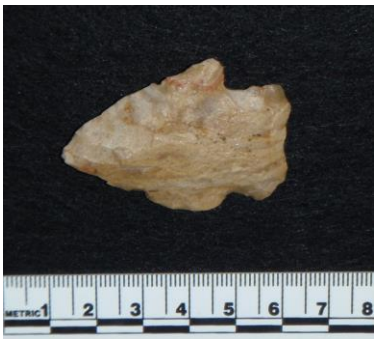
**Loveland Archaeological Society, Inc.**
A Colorado Non-Profit Corporation

# Find of the Month Recap, October 2014 – September 2015

October 2014
Shellene Karst

November 2014
Bryan Morgan

December 2014
Carol Ekhoff



January 2015
Ted Meredith

February 2015
Ted Meredith

**No meeting was held in March 2015 due to inclement weather.**

April 2015
Helene Bindner & Lary Pachner

May 2015
Steve Campbell

June 2015
Helene Bindner

July 2015
Dalton Campbell

August 2015
Rick Miller & Paul Donnelly

September 2015
Kendra Soderberg

# LAS November 2015 Headlines:

## PRESCRIBED FIRE EXPOSES MORE ROCK FEATURES AT ARCHAEOLOGICAL SITE

Billings Gazette by Brett French, October 15, 2015

As the ground still smolders from a prescribed grass fire lit in April, this picture shows the rocks that were used to make a prehistoric driveline to herd buffalo off a nearby cliff. Until the fire burned off the grass feature was hidden. – Joshua Chase/BLM

Photos of a 1,000-year-old buffalo jump in northeastern Montana that were shot after a controlled burn in April have revealed more than 400 new rock features, and the analysis is only one-third done.

"It's like a super detailed, super accurate Google Earth," said Josh Chase, a Bureau of Land Management archaeologist based in Havre. "It's really given us a more complete picture of the site."

The 800-acre Henry Smith site in Phillips County was first documented in the 1960s and is now protected by the agency as an area of critical environmental concern. The bluff contains stone effigies of humans and a turtle, meaning the site held religious as well as utilitarian significance to the nomadic prehistoric people who lived and worked there between A.D. 770 and 1040.

"Prehistorically speaking, we knew there were a lot of features," Chase said.

But the burn has revealed even more stone effigies, teepee rings, mysterious figures and drive lines on the bluff. It even shows how settlement patterns changed over time.

Aerial photos

About 40,000 photos were taken by an unmanned aerial vehicle of the 300-acre burn. Geographic information specialist Jerry Rich, who works at BLM's Malta office, helped program the computer to analyze all of the data from the shots. Rich had done similar work in the Army.

"I took that exact same method and process and helped him find some sites out there," Rich said. "The part that was amazing was the sheer amount of them that we were able to locate in a small area."

Once the computer software was programmed to look for rocks in the images, Rich said rings and mounds started jumping out of the pictures.

"It was one of those moments where I realized I've got a pretty good job," he said. "I just hope I get to see more of the pictures, or go out and ground truth to see what I saw from the UAV picture."

Fire, drone expose scale of prehistoric rock formations - GREAT FALLS, Mont. (AP) — Cutting-edge archaeological work that included use of a drone.

Historical perspective

Jessica Bush, from the Montana Historical Society, had a similar feeling as she was onsite for the prescribed fire to document the results in case there are similar requests in the future.

"It was really incredible," she said. "It was amazing how clear everything became after the fire."

She noted that a drive line — rows of rocks stacked to funnel bison to a jump site — would stand out starkly where the grass had been burned and then disappear in patches of grass that hadn't caught fire.

"You could just see this crisscrossing of stone features everywhere," Bush said.

She noted that there is little appreciation of the stone features and historical sites spread across northern Montana's Hi-Line — mostly because a lot of it can't be seen. But Chase noted that the area is rich in archaeological features.

"I hope this is the start of a new way to look at archaeology in new areas," Bush said.

Chase agreed, saying it was nice to be at the forefront of a newly emerging technological advancement for plains archaeology.

"Because it did work so well and it's proven that our technology works, I'm thinking about using the same exact strategy to just explore the area a bit," he said.

Burn effects

Another part of the study involved Missoula Fire Science Lab personnel placing artifacts without provenance at locations around the burn to document how fire affected them.

Temperatures recorded next to the artifacts hit 1,300 degrees for less than a minute, Chase said. That temperature and duration was not harmful to stone and ceramic artifacts. Bone, on the other hand, suffered some pretty pronounced damage from the fire, he added, especially when near sagebrush, which would burn longer.

The information gives Chase a scientific basis on which to rest his theory that the fast-moving grass fires were, in general, not harmful to most artifacts.

Poring over photos

It may be springtime before Chase has had time to analyze all of the 40,000 photos in detail. By then he may have soil samples back from a Washington laboratory telling him how long ago some of the stones were moved into place.

To do that, soil samples are taken from under the rocks, but only at night or in a darkened tent to avoid the soil being exposed to the sun. The technique for analyzing the soil, called optically stimulated luminescence, or OSL for short, can determine the last time the soil was exposed to the sun.

Four dirt samples were collected from the Henry Smith site for testing. The dating from the soil samples will then be compared to dates scientists have come up with from the archaeological dig at the buffalo jump below the cliffs to see how close they compare.

"If they don't agree, we have different times of occupation," Chase said.

Chase will write up all of his findings in a scientific paper and publish it so the study and techniques can be scrutinized by his colleagues.

"I think we're really lucky," Bush said. "This is one of those once-in-a-lifetime projects that you get to work on that can really change what we know."

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## LAS Find of the Month, November 2015:

Members can bring an artifact to be entered into the competition at the monthly meeting, which will be judged based on the following rules:

1. Must be a member of LAS in good standing.
2. The artifact must be a personal find.
3. It must have been found within the specified time frame, i.e., within the month prior to the meeting.
4. The artifact doesn't have to be a Colorado find—all that matters is that it was found in the last month.

The Find of the Month for November 2015 was made by Jack Brooks and Steve Campbell (co-winners).


Jack Brooks Find
Type: Frederick
Material: Hartville Uplift
Location: Weld County, Colorado

Steve Campbell Find
Type: Large Hardstone Axe
Material: Fine Grained Granite
Location: Central New Mexico
(Private Land)

## LAS News and Upcoming Events:

### Speakers Needed!

**Really!! We need speakers for our 2016 meetings!** If you would like to give a presentation or know of someone who would give a great program please contact Andy Coca, Jean Steinhoff or Kevin Zeeck. No experience is necessary, just a passion for our hobby and a willingness to share that passion. Thanks!

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| December 1, 2015 | December meeting - annual Christmas party. Bring a dish to share for the annual feast. Also, we will be taking donations in the form of gifts, gift cards, or money to provide a Christmas for Native American families in the area. (See notes for November 3, 2015 meeting above.) |
| January 5, 2016 | January meeting. Program: to be announced. Call me to schedule your program today. |