

DARK ROOM —

# Fukushima, Vieques, Rocky Flats: Radioactive photos tell nuclear stories

Ars speaks to artists about their unique approaches to cameras and nuclear energy.

MEGAN GEUSS - 7/8/2016, 6:38 AM

PORTLAND, Ore.—In the cool, hushed atmosphere of Portland's [Newspace Center for Photography](#), a Geiger counter clicks steadily as I orient myself to the room. White walls, wood floors, and the faint, clean smell of an elementary school auditorium. I was here to see the "Reactive Matters" exhibit, a small collection of photography by three artists whose works document nuclear energy, nuclear weapons, and the disasters that have peppered our history of experimenting with radioactive material.

Photographing Superfund sites with buried nuclear waste and old reactor locations doesn't always make for compelling visual media. Instead, these artists used radioactivity itself to build more interesting and abstract art.



Vieques #3, Archival pigment print made from buried film, window screen, artist's frame, fragments of buried film. J

## Digging deep

Chicago-based artist Jeremy Bolen told Ars over the phone that he became interested in nuclear energy [after he visited "Site A" in the Red Gate Woods](#) on the former grounds of the Argonne National Laboratory. (Argonne still exists in Illinois, but the lab was moved in 1947.) Site A became the first nuclear waste dumping ground in the US after scientists built an early nuclear reactor there in 1943.

"I began trying to make images of the site because it's a hidden site, it's not a tourist destination, but it might be one of the more important places in history," Bolen told Ars, adding that he grew up in a neighborhood close to [Fermi National Accelerator Laboratory](#) outside of Chicago and has had an enduring interest in high-energy particle physics.

Bolen's featured works at Newspace include a series named after Vieques, an island belonging to Puerto Rico that was used for weapons testing by the United States between when the US bought about two-thirds of the island in 1941 and when the military left the island in 2003.

According to [Arizona State University's Walter Cronkite School of Journalism](#), "More than 80 million pounds of chemical weapons, bombs and ammunition were dropped on the eastern portion of the island for a good part of the 20th century. Its soil still harbors bullets filled with radioactive depleted uranium and unexploded bombs." In 2010, about [7,000 residents of the island](#) jointly sued the US Navy claiming that military operations on the island were the cause of Vieques' higher-than-average rate of cancer, along with a slew of other long-term medical issues. A Puerto Rican Federal District Court dismissed the lawsuit, and the US First Circuit Court of Appeals upheld that dismissal in 2012 due to the Navy's right to sovereign immunity.

Bolen went to Vieques—though not to the restricted-access area on the eastern side of the island—and buried some of his film in the soil before it was exposed to visible light. He later dug the film back up and developed it, finding chromatic irregularities in the resulting prints. The artist's prints are accented by bits of dirt (occasionally painted or gilded), and accompanied by a photo of the location where he buried his film, hung behind swatches of window screen.


For Bolen, adding the dirt to his irradiated film elucidates the "tension between the visible and the invisible" that comes with living at these sites, as many in Vieques still do.

The photographer said he got the idea to bury his film from a technique developed decades ago and still used today: researchers working on the Manhattan Project developed the "[film badge dosimeter](#)," which used film exposed to the atmosphere (but wrapped in light-resistant packaging) to [crudely gauge ionizing radiation exposure](#). When the film is developed, darker regions correspond to more exposure. Workers at risk of exposure wore the film in badges on their shirts, near their vital organs, as they went about their workday, and tested the film for exposure every few weeks.

Bolen reminded me that this technique shouldn't seem new or foreign—to this day we're cautioned not to let film go through the scanning machines at airport security check, due to the risk of ruining said film. (Though who keeps film anymore besides professional photographers?).

Bolen's ground-exposed film, not just from Vieques but from Site A and also the Wendover, Utah, atomic bombing test range, reveals hints that the ground from which it came has a storied past. The effect of a piece like Vieques #2 is that you feel *too* close to the landscape. The prints of exposed film are large enough that you can see every grain and abstract enough that it's hard to make out anything but the most basic pattern, as if you put your face up too close to the TV. The true-to-life photograph encased in window screen at the bottom gives you a hint about the scene in Vieques that you're supposed to be thinking about, but the window screen obscures the photo enough that it's tough to see without stepping back and looking at it from afar.

Jeremy Bolen

 This work won't be found at the Newspace Center for Photography, but it's an example of Bolen's other science-focused work. This one is a print from a piece called Landscape Investigation #2. Color transparency film exposed to the Advanced Photon Source Beam at Argonne National Laboratory.

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And yes, Bolen said that he did control experiments, burying film in ground with no history of nuclear activity. "I've done at least 50 control burials in places where there is allegedly no radioactivity. These burials have produced blank film, with no film anomalies that can be seen," Bolen told Ars. "It also should be noted that the work that is displayed at Newspace... really only shows the very small percentage of work that has produced anomalies. The majority of my burials produce nothing."

Bolen's other work is similarly heady and abstract. The artist was recently allowed to work at Argonne National Lab, using the lab's Advanced Photon Source Beam to manipulate color transparency film and creating beautiful and spacey purple prints. He also created a series at CERN, using multiple lenses and handmade cameras to express "the capturing of ephemeral phenomena and the fictions involved in representing anything at all," according to [his site](#).

"A lot of my time is spent researching," Bolen said. His photos at Newspace touch on some of the controversies around nuclear energy and atomic warfare, so I had to ask what message he was hoping to convey with the work featured in Portland. "I try to remain fairly objective about the whole thing," Bolen explained. "I see myself really as documentary photographer. I'm more interested in finding a way to document these sites."

Still, he added, "I care deeply about a lot of these issues. I'm very interested in [the idea of the anthropocene](#) [the epoch defined by geologists to articulate human impact on our world] and I think that it's important to understand that there are things beyond our senses, things that we can't see."