

# Removal of Lead Paint from Fire Hydrants

*Officials from a Maryland County set up a three phase maintenance program to blast municipal fire hydrants using the Sponge-Jet Sponge Blasting™ System.*



Officials required blasting and painting 230 hydrants in phase one, and 1,000 hydrants in phase two and three; other municipal hydrants, would be scheduled after the completion of phase three.

Silver Sponge Media™ abrasive was specified for the project based upon key process benefits:

- **Operator Safety** - The suppression of airborne lead particles was critical in the small containment system.
- **Cutability** - The process had to aggressively cut multilayered, 1.6 to 3.2 micron (40 to 80-mil), lead coatings and provide a surface profile.
- **System Mobility** - The system had to be mobile enough to fit down city and residential streets.

- **Quick Set-up and Clean-up** - Efficient site preparation and cleanup was necessary to blast and repaint ten hydrants per day.

The phase one contractor used the Sponge Blasting System, blasting and repainting eight to twelve hydrants per day. The phase two and three contractor initially used a large recycling-steel grit system, but switched to the Sponge Blasting System after damaging phone lines and landscaping with two, 12 meter (40-ft) trailers.

The contractor switched and used two small utility vehicles and a trailer to transport the Sponge Blasting System, a negative air and filtration system, an air dryer, an air compressor, and an SSPC Class One containment system.

Using proper containment and maximum media recycles, Silver Sponge Media abrasive consumption and waste disposal costs were minimized.



Visit Sponge-Jet, Inc. at  
**www.SpongeJet.com**  
or call **603-3. -\*462-**  
to learn more about the  
Sponge Blasting™ System

# Lead Paint Removal from Concrete at Cal Poly

*Reusable, low dust Sponge Blasting technology suppresses dust, limits airborne lead levels and reduces waste at Cal Poly State University*



School officials searched for a technology that could remove lead paint in the pool house at California Polytechnic State University (Cal Poly). Lead-based paint was peeling in the pool house, posing potential health risks to its users.

Cal Poly expected to use abrasive blasting, but harbored concerns for overall project safety, air quality, process leaching, and waste generation. The contractor chose the Sponge Blasting™ System, which responded to the school's concerns, and offered a clear solution:

■ **Dry and Easily Containable** - The Sponge-Jet technology offered a non-leaching, easily containable solution. Other wet, leaching blast technologies were impractical, or too costly to confine.

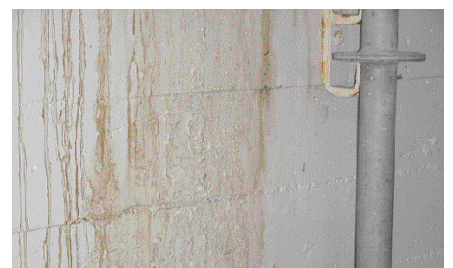
■ **Low Airborne Dust** - Lead dust suppression was critical to limiting exposure to system operators as well as surrounding students and faculty.

■ **Safe for Workers and Employees** - The process had to be safe to use with California's stringent EPA air quality regulations.

■ **Process Sensitivity** - The process had to be aggressive enough to offer efficient production rates, without damaging the concrete substrate.

The three-mil lead paint was successfully removed from the pool house's walls and ceiling. Silver Sponge Media™ abrasive was safely recycled seven times, minimizing both waste disposal and total costs.

Cal Poly officials and the painting contractor enjoyed the hassle free project, and the pool was quickly opened.



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ANOTHER PROJECT  
**DONE BEST**  
WITH THE **SPONGE-JET®**



**"Using the Sponge  
Blasting System the  
job came in under  
the quote we provided  
to the refinery's  
general foreman."**

*Paint & Lead Supervisor*

## Removal of lead paint and heavy rust in an operating petroleum refinery

**Problem:** Surface preparation and repainting was required on 320m<sup>2</sup> (3,450 ft<sup>2</sup>) of structural steel in a Corpus Christi, Texas oil refinery.

**Goals:**

- Low Dust
- Dry Process
- Low Ricochet
- Cost Efficient

**Alternatives considered:**

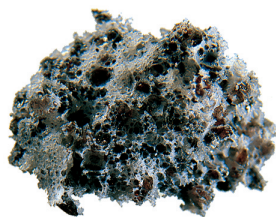
- High Pressure Water
- Sand Blasting
- Agriblasting
- Power Tooling

**Contractor's choice:**

Sponge-Jet's Sponge Blasting System™  
Silver Sponge Media™

A prominent nationwide specialty contractor, was hired to remove failing lead paint and heavy rust on structural support beams throughout the refinery. The contractor's challenges, defined by the refinery's general foreman, were to allow nearby production units to continuously operate, and to maintain a dry, low dust environment.

**Solution:** Using Sponge-Jet's Sponge Blasting System™, the contractor was able to prepare the surface to the SP6 specification in one dry, low dust process - allowing oil production to continue. These same qualities allowed painting to quickly ensue. The refinery and contractor were able to share a significant cost savings.



15x magnification

PRODUCT

**Sponge-Jet® Silver Sponge Media™ featuring MICROCONTAINMENT™ technology**

APPLICATIONS

**Fast cutting and aggressive. Used for a wide range of commercial, industrial, marine and military coatings removal projects.**

PROFILE

**75micron (3mil)**

ABRASIVE

**Aluminum Oxide**

CLEANING RATE

**6-17m<sup>2</sup>/hr(1-3ft<sup>2</sup>/min)**

AVERAGE RECYCLES

**7**



# ANOTHER PROJECT DONE BEST WITH THE SPONGE-JET®



"We completed the work in

record time...use of our  
Sponge-Jet Sponge Blasting

System allowed us to  
average 45m<sup>2</sup> (480 ft<sup>2</sup>)  
per manday!"

John Spollen  
Senior Project Manager  
Marcor Remediation, Inc.  
Northeast Office, Wilmington, MA

## Lead paint removal from shop ceilings and walls in an old textile mill

**Problem:** 4,600m<sup>2</sup> (50,000 ft<sup>2</sup>) of lead  
painted ceilings and walls in a converted  
Manchester, NH textile mill were  
being sandblasted in preparation for a  
new coating system. Dust from conventional

sandblasting began migrating to the mill's lower levels,  
which were occupied by operating businesses. After the  
N.H. Department of Health determined that the migrating  
dust contained dangerously high levels of lead, **MARCOR  
Remediation, Inc.**, a nationally recognized environmental  
contracting company, was hired to safely decontaminate  
the site using a clean, dry, low-dust process.

**Solution:** Marcor Remediation used the Sponge-Jet  
Sponge Blasting System to remove the remaining 3300m<sup>2</sup>  
(35,000 ft<sup>2</sup>) of lead paint- yielding, on average, 45m<sup>2</sup> (480 ft<sup>2</sup>)  
per manday. Due to the clean, low-dust Sponge Blasting  
process, the MARCOR Remediation project manager noted  
that "our wipe samples verified lead levels well below HUD  
guidelines...and we finished in record time."

### Goals:

- Clean, dry process
- Low dust generation
- Cost competitive
- Minimal collateral damage

### Alternatives considered:

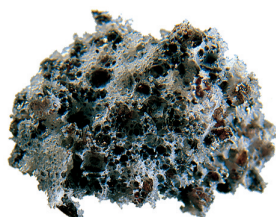
- Chemical Stripping
- CO<sub>2</sub> pellet blasting
- High pressure water

### Contractor's choice:

Sponge-Jet's Sponge  
Blasting System™  
Silver Sponge Media™

### Contractor:

**MARCOR  
Remediation, Inc.**  
Ron Acee  
Director of R&D  
Corporate Office  
Hunt Valley, MD  
800-547-0128



15x magnification

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**www.spongejet.com**  
or call **603-610-7950**

**SPONGE-JET®**  
Dry Abrasive Blasting Technology

# Airborne Contaminant Comparison

Test results from  
ESA Laboratories, Inc.,  
Chelmsford, MA  
measured airborne lead  
concentrations when  
blasting with Sponge  
Media™ abrasives and  
silica sand abrasives.  
The test comparisons  
revealed blasting with  
Sponge Media™ abrasives  
reduced airborne  
lead concentrations by  
over 90%.



70,000  
lead (ug/m<sup>3</sup>)

**Sand**  
**69,800**

50,000  
lead (ug/m<sup>3</sup>)

30,000  
lead (ug/m<sup>3</sup>)

10,000  
lead (ug/m<sup>3</sup>)

Up to **90%** Less  
Airborne Lead

**Sponge**  
**4,900**

**Sand**  
**11,300**

**Sponge**  
**980**

**Operator**

**Area Monitor**

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