

News of the arts



Canadian Forces

Quentin Bristow with the GSC gamma ray spectrometer in a Hercules aircraft.

of the 12-hour flight, on the last line of the grid west to east from Great Slave Lake, two lines on the chart "jiggled". The symbols showing both man-made radiation and the over-all radiation count made a distinct blip. It was a hit.

"Until this point, the project was riding on speculation," says Bristow. "We had the NORAD trackings and the sightings over Yellowknife, but no hard evidence that a satellite had landed anywhere."

This was the firm evidence the searchers needed. A few days later, the object that caused the hit was recovered by a ground party of Atomic Energy Control Board (AECB) scientists. It was a thin, flat piece of metal three inches wide and ten inches long. The radioactivity level was about 200 roentgens an hour, potentially dangerous to humans and animals in close proximity. The fragment was picked up on the frozen east arm of Great Slave Lake, 27 miles to the northwest of Fort Reliance, the nearest settlement. It was shipped in a specially built lead-shielded container to Whiteshell, the AECL research establishment at Pinawa, Manitoba for further study.

* * * *

From that point on, both the U.S. and Canadian spectrometers began to make hits.

Instrument in demand

The sophisticated Canadian system was the second gamma ray spectrometer built by Quentin Bristow. He built the first

ten years ago when he was at AECL, and later wrote the part of the GSC radiometric survey specifications relating to instrumentation. The specifications are used by the Canadian geophysical equipment manufacturers to produce similar machines for measuring radiation from the earth's crust.

* * * *

Canadian equipment of this kind is claimed to be the most advanced in the world. A German firm, contracted to carry out a huge uranium search in Iran, after making a worldwide survey of available equipment, bought Canadian systems to do the job. The contract stipulated that the instruments be pre-inspected by GSC.

The GSC gamma ray spectrometer brought into the satellite search is a second-generation design. It weighs 1,300 pounds and is worth an estimated \$250,000. It is built around a mini-computer which makes it completely programmable. It can be directed to acquire a complete gamma ray spectrum every half second, and record the radiation of specific elements being searched for, as well as total background radiation.

* * * *

The U.S. contingent had two spectrometers in *Hercules* aircraft and one in a helicopter. Their data processing was done on the ground. For a while the Canadian data was processed along with the U.S. data by the U.S. team but the delay between the record of a hit and the confirmation or rejection of the data con-

Cadets see Europe

Sixty-three senior Royal Canadian Air Cadets from across Canada will be sent on exchange visits to other countries this summer as a reward for excellent performance.

Twenty-five will visit Britain, ten the United States and others will tour either France, Austria, Norway, Sweden, Switzerland, Belgium, Israel, West Germany, the Netherlands, Portugal, Spain or Turkey.

Cadets from those countries will be the guests in Canada of the Air Cadet League of Canada and the Canadian Armed Forces.

Now in its thirty-second year, the International Air Cadet Exchange Visits Program encourages the cadets to become acquainted with values and cultures of other countries.

The program began in 1947 when 46 air cadets flew overseas for a three-week tour of Britain. At the same time, their British counterparts visited Canada as guests of the Air Cadet League and the Royal Canadian Air Force. In 1948, the United States joined the scheme, followed by many European countries.

Sea cadets travel too

The Royal Canadian Sea Cadets have planned a trip to Europe for 25 senior boys and girls.

Groups of five will visit either Britain or Belgium, West Germany, Sweden or the Netherlands, while a similar number of sea cadets from these countries will visit Canada.

Canadian cadets in Europe will compete in athletic events with their hosts. In Canada the Europeans will visit HMCS *Quadra* on Vancouver Island, British Columbia; Winnipeg, Manitoba, and Trenton, Toronto, Niagara Falls and Kingston, Ontario.

fused planning for the next day's searches. It took Bristow five days, using the "spare parts" system, to re-program the GSC airborne spectrometer to analyze the tapes on the way home from the search. When the men stepped off the plane, they had the data in a form they could read immediately.

* * * *

(Preceding excerpts are from an article in *GEOS*, spring 1978, by Constance Mungall.)