

Rock Art Recording at the Wolf Creek Pictograph Site (5RT90): Adventures with D Stretch

CCPA Meeting in Salida, CO

March, 2016

By Seth Frame

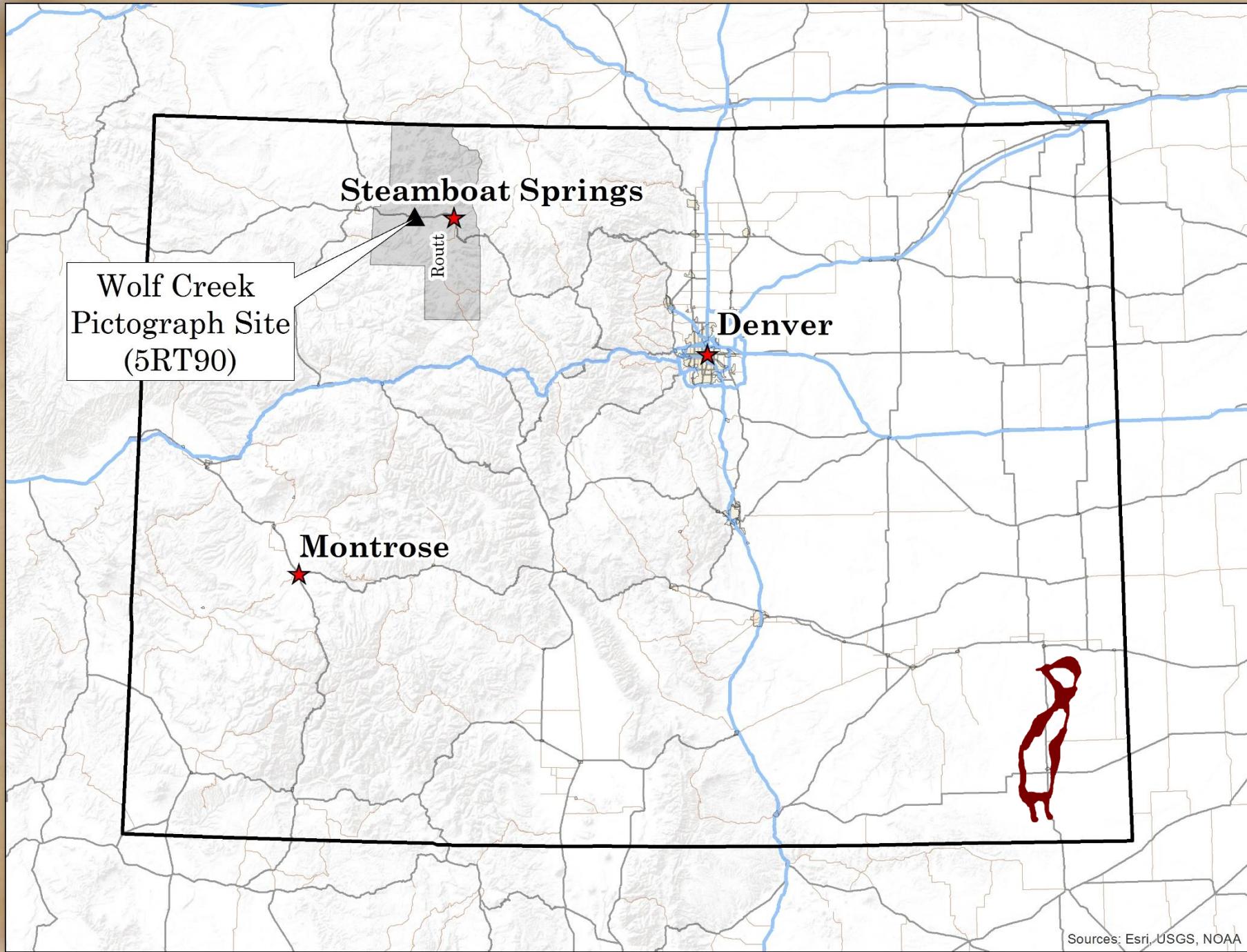




Photo from the 1988 recording
of the Wolf Creek Pictograph Site

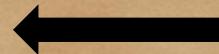


Photo from 2015 recording

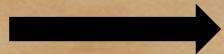


Photo from the 1988 recording
of the Wolf Creek Pictograph Site



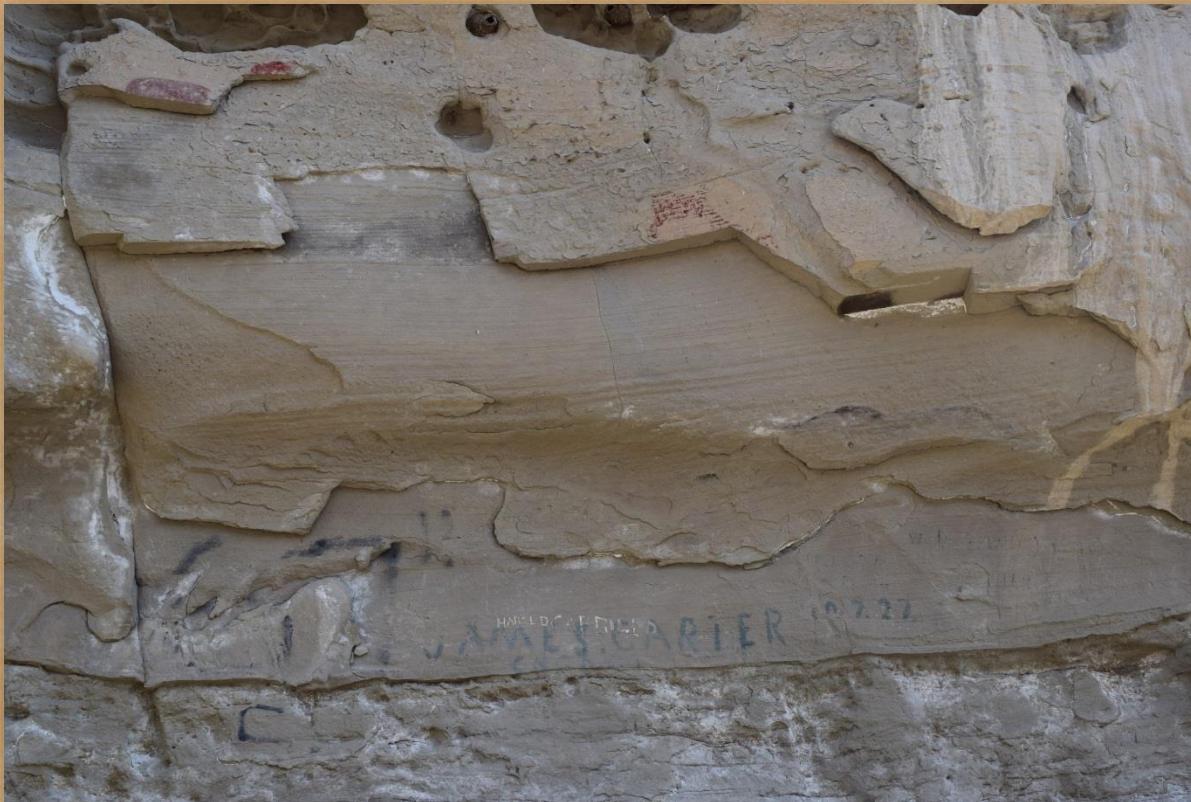
Photo from 2015 recording





Threats to Rock Art

- Vandalism
- Human Activities
- Physical/Biological Weathering





“Pole-ish” Photography

Nikon D5300

- Digital SLR
- Medium Format
- 24.2 Megapixels
- Internal Wi-Fi

Mr. Long Arm 3212

- Extension Pole
- 6-12 Feet
- Aluminum and Fiberglass Construction

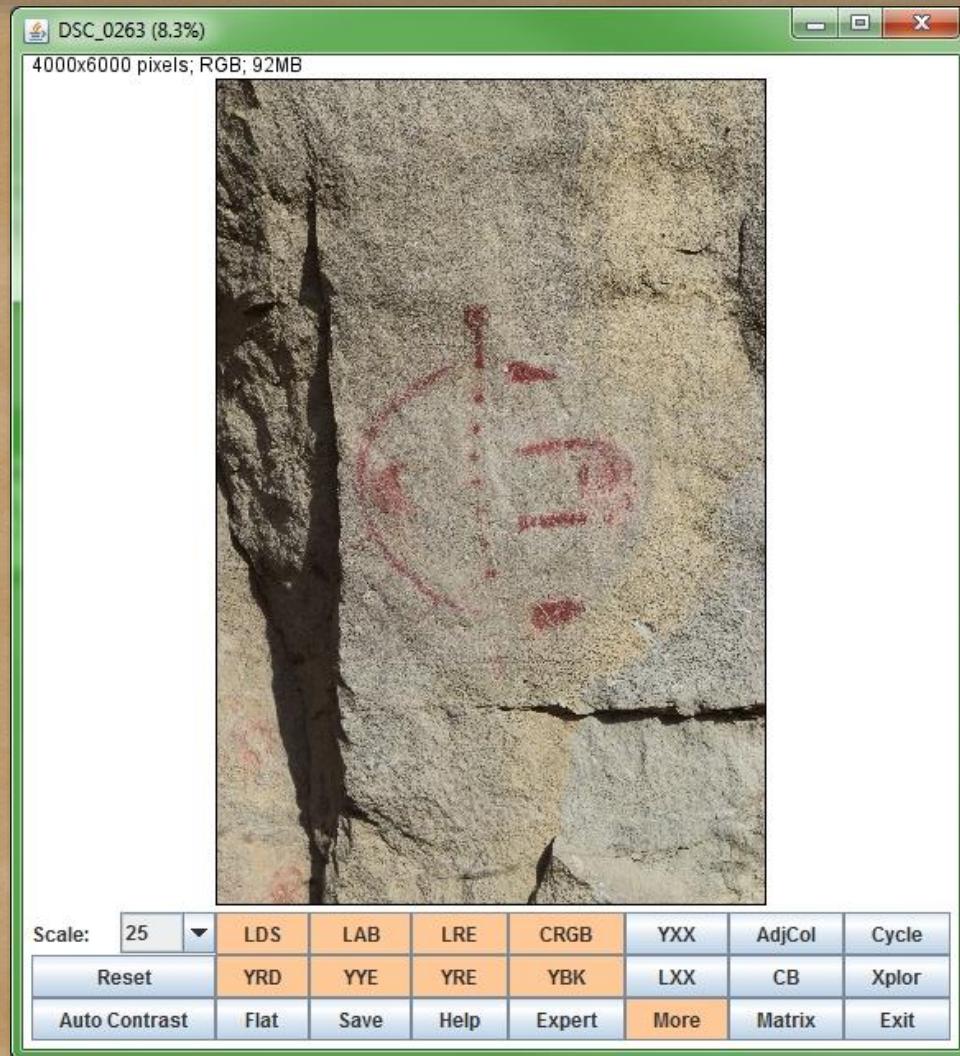


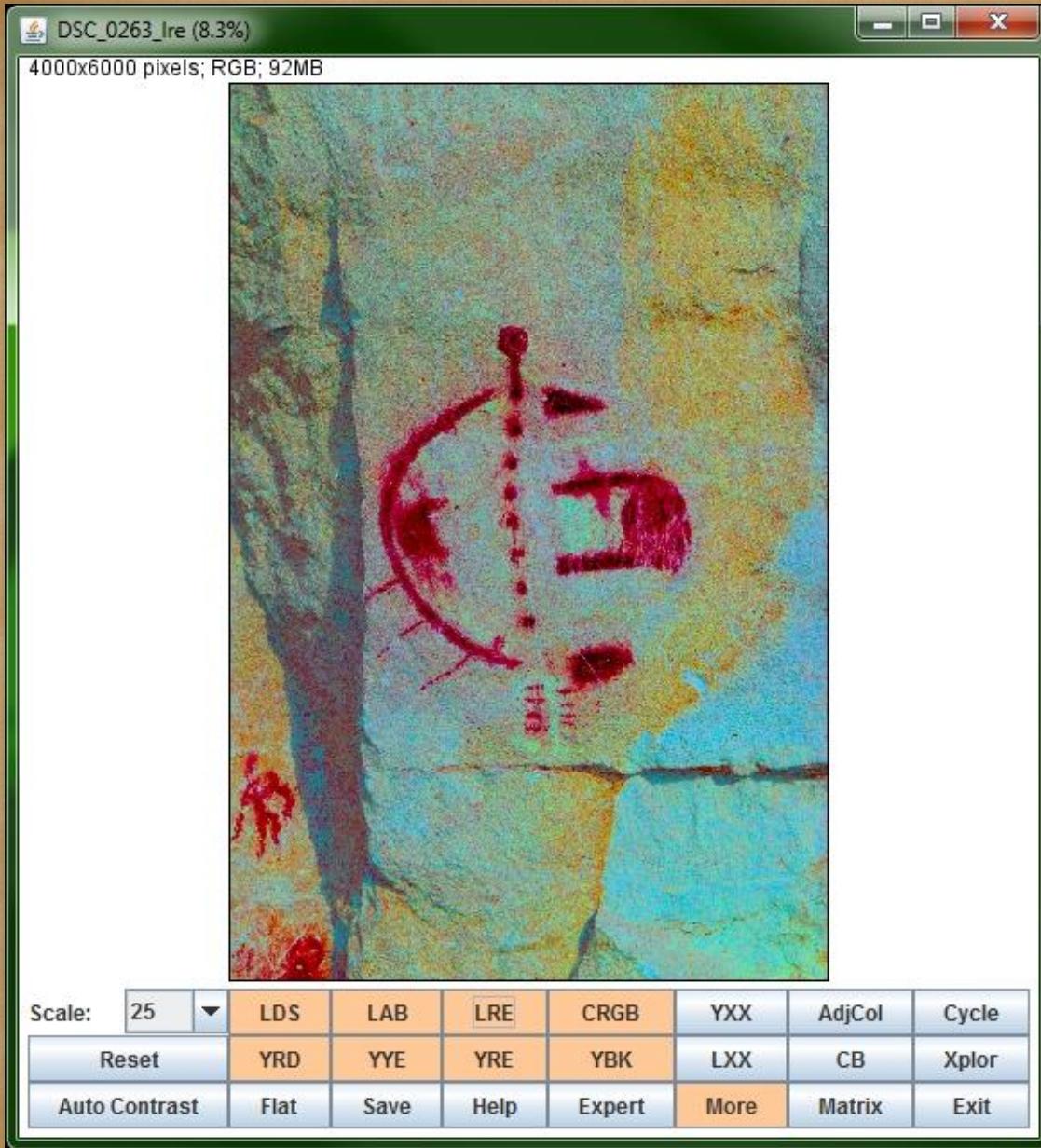
- Dstretch (dstretch.com)
 - Decorrelation Stretch:
 - Originally developed by the Jet Propulsion Laboratory (JPL) to enhance multispectral images. At one point used to enhance Mars photos from the Opportunity Rover.
 - Adapted for rock art recording by Jon Harman, Ph.D.
 - Modified to run in a plugin for the ImageJ image processing program (imagej.nih.gov/ij).
 - Now available as an IPhone or IPad app.





- Dstretch Apps
[\(dstretch.com/Apps/index.html\)](http://dstretch.com/Apps/index.html)
 - iPhone, iPad, and Android Apps
 - Benefits:
 - Portability
 - Immediacy of results
 - Cost
 - Downsides:
 - Hardware limitations
 - Few format choices





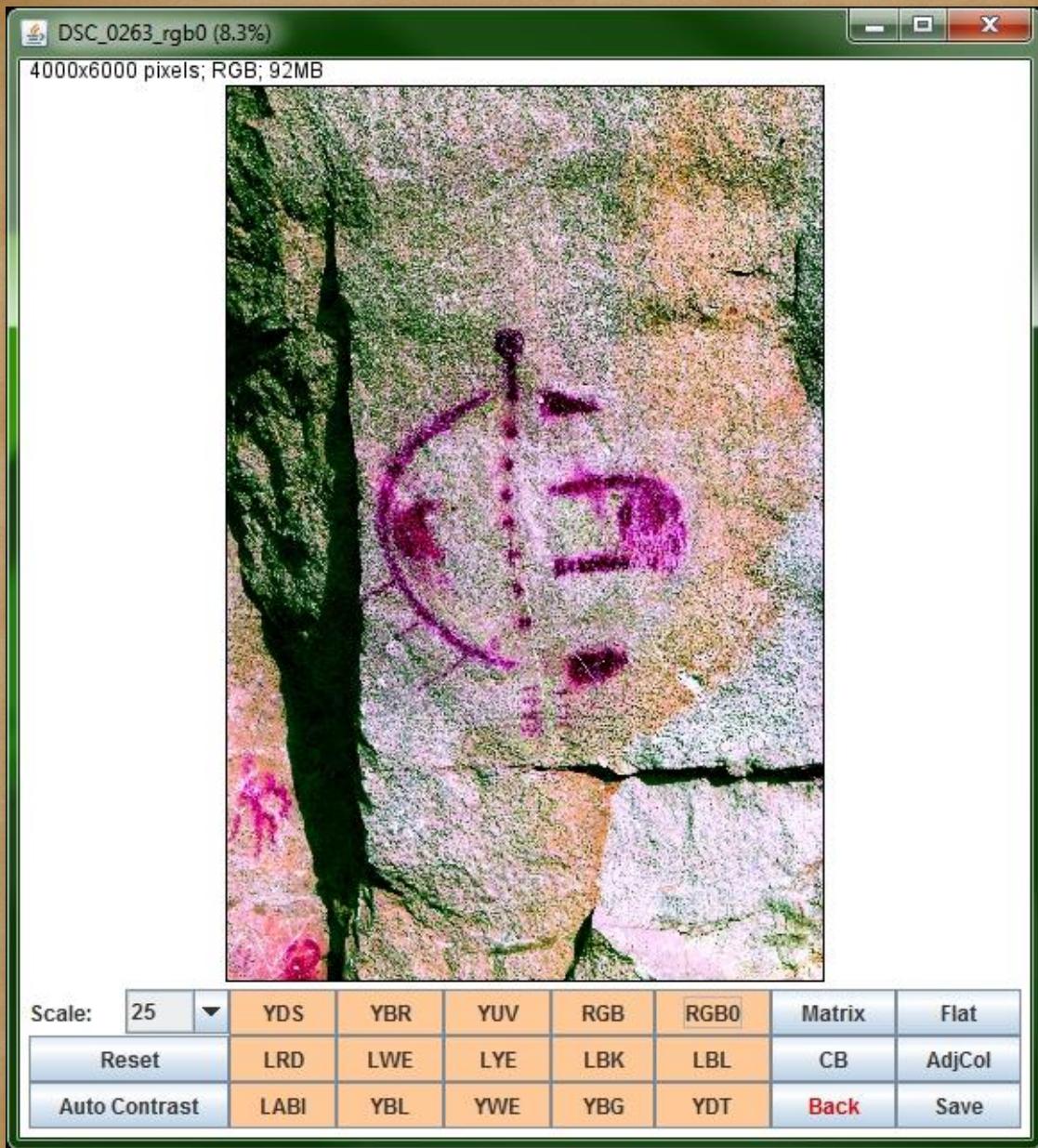
Colorspaces

Access to standard RGB and LAB colorspace as well as those created by Jon Harman.

These Harman created colorspace are modified YUV or LAB colorspace.

YDS, YBR, YBK, LDS, LRE

User created colorspace through the YXX and LXX buttons



Colorspaces

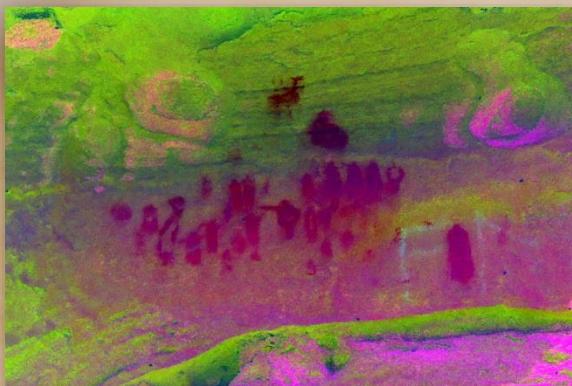
General Enhancement:
YDS and LDS

Reds:
YBR and LRE

Blues and Blacks:
YBK

Yellows:
YBK and YDS





CRGB



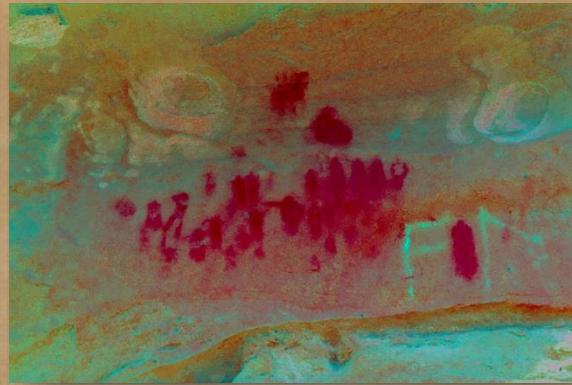
LABI



LDS



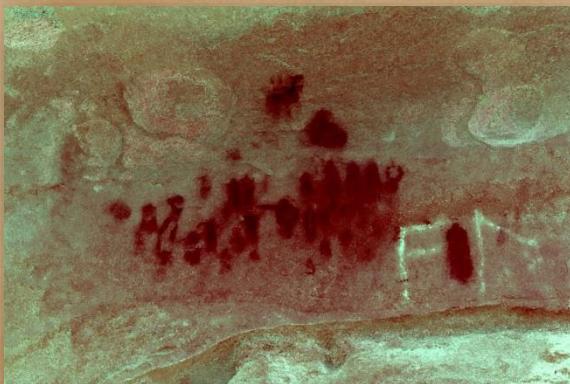
LRD



LRE



RGB0



YRE



YYE



LBL



Original Photo

↓
Dstretch
Enhancements

Adobe Photoshop



↓
Finished
Composite

Dstretch Photography Tips

From the Dstretch website

1. Camera: Bigger sensor is better, DSLR's are good. Lens makes a difference.
2. Megapixels: Higher is not necessarily better, but use all you have (See 6.)
3. Best format is tiff or raw. If you use jpeg use the highest quality setting.
4. Use the lowest ISO setting available on your camera. Don't use auto ISO.
5. Use flash in low light settings (rockshelters). Avoid direct sun.
6. If shooting jpegs use the highest camera resolution setting (highest megapixels).





- RAW photo format
 - File format with minimal image processing.
 - Captures all the data from the camera's sensor.
 - Enables better post processing.
 - Adjust white balance
 - Exposure
 - Brightness
 - Color space

Photos from the Site

(Finally!)

Panel A - Original



Panel A - Composite



Panel B - Original



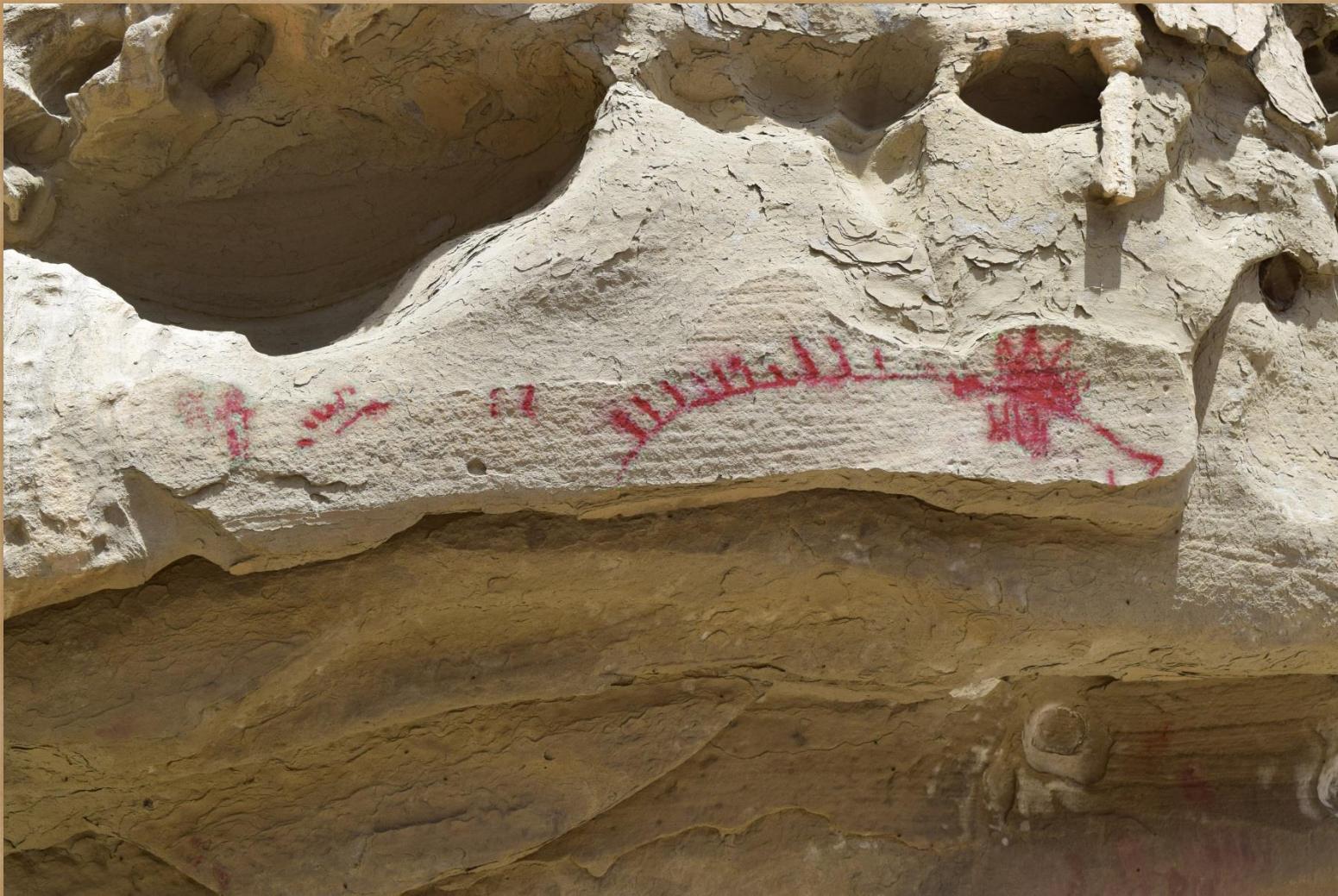
Panel B - Composite



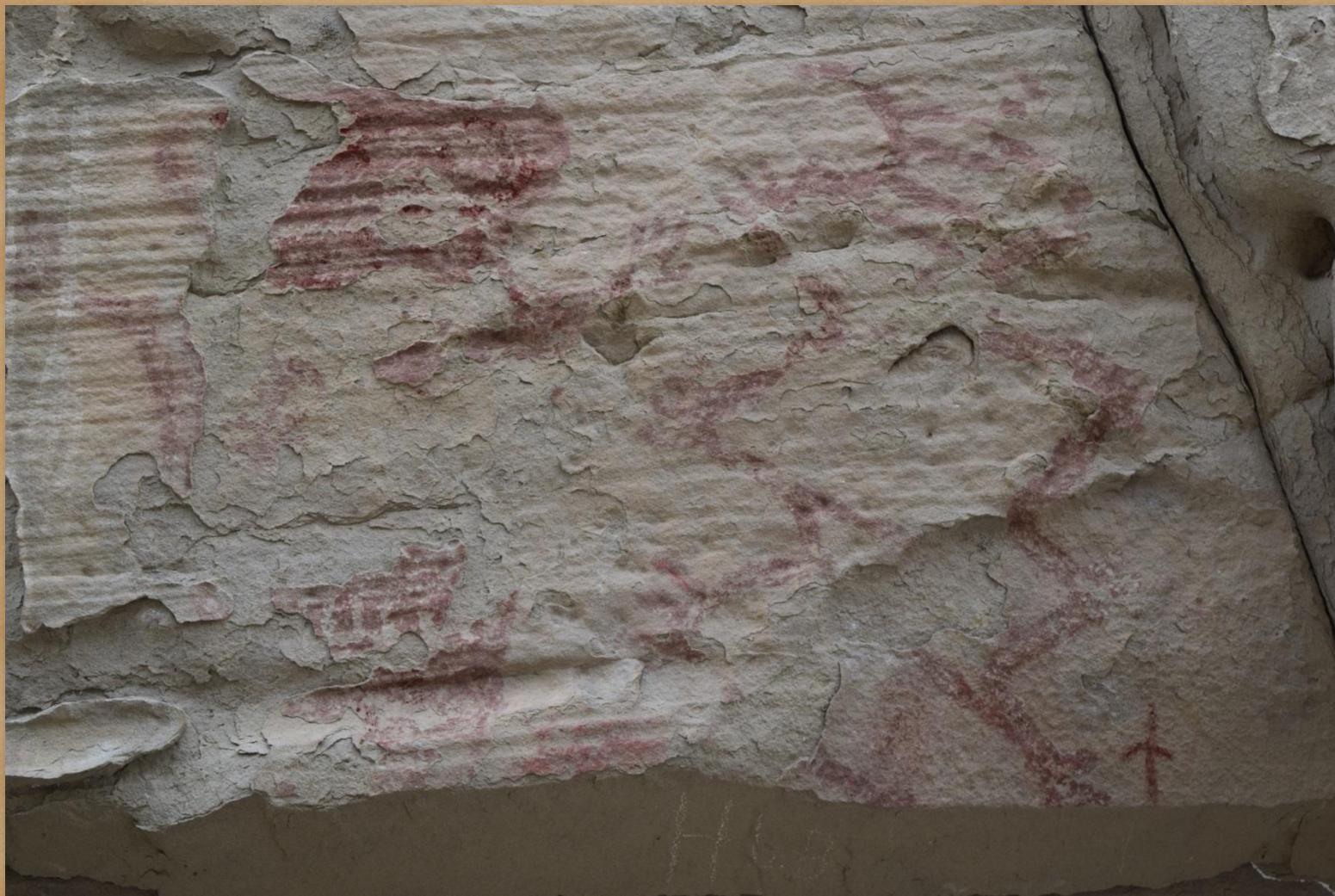
Panel C - Original



Panel C - Composite



Panel D - Original



Panel D - Composite

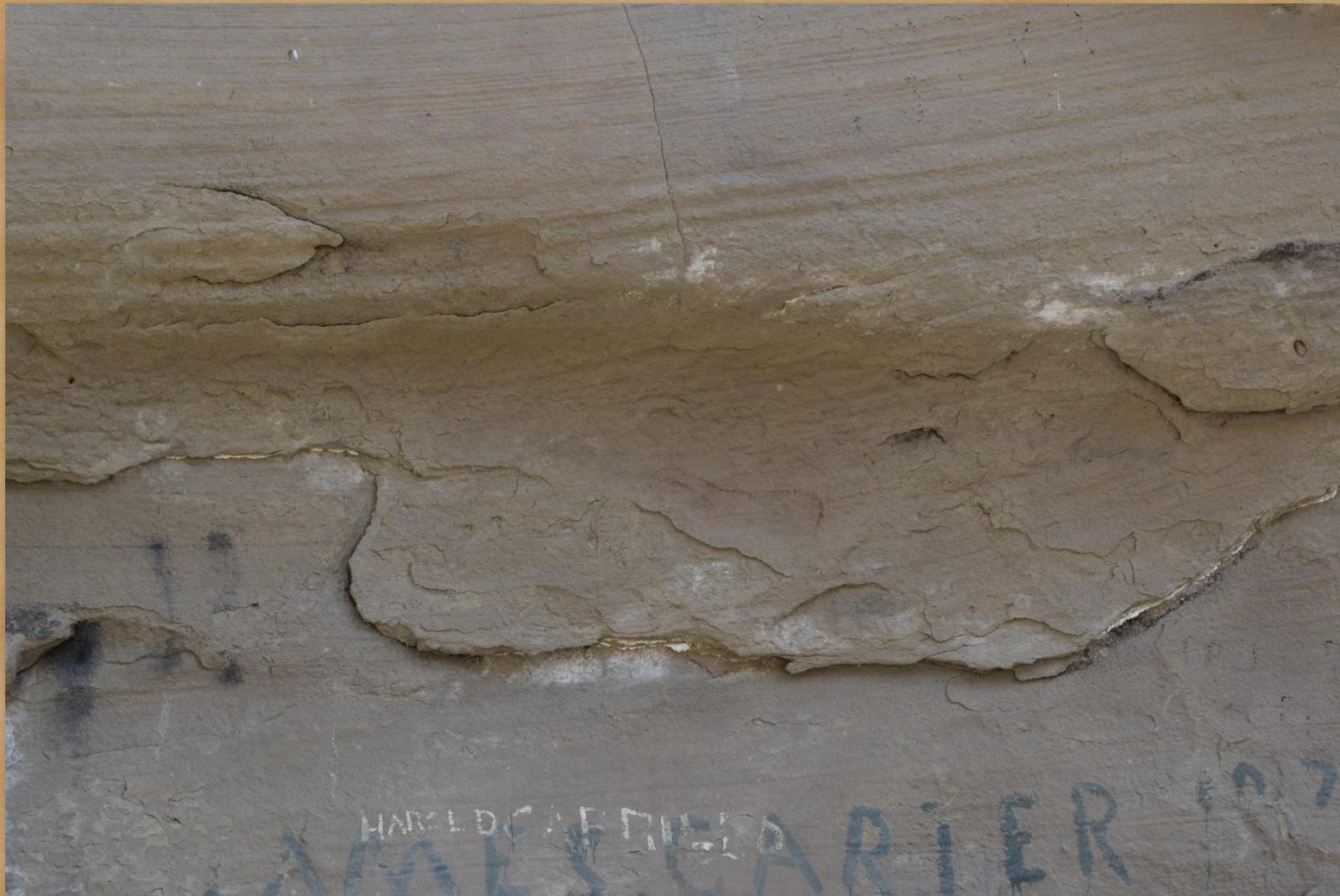


Panel E

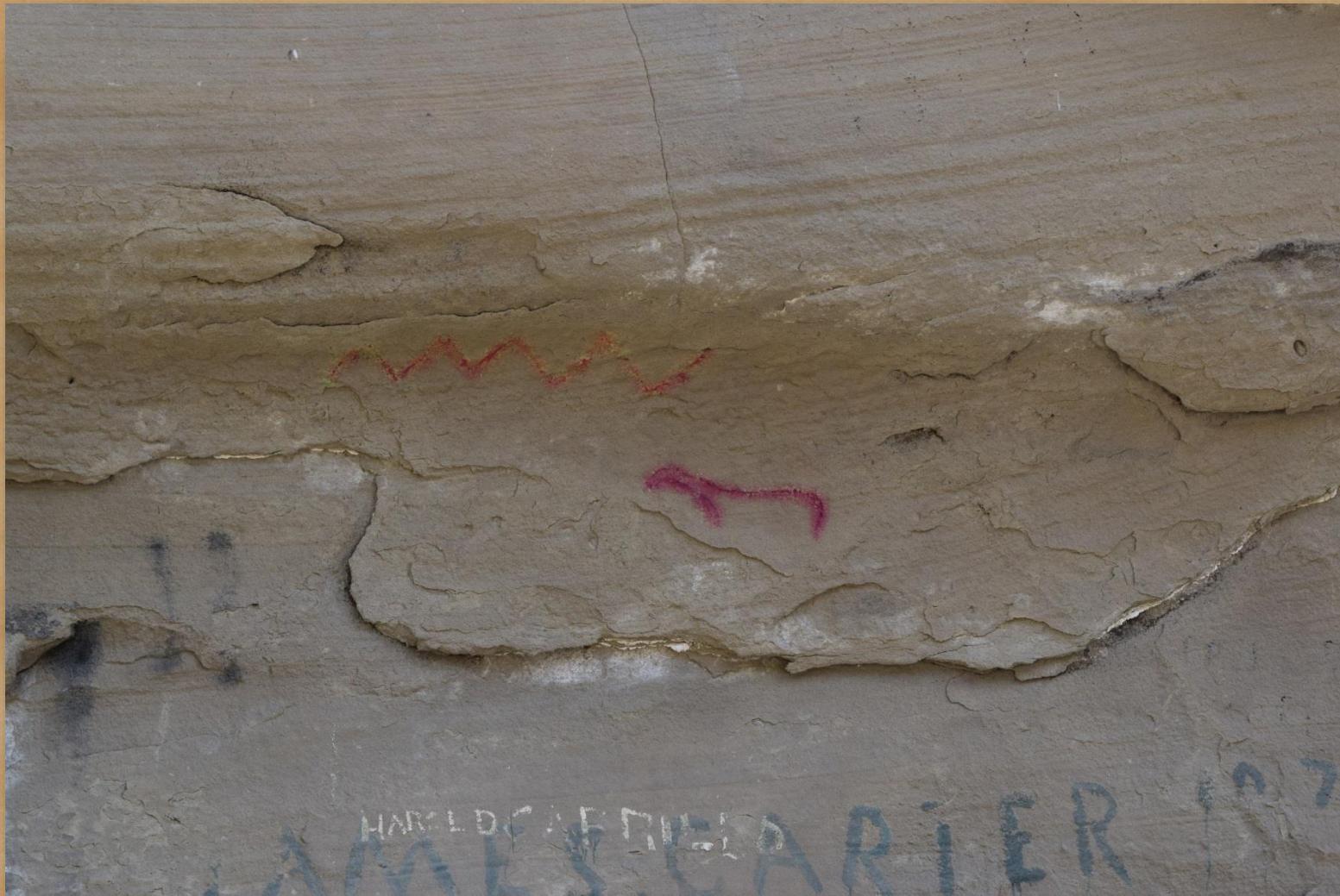


Although primarily meant to enhance pictographs, Dstretch can also improve the visibility of petroglyphs and historic inscriptions.

Panel F - Original



Panel F - Composite



5RT6 - Original



5RT6 - Composite



5RT6 - Original



5RT6 - Composite



D Stretch Demonstration and Q&A

Thank you

Rand Greubel

Charlie Reed

Casey Dukeman

CDOT -Dan Jepson and Greg Wolff

Hayden Heritage Center

Tread of the Pioneers Museum

Bud Werner Memorial Library

Vermillion Chapter of CAS

The rest of the staff at Alpine Archaeological Consultants

