



## Working In Secret

### Sandia Scientists Tell How They Helped Solve Anthrax Case

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When the FBI approached Sandia National Laboratories scientist Joseph Michael in February 2002, federal officials were worried.

Five people had died after someone mailed anthrax to five news organizations and two U.S. senators, and federal investigators needed to answer a pressing question: Could the anthrax have come from a terrorist group or a foreign state?

Within a month of getting their first anthrax samples, Michael and his colleagues were able to answer the question: The sample did not appear to be "weaponized" anthrax — anthrax converted in a weapons research lab to enhance its lethality.

The finding contradicted earlier reports that it was weaponized, which had been repeated for years and fed the public's worry.

Since the attack, Michael and his Sandia colleagues have worked in secrecy, helping federal investigators crack the case.

The FBI believes anthrax researcher Bruce Ivins, who committed suicide July 29, was responsible for the 2001 attacks.

This week, amid a flurry of questions about the science behind their conclusion, the FBI finally gave Michael and the other scientists permission to talk.

The fear back in the winter of 2001-2002 was palpable.

The first wave of anthrax letters, sent to the New York Post, the headquarters of the National Enquirer and other news media, arrived a little more than a week after the Sept. 11 terrorist attacks.

Two more, sent to U.S. senators, soon followed.

People were afraid to open their mail.

Preliminary testing on the anthrax spores suggested they might have come from an organized biological weapons program. News stories repeatedly raised the possibility that they came from Iraq.

Struggling to get a handle on the problem, the FBI convened a blue ribbon panel to assemble the scientific expertise to understand what we were up against.

Immediately, according to Michael, Sandia's name came up.

In a warren of labs behind Sandia's security fences, Sandia maintains specialized microscopes. They allow scientists to not only see things as tiny as an anthrax spore, but to determine their chemical makeup.

That question was key.

Anthrax is a potentially deadly bacteria, but turning it into a weapon requires coating the spores with a material that makes them easier to spread.

Initial testing of the anthrax from the mail attacks had shown signs of a coating. That led to repeated public references by the news media and government officials to the possibility that the anthrax had been stolen from a foreign weapons lab or, worse, that it was part of a foreign attack on the United States.

"When somebody said it was weaponized, that set off a panic," Michael recalled.

The FBI used radiation to ensure the spores were no longer dangerous, then sent a batch to Sandia to analyze.

Under Sandia's high-powered microscopes, Michael and Sandia colleague Paul Kotula quickly determined the initial reports were wrong. The earlier identification of a coating had been a mistake, they concluded.

"Early on we knew it wasn't weaponized," Michael said.

The finding was not made public, and Michael said he watched in the intervening years as the claim the anthrax was weaponized continued to linger in public discussion of the case.

Sandia's initial analysis also concluded the spores bore the same chemical fingerprints, suggesting they had come from the same place.

But that was only the beginning.

The FBI eventually sent about 200 anthrax samples to Sandia for analysis as they pursued new leads in the investigation.

The blanket of secrecy around the case meant Michael and Kotula did not know many of the other scientists working in parallel at other labs and universities around the country.

It is only in the last week, Michael said, that they learned of the sophisticated genetic analysis that the FBI says eventually led them to Ivins.

In fact, Michael said he now knows that at one point he and his colleagues were asked to analyze a sample from Ivins' lab. At the time, they did not know where it came from.

The FBI, he said, often would not tell the scientists the source of an anthrax sample to be tested in order to avoid biasing the results.

The Sandia researchers say the work illustrates one of the labs' great strengths: Though the laboratories they work in were built, staffed and equipped for nuclear weapons research, they are capable of tackling other important national security problems when the nation needs their help.



Anthrax spores seen through a Sandia Labs microscope.

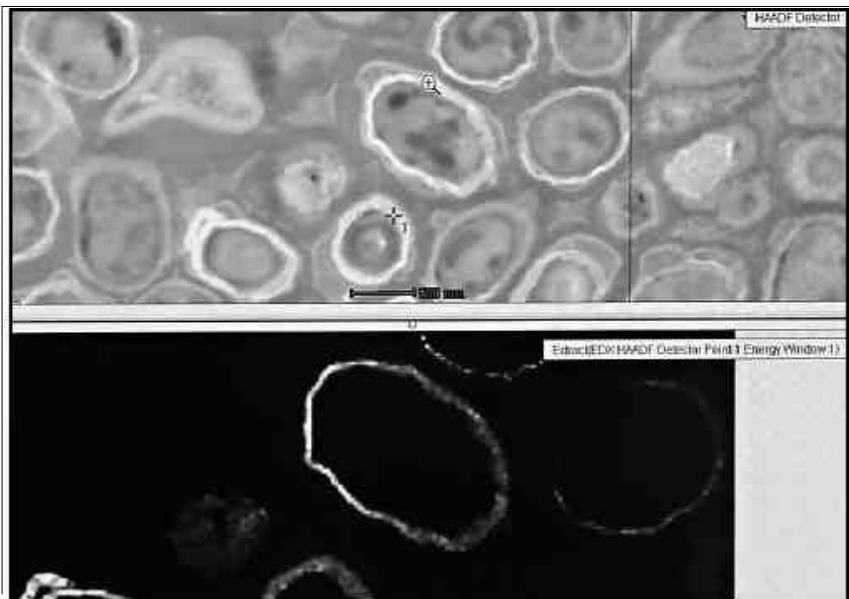




**MORGAN PETROSKI/JOURNAL** Sandia National Laboratories scientists Joseph Michael, left, and Paul Kotula talked Thursday about how they helped the FBI solve the 2001 anthrax attacks.



**MORGAN PETROSKI/JOURNAL** Joseph Michael, left, and Paul Kotula use a Sandia Labs microscope to look at anthrax samples they used to help the FBI crack the case of the 2001 anthrax attacks.



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An image of anthrax spores like this allowed Sandia scientists to rule out the possibility that the spores had been “weaponized” in a foreign bioweapons lab, officials’ worst fears about the 2001 anthrax attack.