

# The Contributions of Chemical Microscopy to the Solution of the Green River Murders

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**Microtrace**<sub>LLC</sub>



- In July of 1982 the bodies of four young women were found in and on the banks of the Green River that runs through Seattle





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# Clothing was found with some of the victims



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# The numbers of victims became staggering over time

- Over the coming months and years large numbers of young female murder victims were discovered in the Seattle area.
- The Green River Task Force was formed to investigate these murders. By the early 1990s the Green River Killer was credited with between 60 and 104 murders of young prostitutes in the Seattle area.

# Suspect Arrested

- In November 2001, as a result of advances in DNA technology, a suspect was arrested in connection with four of the Green River Murders.
- His name was Gary Ridgway, a paint detailer at the Kenworth truck factory in Seattle.

Washington State Crime Lab  
Seattle, Washington

# The Suspect

- Ridgway, through his lawyers pled innocent.
- He stated that he was merely a customer of these four victims but did not kill them.



# Microtrace Contacted

- In July of 2002 the Task Force contacted us undertake forensic investigations on their behalf with regard to the Green River Murders



# The First Tasks

- We were asked to undertake examinations of microscopic trace evidence in this case.
- We began by looking at paint evidence that they had already collected.
- After 6 months and a few thousand individual comparisons no associations were made

# Our Request

- After doing what they wanted, we suggested that we should look two orders of magnitude smaller at the dust embedded in the clothing.
- We were searching for actual microscopic trace evidence.
- Jeff Baird, the leader of the Task Force immediately agreed.

# Examination of Microscopic Evidence in the Case

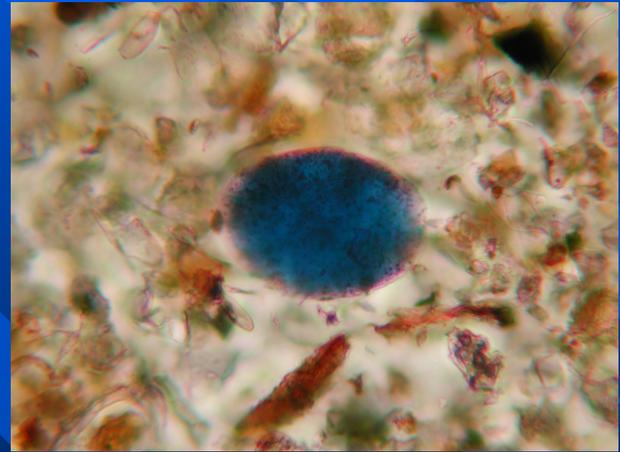
- Ridgway's clothing
- Victim's Clothing



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# Our investigation developed along new avenues

- During the course of our investigations we observed spray paint spheres in the dust from Ridgway's clothing and environment



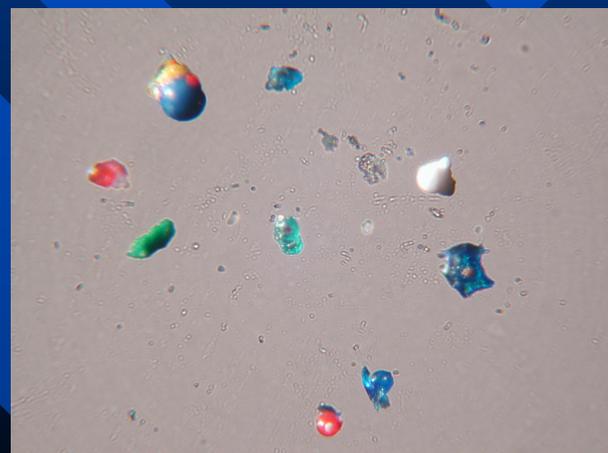
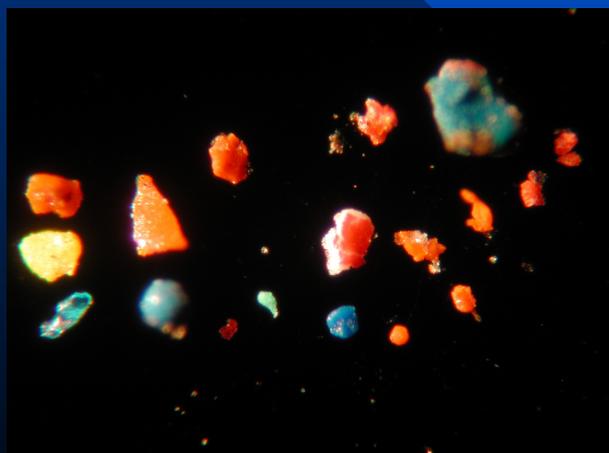
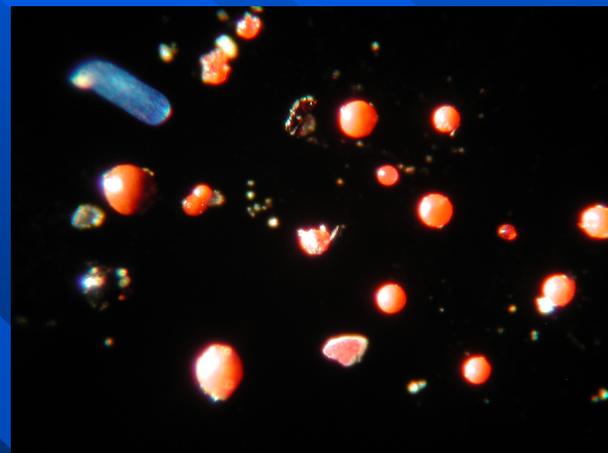
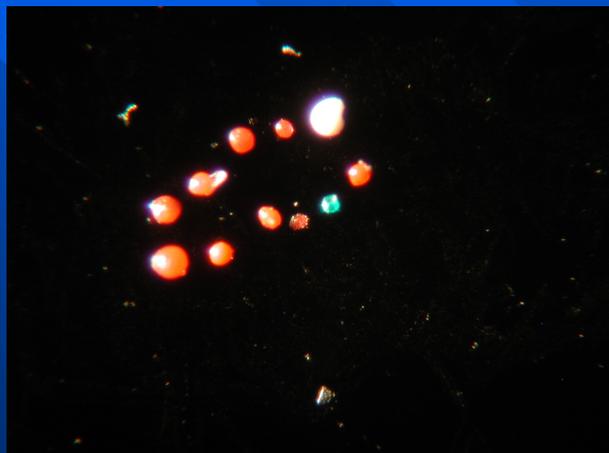
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# Search for Paint Spheres

- We received the clothing from the victims and began to vacuum it.
- We then started the long task of searching for and picking out spray paint spheres



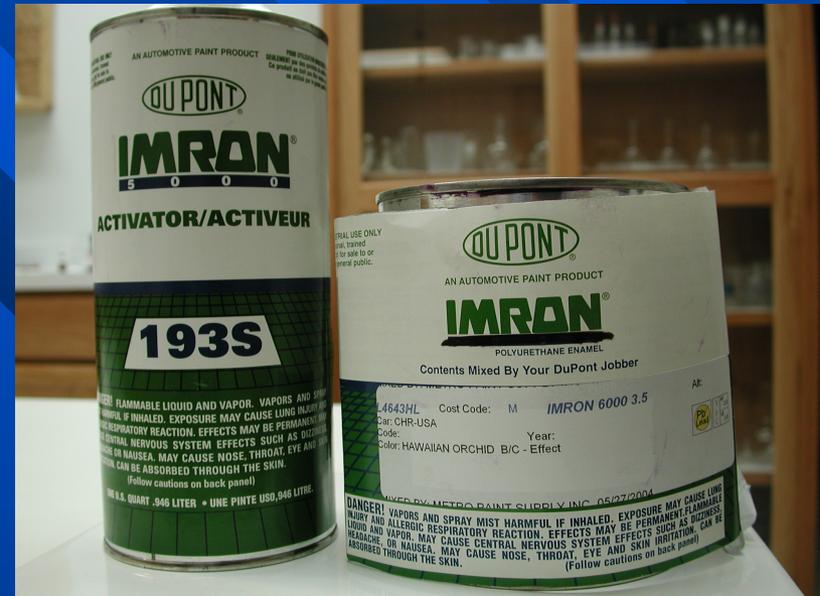
# Imron spray paint was recovered from six victims



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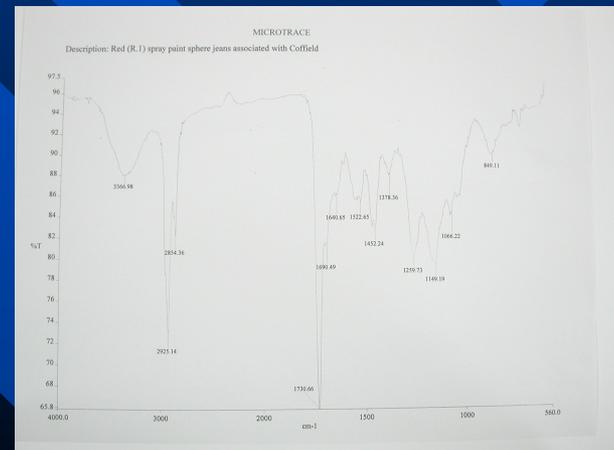
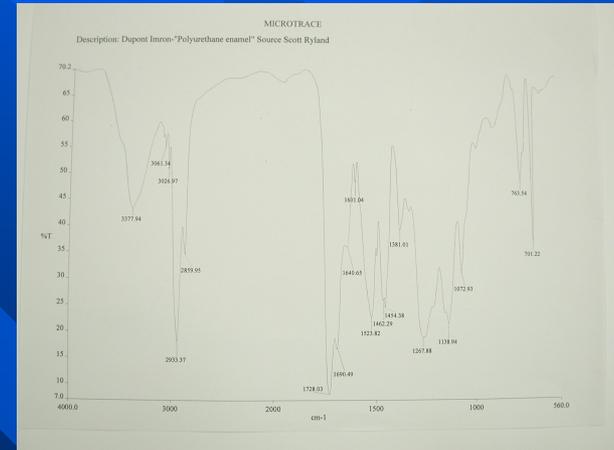
# Imron is a high end specialty paint produced for DuPont

- It is not available to the general public
- It is chemically distinct from other paints produced at the time
- Ridgway used it at Kenworth



# Infrared Microspectroscopy

- Micro-FTIR was used as a screening tool to identify Imron paint spheres
- The questioned paint spheres were pre-1984 type Imron





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# Results:

- Six of the victims had Imron spray paint spheres on their clothing in various colors
- Two of these were victims that had already been charged to Ridgway based on his DNA on their clothing

# The Task Force Took Action

- Based on our results the District Attorney charged four more victims to Ridgway
- I prepared a report
- We began to prepare for trial by continuing to characterize the Imron paint spheres from Ridgway and the victims

# The Bombshell

- At the end of a Task Force update in June 2003 Jeff Baird and Shaun O'Donnell announced to us that, based on my report, Ridgway had confessed to 40 of the murders and was talking to them with respect to other cases. This was in return for the promise of the prosecution not to seek the death penalty.

Microtrace Lab  
Elgin, Illinois

# November 2003

- In a packed courtroom Gary Ridgway admitted to the murders of 48 women
- He was sentenced to life in prison many times over at the beginning of 2004
- He believes he murdered over 70 victims but doesn't remember any of them in much detail

Ridgway's Guilty Plea

November 5, 2003

# 1985

- In 1985 I was teaching forensic microscopy in Washington State for Dr. McCrone.
- George Ishi, the director, mentioned that he was going to ask me to examine the evidence when they caught a Green River murder suspect

# Possibly?

- Had George asked me to examine the clothing we would have found and been able to analyze the evidence back in 1985.
- We would have found the same evidence.
- This would have led investigators to the Kenworth factory.

# The case continues

- We are still working on some of the thirty cases from the 'Green River Era' that are still unsolved and have developed some interesting leads.

# Thanks and Credit to:

- Sarah Walbridge
- Scott Ryland
- Ed Suzuki
- Tamara Smith
- DuPont Coatings
- Darlene Brezynski
- Mike Eyring
- The Green River Task Force and especially Jeff Baird
- Chris Palenik

