

Morning Light



The Soviet nuclear-powered surveillance satellite, *Cosmos 954*, disintegrated over northern Canada on January 24, 1978. The debris, ranging from pieces the size of pepper specks to one the size of a small wastebasket, was scattered in two areas in the Northwest Territories — one

near Great Slave Lake, the other around Wardens Grove, some two hundred miles to the northeast.

Canada and the United States immediately began a joint search (Operation Morning Light) for radioactive materials, using three US gamma-radiation detection devices and one late-model Canadian device, all mounted in Canadian CC130 Hercules aircraft. On January 27 the first radiation hot spot was detected in the McLeod Bay area by the Canadian gamma-ray spectrometer. The debris found in the McLeod Bay area consisted of tiny radioactive particles, and the subsequent analysis at the Whiteshell Nuclear Research Establishment at Pinawa, Manitoba, concluded that they came from the satellite's nuclear core. The larger chunks in the Wardens Grove area came from the rest of the satellite.

Late on January 28 two men in the Wardens Grove area found and touched a large piece of

debris on the Thelon River ice. The men were flown to Yellowknife and Edmonton, where tests showed that they had not picked up any radiation.

In the first two weeks of the search 115 Americans and 250 Canadians were involved, and the planes spent over 700 hours in the air. Only one piece of debris, found on the McLeod Bay ice, was sufficiently radioactive to require special handling. It was removed to Edmonton, Alberta, in a special lead container.

On February 6 a bulldozer, which arrived by LAPES (Low Altitude Parachute Extraction System), began building an airstrip at Cosmos Lake, near Wardens Grove. On February 15 the first aircraft landed, bringing in twenty-one Canadians and Americans. An inflatable aircraft shelter, tents and snowmobiles arrived by parachute. On February 16 a Hercules carrying twenty thousand pounds of supplies landed.

Top: A half-ton lead container shielded small radioactive debris. Left: Larger fragments on the Thelon River had low radiation levels. Below: Hercules planes deliver supplies by LAPES drop.

