

Supply—Mines and Technical Surveys

sizes the department's special content of scientists and specialists who advise us in these matters.

In presiding over the department I take special pride in the recognition that has been accorded to our Canadian experts in all of the specialized fields. In travelling abroad they have been recognized as being very superior, earnest and knowledgeable, and we can take pride that in my department we have presidents of world wide organizations in practically all of these fields.

The surveys and mapping branch helped to open new vistas in surveying by co-sponsoring a seminar on air photo interpretation and by placing generally more emphasis on air photography in mapping. I think Canada is pre-eminent in this field. Then the aerodist, a recently developed airborne device for electronic distance measurement, was used successfully over land and sea. This device has been used a great deal by our department since we last reported to you and has deserved the reputation it has achieved. It has not only enabled surveyors to shorten work in difficult terrain from years to weeks, but it has provided also the first absolutely accurate measurements beyond the bounds of sight, such as between Sable island and the mainland of Nova Scotia. Within the last year it has been of immeasurable value in 40,000 square miles of terrain in northern Ontario and Quebec above the Canadian National Railway line.

Now, in the marine sciences, oceanographic research continued to expand and strengthen, and new marine investigations were started in the fields of geophysics, sea ice, theoretical studies and predictions. The new Bedford institute of oceanography, which I had the honour of opening last year late in 1963, operated at high pitch and began to attract international interest and acclaim. There was further integration of oceanographic and hydrographic work. Little attention was given in this house to an announcement which I had the pleasure of making after our oceanographic ship got into operation, namely the discovery of some anomalies in the ocean eastward from Nova Scotia. I believe these discoveries might be of some interest eventually to this country in the petroleum field.

Again, in this department we have the geological branch. The geological survey continued to press its mapping of Canada at reconnaissance scale, and 65 per cent of the entire country has now been covered by geological maps at scales no smaller than one inch to eight miles. This might not seem to

[Mr. Benidickson.]

be impressive, but our country is very big. A notable development in recent years has been special laboratory investigations of fundamental geological processes undertaken by a small but growing staff, along with the development of techniques and equipment.

I come now to the mines branch. Among the outstanding activities of the mines branch since we last reported to you has been pilot plant tests on petroleum refining. There was great interest in this at the Banff ministers conference to which I referred earlier. These tests have been conducted with special attention paid to low grade oils and tar sands, the use of radiotracers, and so on. Every member in this house knows about the potential of the tar sands of Athabasca. We have in Ottawa a test plant that has been doing these studies and which has contributed to the successful development of a method of extracting enough vanadium from petroleum to supply the entire Canadian demand.

Then I should like to refer to the scientists from the geographical branch of the Department of Mines and Technical Surveys. They have continued to study land and ice forms and ancient plant remnants in the Arctic, to obtain a better picture of the geographical history of that remote portion of Canada. I want to refer also and pay tribute to the administration, personnel and information branches of the department. These, perhaps, are ancillary activities that do not receive the prominence some of the other branches of our department do. I want to say that I, personally, representing this house, perhaps see them most often and I view them, on your behalf and on behalf of the Canadian people, as interpreters, but I have to use my own sense in connection with the advice and programs that are advanced by these scientists. I thank the committee for their attention.

Mr. Martineau: Mr. Chairman, I wish to thank the minister for the outline of the activities of his department which he has given to the committee. As a former minister, I join with him in paying a much deserved tribute to the scientists, technical and specialized personnel as well as the officials of his department who constitute a pool of specialized knowledge equal to any and second to none in this country. These gentlemen have not only co-operated with the political figurehead of the department at all times but also with the industries which avail themselves continuously of the facilities and products of the research carried on by the department,