



*Photo by Walter A. Wood*

### **Mount Kennedy**

Aerial view from the northeast of Mount Kennedy, recently named to honour the late President of the United States. It is located in the southwest corner of the Yukon Territory near the juncture of the Yukon-British Columbia-Alaska boundaries. Lowell Glacier is in the middle distance. The summit of Mount Kennedy rises more than 6,000 ft. above the surface of the glacier at the base of its north ridge.

## *Commentary*

### **JOINT CANADA - U.S. SURVEY IN THE MOUNT KENNEDY REGION\***

In 1935 a National Geographic Society glaciological expedition working in the St. Elias mountain range near the Alaska-Yukon Territory boundary described an unnamed mountain in the area as "magnificent, a granite peak sheathed in snow and ice on the south and west sides, and on the north and east sides has fantastic rock cliffs." Thirty years later this same peak was officially named Mount Kennedy in honour of the late President John F. Kennedy. A surge of activity in the area followed immediately. Senator Robert Kennedy climbed the mountain; an expedition sponsored by the National Geographic Society is engaged in producing a large scale map of the mountain and its environs, and a joint U.S.-Canadian party has just completed a survey through the area which will determine the precise geographic position of the mountain's summit and its elevation.

The survey party was composed of six men from the United States Coast and Geodetic Survey and two men from the Surveys and Mapping Branch of the Canadian Department of Mines and Technical Surveys. The main purpose of the work was to connect existing surveys along the Alaska Highway with similar surveys along the Alaskan coast. The work will strengthen the control surveys throughout the area and provide new control points for mapping. The decision to include Mount Kennedy in the survey, while adding a touch of glamour to the operation, greatly increased the difficulties.

The survey itself consists of five main stations, connected by traverse, with auxiliary points established at alternate stations to provide additional checks on field measurements. The lengths of the four traverse courses varied from eight to thirty-nine miles; the distances were measured by electronic distance measuring equipment, and the angles were measured with precise theodolites using signal lights and heliotropes for targets.

Two supercharged helicopters were chartered to transport men and equipment to the campsites which were located on the mountain tops near the survey stations. The only mishap occurred when one of the helicopters

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\* Report by Surveys & Mapping Branch, Canada Department of Mines and Technical Surveys, Ottawa.

had an engine failure after landing at the Mt. Kennedy camp, at an altitude of 13,500 feet. The second helicopter evacuated the party from the top of Mt. Kennedy, and a few days later a Royal Canadian Airforce Vertol helicopter lifted the disabled machine from the mountain and carried it back to Whitehorse for repairs.

The complete survey operation was carried out in fifteen working days spread over a six-week period between mid April and the end of May. Low clouds and falling or blowing snow hampered all phases of the work. The station on Mt. Kennedy was occupied on one occasion for 12 consecutive days, during which no observations were possible. The work was finally completed in a four-day period near the end of May. The surveyor on Mt. Kennedy was accompanied by several members of the National Geographic party, one of whom was an experienced mountaineer. Temperatures as low as thirty below zero were encountered on Mt. Kennedy and wind velocities estimated as in excess of one hundred miles an hour ripped the tents to pieces. Under the direction of the mountaineer, the party constructed a snow cave and lived quite comfortably.

Serious difficulties were also experienced at some of the other survey stations. At station Marble, some forty miles east of Mt. Kennedy, some quirk of nature led to the formation of local clouds which enveloped the peak. This station was occupied for eighteen days before the observations were completed and at one point the Canadian surveyor at this station was isolated for 7 days in a snow cave. At the two stations on the Alaskan coast near Yakutat Bay eight to ten feet of snow had to be cleared away so that the instrument tripods could rest on solid ground. Long trenches had to be cut through the snow to clear the line of sight to adjoining stations. One night four feet of wet snow fell which collapsed the tents and soaked the men.

The actual survey station on Mt. Kennedy is marked by a Canadian Geodetic Survey bronze tablet cemented in a drill hole in an exposed rock outcrop which lies about 500 feet below the summit and three-quarters of a mile away. A temporary target was set up on the snow covered summit and observations were taken to connect this point to the main survey.

The precise geographic position and elevation of the summit of Mt. Kennedy will be known when the large amount of survey data accumulated has been evaluated and processed.