

The Alexandria Project

In 2017, Shumla Archaeological Research Center launched the Alexandria Project, a three year mission to revisit each known rock art site in Val Verde County to perform baseline documentation. Our documentation methods utilize 3D modeling, gigapanoramas, specialized recording forms, and GPS coordinates. This digital dataset will allow for future researchers to analyze stylistic variation, attribute identification, and iconographic interpretation without having to visit any given rock art site.



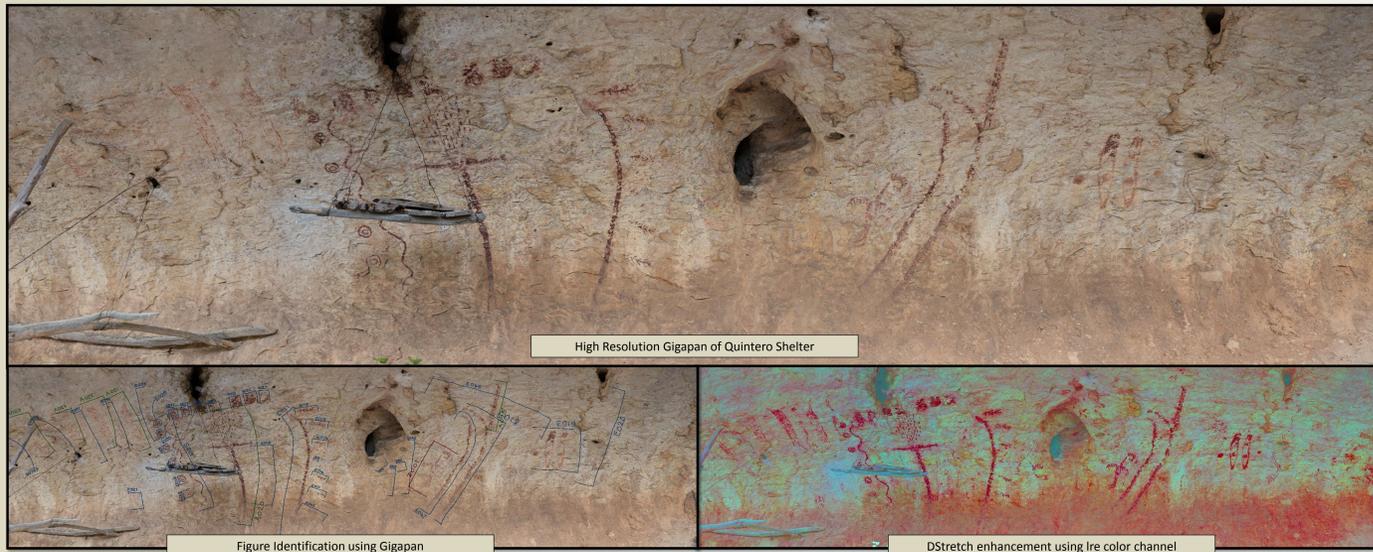
Vicky Roberts creating a Gigapanorama at Quintero Shelter



Daniel Rodriguez and Jerod Roberts creating a 3D Model

To examine the feasibility of conducting detailed figure documentation from baseline data, two test sites located along the Devils River, Quintero and Sunburst Shelters, were chosen for detailed study. We conducted figure identification and stylistic classification in the lab using only the recording forms, gigapanoramas, and 3D models processed from baseline data. Detailed figure documentation has not yet been completed. This poster demonstrates the potential for completing these types of analyses along with what further research questions may be addressed from the Alexandria dataset.

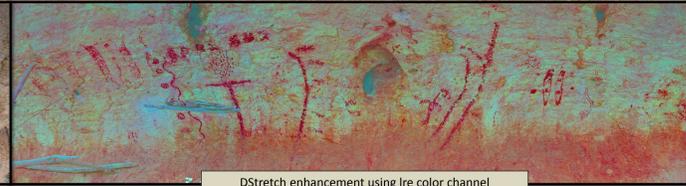
Quintero Shelter (41VV950)



High Resolution Gigapan of Quintero Shelter



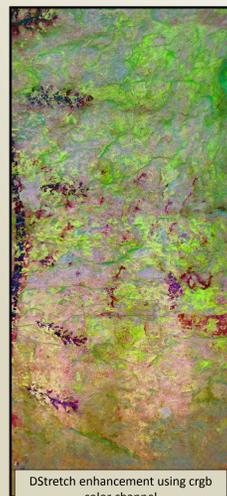
Figure Identification using Gigapan



DStretch enhancement using lre color channel

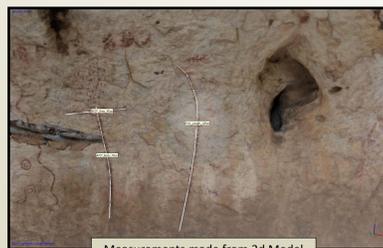


Close up section of Red Linear Panel

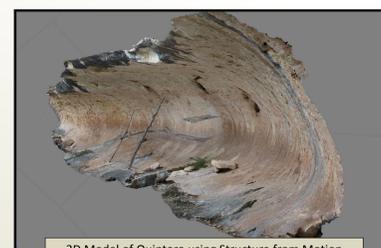


DStretch enhancement using crgb color channel

Quintero shelter is a shallow overhang, facing southwest and contains Pecos River style and Red Linear Style murals with significant historic features. Quintero is 21 meters long and 6 meters deep. The site was used as a ranch line camp historically and an old fence line runs along hill above canyon. A total of 42 Anthropomorphic, 45 Enigmatic, and 2 Zoomorphic figures were identified



Measurements made from 3d Model



3D Model of Quintero using Structure from Motion

Sunburst Shelter (41VV840)



High Resolution Gigapan of Sunburst Shelter Panel 1



DStretch enhancement using built in function 1

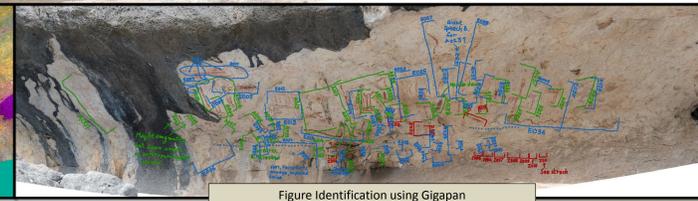
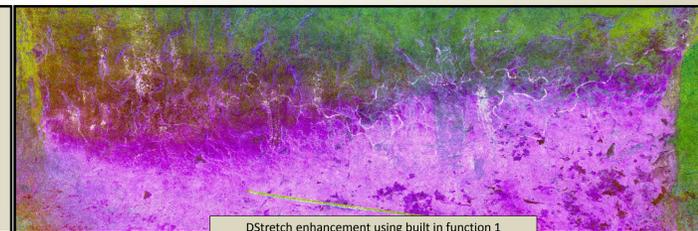


Figure Identification using Gigapan

Sunburst is a large shelter facing southwest and is over 100m long. Multiple styles including Pecos River Style and likely Bold Line Geometric were present. In Panel 2, a previously unrecorded antlered anthropomorph was identified. A total of 43 Anthropomorphic, 80 Enigmatic, and 23 Zoomorphic figures were identified



DStretch enhancement using built in function 1



3D Model of Quintero using Structure from Motion



High Resolution Gigapan of Sunburst Shelter Panel 2

It's Good to be Flexible

Being able to capture the data through multiple technologies has proven to be crucial to the Alexandria Project. Using Structure from Motion (SfM) allows us to capture accurate measurement data at resolutions sufficient for most applications. When very high resolution is critical, Gigapanoramas provide a great base for Figure Identification and Decorrelation Stretch enhancements. Through this project, we have learned quickly how important flexibility is when collecting data with the Gigapan and SfM. To prevent distortion from the gigapan, a proper distance from the rock art panel is necessary. When Gigapans aren't feasible, SfMs are the best option.

These Aren't Just Sexy Photos

Through the use of images collected for Gigapanoramas and 3D modeling, we are able to bring over 300 rock art sites to the lab for researchers to perform detailed iconographic inventory and analyses without even stepping foot in the field. This opens up new avenues for data accessibility while minimizing impact to the archaeological site itself. This includes uploading the Gigapans and SfMs online when landowner grants permission.



Just a Sexy Photo