VLB ARRAY MEMO No. 287

To: Configuration/Site Committee

From: R. C. Walker

Subject: Notes from meeting of 19 Oct. 1983

Buck Peery and Cam Wade have now visited all of the continental sites so most of the meeting was spent reviewing the status each of them. We also reviewed the current status of the Hawaii and Puerto Rico sites. Each of the sites is discussed individually below. Those attending the meeting were Benson, Bridle, Brundige, Cotton, Crane, Hogg, Hvatum, Legg, Peery, Schwab, Walker, and Wilkinson.

Puerto Rico: Dave Hogg reported that the measurements with the JPL smog device are done. Data were taken at Arecibo Observatory, Ramey, La Parguera Bay, and Cape San Juan. Dave is now reducing the data and should have a report sometime soon. The appropriate integration time to use in the analysis was discussed and it was decided that 1 and 5 minutes were good values.

Haystack: The main concern expressed about Haystack was the interference environment. Hvatum said Haystack plans to do some tests. Bridle asked about the future interference environment in view of the proximity to a large city.

Iowa: No recent developments. The site is on Corps of Engineers property just outside the NLRO property. Sites on the NLRO property would be too close to a microwave tower.

Los Alamos: Buck and Cam were very well received at Los Alamos. They were shown 5 possible sites, 2 of which were in areas that would not require security clearances for access. Dick Thompson will discuss possible links back to the VLA and the interference environment during a future trip to Los Alamos. One difference between the two favored sites is about 1000 feet elevation. The question of how to weight elevation in rating nearby sites arises for several of the sites. Anyone with ideas on how to address this question is urged to speak up (or write a memo).

Fort Davis: Here we are also faced with evaluating the value of extra elevation in selecting between the current radio astronomy site and a site at McDonald. There is a possibility that McDonald will not be an option: some of the staff at the University of Texas are asking what is in it for them and not seeing a good answer.

Winston/Rio Grande Valley: Good potential sites near Winston and in the Rio Grande Valley north of Truth or Consequences have been identified. Both have line-of-sight to South Baldy for a microwave link although the path from the Winston only clears an intervening mountain range by 7 minutes of arc. However there may be a serious problem with a microwave link to South Baldy - radio quiet is maintained in the vicinity of the Langmuir Lab to allow certain kinds of experiments. A transponder nearby may not be welcome. We are exploring alternatives. The advantages of the

Winston site are that it is closer to the VLA (75 min on a good dirt road), it is about 2000 feet higher than the Rio Grande site and it is less exposed to possible interference from the White Sands/Alamogordo area. The advantages of the Rio Grande site are more secure access on Interstate 25 from Socorro, and possibly easier access to power. The decision between the sites may depend somewhat on the headquarters decision. If the headquarters go to Socorro, the easy access to the Rio Grande site may dictate that choice. If the headquarters goes elsewhere, the Winston site may be easier to service from the VLA.

Kitt Peak: A part of the picnic ground near the 12m telescope is probably an acceptable site. The horizon is 5 to 7 deg. in the NE and less than 2 deg elsewhere.

Owens Valley: No special problems at OVRO. The horizons to the east and west are high (up to 13 deg in the worst direction).

Washington: Cam and Buck visited the Comsat station near Brewster and were well received. There are sites nearby that would be viable and the Comsat staff would be willing to contract for technical support if desired. The Comsat antenna is 90 feet in diameter and is pointed at a geostationary satellite over the Pacific (elevation 7 deg). The area near the Comsat station is at an elevation of about 1000 ft. One of the areas visited earlier (near Molson, WA) is closer to 4000 ft and is otherwise viable although not so near potential technical support. Again, how much is the extra elevation worth?

Hawaii: The Hawaii site is still one of the most difficult. The land use plan contains room for at least two as yet unspecified telescopes on the summit so that option is not totally excluded. However, is it socially responsible to take a prime observing site for a telescope that does not need it as badly as some others might? We still need more information on relative merits and availability of possible sites. Again, the value of altitude will be a key point that needs to be settled.