

A Utah Medicine Wheel?

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Medicine wheels are known in a variety of sizes and patterns, but often are made up of lines of stones laid out in a pattern that converges toward a central cairn, much like the spokes of a wheel. These circles of stone were constructed by Plains Indians over the period of the last 2000 years. The word "medicine" denotes magic or supernatural power and implies an association with social or religious ceremony. There are at least fifty known medicine wheels and they are found chiefly along the eastern edge of the Rocky Mountains in Wyoming, Montana, and Alberta and Saskatchewan, Canada.

Perhaps the best known, and most studied, of these medicine wheels is the Big Horn Medicine Wheel at the top of Shell Canyon above Graybull, Wyoming. This stone structure is approximately 9600 feet elevation on a flat open plain near the summit of Medicine Mountain in the Bighorn Mountain Range. The wheel is about 90 feet in diameter with a central cairn 10 to 12 feet in diameter, and six peripheral cairns located around the outside rim. There are 28 spoke-like lines from the center cairn to the outside rim. Figure 1 is a sketch of the Bighorn Medicine Wheel. Dr. John Eddy, an astronomer, became interested in the wheel and did an extensive study in 1972 to see if there was any astronomical significance to the location of the features. His conclusions are reported in several texts on archaeoastronomy including *Living the Sky: The Cosmos of the American Indian* by Ray A. Williamson (1984).

In summary, Dr. Eddy found alignments for summer solstice sunrise and sunset, as well

as probable alignments for observing the heliacal rising of several stars. The heliacal rise of a star is when the star can be seen to rise just before sunrise. Dr. Eddy found that in the period from about 1200 A.D. to 1700 A.D., an observer at cairn F could have observed the heliacal rising of the star Aldebaran with the summer solstice. Twenty-eight days later, he could have watched Rigil rise and twenty-eight days after that Sirius. Because of the precession of the earth's axis, these observations would not hold today. This has provided one method for estimating the date of construction and use of this medicine wheel. A few years later, the same test was applied to the Moose Mountain Medicine Wheel in Saskatchewan. The survey showed similar results for the summer solstice sunrise and the three stars. The alignment for Aldebaran at Moose Mountain suggests that the wheel was in use in the period from 150 B.C. to 150 A.D.

At the 1988 symposium in Price, Utah, a member of the URARA, LaJean Richmond, indicated that she had seen a medicine wheel near Hayden, Utah, just north of Roosevelt. Of course, that stirred interest in the possibility of another archaeoastronomy site in Utah and was worth investigating. In May of 1989, a small URARA survey team visited the site for the purpose of establishing any possible archaeoastronomical connection. We found the site on a small earth mound in the center of a depression called Montes Hollow, about 15 miles north of Roosevelt, Utah. The site is on private land and permission is required to visit the site. The physical layout of the site is shown in Figure 2. The mound is on the order of 100 feet high and 170 feet long by 100 feet

wide. The site is characterized by a cross of small stones 20 feet long and 15 feet across, with 13 low stone cairns, each about eight inches high and two feet in diameter.

A detailed survey of the site was performed using a post set permanently in the ground as a zero reference. Table 1 is the survey data referenced to the post. True north was established by a sighting of Polaris during the evening. Overlaid on the polar plot of the site in Figure 2 are the azimuths of the sun at summer solstice, winter solstice, and the equinox. Any pair of cairns could represent a "sighting pair". With 14 cairns this results in 182 possible pairs to explore (number of pairs = $n(n-1)$). One would expect that almost at random, there should be some near alignments, and there are. However, there are no clear sighting stations among the cairns, as in the case of the Bighorn and Moose Mountain Medicine Wheels. The most probable sighting station

is from the center of the cross, sighting over each cairn.

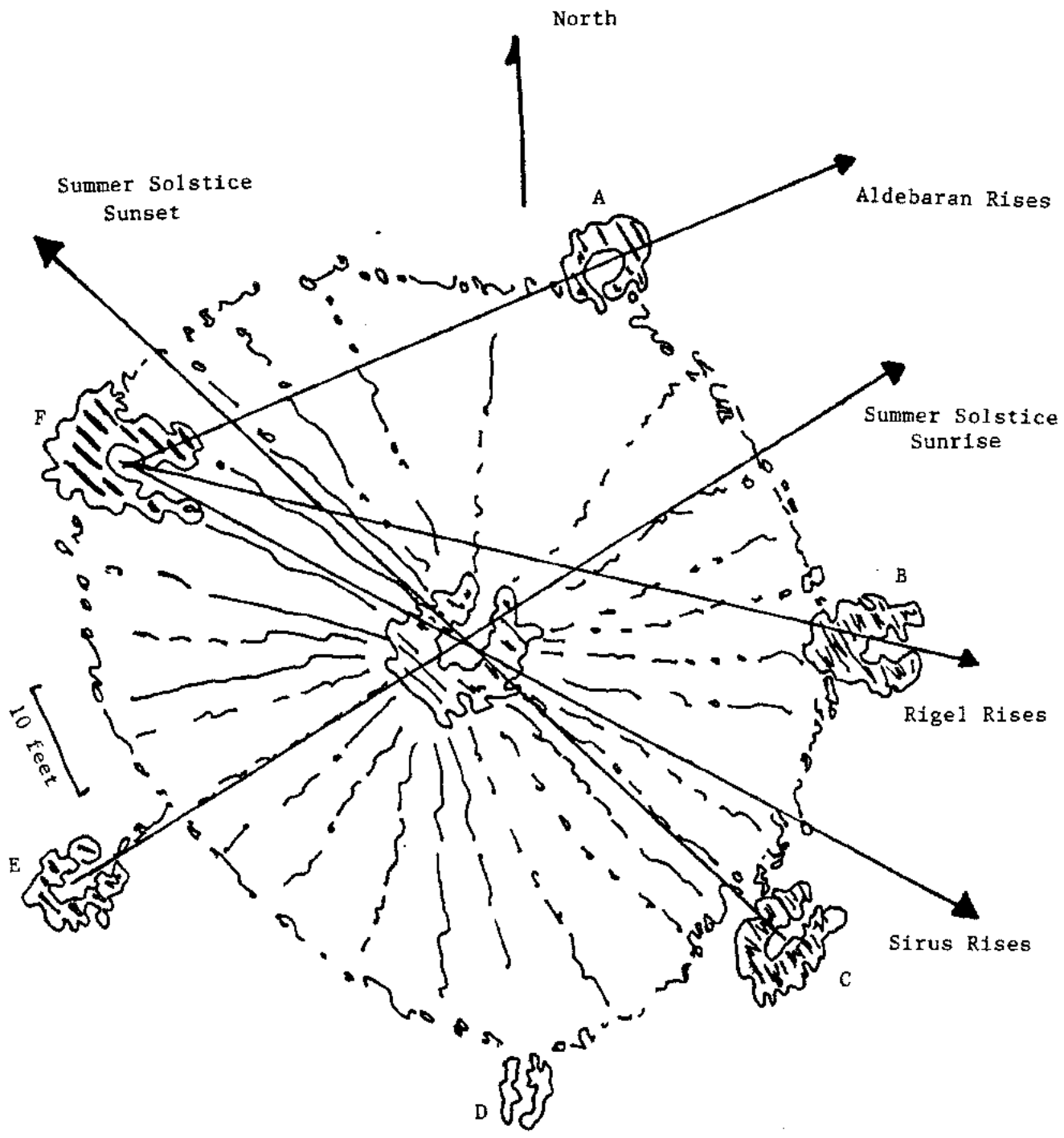
One must take into account that this site is not laid out with the precision that we associate with the Rochester site. The cairns are two to three feet across and one cannot imagine sighting anything to within a fraction of an inch without using a gnomon for accuracy, which was not in evidence. Nonetheless, as you can see, there is no clear alignment for any of the primary events. While it may be disappointing to be unable to find significance in the cairn alignments, it is a perfectly valid and welcome outcome of any scientific investigation.

REFERENCES CITED

- Williamson, Ray A.
1984 *Living the Sky - The Cosmos of the American Indian*. Houghton Mifflin, Boston.

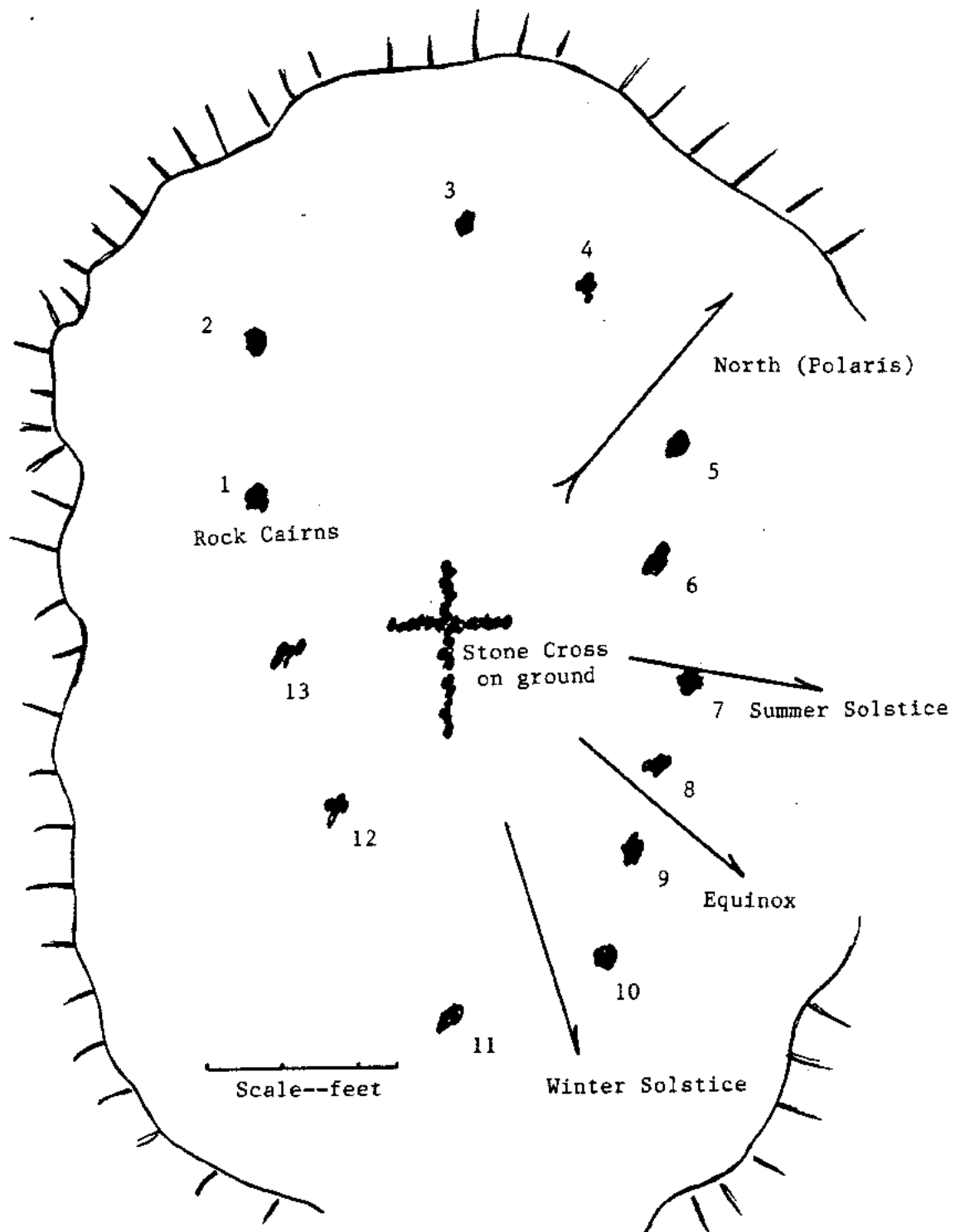
TABLE ONE

NO.	AZIMUTH Deg.-Min.	DISTANCE Feet-In.	NOTE
	0		Reference Post
1	2- 10	30- 8	
2	24- 40	45- 9	
3	61- 40	53-	
4	80- 40	48- 2	
	99- 10	-	Reference azimuth of true north
5	109-50	38- 6	
6	129-40	28- 10	
7	161-50	31- 1	
8	184-50	32- 7	
9	200-10	37- 10	
10	214-30	48- 2	
11	240-15	52-	
12	267-50	29- 10	
13	321-00	22- 2	



BIGHORN MEDICINE WHEEL

Figure 1



MONTE'S HOLLOW 'MOUND' SITE
Survey May 1989

Figure 2