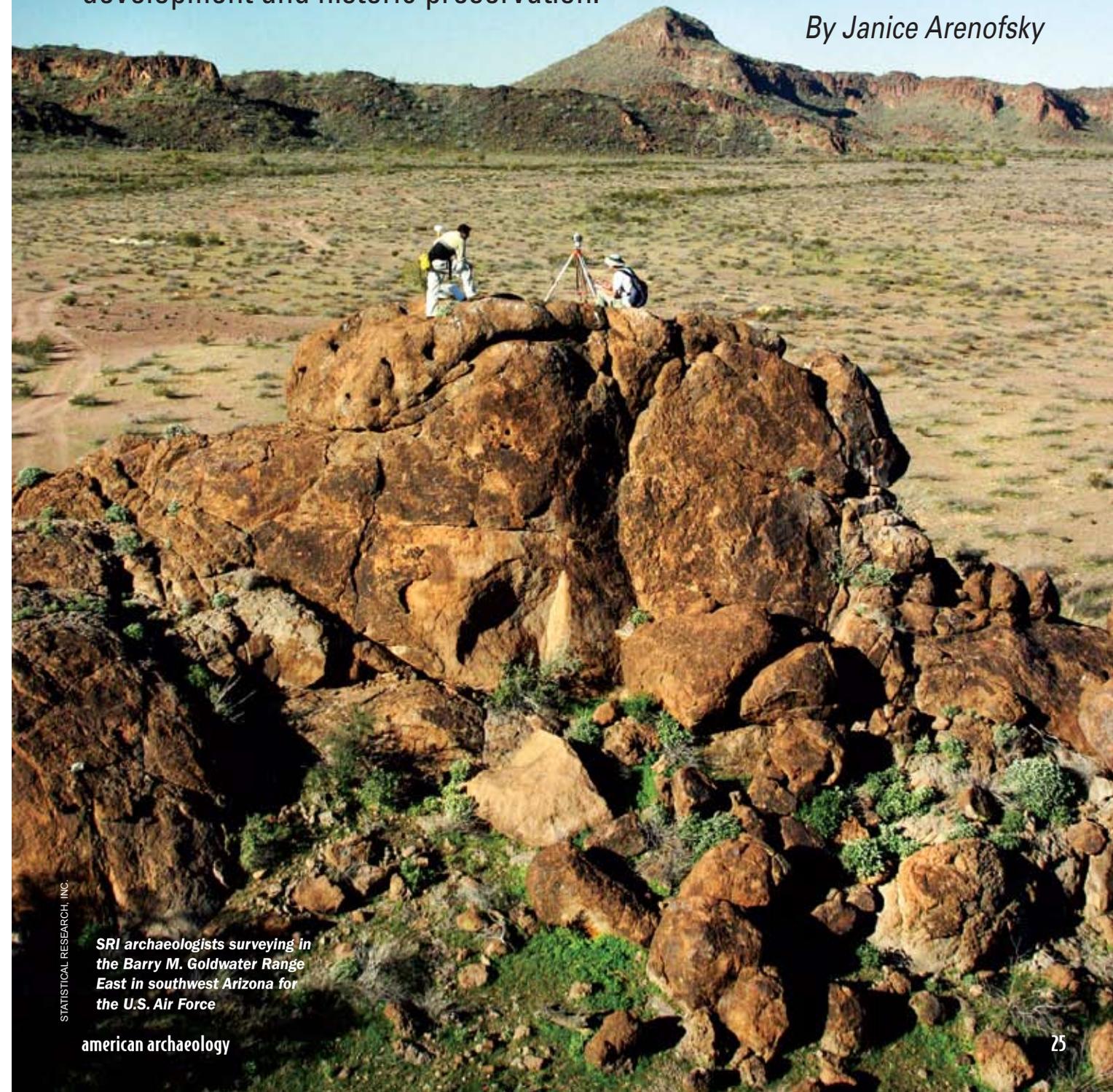


Going Beyond Cultural Resource Management

As if surveying a live bombing range isn't difficult enough, Statistical Research accepts challenges beyond standard CRM work, such as mediating conflicts between development and historic preservation.

By Janice Arenofsky



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SRI archaeologists surveying in the Barry M. Goldwater Range East in southwest Arizona for the U.S. Air Force

american archaeology

United States Air Force pilots have honed their bombing skills at the Barry M. Goldwater Range in southwestern Arizona since World War II, frequently dropping live ordnance on targets on the one-million-acre complex. Some 13,000 years earlier, it was occupied by the Clovis, and subsequently by other ancient peoples. And therein lies the problem. The range has an unknown number of archaeological sites that are threatened by ordnance and their recovery, consequently the Air Force hires CRM firms such as Statistical Research, Inc. (SRI), to survey this vast area.

“There are a lot of difficulties associated with working on a military range,” said Adrienne Rankin, an archaeologist who works at Luke Air Force Base, which manages the Goldwater Range. Temperatures can reach 110 degrees in the summer, and there are rattlesnakes and scorpions to contend with. That’s the easy stuff. SRI has “done work for us in emergencies in which they’ve mobilized in 24 hours,” Rankin said. “That’s very unusual. Most CRM companies need a couple of days.” She recalled a time when, due to an emergency, a plane jettisoned its fuel tanks over an area that contained a large prehistoric Native American village. SRI quickly fielded

a team that was trained in dealing with hazardous materials. Dressed in protective hazmat suits, they removed the contaminated soil, and then excavated the village. SRI has a handful of OSHA-trained archaeologists on staff, she said, and that’s also very unusual for a CRM firm.

Indeed, SRI, in several ways, has set itself apart from the myriad CRM companies in the United States. SRI was founded in 1983 by Jeff Altschul and his wife Debbie, and it now has a staff of roughly 100 with offices in Arizona, New Mexico, California, Texas, and Washington State. It also has a sister company, Nexus Heritage, with two offices in the United Kingdom. It boasts 65 archaeologists with either a doctoral or master’s degree. The company offers a full menu of services such as historical and ethnographic research, impact assessment and mitigation plans, and data recovery. In addition to the United States and the United Kingdom, it has worked on projects in Latin America, continental Europe, West Africa, and central Asia.

But in addition to its CRM work, SRI helped establish and supports the SRI Foundation, an independent, non-profit organization, in Rio Rancho, New Mexico, that’s devoted to

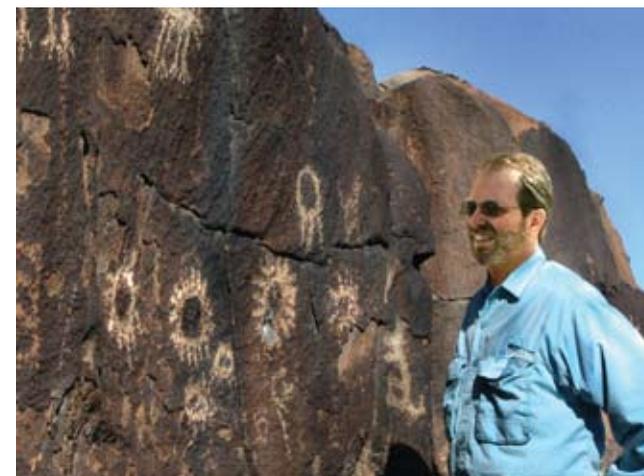
historic preservation. Established in 2001, the foundation’s mission is to “advance education, training, public outreach, and research in all fields of historic preservation—archaeology, anthropology, history, and historic architecture,” according to the organization’s web site.

“It’s a matter of doing a lot of things that are out of the norm of a typical CRM firm,” said Carla Van West, the foundation’s director of preservation research programs, referring to her organization’s activities. “A lot of it is education and training.” For example, though most archaeology done in America today is CRM work, many students graduating from colleges with archaeology degrees have little or no training in CRM, according to Van West. So the foundation sponsors a Summer Institute in CRM with the University of Maryland. The program consists of one week of classroom instruction followed by a six-week internship.

The foundation also awards grants to doctoral students undertaking dissertation projects involving historic preservation, and it conducts continuing education seminars throughout the country for CRM personnel and government agencies such as the Federal Highway Administration and the Department of Housing and Urban Development. The Foundation also issues “Best Practices” reports on CRM and preservation programs that could be implemented by federal or state agencies.

Another of the organization’s goals is to “make historic preservation work better,” said Lynne Sebastian, director of preservation programs. “We help people find a point of balance between development and heritage—we make it less rigid and bureaucratic and more creative.”

Or to put things more bluntly, “What we do has a lot to



Jeff Altschul at Sears Point on the Gila River, Arizona.

do with conflict resolution,” said David Cushman, program manager of historic preservation programs. And there are many conflicts to be resolved in CRM projects.

Cushman mentioned a major highway construction project in Washington State that led to a disagreement between the Washington Department of Transportation (DOT) and activists working to protect a historic area in Seattle known as Pioneer Square. The Washington DOT is digging a tunnel to route traffic along Seattle’s waterfront, and vibrations from the construction threatened a historic building. The SRI Foundation had been hired to assist the DOT with the federally mandated consultation process. When the DOT recommended tearing down the building for safety reasons, preservationists and neighborhood activists objected. The two sides reached an impasse, so they turned to the foundation,



Excavation of the Alameda-Stone Cemetery in downtown Tucson, Arizona, as part of the Joint Courts Archaeological Project.

COURTESY OF PIMA COUNTY



Tohono O’odham elder Joseph Joaquin (with walking stick) and tribal member next to geoglyphs on the Barry M. Goldwater Range, Arizona. SRI documented the sites and helped the U.S. Air Force coordinate visits with affiliated Native American groups.

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and it negotiated an alternative in which the building would be closely monitored for damage while the digging continued. The DOT agreed to install very sophisticated equipment that can detect the affect of vibrations on the building. It also took other measures to stabilize the structure, to the satisfaction of the activists. "Since the Foundation doesn't have an economic interest—a dog in the fight," said Altschul, "it can get the parties to agree to a solution."

Unlike most other CRM companies, SRI also has its own press, which it's been operating since 1997. SRI Press publishes books on archaeology, history, and heritage management. Upon concluding their fieldwork, CRM firms are required to write reports about their findings for their clients, but the public generally has no access to this information. Altschul founded the press because he wanted to make the results of CRM work available to a wider audience. The press has published five books, and has plans for several more. SRI's most recent title, *Fragile Patterns*, described the archaeology of the Western Papagueria region of Arizona and Sonora, Mexico, noting the diverse cultures that left behind remnants of their adaptations in a hostile, desert environment. It was named one of the Southwest books of the year in 2008 by the Pima County Public Library. Altschul said SRI benefits from the many government contracts it receives, "and now the public needs to access this information—this is the mission of the press."

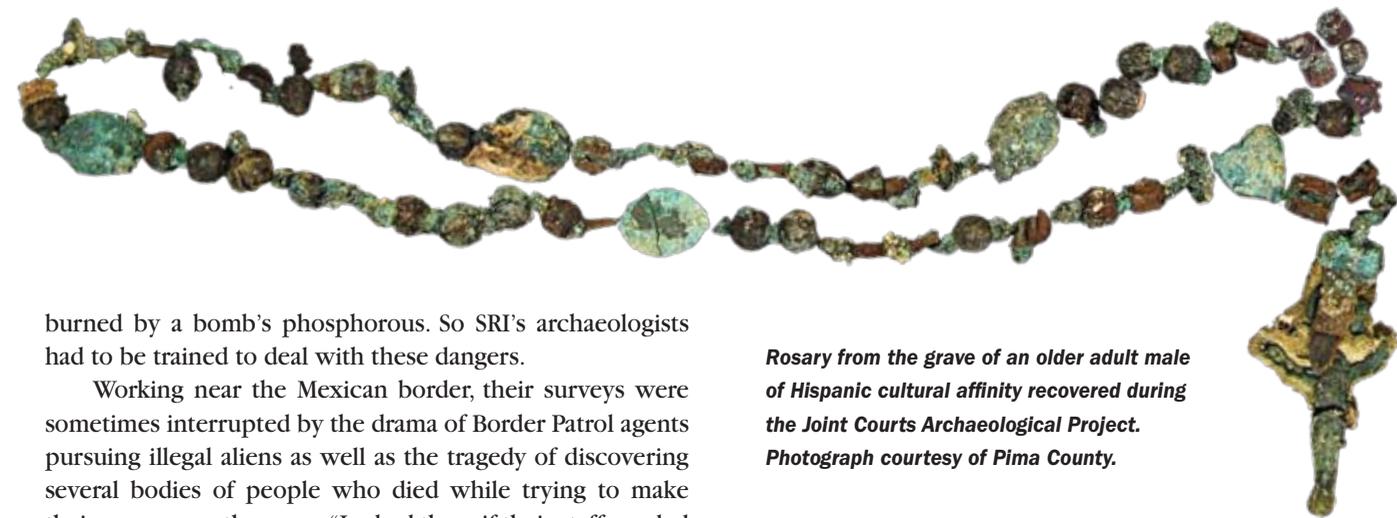
But CRM work remains SRI's primary activity. The company takes on 100 to 200 projects each year, such as their work at the Goldwater Range, which started in 1999. The archaeologists found villages, campsites, ancient roads and trails, mining operations, graves, rock art and geoglyphs. "People didn't just pass through it—they lived there," said SRI vice president and chief operating officer Teresita Majewski. It's not known exactly when, but at some point Native Americans diverted water from the washes and grew corn. The evidence surprised Rankin, because this is the hottest and driest part of the Sonoran Desert now, and she thinks it also was centuries ago. The researchers have determined that the earliest year-round agricultural settlement dates to approximately A.D. 900.

The Goldwater complex actually consists of seven different bombing ranges, and SRI can only work at each range for six to eight weeks at a time when the range is "cold," meaning no bombs are being dropped. Most of the bombs are inert, but some are live, and during the cold period the unexploded ordnance, which can be above or below ground, is removed from the area and safely disposed of by trained specialists. "The Department of Defense takes dump trucks to priority areas and sweep for munitions" that are potentially hazardous to surveyors, said Rankin, but they miss the occasional bomb and, even if it's inert, a person can be



SRI archaeologists excavating along U.S. Highway 60 near Superior, Arizona, for the Arizona Department of Transportation.

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Rosary from the grave of an older adult male of Hispanic cultural affinity recovered during the Joint Courts Archaeological Project. Photograph courtesy of Pima County.

burned by a bomb's phosphorous. So SRI's archaeologists had to be trained to deal with these dangers.

Working near the Mexican border, their surveys were sometimes interrupted by the drama of Border Patrol agents pursuing illegal aliens as well as the tragedy of discovering several bodies of people who died while trying to make their way across the range. "I asked them if their staff needed counseling," Rankin said, "because it was quite horrible." Despite these challenges, SRI has identified 1,300 sites, and the Air Force no longer targets certain areas of the range where the sites are located. Some of the data contributed to the contents of *Fragile Patterns*.

When Pima County wanted to build a new city-county courthouse on 4.3-acres of prime downtown Tucson real estate, it hired SRI to do archival research before construction began. The county's plans were complicated by the fact that in the late 1800s the land served as the city's only public cemetery, known as Alameda-Stone. Prior to beginning fieldwork in late 2006, SRI researched records at libraries, museums and other archival locations for approximately 18 months. In 1890, the cemetery was closed and notices were posted, informing descendants to relocate the graves of their forebears, but due to possible factors such as expense, not seeing the notices, or ignorance of exhumation procedures, most burials were not removed. Regardless, the property was subdivided, sold off, and homes and stores were built atop the cemetery, sometimes destroying burials. A number of buildings still stood on the property, and they had to be torn down.

County officials assumed there were perhaps 400 graves still remaining in the cemetery, however, using birth and death records from the Roman Catholic Diocese, SRI determined that there could be three times that number. "I don't believe they would have ever built it if they had been certain that there were that many remaining graves," said Majewski.

Pima County officials were aware that the excavation of the cemetery could be extremely controversial. They were mindful of the nightmarish 1990s' excavation of the African Burial Ground in lower Manhattan—a site where thousands of enslaved Africans and African Americans had been buried in colonial New York during the 17th and 18th centuries. In that project interested parties such as the African American descendant community and the New York City Landmarks Preservation Commission had not been adequately consulted, and consequently the excavation had little public support. Furthermore, burials were accidentally destroyed during the work, and remains were also vandalized and stolen.

For the Tucson project, Pima County obtained the necessary court orders to excavate as well as state disinterment

and re-interment permits. The county also posted notices and held public lectures, media briefings, and interviews; created a dedicated website; held informational tours of the project area for descendant groups, public officials, administrators, and media representatives; and had a site visit and blessing of the project area and burials by Bishop Kicanas of the Roman Catholic Diocese of Tucson.

SRI set up on-site laboratories and used a 3-D laser imaging technology known as LIDAR to map the graves, which they subsequently excavated. Excavations conducted from 2006 through 2008 resulted in the discovery, documentation, and interpretation of 1,083 grave-pit features as well as skeletal materials from more than 1,300 individuals buried in the cemetery. The remains were then analyzed and reburied in accordance with agreements negotiated between the county and the Native American, Anglo, and Hispanic descendants of the deceased.

SRI hired a public relations firm as well as experts that conducted sensitivity training sessions that taught the archaeologists and others involved in the project how to conduct themselves in a respectful manner while dealing with the remains. SRI also fenced off the site to prevent outsiders from observing or taking photographs of the burial excavations. The fieldwork lasted for 18 months and "it was the biggest, most expensive project the county had ever done and they wanted the reburials carried out in a timely way out of



This small red ware bowl with scalloped rim, believed to be Hohokam and likely dates A.D. 1250-1350, was discovered among the rocks during a survey of ETAC, an active tactical range.

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The balloon demonstrated to the tribes about photographing sacred sites from the air and therefore no need to step inside the space.

respect for the deceased,” Majewski said. The county bought plots in another cemetery where most of the remains were reburied. The Native American remains were repatriated to culturally affiliated tribes.

This project gave SRI “a huge opportunity to learn about the demographics of a frontier city,” said Majewski. SRI’s research plan was designed to answer questions such as: Who was buried there? What does the analysis of their bones and teeth reveal about their lives and deaths? How were people of different social identities and cultural backgrounds treated in death? How does this information speak to conditions in Tucson, which was then a growing, diverse, frontier settlement that had recently become part of the United States?

To answer these questions the researchers determined the age, sex, cultural affinity, and health of the burial population, as well as the organization of the cemetery. They learned that most of the individuals were Hispanic, and there were also European Americans, Native Americans, and a few African Americans. The cemetery was divided into two major areas: a northern portion that was predominantly Catholic and Hispanic and had most of the burials, and a southern area that was mostly European Americans, had many fewer children, and also included a number of military burials.

Numerous religious and ceremonial artifacts recovered from some 225 graves suggested the influence of Catholicism. These items included crosses, crucifixes, medallions, beads, and other elements of fragmented rosaries as well as wire from floral funerary crowns.

Tucson had problems that were common among other cities during this time, such as poor sanitation, that contributed to high rates of morbidity and mortality. Infants and young children were particularly affected by infectious disease. Evidence of skeletal trauma was plentiful, but most of it, contrary to frontier lore, appeared to result from work and accidents rather than shootouts. More than two-thirds of the individuals with skeletal injuries were buried in the southern area.

On the positive side, these individuals, generally speaking, had reasonably healthy diets, though those diets differed from north to south. Tooth decay was higher in the southern area, and nearly all evidence of dental work was found here. Dental wear, conversely, was greater in the north.

The arrangement of the cemetery reveals an obvious division between the local Hispanic community and outsiders, most of whom were probably not active in the Catholic Church and probably were affiliated with outside populations. This division appears to reflect the economic, social, and political divisions between the city’s Mexican Americans and European Americans that grew after the cemetery closed.

SRI Press and Left Coast Press will co-publish a book about the project titled *Uncovering Identity in Mortuary Analysis*. The book, which is meant for archaeologists and the public, is intended to serve as a model for future excavations of historical cemeteries.

Janice Arenofsky is a writer based in Scottsdale, Ariz. Her work has appeared in national publications such as Scientific American.