IMLS Grant Number ST-00-05-0007-05

Save America's Treasures

Heritage Inscriptions

Final Performance Report

June 1, 2008

Award Number: ST-00-05-0007-05

Awarded Institution Name: Montana State University - Billings

First Interim Report: June 1, 2006
Second Interim Report: December 1, 2006
Third Interim Report: June 1, 2007
Fourth Interim Report: December 1, 2007

Period Covered by the Report: June 1, 2006 to June 1, 2008

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Partners: Montana State Historical Preservation Office
Custer National Forest
Montana Fish, Wildlife and Parks
Bureau of Land Management

Collaborating Informal Partners:
Dr. John Greer and Mavis Greer – Greer Services
Dr. James Kaiser

Project Overview

The goal of this project is to locate, digitally document, archive and organize historic signatures, dates and artwork spanning the time period from the 1800's to the present.

The populace that left these marks participated in significant national events that shaped the west. Individually, some inscriptions were created by figures that stand out in history; together, the collection documents the general settlement and development of the region through a period of general national expansion, continuing into a period of early community development.

Thousands of these inscriptions that chronicle the settlement of the west are located on the natural sandstone surfaces of the northern plains. Due to natural and cultural forces, these resources are disappearing at an accelerating rate. This project provides a foundation for continued archiving and researching of these unique historic resources. The collection created through this project also serves as a new resource for historic research through these nationally significant incisings.

Since this collection cannot be physically organized at a singular location, digital technologies were used to facilitate the creation of this collection. These technologies include digital photography, mapping utilizing global positioning, direct surveying technology, three dimensional scanning and three dimensional printing.

Project Activities

Immediately upon notification of the grant, work began to organize the project and to review Bureau of Land Management (BLM), Forest Service and State Historic Office (SHPO) records for known sites. This search revealed many inscriptions that, while known, have been largely ignored. Many of these inscriptions were recorded primarily due to their proximity to Native American rock art sites. Many of these locations were revisited for a more detailed survey of the surrounding areas. It has been noted by participants many times that historic inscriptions and prehistoric inscriptions often, if not usually, share proximity. Field surveying that occurred between the official notification date and the availability of grant funding was carried out with matching monies from a separate Archaeology Field Team account.

Between the time of our original proposal and the awarding of the grant, we were successful through another grant in obtaining a three-dimensional scanner, a supporting laptop, and a large format printer. This supporting equipment provided us an early start in evaluating the processes of the three-dimensional scanner and further supported our matching funds. When the grant notification arrived we submitted (and received approval for) an equipment substitution to purchase a Dimension BST three-dimensional printer.

The combination of the three-dimensional scanner and printer facilitate the development of the physical component of the collection without adversely affecting the inscriptions in their original context.

Figure 1 showing the three-dimensional scanner in the field

Gathering site data has been a principal component of the grant. The end of the first report time period brought us into the heart of the summer field season. During that time, outings to sites in Montana, Wyoming and South Dakota provided a great deal of data to be processed and impressed upon all participants the magnitude of the cultural resource.. The gathered data included field notes, digital images, GPS data and three-dimensional scan files. During this time challenges also began to emerge regarding the potential organizational structure of the collection due to the sheer volume of material recorded.

Some site visits have been conducted alongside Bureau of Land Management and Custer National Forest archaeologists. These important relationships have resulted in an important bidirectional exchange of information. Some of our field volunteers were also able to attend archaeology field survey training at the Cave Hills of South Dakota. These training sessions included a safety emphasis which is important as core field volunteers often lead less experienced survey personnel in remote locations. It is important to note that during the thousands of volunteer hours spent in the field in remote potentially hazardous areas, not one lost-time accident or incident occurred.

Basic training in the use of GPS, field communication devices, and survey techniques is now a standard for students and volunteers serving on the Archaeology Field Team and every field survey session is preceded by a safety orientation.

Volunteer Rob Mutchler and a private landowner confer about a location where the initials of Teddy Roosevelt could once be seen on the sandstone outside of Ekalaka, Montana.

During the duration of the grant, field conditions often deteriorated into dangerously dry conditions. Often fieldwork was suspended for the safety of students and volunteers. During the grant period, fires of historic proportions have raged throughout the northern plains, particularly Montana. When fieldwork was suspended, it provided an opportunity to organize data files and process site forms.

As the project has received more publicity, many volunteers have come forward not only to assist in survey activities, but to identify sites relevant to the project. A typical email follows:

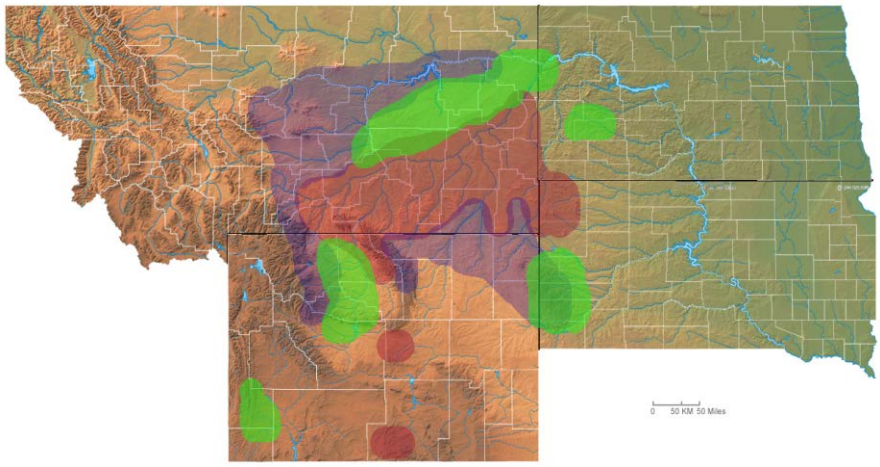
Mr. Urbaniak:
I am writing regarding the article in the Billings Gazette on Saturday and to let you know of some older inscriptions in the Park City area. There is an area (locally known as Devil's Kitchen) on the rims above our home – my husband says some date back to the late 19th century. These inscriptions took some time to produce—they almost look professional.

Since Park City was established as a community during the miracle growth period of Billings in the 1880s (Van West), it's certainly possible.

Please give us a call. We would be happy to show you or the other researchers.

Anne Cossitt
Cossitt Consulting
503 5th Avenue NW
Park City, MT 59063
406-633-2213

Through conversations with grant partners, it is apparent that a vast amount of work still needs to be done to incorporate information from supplementary sources, such as cultural resource management firms and historic consortiums.



Red shade shows area of early survey concentration, purple represents area of third phase, green of fourth grant quarter focus.

Field surveying and data organization accounts for a considerable amount of time and representative match for the project. To date, over 3000 hours of documented time has been dedicated to the venture by grant principles, students, and volunteers.

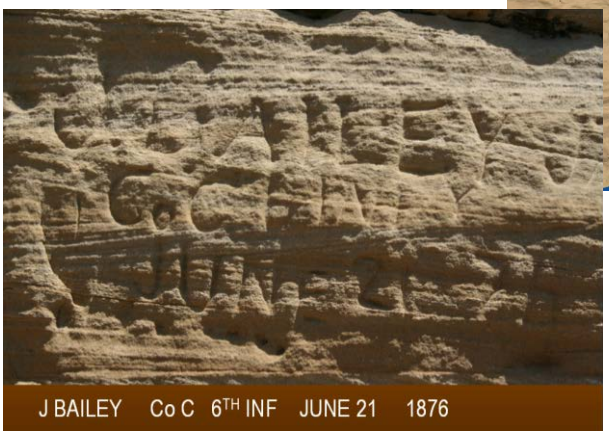
As the following shows, thousands of images of thousands of inscriptions have been documented, many significant inscriptions have been 3D Scanned and 3D printed, the public continues to be interested in the project and while the project thus far has just scratched the surface of this resource, the collection is a unique resource.

(Ref. Quantitative Item #1)
The primary intent of the project is to create a digital collection of historic inscriptions documented in their original physical context. Since the physical removal of these items is contrary to this goal, no original items have been conserved, relocated to protective storage, rehoused, or for which other preservation-appropriate physical action was taken.

(Ref. Quantitative Item #2)
Referencing collection items digitized, scanned, reformatted, or for which other electronic or digital preservation action was taken fall into three categories – items that have been photographed, items that have been three-dimensionally scanned using the Polhemus Scorpion and items that have been printed three-dimensionally printed using the Dimension BST.

As independent technologies, the three-dimensional scanner and three-dimensional printer are relatively easy to use, however, a great deal of data processing has to occur between the act of scanning an inscription and printing a polymer representation. Exploring and documenting the processes involved include three-dimensional point cloud

file editing, direct and indirect file translation, raster/vector interaction, and conversion into data products that will be useful as archived.



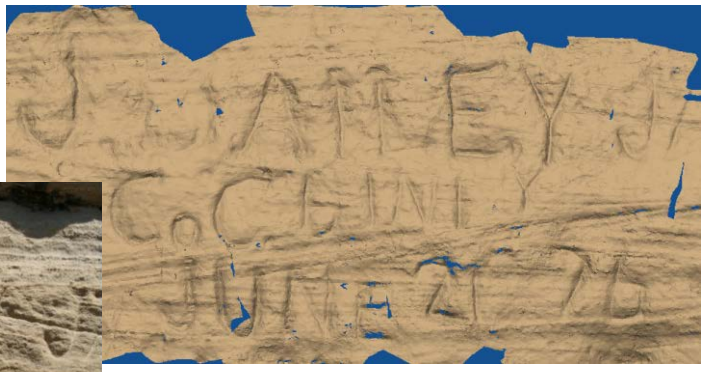


Image from Sheridan Butte of an Inscription and a resulting 3D Scan

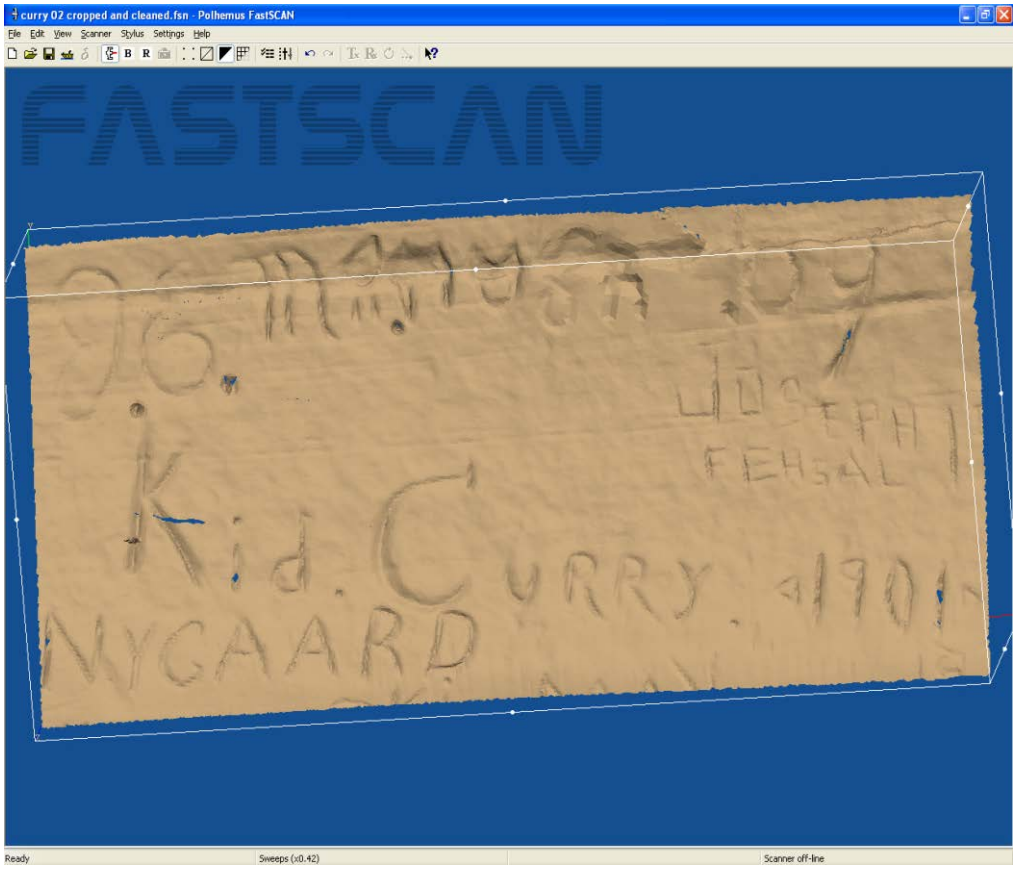


Image capture from 3D scanning software showing the Kid Curry 1901 inscription

A great deal of time has been spent documenting these processes so that volunteers are able to interact with the technologies productively. Demonstration of these technologies has also been provided to historic, archaeological and industrial groups (*ref. item #6*).

Our first polymer models were successfully produced in the spring of 2007.

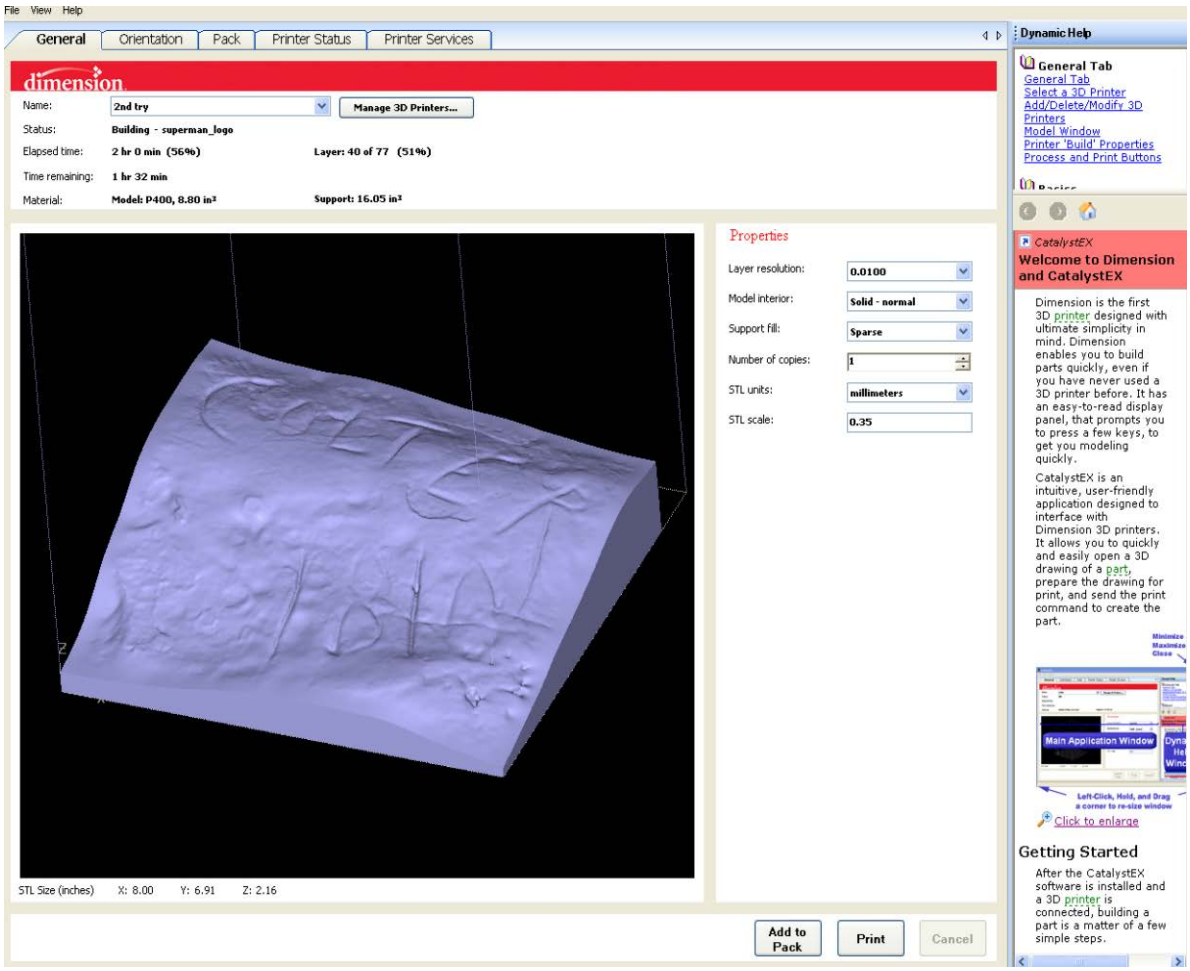


Image capture from 3D printing software showing a 3D scan of the Colter 1810 inscription

New file translation techniques have facilitated a relatively easy transition from the three-dimensional scanner to the three-dimensional printer and have positioned us to output full-sized models of significant sites in the fall as funded in the grant.

Due to the large number of sites that have been (and continue to be) catalogued, an exact quantification of the number of individual inscriptions that have been photographed is elusive, but number in the thousands.

Items that have been digitally photographed

- Thousands of individual inscriptions (please visit the web page at http://www.msubillings.edu/library/Speccoll/historicinscriptions/index.htm for a

partial site list. A review of the enclosed DVD's may provide more of an impression of the volume of images being processed.)

Items that have been three-dimensionally scanned

- Natural and Manufactured Material Scans (primary experimental phase)
- George A Custer Site
- Sheridan Butte Site
- Pompey's Pillar Site
- Lisa/Colter Site
- Tom Horn Site
- Kid Curry Site
- Capitol Butte inscription – components stored at the Ekalaka Museum
- Cave Hills Sites
- Castle Butte Site
- Stag Butte Site
- Jeffers Site

Items that have been three-dimensionally printed

- George A Custer 1874 inscription
- Sheridan Butte Site
- Pompey's Pillar kneeling figure
- Wm Clark 1806 inscription (from height field extrusion)
- M Lisa 1807 inscription
- Colter 1810 inscription
- Kid Curry
- Capitol Butte inscription (from scan and height field extrusion combination)
- Cave Hills Face
- Castle Butte Petroglyph
- Jeffers Site
- Coloma Buildings
- Structural Components

During the period of the grant, techniques also emerged regarding the application of height field image extrusion technology. This was applied to the Wm Clark inscription at Pompey's Pillar since the original inscription is enclosed in a steel case, which interferes with the magnetic tracking signal utilized by the three-dimensional scanner.

The resolution limits of the three-dimensional scanner was tested on writing slate components from the Donner Site to attempt to extract scratches as written text. This attempt proved unsuccessful.

(Ref. Quantitative Item #3)

The total numbers of collection items with new or enhanced accessibility, including items that have been cataloged or for which finding aids or other records were created or computerized is less than for items listed in #2 as development of the web page access

point continues. In the digital format, all items are available for the first time to users other than other than grantee staff *for the first time.* The items available for the first time with new or enhanced access for *staff only* are primarily mapping data. It has been advised by Advisory Committee Members that site location information be controlled by the respective State Historic Preservation Offices.

The time necessary for appropriate cataloging and presenting items for public access through the web page is a component of the grant that had been underestimated, but work continues and will continue into the indefinite future.

(Ref. Quantitative Item #4)
The total number of Web sites developed or improved is one, the primary access point of the collection located at www.msubillings.edu/library/Speccoll/historicinscriptions/ .

The web page is currently following a schedule of being updated monthly.

(Ref. Quantitative Item #5)
The learning resources produced include

- Curriculum Support on How to use the Scanner
- Detailed Worksheet on Preparing objects for the 3D printer (Covers process regarding the best techniques for file translation across a variety of CAD software)
- A PowerPoint Presentation: Using Technology for Historical Preservation

(Ref. Quantitative Item #6)
The total # of lectures, symposia, demonstrations, exhibits, readings, performances, concerts, broadcasts, Webcasts, workshops, multi-media packages, or other learning opportunities provided *for the public* include:

Lectures

- Lecture for History Conference
- Lecture for Carbon County Historical Society
- Lecture for Archaeology Week

Demonstrations/Presentations

- Presentation for Montana Archaeological Society
- Presentation for Plains Anthropological Conference
- Presentation for Gem & Mineral Club
- Presentation for Chamber of Conference
- Presentation for Educational Conference
- Presentation for the Billings Exchange Club
- Presentation for Rotary
- Demonstration of technologies used for local historians and archaeologist at the Billings BLM Curation Center
- Demonstration for site monitor volunteers for the Custer National Forest, Cave Hills of South Dakota Region

- Presentations for High School groups during campus visitations

Exhibits
- Exhibit in Drafting & Design Area at the MSU Billings College of Technology
- Photo and three-dimensional exhibit in the MSU Billings Library

Workshops
- Montana Archaeological Society Educational Workshop

Articles
- Billings Gazette
- Carbon County News

(Ref. Quantitative Item #7)
During the grant the principles created four tools relevant to this category. These tools are used by avocational volunteers as well as by grant principles.
- Spreadsheet formatted for inputting inscription site field data
- Site Form specific to the recording of inscription field data
- A set of working drawings detailing how to create a non-metallic adjustable tripod to position the positional transceiver for the three-dimensional scanner
- An AutoLISP program was written by volunteer Patrick McDonald and investigator Tim Urbaniak that extrudes three-dimensional face data into solids. This conversion tool facilitates the three-dimensional printing of surface data as a shell rather than requiring a volumetric form.

(Ref. Quantitative Item #8)
Library Special Collections Manager Eileen Wright attended a training seminar regarding the use of the Past Perfect software purchased by this grant. Operational knowledge of this software is critical to integrating appropriate components of the collection.

(Ref. Quantitative Item #9)
To date, two research reports have been generated from the collection. That reports were done by Mary Pickett of the Billings Gazette as she researched the names of Miss Mollie Westbrook and AE Rhodes from the inscription collection.

A recent article in the Billings Gazette has generated a tremendous amount of feedback, leads and support. The full article can be accessed at:

http://www.billingsgazette.net/articles/2007/05/05/features/life/20-rock.txt

Of particular note are comments from the public showing great support for the project concept.

Two articles were also included that elaborated on research occurring as an outcome of the project. These can be accessed at:

http://www.billingsgazette.net/articles/2007/05/05/features/life/35-inscription.txt

and

http://billingsgazette.net/articles/2007/05/05/features/life/30-carving.txt

There are currently articles being prepared by researchers interested in accessing the collection, including an article on inscriptions from the Park City site, a paper examining the correlation of the Custer 1874 inscription with his known travels, and a paper regarding the reconstruction of the Capitol Butte inscription.

Grant investigators Tim Urbaniak and Dr. Tom Rust are also in the draft stage of a book detailing historic inscriptions in the region.

(Ref. Quantitative Item #10)
At the beginning of the grant period, a four-student group in the Drafting and Design Program undertook the task of determining the limits of the three-dimensional scanner. This student group extended their regular studies by scanning a variety of materials under a mix of conditions. This research paid off in the field by providing information about timing, tactile operation, lighting and shadow considerations and portability of equipment.

Through the equipment provided by the grant along with relevant equipment funded by matching sources, Tim Urbaniak and Dr. Tom Rust were able to extend their educational opportunities by learning the technologies used in the grant.

(Ref. Quantitative Item #11)
While the earning of degrees was not specified as a goal of the grant, it is notable that the project has had an impact on the education of many involved.

During the grant, investigator Tom Rust received his PhD from the University of Leicester in Historical Archaeology. His successfully migrated into a tenure-track position at Montana State University Billings and his future research includes a commitment to continue to build the Historic Inscription Collection. Along with principle investigator Tim Urbaniak, future plans include publishing a book on regional historic inscriptions and co-authoring a series of papers regarding specific sites.

Student volunteer Autumn Wright assisted beyond other students due to her interest in history and archaeology. Following her graduation this spring, she will be pursuing a Masters Degree in Archaeology at Flinders University in Adelaide, Australia.

While long-term field volunteer Rob Mutchler has no plans to pursue a specific degree, interest in using the collection as a writing resource has motivated him to enrolling into his first college class this fall.

Lastly, continued interest and a lifetime commitment to the continuing development of this collection has motivated principle investigator Tim Urbaniak into applying for (and being accepted into) a Cultural Anthropology PhD Program through the University of Montana. His research will focus on historic inscriptions and their role in the overall scheme of communication across cultures. This will insure that the collection will continue to grow and evolve.

(Ref. Quantitative Item #12)
While information from this project has contributed to the creation of key management documents for Montana Fish, Wildlife and Parks and the Custer National Forest, the creation of these documents is not in the grant role and scope.

(Ref. Quantitative Item #13)
Through the grant, the library was able to purchase a copy of the Past Perfect software. This improvement is not only relevant to the Historic Inscription Project, but is a resource that was previously unavailable to the Library Special Collections Division.

As a commitment match, the library recently added a new computer with sufficient hard drive space to house the online collection and a DVD recordable drive used to manage data.

(Ref. Quantitative Item #14)
Formal partners participating in the creation of the Historic Inscription Collection include the Montana State Historical Preservation Office, the Custer National Forest, The Montana Department of Fish, Wildlife and Parks and the Bureau of Land Management. Collaborating informal partners include Greer Services (Dr. John Greer and Mavis Greer), and Field Research Services (Patrick and Sunday Walker-Kuntz).

While ongoing activities generate a constant dialog about the project, specific activities occurred that are relevant to the successful completion of the grant.

In July, Tim Urbaniak met with Dr. John Greer and Mavis Greer of Cheyenne, Wyoming. The Greers own and operate a Cultural Resource Management (CRM) firm that is renowned for their excellent work documenting rock art sites on the northern plains. Since many of the native sites contain historic inscriptions, access to their records and their assistance directing us to significant inscriptions is a valuable resource. Their willingness to collaborate and allow access to their files is a great benefit to the project.

Two meetings have been held with partners that are members of the grant committee regarding the progress of the project.

The first meeting was held at the Montana State University – Billings Library in the Special Collections Area. The meeting was attended by Halcyon LaPoint – Custer National Forest Archaeologist, Mike Bergstrom – Custer National Forest Archaeologist, Eileen Wright – MSU-Billings Library (Special Collections), Tom Rust and Tim Urbaniak – MSU-Billings Faculty.

The primary topic of the meeting was the transition of our existing records into a useable and accessible format. This step is especially critical as the path that we take for archiving and displaying these resources will be added to for years to come.

The second meeting took place in Helena, Montana at the State Historic Preservation Office and was attended by Tim Urbaniak – principle investigator, Dr. Mark Baumler – State Historic Preservation Officer, Dr. Stan Wilmouth – Montana State Archaeologist and Damon Murdo – Cultural Records Manager. This discussion covered the processes of formally accessing state records, the process for submitting new sites for official record, and a general update of the status of the project.

Ongoing activities with government agencies, cultural resource management firms and private landowners continue to generate a constant dialog about the project, and activities such as site visitations and web page update continue. During conversations with private landowners concerning significant inscriptions on the northern plains, our belief is consistently reinforced regarding the importance of these inscriptions and the ubiquitous distribution of historic and cultural resources on the northern plains.

One privately held site is so significant that a meeting was chaired in June 2007 by John Keck, National Park Service, Montana and Wyoming coordinator to discuss further protection and preservation of a site deemed significant. The site in question has well documented, but secreted by a private landowner, inscriptions of *M Lisa 1807* and *Colter 1810*. Tim Urbaniak has been commissioned by the National Park Service to author the Historic Landmark nomination for the site. A Drafting and Design student group from the Montana State University – Billings, College of Technology has designed a protective shelter for the site and work is being funded by Yellowstone County to fabricate the shelter.

In April, Tim Urbaniak met Dr. Jim Keiser, a well-known prehistoric rock art archaeologist regarding historic sites. Due to the continued coexistence between historic and prehistoric sites, many rock art researchers have valuable knowledge regarding historic inscriptions, but rarely elaborate or publish regarding them. The discussion and support materials provided by Dr. Kaiser to our project identified significant sites in Wyoming which were visited by our team.

In June of 2007, the American Rock Art Research Association (ARARA) held their national meeting in Billings, Montana. Interaction with this group and others like contribute further valuable information and contacts.

During the month of June 2007, Tim Urbaniak was invited to the Jeffers Petroglyph Site in Minnesota to demonstrate the viability of 3D scanning on the quartzite formation. Under the guidance of Dr. Alan Woolworth and Chuck Bailey several scans were obtained at the site and Tim Urbaniak is currently processing that material for a report. While outside of the primary research area, historic inscriptions are present at the site – further verifying the proximal relationship between historic and prehistoric inscriptions.

In October of 2007, Tim Urbaniak and volunteer Rob Mutchler traveled to Ekalaka, Montana at the request of the County Museum located there. The museum is in passion of fragments of a historic cavalry inscription that was recovered from Forest Service land. The fragments were scanned and an exhibit output from the 3D printer is planned.

(Ref. Quantitative Item #15)

The total number of volunteers assisting with grant activities includes the following cohorts:

Students

- Mark
- Don
- Darcy
- Lisa/Colter student group (four students)
- Autumn
- Kaili
- Jenny
- Steve
- Nine other students from the College of Technology

Volunteers

- Rob Mutchler
- TJ Mutchler
- Rob Mutchler's Father-in-law
- John Elliott
- Jesse Elliott
- Harley Burch
- Dennis Elliott
- Dennis's Uncle
- Cindy Urbaniak
- Jim Waldhalm
- Becky Kalavig
- Johanna
- Johanna's son
- Wil
- Ken Britton
- Three from Virginia City
- 12 other unnamed volunteers

Professional

- Halcyon LaPoint (Custer National Forest Archaeologist)
- Mike Bergstrom (Custer National Forest Archaeologist)
- Glade Hadden (BLM Archaeologist - Billings)
- Doug Melton (BLM Archaeologist – Miles City)
- Jon Reiten (U of M Geologist)

- Dr. John Greer (Greer Services)
- Mavis Greer (Greer Services)

Grant tracking shows **2997 hours** of time dedicated by grant volunteers and principle investigators. While specific hours were tracked as best possible, it is still considered that this number is a less than actual.

Products Not Covered Above

(Ref. Quantitative Item #16)
Through grant funded and matching equipment availible through the project, other projects were supported that resulted in quantifiable outcomes.

- Using the GPS equipment and the surveying total station, assistance was provided to document a Crow battle site for a grant project.
- Using the three-dimensional scanner and three-dimensional printer, a study was conducted through the Drafting & Design Program regarding the feasibility of scanning and reproducing historic wood trim and ornamental carvings for historic restoration.
- Using the total surveying station, the three-dimensional printer and the SDS/2 structural software, Drafting and Design students designed a structural shelter for the sandstone boulder where the Lisa and Colter inscriptions are located. Printer material was funded by another account.
- Due to the availability of the grant hardware, Drafting and Design curriculum has been modified to include the operation said equipment. This not only has expanded academic possibilities, but continues to generate volunteers to support the project.

Project Audience

(Ref. Quantitative Item #17)
It is not known at this time if any schools are visiting the website. While a couple of pre-K through grade 12 students have participated in field trips, they have not attended under the direction of their schools.

(Ref. Quantitative Item #18)

Faculty Tim Urbaniak, Dr. Tom Rust and Johanna Hadden have strengthened their classroom teaching and have learned exponentially due to their direct interaction with the grant.

During the spring of 2008, Tim Urbaniak facilitated the Montana Archaeological Society Educator's Workshop. The lab has room for 15 – 18 signed up – 24 showed up! This demonstrates not only an interest in the projected that is generating the collection, but a

continual interest in the technologies being applied and an interest in the creation of virtual collections.

(Ref. Quantitative Item #19)
During field surveying activities six pre-K through grade-12 students served on the project. All six of these youth came with their parents during surveying sessions, but one Jesse Elliott (son of Archaeology Field Team Member John Elliott) not only surveyed more than any other youth, but often ran the laptop during field three-dimensional scanning sessions. Jesse Elliott was also the surveyor that located the historic inscriptions near Goose Lake at 10,000 feet in the Beartooth Range. That inscription is currently the highest known elevation historic inscription in the state.

(Ref. Quantitative Item #20)
Individuals benefiting from the grant include the teachers from Item #18, the youth from Item #19, and (at least) one docent from Pictograph Cave. The docent at Pictograph Cave now includes information about the inscriptions that still remain in Ghost Cave and information about the historic inscriptions that were obliterated by sandblasting in the 1970's.

(Ref. Quantitative Item #21)
While grant principle Tim Urbaniak has done brief commentaries regarding the project on radio and television, the total number of viewers and listeners are not known.

(Ref. Quantitative Item #22)
The web page does not currently have a hit counter, although (primarily due to this question) this will soon be rectified. The website also does not require registration for use; therefore we do not have a quantifiable count for this item.

(Ref. Quantitative Item #23)
While the exact number of resource users through the web site is not known, approximately 30 direct emails have been received inquiring about specific inscriptions, such as the one below.

Tim,
What I nice surprise to hear from you. I'm eager to see what you have found. My grandmother's name when she was a child in Park City was Laura Horning. Her sisters and brothers were Howard, Walter, Willis, Martha, Lucille, and Roy. She was born in 1900 so any early signatures would probably be before 1925 or so.

Thanks for getting back to me.
Annette

Since the collection is a new resource, all visitors are new visitors.

Final Analysis - Analyzing the Project

The primary intent of the grant was to create a digital collection of historic inscriptions using existing and emerging technology and to make the material available to the public.

To that end, the project has met its primary goals successfully by establishing a web-based, first of its kind access point for researching historic inscriptions. Accomplishments include:

- Gathering thousands of images of thousands of inscriptions thereby documenting their current condition
- Mapping the locations of these inscriptions. This information is only available to qualified researchers as determined by the Montana SHPO
- Creating the foundation of a first of its kind, web-based access point for historic inscription research on the Northern Plains
- Establishing the MSU-Billings, Archaeology Field Team as a regional resource for historic inscription research and 3D scanning and printing technologies
- Enhancing the public awareness of historic inscriptions and their significance
- Contributing to modifying the mindset of archaeological and historical researchers regarding the value of historic inscriptions and their significance

Obstacles to the success of the project included:

- An underestimation of the amount resources available to document. Even though the grant period is completed, additional sites continue to be reported now that the public and agencies are aware of the project. Ultimately, we view this as a positive and a verification of how the foundation of the project funded by the grant will continue to grow.
- An underestimation of the amount of time needed to organize the archive of the vast amount of data being generated.
- Historic fire seasons have restricted field surveying activities during the summers and falls when time was available

Some primary lessons learned by the grant investigator are that 1) It takes a lot of work to create a new historical resource from scratch 2) Technologies are not always functional "out of the box" (3d scanner to 3d printer) and 3) People are interested in the continuation of this project and are supportive of the work.

What's Next?

The development of this resource is continuing. People continue to contact us about new sites and inscriptions and a cadre of volunteers continues to be available.

A large body of work continues to be dedicated to the web page access point. Modifications need to be made to the viewing choices and a cumulative database needs to be assembled.

Since the association of historic inscriptions with petroglyphs and pictographs continues to prove evident, plans are being made to create an associated website to cross-reference these cultural resources.

As stated earlier in this report, continued interest and a lifetime commitment to the continuing development of this collection has motivated principle investigator Tim Urbaniak into applying for (and being accepted into) a Cultural Anthropology PhD Program through the University of Montana. His research will focus on historic inscriptions and their role in the overall scheme of communication across cultures. This will insure that the collection will continue to grow and evolve.

Lastly, information is now accessible to provide a base for research writing. Every name is a story and the stories are the history that settled the west.