

LORAN STATION SITE SURVEY

BIORKA ISLAND, ALASKA – APRIL 24 TO MAY 11, 1950

ANTENNA LOCATION:

(a) Locality: West side of Biorka Island, Alaska, about 14 nautical miles SSW of Sitka, Alaska.

(b) Geographic Position of Antenna: Latitude $56^{\circ} 51' 22.11''$ N, Longitude $135^{\circ} 33' 16.30''$, based on C&GS Station BIORKA in Lat. $56^{\circ} 51' 15.119''$ N, Long. $135^{\circ} 32' 13.008''$ W. The position of RADAR BIORKA in Lat. $56^{\circ} 51' 08.746''$ N, Long. $135^{\circ} 33' 03.148''$ W. The position of "RADAR BIORKA – 1943" was that of the final of the circular house at the top of a skeleton steel radar tower. The tower and house have been dismantled and only the four concrete foundation piers remain. No monument or other mark to indicate the position on the ground was found. The location of "RADAR BIORKA" was taken at the intersection of diagonals between the four foundation piers. Geodetic azimuths between C&GS stations BIORKA, RADAR BIORKA and HAMUS were computed from which the angles in triangle BIORKA – RADAR BIORKA – HAMUS were derived. The angles were observed at BIORKA and RADAR BIORKA by the method of repetition, using an engineer's transit reading to one minute of arc. The maximum discrepancy between the observed and computed angles was 10 seconds of arc. The assumed location of RADAR-BIORKA was also tied to U.S.E.O. station HALLINAN, located at $54.96' S 27^{\circ} 34' W$ from "RADAR-BIORKA". The measured and computed positions of "RADAR BIORKA" referred to U.S.E.O. station "HALLINAN" differed by only 0.05 feet. Accordingly, the assumed location of RADAR BIORKA upon which the position of the loran antenna is based, is considered sufficiently correct for this purpose.

(c) Antenna Location Marker and References: Antenna location is marked by a 3-1/2" brass-disk, stamped: "Survey Marker, U. S. Coast Guard, Loran – 1950". The disk is set in the top of a 2" iron pipe which was driven to rock and left protruding about 8" above ground. The pipe is set in concrete. "Loran – 1950" is 297.91 feet, $341^{\circ} 31' 30''$ from "AMOS", 273.08 feet, $37^{\circ} 39' 15''$ from "WOOD" and 173.15 feet, $231^{\circ} 05' 15''$ from "RITE". "AMOS", "WOOD" and "RITE" are also brass-disk survey marks, whose locations are shown on drawing 604 dated 19 May, 1950, enclosed.