been better to continue out with Shin and then go back and get the cache, or to split the party so that Shin could be sledded out while his friends went to get the cache. (Source: Ralph Moore, Mountaineering Ranger, Denali National Park)

WEATHER, INADEQUATE PROTECTION—TENT VS. SNOW CAVE, AND CLOTHING

Alaska, Mount McKinley

On May 27, 1989, three members of a guided expedition on Mount McKinley were blown off the West Buttress from a camp near 5200 meters while resting inside their tent. One occupant of the tent, Assistant Guide John Richards, was freed from the tent as it began to slide. The two other occupants, Jim Johnson (46) and Howard Tuthill (31) fell to a ledge at the lip of a bergschrund 300 vertical meters down the ice slope. The two climbers were stabilized by another climbing party who descended to them. The climbers were evacuated by helicopter from the ice ledge the following afternoon during a weather window. (Source: James Litch, Mountaineering Ranger, Denali National Park)

Analysis

Dave Staeheli (Genet Guide) and his group did not have the energy to continue to 5200 meters as they had planned on May 25 when they moved up after six nights at 4300 meters. Winds prohibited movement the following morning; however, the party was able to do a carry to 5200 meters in the afternoon. On May 27, the party was again unable to move due to a third day of high winds at this site. During the afternoon a gust of wind had snapped one of the tent's poles and was repaired with an aluminum pole sleeve. Although efforts were made during this period to better anchor the tent, the marginal snow walls were not improved.

The tent, a North Face Pole Sleeve Oval, was tied to 12 different anchors, including five stakes, four ice axes, two pickets and one fluke. The snow walls were under a meter tall and only constructed around half of the tent. The tent was reported to tear away from the anchors like a zipper as the tent rotated, and finally popping from the site as the remaining anchors failed. The anchors on the guy lines were still in place, each holding a guy line and a grommet ripped from the tent fabric. The two main rear anchors, a picket and a fluke were still in place. The picket was bent at approximately a 20-degree angle along the longitudinal axis and was slightly twisted. The tent could not be retrieved to investigate the floor attachment loops.

Although tents frequently collapse due to high winds on Denali, this is the first report of an occupied tent being blown away in which the tent had pulled away from all of the anchors. The route along the West Buttress from 4100 to 5200 meters is very exposed to the wind. The camp at 5000 meters is just large enough for three tents, but is particularly wind-blown. Tents must be well-anchored and protected by strong snow walls that are as tall as the tent and surround it completely. Snow caves are the only alternative for assuring a good night's sleep along this ridge, other than continuing along to the 5200 meter camp and digging in there.

Had occupants in the tents dressed as a precaution during tent stays when exposed to extremley high winds, they would have been far better off in dealing with their exposure and eventual evacuation. (Source: James Litch, Mountaineering Ranger, Denali National Park)