Ice Age Animals Hunting Scene and attempt at dating the panel

By: Ray Urbaniak

I am a rock art researcher who specialized in solstices and equinoxes. In the course of documenting rock art I have recorded many interesting images not necessarily associated with solstices and equinoxes. From this material I have published articles in the “Pleistocene Coalition” and “Manataka American Indian Council” on "Ice age Animals in SW Rock Art".

More recent findings include a petroglyph panel depicting a mammoth (or mastodon) being hunted with an atlatl spear thrower (photo 1A below).

Photo 1A

Mastodon photos 1B

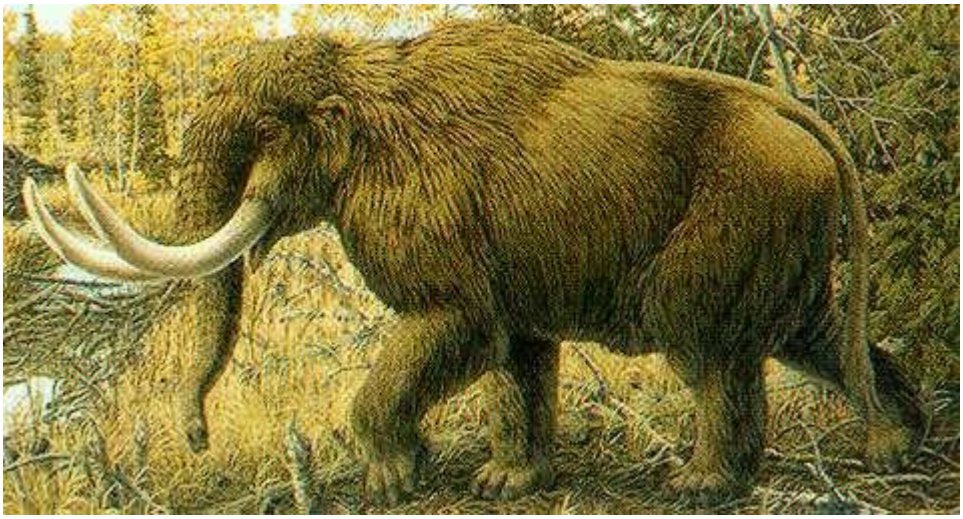


Photo provided by Ken Johnston

Photos 1B

As I stated in prior articles...."The person creating this Mammoth hunting petroglyph depiction may have taken part in a mammoth hunt. However, a more likely scenario is that the mammoth description was passed down in the oral tradition for one or more generations. Having never seen a mammoth tusk, the tusks are depicted as very large horns since horns are what the person would have been familiar with."

However, the trunk of the mammoth didn't look quite right to me, so, Mark Willis, an archaeologist friend, helped me with an enhancement (photo2).

Photo 2

The photo came out good, but the trunk still bothered me. I studied it and tried different lighting until I noticed a hard layer in the rock face (photo3).

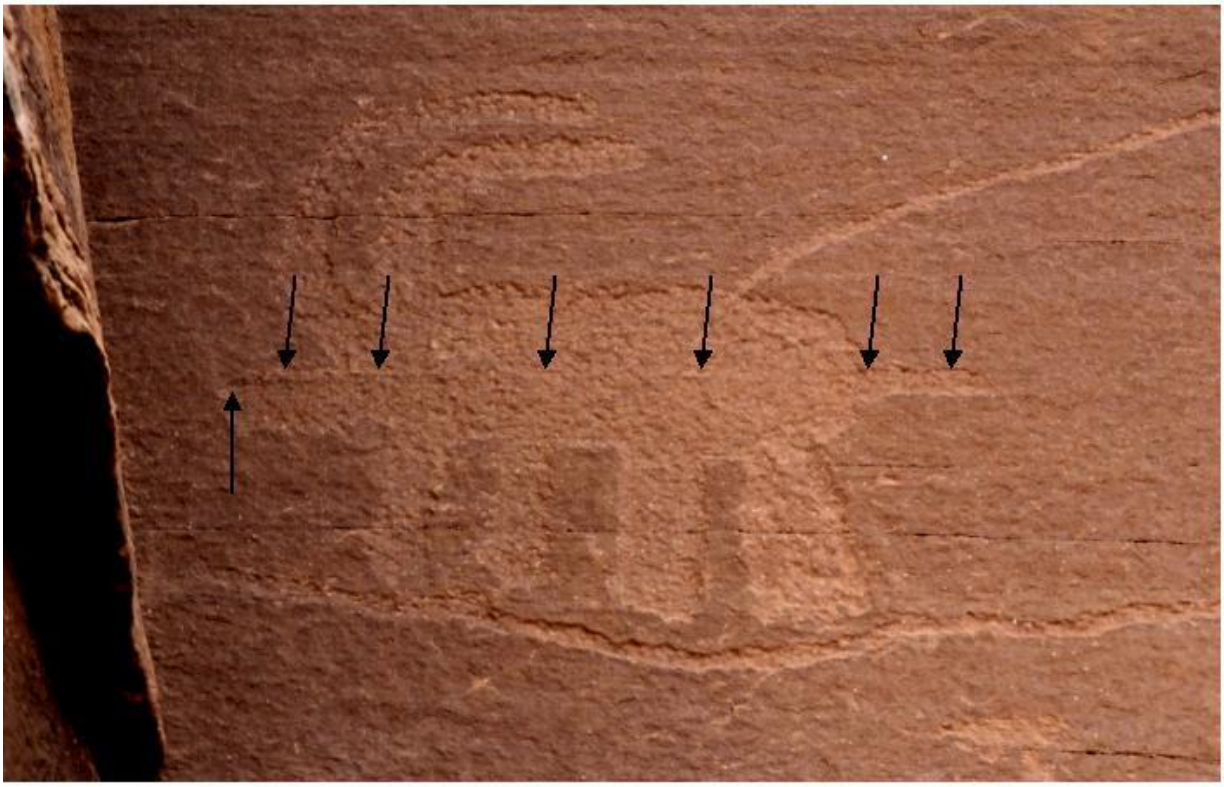


Photo 3

This is similar to layers in some rocks which do not patinate at the same rate as the rest of the petroglyph. See my article…
http://pleistocenecoalition.com/newsletter/november-december2013.pdf#page=17

I therefore “cloned” a small section of that hard layer on the trunk of the mammoth in photoshop (Photo 4 below).

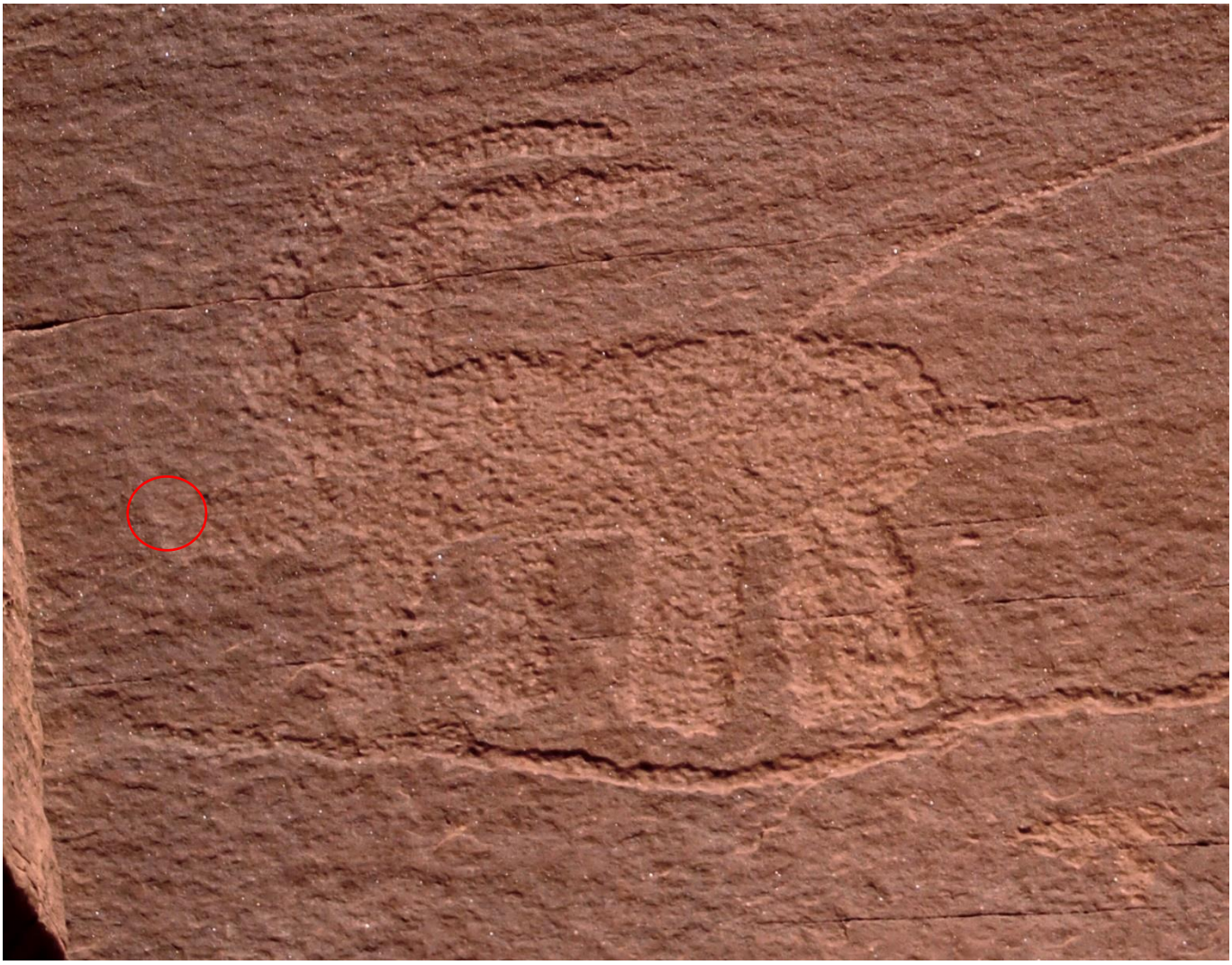


Photo 4

This made the trunk look much better (photo 5 below).

Photo 5

I thus confirmed that this was the reason the trunk had bothered me.

While re-photographing the hunting scene my attention was also drawn to the line underneath the scene.

I checked where the shadow line would fall, from a small overhang which protects the panel, near the high point of the Sun on the Summer Solstice. It appeared that the shadow line from the Sun should fall on this line.

I have never recorded a Summer Solstice marker that marks in this manner before, nor have I recorded a Summer Solstice marker potentially this old before.

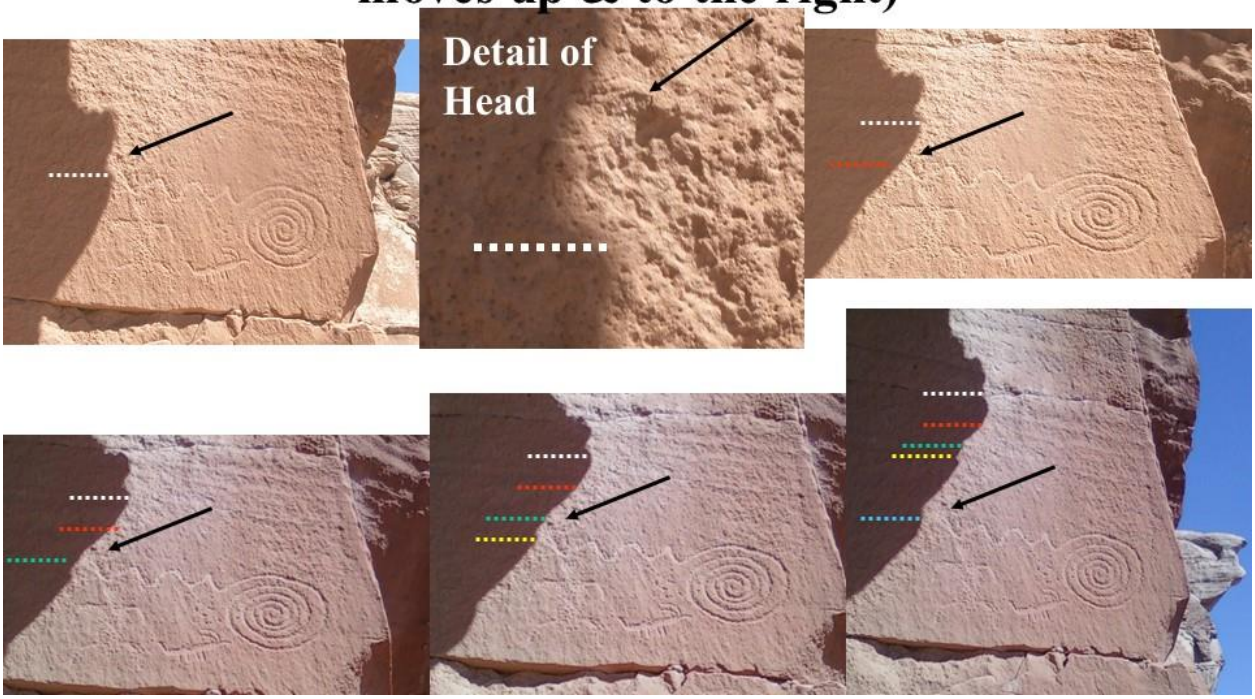
I decided to come back on the Summer Solstice when the Sun is at its highest point in the sky to confirm my observation.

When I returned to the site on the Summer Solstice the shadow line did indeed hit the line when the Sun was perpendicular to the panel face (this occurred after the Sun was at its highest point in the sky). In this particular area I have recorded 2 other Summer Solstice markers where the event is recorded by a shadow line touching the head of a serpent petroglyph. The serpent is used to represent the Sun.

Event 1

Shadow line held on head of serpent for a long time.

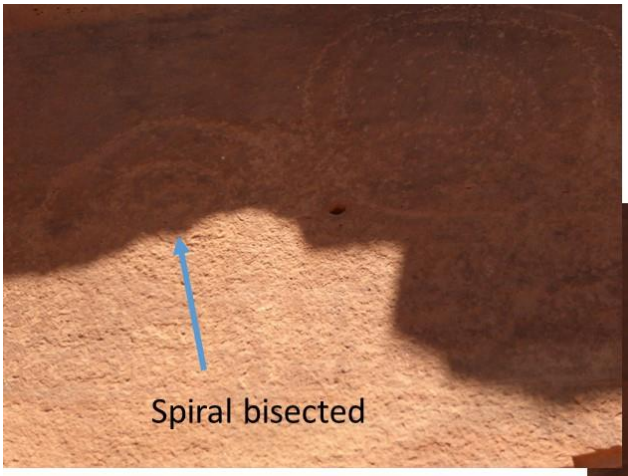
Summer Solstice Afternoon Marker marks by Head of Coiled Serpent touching or slightly covered by moving shadow line over the course 35-40 minutes(Shadow moves up & to the right)



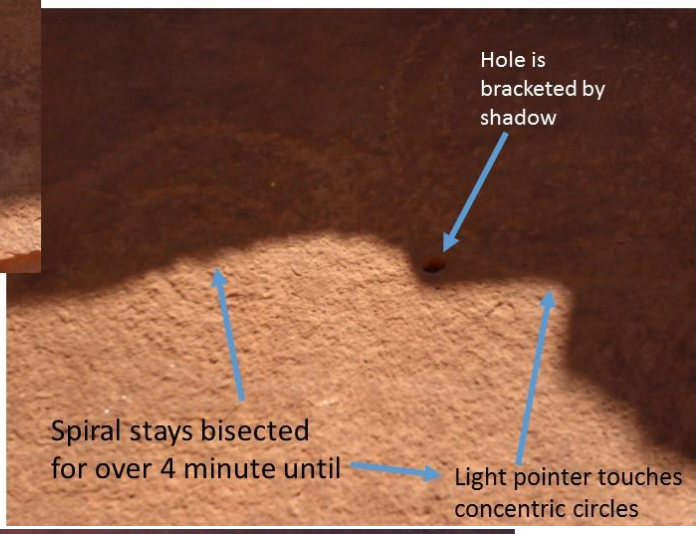
Event 2

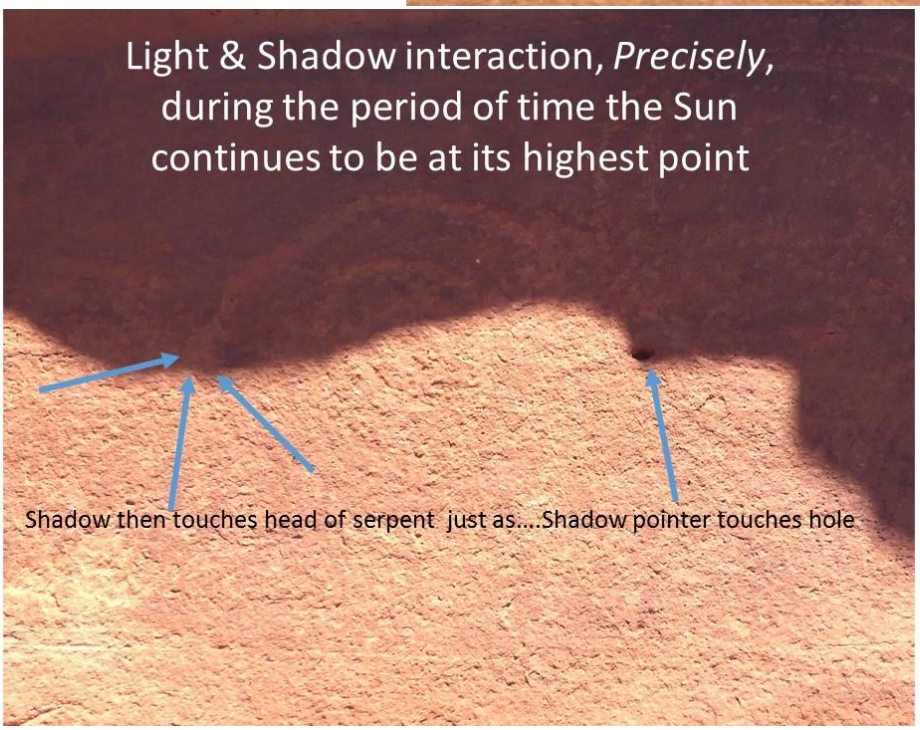
It is also common, per my experience, when a non-standard event marker is used, such as the line under the mammoth, a second marker is used to tell you when to read the non-standard marker. This is something I have recorded many times in the course of my recording over 50 Solstice and Equinox markers.

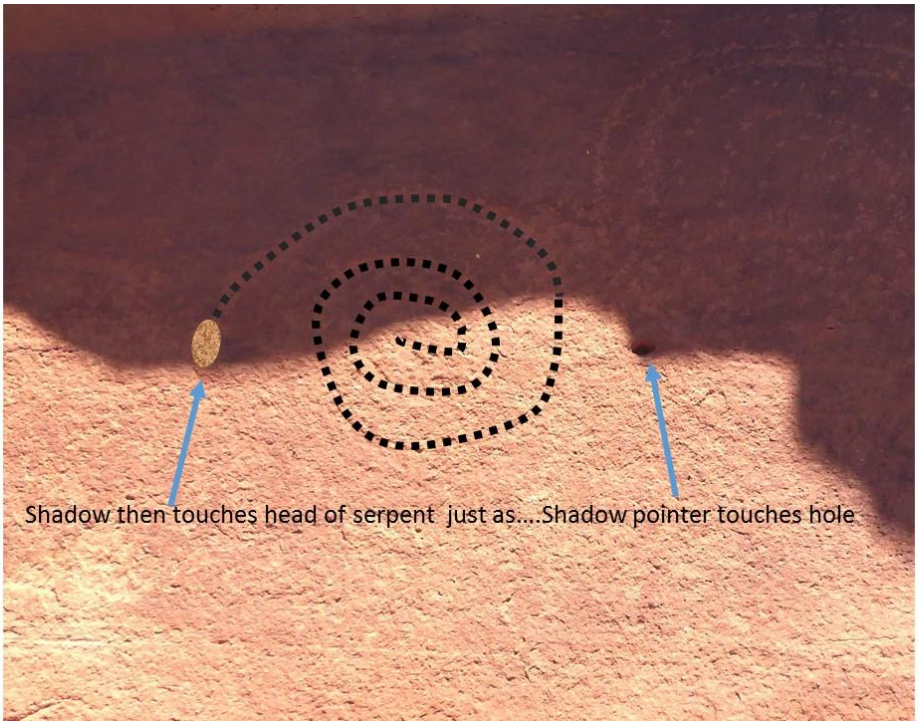
Event 3 below with 2 sets of 2 markers.



Light & Shadow interaction, *Precisely*, during the period of time the Sun is at its highest point







Event 3

With the **mammoth** petroglyph, the second shadow line appeared to touch the head of the serpent petroglyph at the same moment that the first shadow line touched the line under the mammoth.

See photo 6

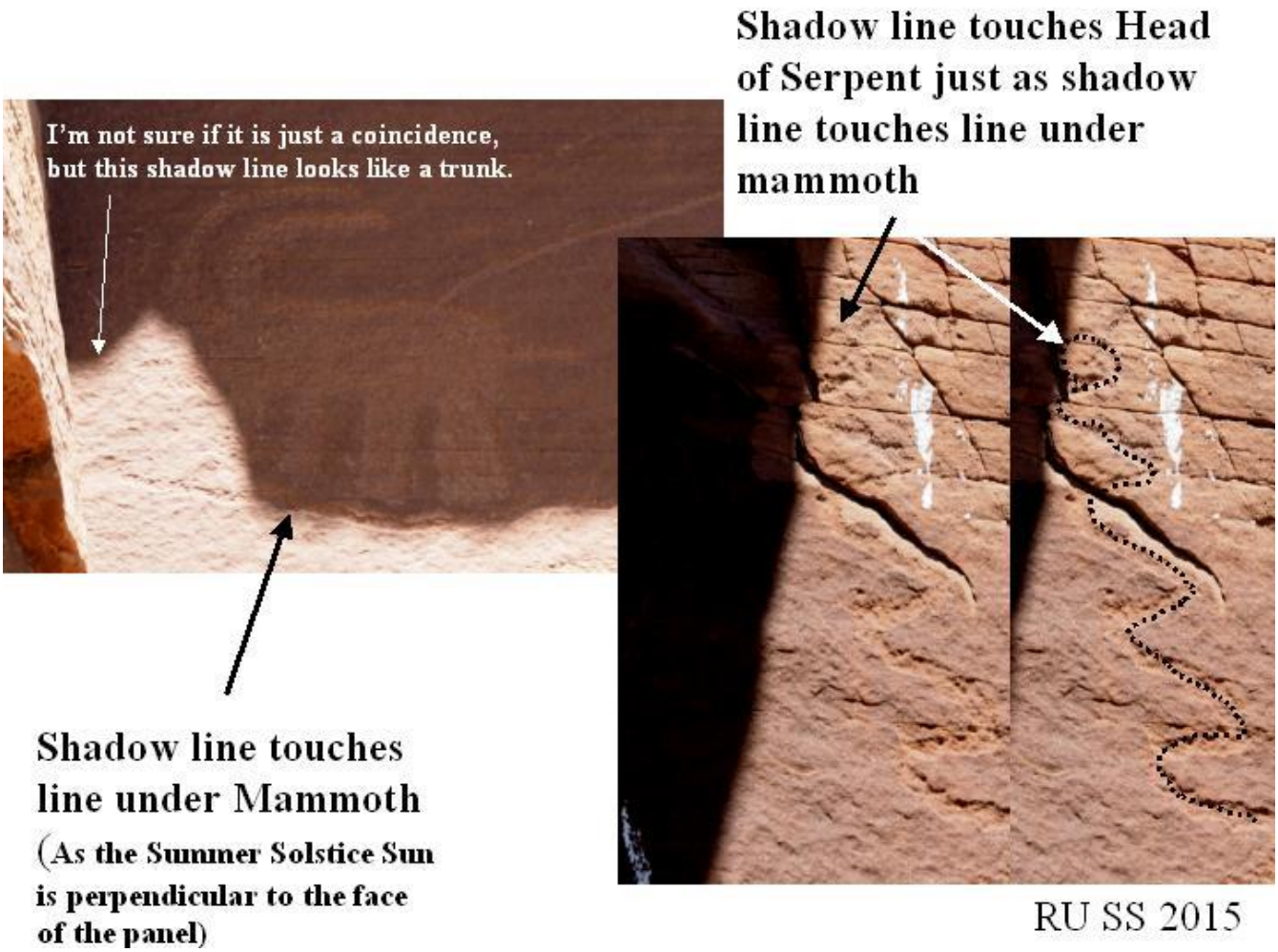


Photo 6

After studying the overhang, I concluded that it is likely that the shadow line under the mammoth originally extended all the way to the left so that the entire mammoth was in shadow. A chunk of the overhang most likely fell out some time during the millennia following the creation of the mammoth petroglyph. There was an obvious weak spot in the edge of the overhang. Photo 7

Photo 7

Despite the missing chunk of overhang this could be one of the oldest Summer Solstice markers still in existence. Photo 8(color adjusted in both Mammoth and Serpent areas)

Photo 8

There is a panel ½ mile away which has other Ice age animals mentioned in a previous article. On June 20th while on my way to photograph the Mammoth panel I happened to notice that some solstice light interactions were taking place on the other panel. It turned out to be a fantastic Summer Solstice marker highlighting 9 Sun Symbols.

https://www.facebook.com/ray.urbaniak/videos/10204723961159959/?l=3294301644637705573

I returned on the Summer Solstice even earlier and noticed that the first image highlighted looked a bit like a Wooly Mammoth. I would not have considered it being a mammoth had it not been for the other ice age animals on this panel as well as a mammoth on the panel ½ mile away. It took 15 minutes for the nine sun glyphs to be illuminated by basically 3 shafts of light. Each shaft illuminated 3 images. As soon as all images were illuminated I had enough time to leisurely walk the ½ mile to the mammoth panel to witness the mammoth being underlined while the head of the serpent on the adjacent panel was apparently touched by a shadow line.

You decide if the image on the first panel is that of a Wooly Mammoth or not.
Photo9

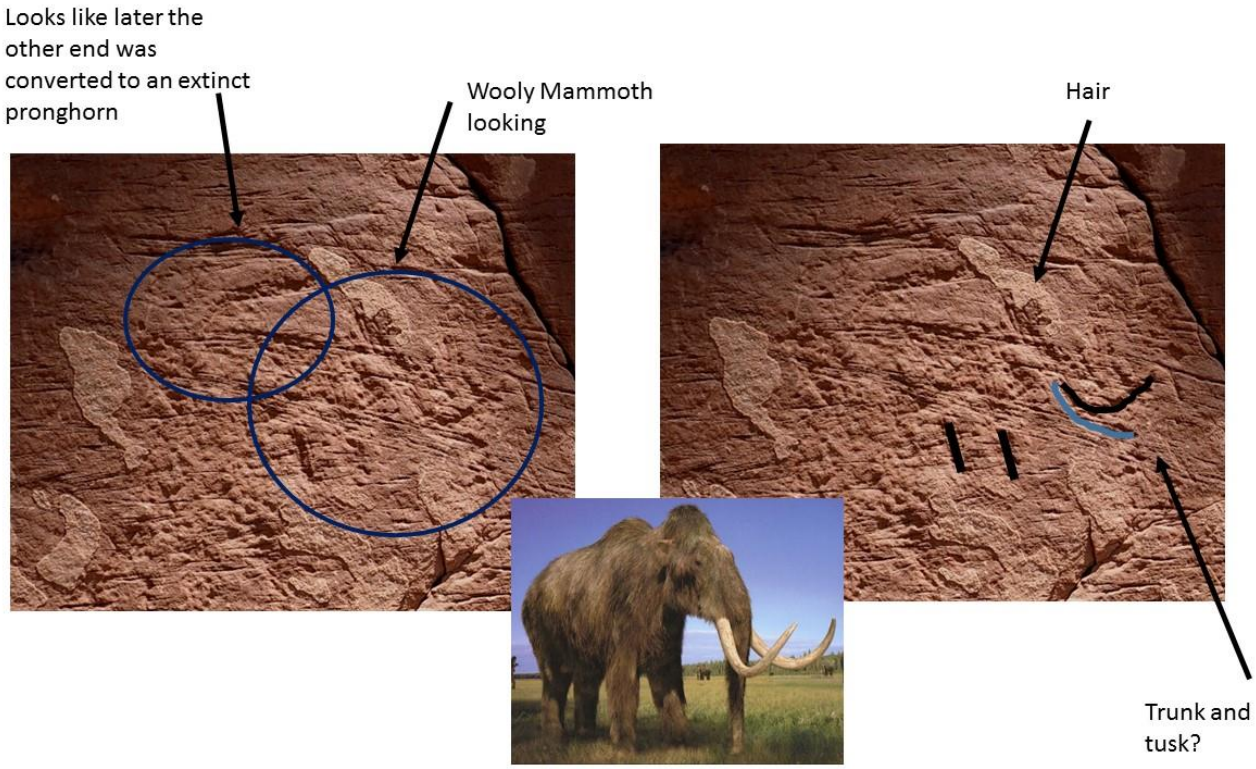


Photo 9

If this is true, it would mean that the day's Summer Solstice events originally started with and ended with a mammoth. The 2 sites are connected. They would have moved from one panel to the next to continue the Light Show and Ceremony.

I remembered reading that the change in the sun's position was about 1 degree from 10,000 years ago, so I looked for and found an article which stated that the sun was .5 degrees higher 5000 years ago.

2002-01-01
Ancient Astronomical Alignments: Fact or Fiction?

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http://arrow.dit.ie/cgi/viewcontent.cgi?article=1002&context=arastart&sei-redir=1&referer=http%3A%2F%2Fwww.bing.com%2Fsearch%3Fq%3DAncient%2BAstronomical%2BAlignments%253A%2BFact%2Bor%2BFiction%253F%26form%3DIE10TR%26src%3DIE10TR%26pc%3DHPDTDFJS#search=%22Ancient%20Astronomical%20Alignments%3A%20Fact%20or%20Fiction%3F%22

I then sent this to Bruce A. Bauer - NOAA Federal (bruce.a.bauer@noaa.gov)
He said, "The Berger calculations below indicate the obliquity (axial tilt) of the Earth's orbit was 24.227 degrees at 10,000BP, vs. 23.446 modern, so the difference is 0.781. The article you found actually says approx. 0.5 degree change at 5,000 years ago (24 vs 23.5)."

Using this information I did a simple calculation that if the sun was higher 10,000 years ago, based on .78 degrees horizon diff., it would be .7 degrees higher on the Summer Solstice at the time of the interaction (.5 degrees at the high point of the Sun). Using NOAA. calculator http://aa.usno.navy.mil/data/docs/AltAz.php

Therefore, the shadow line would take 4 minutes longer(note 1) to reach the summer solstice line which I speculated could have been 10,000 years old. I thought this might turns out to be precisely how long it took the second vertical shadow line to reach the smaller serpents head. I had continued photographing after the horizontal shadow line touched the line under the Mammoth. It was 5 minutes and 40 seconds later per my photos when it touched the head of the second serpent. I realized that this could help confirm the age of the mastodon/mammoth Summer Solstice marker.

Note 1: (On June 8th the sun would have risen on the horizon .8 degrees farther South than on the June 21 Summer Solstice. At the time of the interaction of the sun on that day it would have been .7 degrees lower in the sky. Using the altitude and azimuth tables I saw that it took 4 minutes for the sun to drop the .7 degrees. I therefore looked at my photos and found that from the time the mastodon was underlined until the shadow touched the smaller serpent was 5 minutes and 40 seconds additional. In this case the Sun would have been .7 degrees higher in the sky not lower but the tables assisted for calculating the time.)

Exaggerated view 10,000 years ago(upper photo) and today(lower photo). The sun would have been further West when the shadow touched the line under the Mammoth.

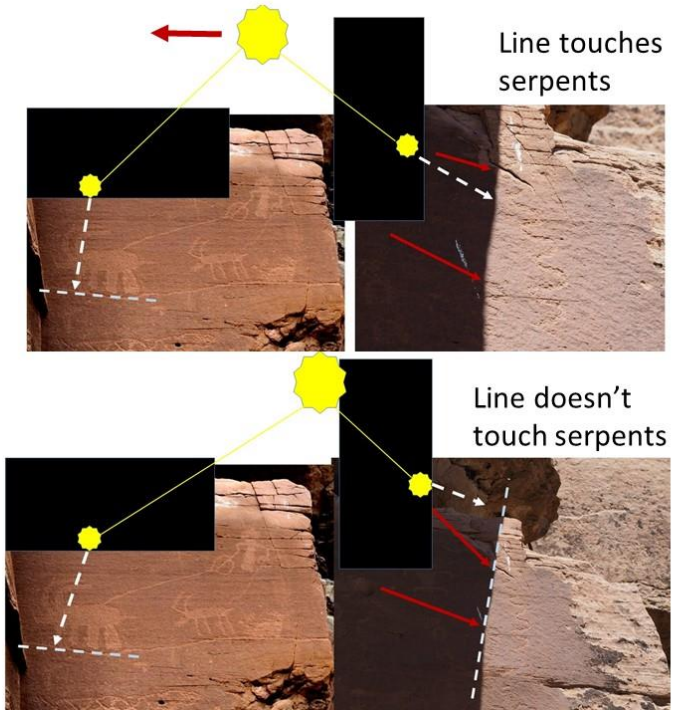

Photo 10

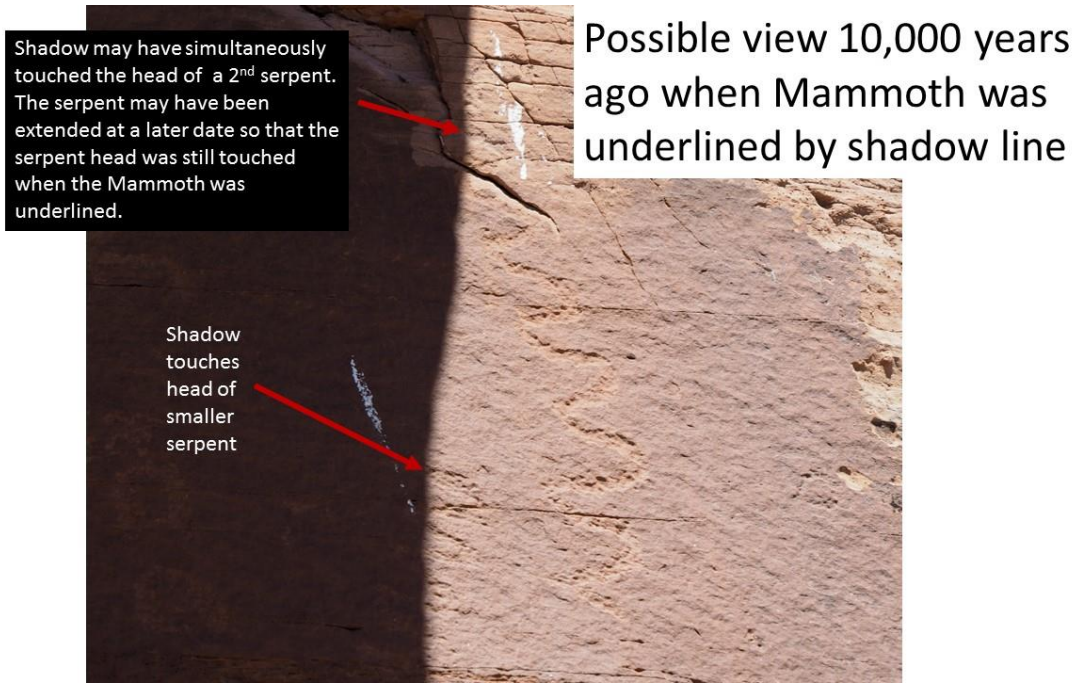

Photo 11

This extra 1 minute and 40 seconds to reach the serpent head eliminated the nice correlation and made me realize that the rock edge where a chunk had fallen out may have eroded resulting in some to all of the difference. This means that in this

case the 10,000 years could be greater than 10,000 years if no wear to cliff edge: 10,000 years if some erosion, or approx. 2,000 years difference in age if a lot of erosion since change wouldn't be primarily due to the change in the sun's position (no pottery in the area, so definitely at least 2,000 years old).

Therefore, for speculation reasons, it is possible that the mammoth was not associated with the Summer Solstice initially, one could make a case that approx. 2000 years ago the ancient image was honored by the addition of the line and serpents. Then due to further erosion approx. 800 years ago the long serpent may have been extended so that the serpents head continued to be touched when the mammoth was underlined by the shadow line due to revived use at a much later date.

I couldn't reach the cliff overhang to see how hard the rock material was, but I did locate an identical overhang material along the same cliff face. (Photo 12) The material is definitely harder than it looks, but no match for thousands of years of erosion.

The speculation that the line and serpents were added at a later date isn't a reasonable explanation since the pecking of the mammoth, the line and the serpent all appear identical. Pecking done by different people or at different points in time is invariably different.

Photo 12

However, based on my extensive experience I feel that it is possible is that the mammoth could indeed be 10,000 years old with some erosion (approximately 0.625 inches in 10,000 years) of the edge pictured in photo 7.

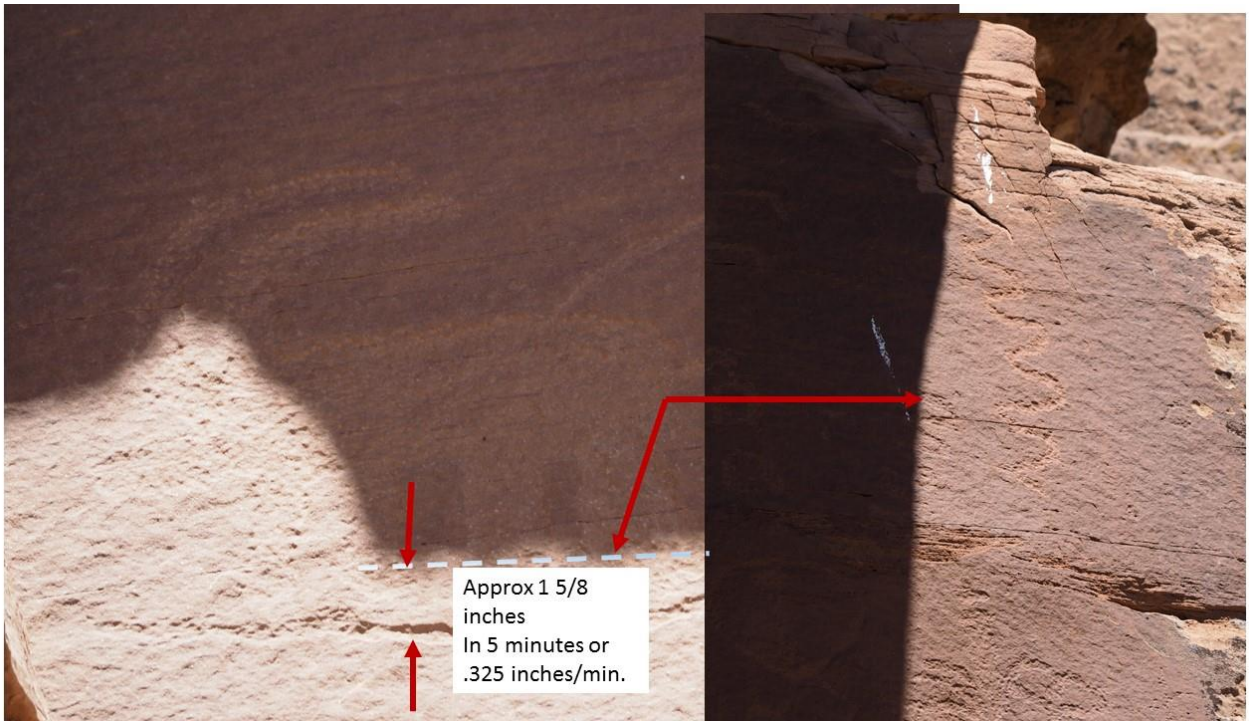

Photo13

Based on the photos I have from the Summer Solstice it took 1.5 more minutes for the shadow line to touch the head of the serpent.(I didn't have a full sequence of photos). This is equal to 1.5 minutes times 0.325 inches/min or 0.4875 inches erosion in 10,000 years.

However, the native people didn't choose panels with a crack in them. This panel with the serpents has a crack which must have been caused by an earthquake in the distant past. The crack is a minimum of .375 inches wide which leaves only 0.1125 inches of erosion.

Photo 14

Therefore. It is possible that the only erosion that took place in the 10,000 years was that the overhang edge went from a straight shadow line to a wavy shadow line with erosion of 0.325 inches plus the 0.1125 inches = 0.4375 inches in 10,000 years.

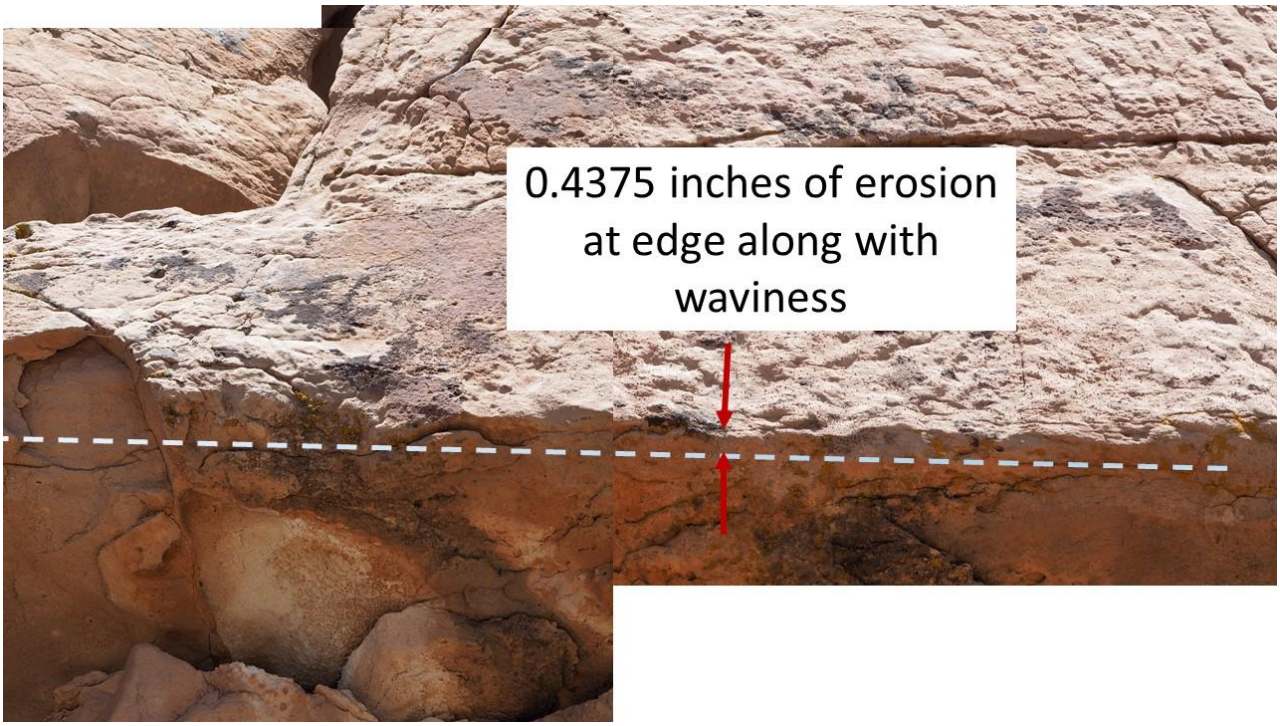

Photo 15

The difference in time to touch the head of the serpent may be mostly attributed to the position of the Sun 10,000 years ago and only 0.4375 inches of erosion and the elimination of additional erosion due to the crack caused by an earthquake.

If the 3/8 inches isn't due to erosion and it is due to the crack, then 4 minutes of the 5 minutes are due to the difference in the sun's position 10,000 years ago and that leaves 1 minute or 0.325 inches of erosion if 10,000 years old plus the 0.1125 inches. If the panel is only 2,000 years old only 20% of the travel is due the sun position. If total change is 1.7375 inches then 80% is due to erosion or 1.39 inches in 2,000 years.

The calculation of dating is therefore not definitive in this particular case but it is intriguing. I had Scott Wolter look at a piece of overhang rock to estimate rate of erosion. He determined that the rate of erosion would have been much more rapid than I predicted, meaning that the Petroglyphs would be closer to 2,000 years old than 10,000 years old. However, closer examination shows that there was previously another layer of rock on top of the overhang rock face which was harder, and the erosion of the present overhang rock could have happened more recently with the subsequent erosion of this outer layer. I will have a piece of the former coating tested for hardness, since I just found out that the former outer layer is <u>much</u> harder than the present layer. Once the hard outer layer has eroded, the gray layer erodes more quickly.

Note that in the below photo of some petroglyphs which I recently found, in the same general area, the big horned sheep on the darker harder material is intact, while the big horned sheep which has seen erosion of the outer harder layer is only partially visible.

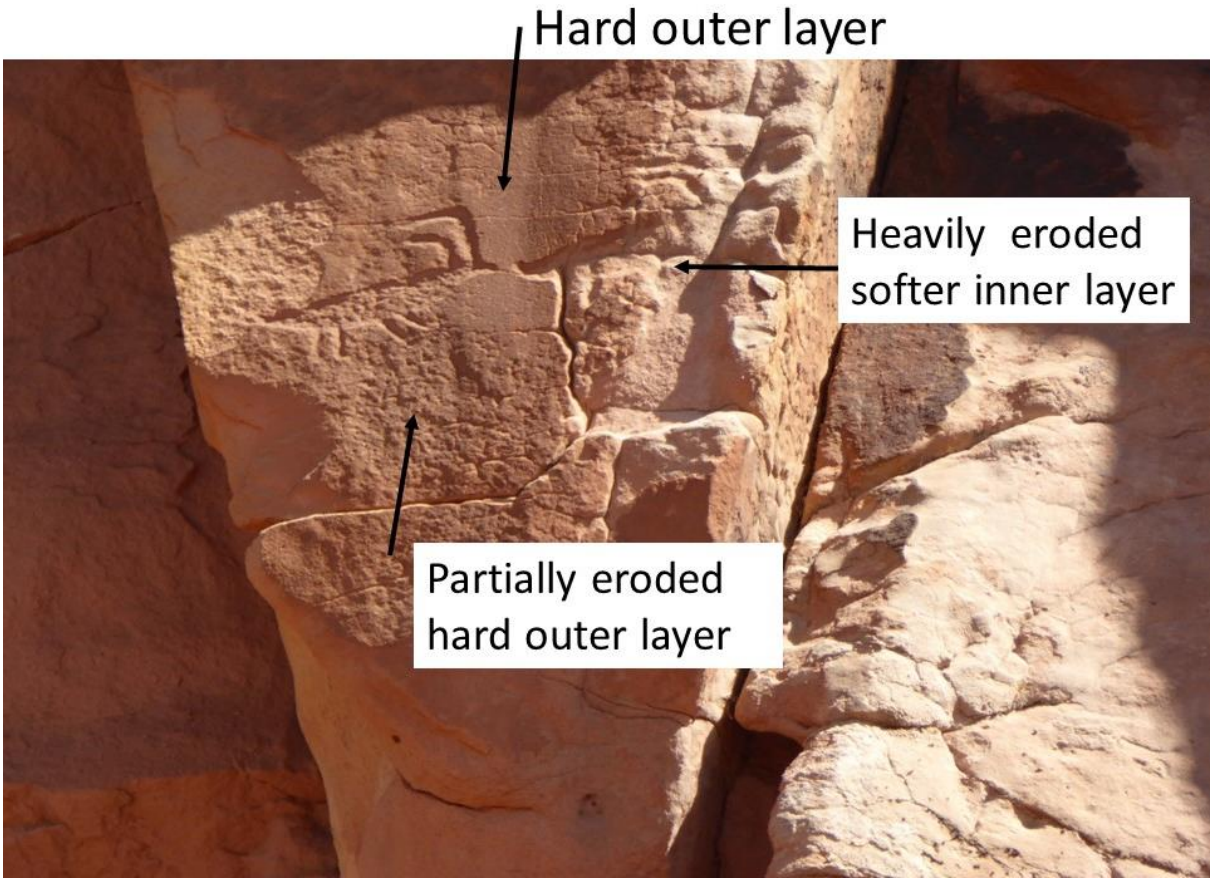

Photo 16

If the cliff overhang had little to no erosion in 10,000 years (other than 0.4375 inches and a wavy edge) that would indicate that the mammoth was pecked at the time of the last ice age.

If the cliff edge has eroded 1.7375 inches(the full distance above the line excluding the crack and 20% of the 10,000 shift 2,000 years/10,000 years) that would make it only 2,000 years old and the mammoths physical description would have had to of been passed down in oral tradition for 8,000 years verses a few generations. Either way it is significant.

Hopefully these calculations will prove even more useful and more conclusive in dating future finds with fewer variables. The sandstone overhangs with multiple layers of varying hardness's and thicknesses makes the time for each layer to erode nearly impossible to estimate. I will have to find a very old petroglyph solstice marker on basalt in order to eliminate these erosion rate variables in order to properly test this dating method. I have recently also become aware of yet another variable. As a result of recent findings; a mammoth could have been

seen as recently as 5,600 years ago. This would mean that using the most conservative estimate of dating… with the mammoth image at approximately 2,000 years old, then the description would only require being passed down approx. 4,000 years by way of oral tradition instead of 8,000 years.

http://westerndigs.org/woolly-mammoths-survived-on-alaska-island-until-just-5600-years-ago-new-study-shows/

I recently checked another very old mammoth looking image I had photographed many years ago, and found that there was a strong resemblance to this more recently found mammoth hunting scene. The animal has a large body with smaller animals in close proximity, an extended nose (trunk) and a line under the scene. This reinforces the idea that this was an animal passed down in oral tradition.

Photo 17

In addition, it appears another marker may have been used much later at the mammoth hunting scene site and is still valid (photo18). These markers are lower,

probably corresponding with a lower ground level with time. The line is wavy like the present overhang edge. However, the cliff overhang edge was most likely more straight when the straight line was originally pecked.

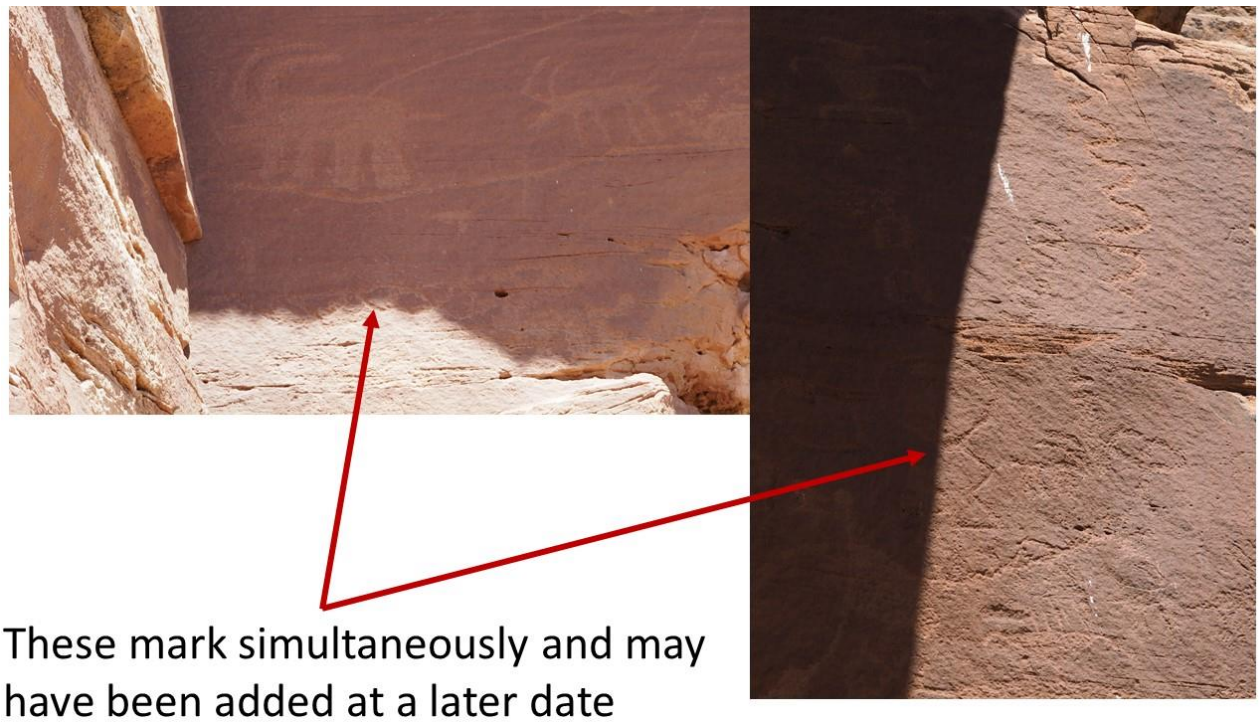

Photo 18

In addition, nearby, I recently photographed a small image (photo 19) of an animal that also looks like a Siberian Ibex, which could have also been passed down by way of an oral tradition.

Photo 19

Photo of Siberian Ibex below…

Photo 20

Petroglyph of Siberian Ibex in Siberia (left), Petroglyph near Mammoth Petroglyph right (photo 21)

Photo 21

“Siberian ibex are still found where this two to three thousand year old petroglyph is located, and still hunted by man and snow leopard alike”

From: https://stonehorsemongolia.com/ngg_tag/ecotourism-2/nggallery/page/2/thumbnails

Petroglyph photo to the left used with permission: **Stone Horse** Expeditions & Travel LLC