

Report to: T. Rinehart

18 April 1967

From: J. Schoenwetter

Title: Preliminary Palynological Investigations on West Mesa

Seven sediment samples were submitted to the Palynological Laboratory of the Museum of New Mexico for pollen analysis in the spring of 1967. Only four of these yielded sufficient pollen for study. Interpretation of the resultant data must be highly preliminary since the district has not been sufficiently investigated palynologically for any particularly significant statements to be made. This report will therefore deal only with the more obvious of interpretations and will not attempt to draw palynological correlations with other districts nor attempt a reconstruction of pre-existing environments which is in any sense comprehensive.

The sites are today located in a vegetation pattern which might be best characterized as open juniper savanna. A surface pollen sample from BR-16 was analyzed using an adjusted pollen sum which has been shown valuable in the Arroyo Cuevo region some miles west. A pinyon and juniper pollen sum of approximately 30-40% was expected for this surface sample on the basis of the similarity of its vegetation with that of the western locale. Pinus ponderosa values were expectably about 5% and Quercus (oak) values expectably about 1.0%. The surface sample from BR-16 yielded 42% pinyon and juniper pollen, but 18.5% ponderosa pollen and 8% oak pollen. The west mesa sites, then, do not compare favorably in modern pollen statistics with those collected west of them; it is thus unlikely that prehistoric samples would yield favorable comparisons.

Site BR-37, apparently dating to early BM III times, was sampled twice. The samples are in generally good agreement with each other in palynological terms, and have about as much pinyon and juniper pollen as the surface sample. However, where most of the arboreal pollen of the surface sample

is pine, most of it in the samples from BR-37 is juniper. The discrepancy in juniper pollen frequency between the two samples (80% vs. 59%) is more apparent than real. There was evident overrepresentation of juniper pollen in both samples.

The sample from BR-45 was expected, on archaeological grounds, to date to the same period as those from BR-37. The pinyon and juniper value, however, is only 25% at BR-45 and juniper is not overrepresented. There seems little question that the samples from BR-37 and that from BR-45 reflect existence of different environmental conditions. Ostensibly, this indicates that the two sites do not date to the same period.

No maize pollen was recovered in these analyses. This does not indicate that maize was not grown, but neither does it indicate that maize was clearly locally grown. Both sites produced pollen of some plant in the Lilly family; such pollen rarely occurs naturally in sediments and it might be indicative of yucca gathering. Both samples from BR-37 yielded cholla pollen, and one yielded prickly pear pollen. This probably represents wild food collection.

The most promising feature of this study was the actual recovery of pollen in the majority of samples collected. This indicates that further pollen analytic research is not only feasible but practical. The difference between actual results and expectations in the surface sample, however, indicates the necessity for good control samples before further work may be productive.