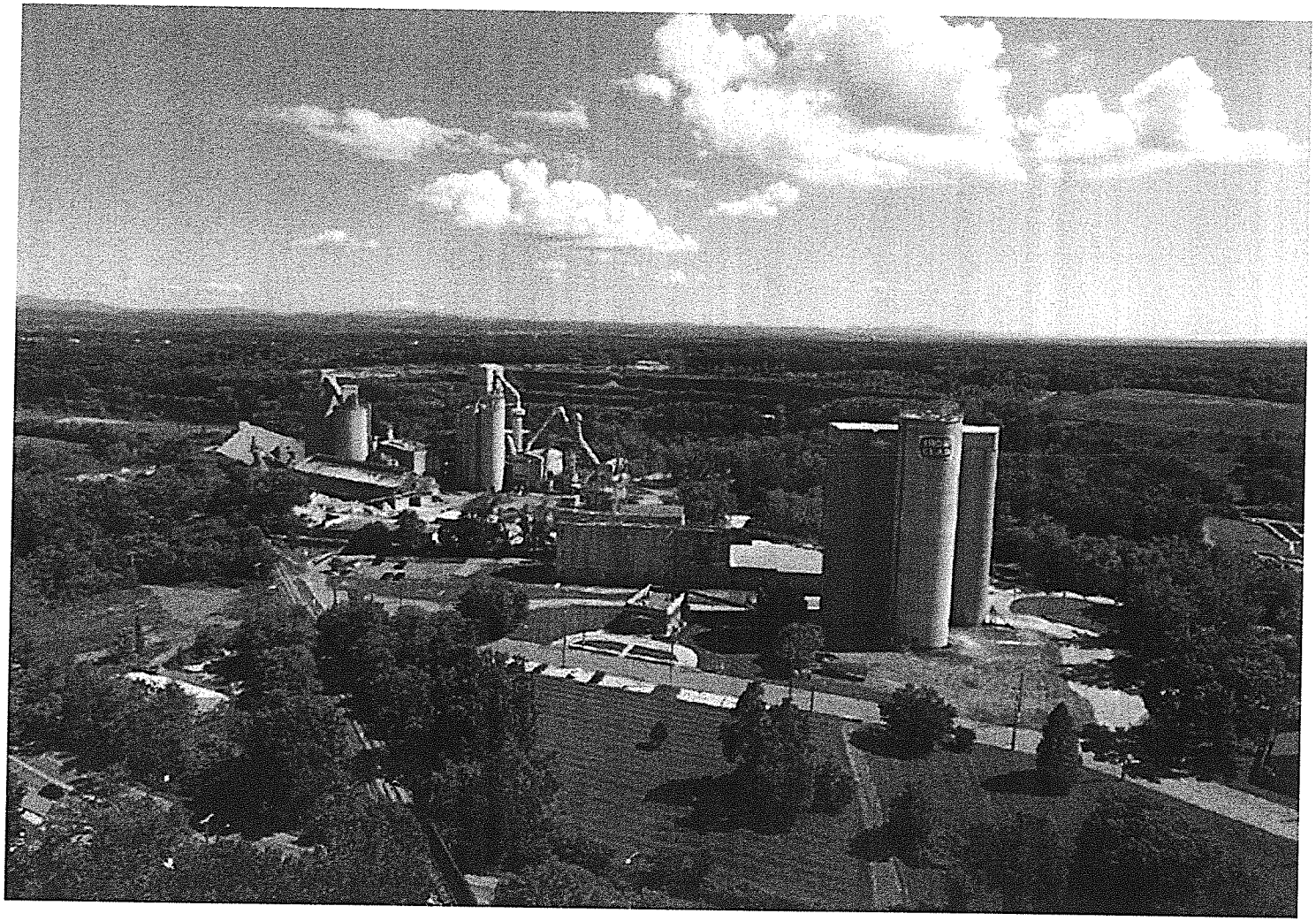
Jana Frederick
Environmental Manager

John Brodt
Community Liaison, Behan Communications

Our Alternative Fuel Proposal: Status Report

- Lehigh proposing to replace 15% of its fossil fuel consumption with an alternative fuel made up of a 60/40% mix of plastic trimmings and cardboard fiber from recycled paper mills.
- Trial burns and air emissions testing conducted under the supervision of NYSDEC in Summer 2017.
- NYSDEC reviewed emissions data, found emissions within Lehigh's permit limits and state guidelines, and publicly noticed a draft permit in Nov. 2018.
- 30-day public comment period was opened and extended multiple times to allow for greater community understanding.
- Lehigh answered community's questions in writing and in person, including Community Information Meeting in February 2019.
- Public comment period closed on March 15, 2019; NYSDEC now reviewing public comments in advance of issuing final recommendation to USEPA.

Lehigh Cement Company, LLC – Glens Falls Plant



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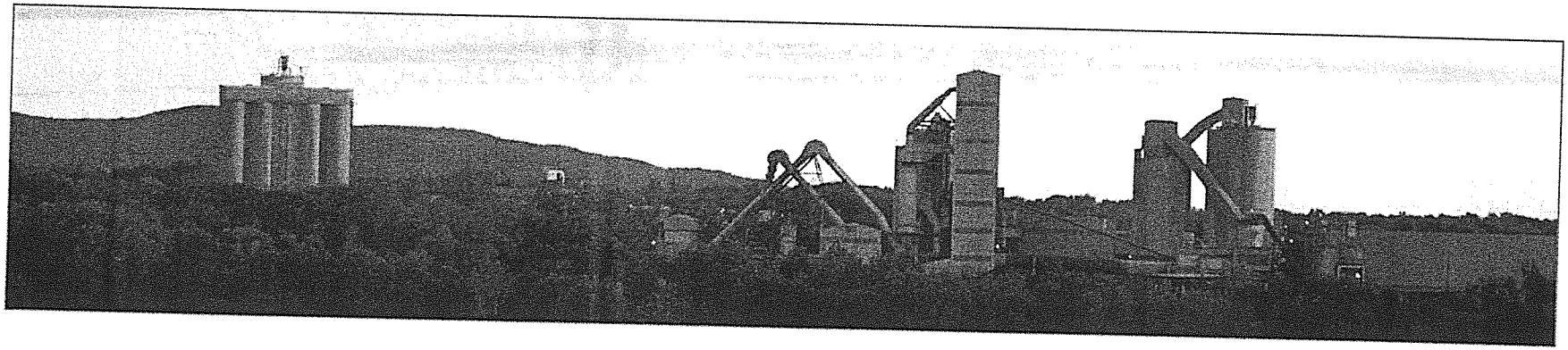
Our Glens Falls Plant: 125 Years of Tradition

- **Longest continuously operating gray cement plant** in the United States.
- "Glens Falls Portland Cement Company" incorporated in **1893**.
- **Celebrated 125 years** of operation in 2018
- **One of only two** cement manufacturing plants remaining **in NY**
- Part of the Heidelberg Cement Group
- **More than 90 employees** working in Glens Falls
- **800 acres** in Warren and Saratoga counties
- Manufacture **(4) cements** – T1, T2, T3, Masonry
- The **"IRON CLAD"** brand associated with the Glens Falls Plant since early 20th Century.

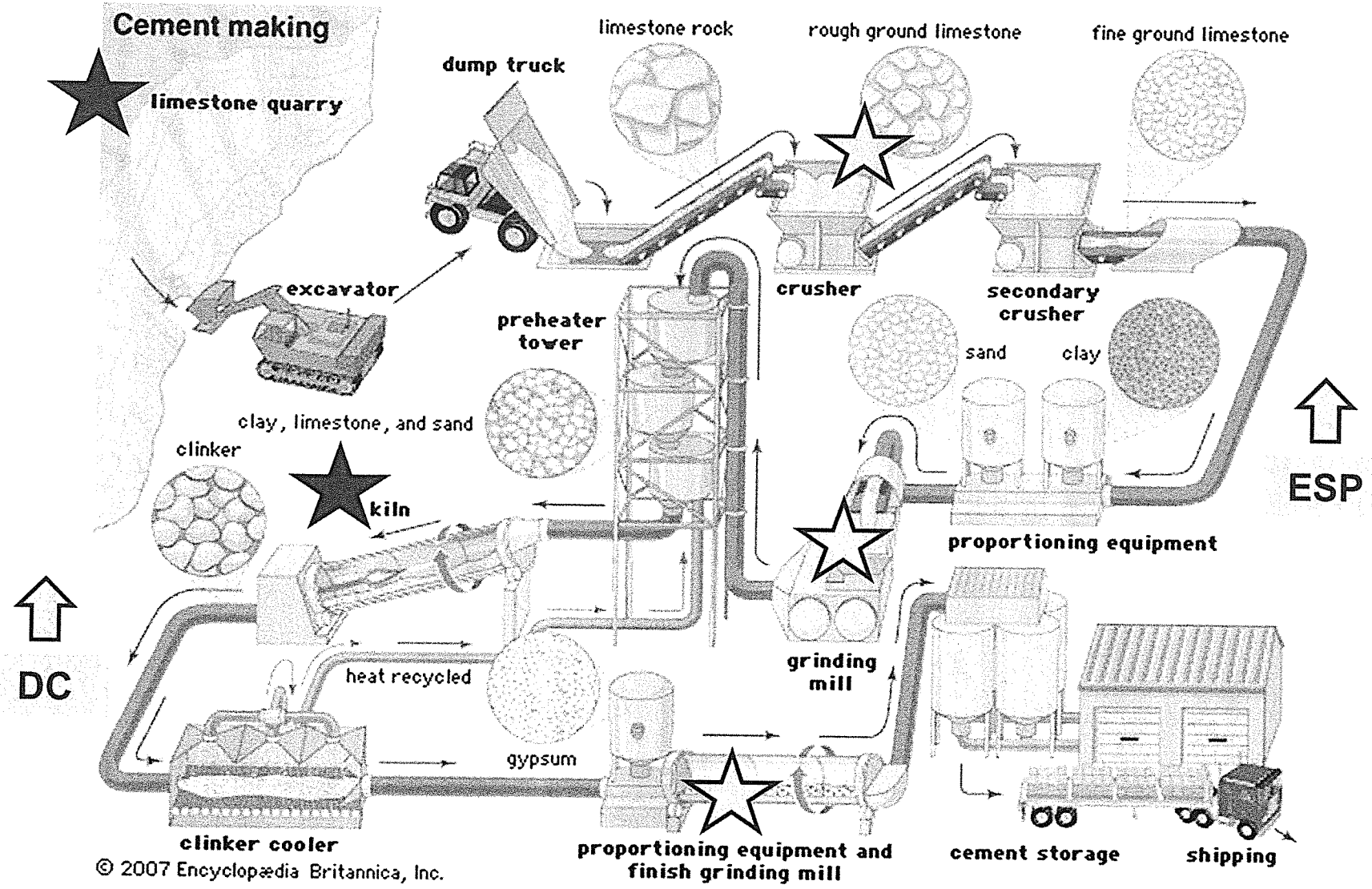
Our Glens Falls Plant: Small But Nimble



- Capacity to produce about **560,000 metric tons** of cement annually
- **Transfer +100,000 tons/year** to a sister facility in Cementon, NY (Catskill)
- **500,000 tons of cement = 60,000 homes** or a two-lane highway from Glens Falls to the Canadian Border
- Plant is small in today's world, but employees are **highly responsive to customers' needs** and we're fortunate to mine some of the **finest limestone in the world.**

"Our high-quality stone and outstanding employees are what sustains us"

How We Make Our Cement



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Current Air Emission Standards

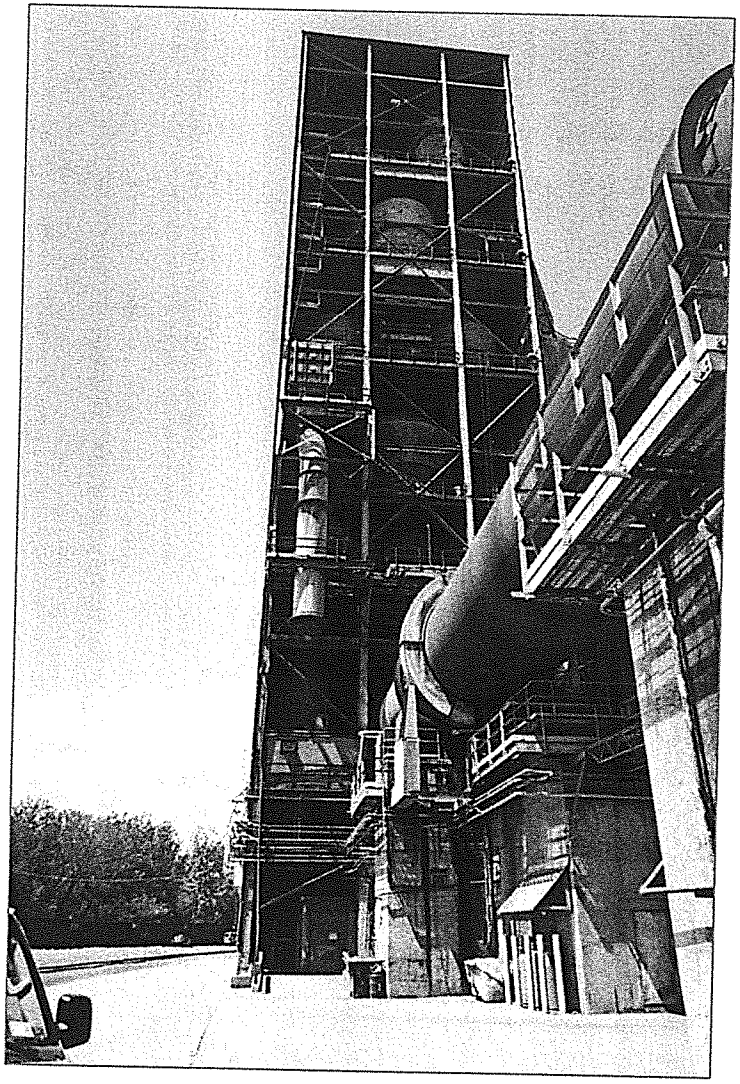
Lehigh's air emissions are strictly regulated by the federal and state governments based on what they have determined to be protective of human health and the environment.

In 2015 …

1. USEPA enacted stringent new air emission standards for Portland Cement industry nationwide, lowering allowable emission limits and expanding the number of regulated constituents.
   - ✓ Limits established for Mercury and Total Hydrocarbons
   - ✓ Limits lowered for Particulate Matter — a surrogate for heavy metals other than mercury
2. Lehigh invested more than $6 million in enhanced emission controls at its Glens Falls plant to ensure compliance with new standards and achieve EPA's designated Maximum Achievable Control Technology.
3. New standards reflected in Lehigh's current air emissions permit and reaffirmed as protective by EPA during 2018 industry review.

Advanced Controls Minimize Air Emissions

- The following control devices reduce air emissions:
  - ✓ Electrostatic precipitator controls Particulate Matter emissions
  - ✓ Selective Non-Catalytic Reduction system for NOx control
  - ✓ Hydrated Lime for SO_2 control
  - ✓ Activated Carbon used to control Mercury Emissions
  - ✓ Temperature controls reduce formation of Dioxins/Furans
  - ✓ Baghouse on cooler vent controls Particulate Emissions
  - ✓ 41 Dust Collectors located throughout the facility remove PM



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Continuous Monitoring for Emissions

- **Lehigh has continuous monitoring for the following emissions:**
  - ✓ Mercury
  - ✓ THC or total hydrocarbons
  - ✓ Dioxins/Furans
  - ✓ Particulate Matter
  - ✓ NOx
  - ✓ Opacity
  - ✓ CO2
- Data is measured five times per minute and averaged every minute.
- Daily, weekly, monthly, quarterly and/or annual quality assurance activities required to ensure accuracy of monitors, with results submitted to regulatory agencies
- Stack testing is also performed every 12-30 months, depending on constituent.

Why Alternative Fuels?

- Lehigh's parent companies view alternative fuels as an essential component in reducing fossil fuel use and our carbon footprint, and has established a goal of reaching 30% alternative fuel use globally by 2030.

- Lehigh is currently using engineered fuels similar to that proposed for Glens Falls at four plants in the U.S. and Canada — in some instances in greater volumes and with higher plastic content.

- Air emissions at these plants are below applicable emission limits.

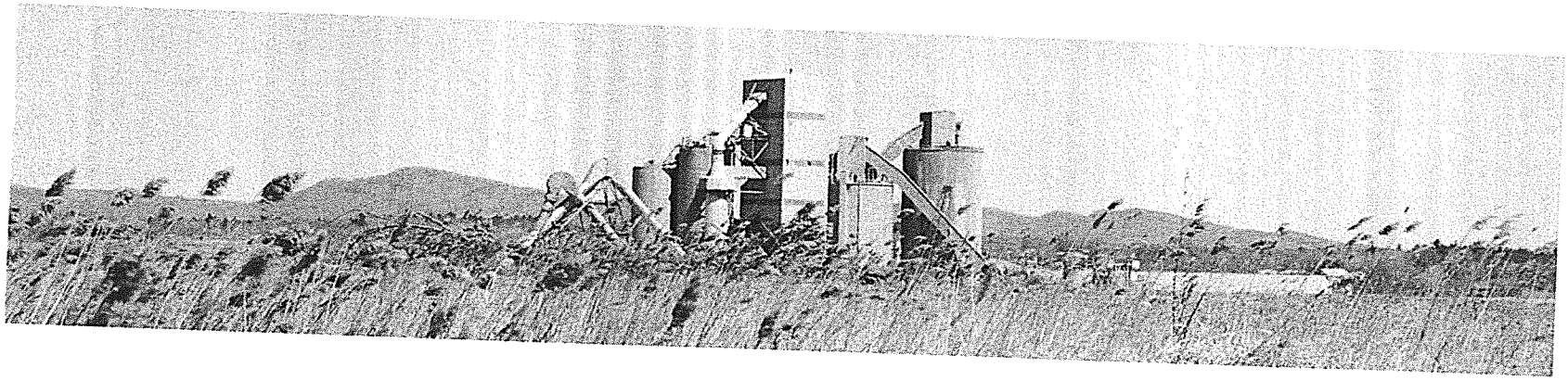
SUSTAINABILITY COMMITMENTS 2030

HeidelbergCement has established "Sustainability Commitments 2030"

Why Alternative Fuels at Glens Falls?

- Reduces fossil fuel consumption, contributing to parent's company's Sustainability 2030 goal.
- Reduces fuel costs, which account for 25% of total operating costs in Glens Falls.
- Added benefit: Keeps a non-recyclable material out of landfills

All while keeping air emissions well below currently allowable limits.



Our employees are working hard to keep us competitive in a global market. Alternative fuels will reduce fuel cost, which help to keep us sustainable.

Our Alternative Fuel

- 60/40% mix of plastic trimmings and cardboard fiber from recycled paper mills.
- Material will arrive by truck in a compacted form (no baling or wrapping) and be fed directly from the truck into a feed hopper and then into a pipeline, at a controlled rate, into the kiln.
- Lehigh proposes to use at a maximum of 15% of our fuel mix.
- It will always be combined with coal and/or natural gas.
- Each delivery will be sampled for a variety of constituents as required by DEC and a monthly composite report will be submitted.

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Preparing For Our Permit Application

2016:

- Lehigh obtained a Beneficial Use Determination for raggertail from NYSDEC, allowing for emissions testing to determine if material could be used as fuel source while keeping emissions below currently allowable levels.

2017:

- Lehigh purchased and installed alternative fuel handling system to conduct air emissions testing.
- Lehigh retained third-party environmental testing firm to conduct air emissions tests using alternative fuel.
- Testing protocols were approved in advance by NYSDEC, and NYSDEC was on-site to observe all testing.
- Testing was conducted using blend of alternative fuel and coal to demonstrate compliance with existing limits and conclude no changes needed.

Emissions Testing Results

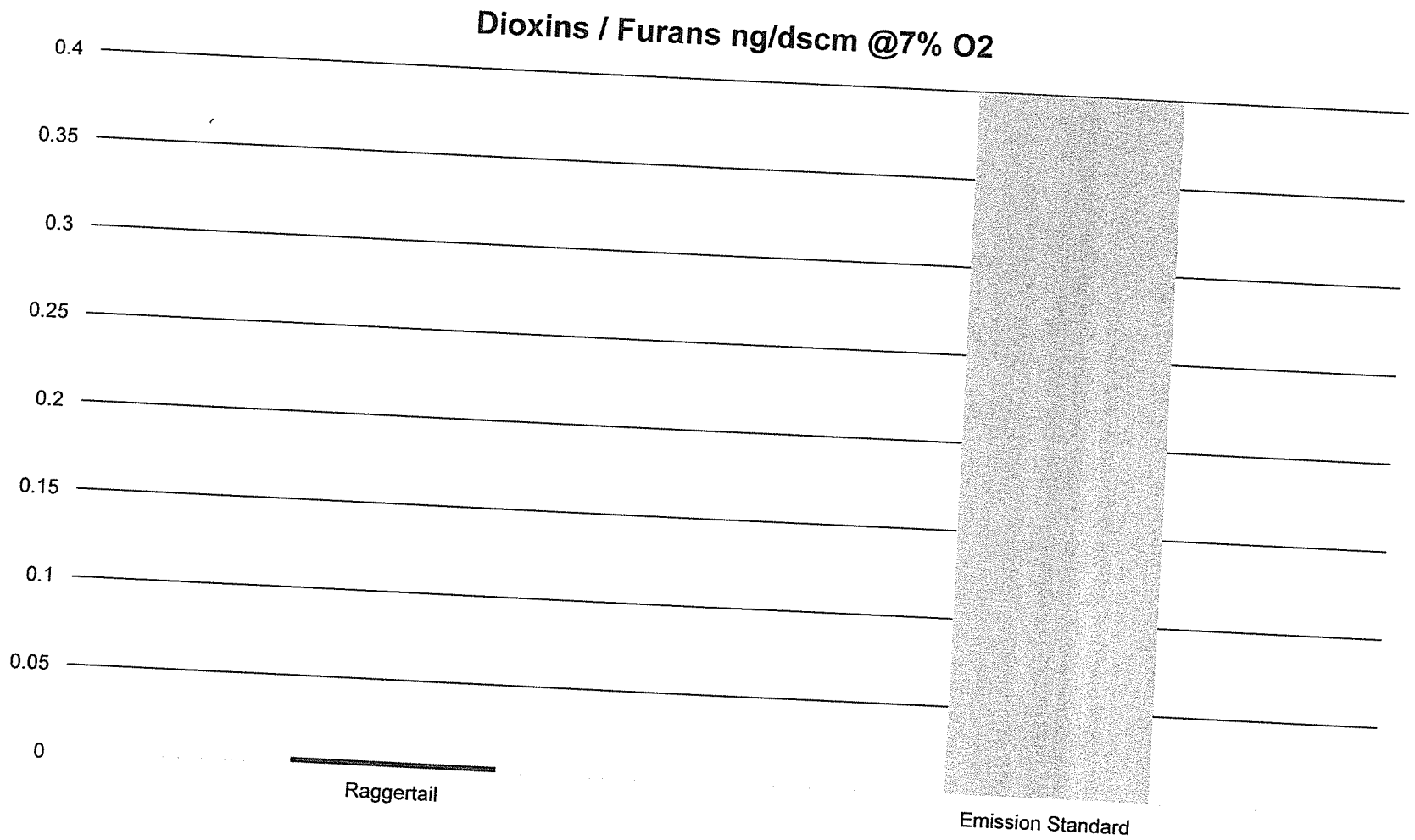
- Lehigh tested for those constituents included in its New York State air permit.

  All of Lehigh's regulated air emissions were well below the plant's current permitted levels.

- Lehigh also tested for materials regulated under Part 212 of NYS law (e.g., metals) that "have the potential to be emitted" from our processes.

  All materials detected were below state emissions guidelines. Those same constituents were also detected during testing without raggertail — again, all within state guidelines.

Air Emissions Comparison



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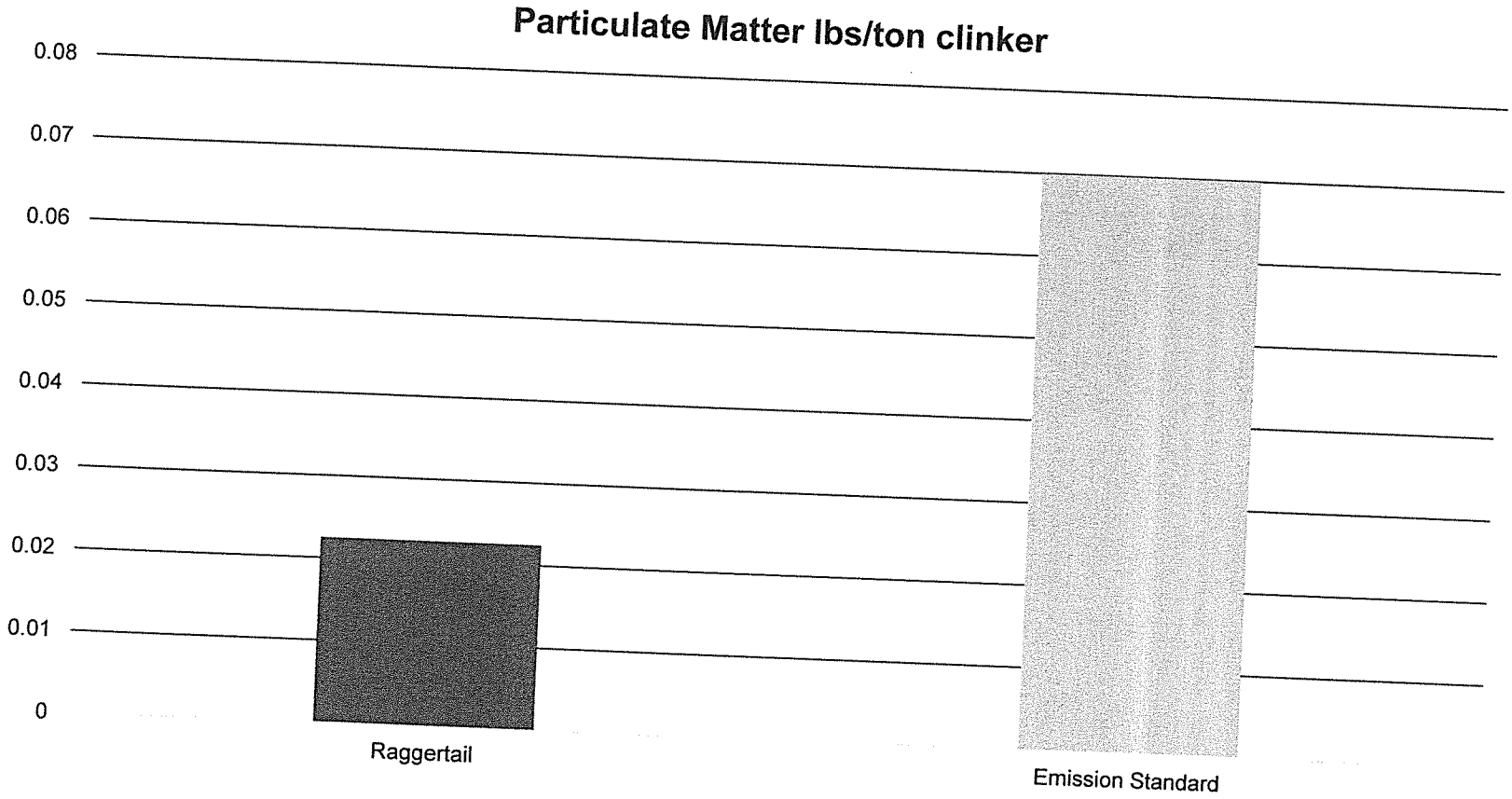

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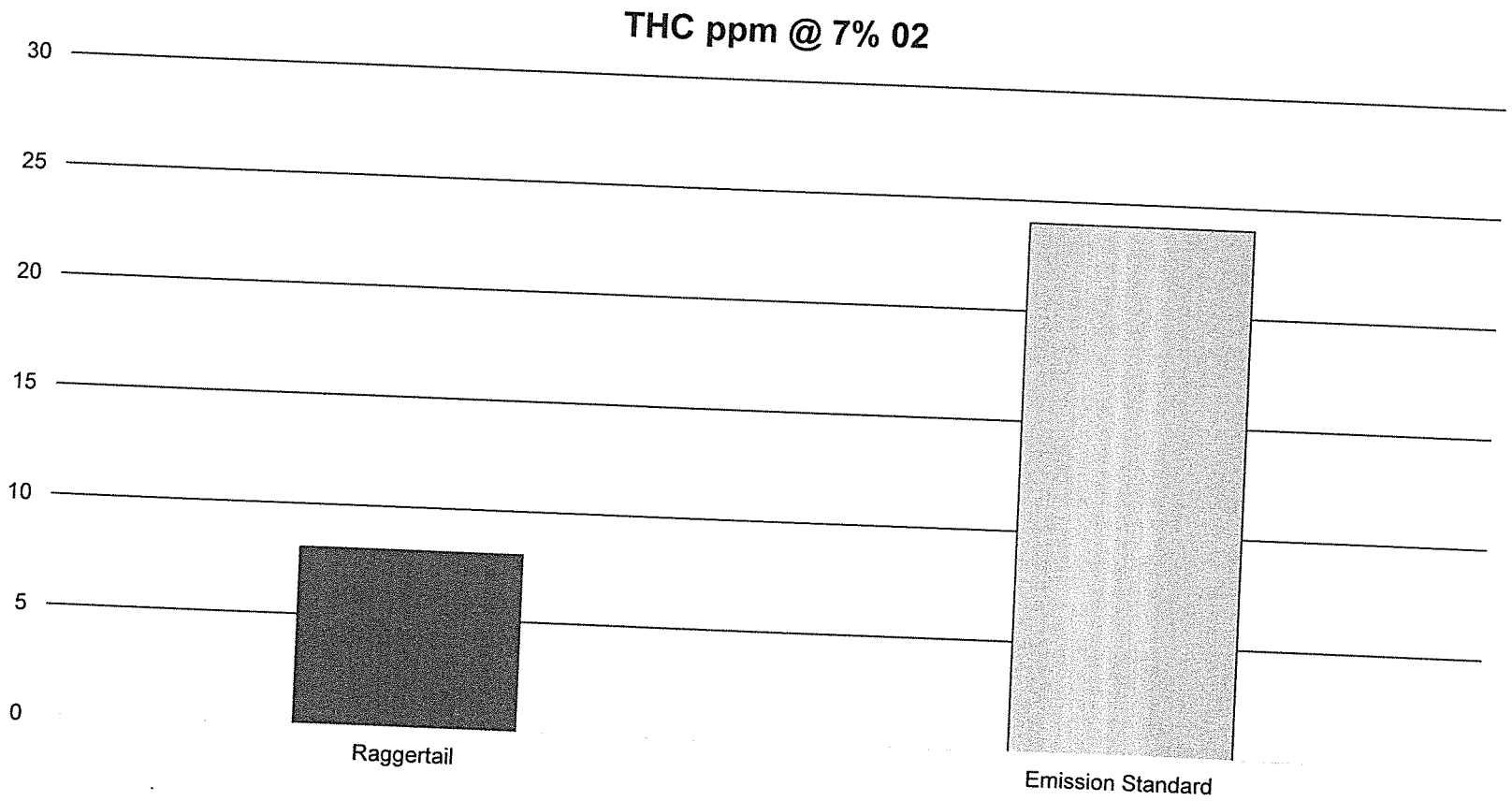

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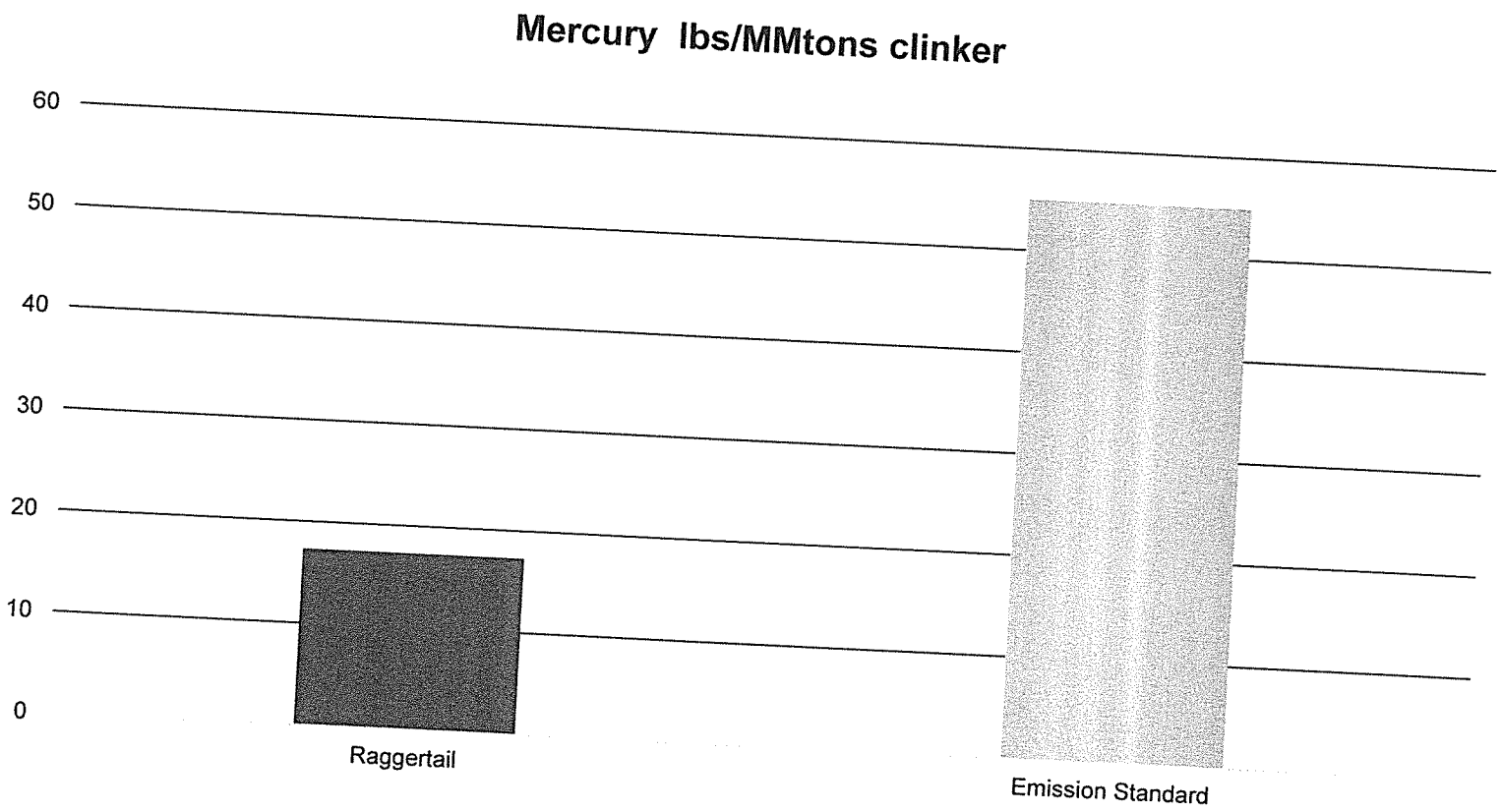

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Thank you for your time!

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