SUMMARY OF ICE MET ON OUTWARD VOYAGE.

	Latitude.	Longitude.	Date.
First bergs	60° 50′ S.	179° 10′ W.	December 27, 1916.
Pieces of floe	64° 10′ S.	176° 40′ W.	December 29, 1916.
Considerable quantities of loose ice ...	66° 30′ S.	175° 40′ W.	December 30, 1916.
Broken lines of pack	67° 10′ S.	175° 00′ W.	December 30, 1916.
Large pieces of pack, but fairly open ...	from 68° 31′ S.	from 175° 30′ W.	December 30, 1916.
	to 70° 13′ S.	to 179° 31′ W.	December 31, 1916.
Met main pack	70° 13′ S.	179° 31′ W.	January 1, 1917.

Steamed along edge of main pack till 70° 20′ S., 175° 20′ E, then worked way through, mainly on S.W. and S.S.E. courses.

On 6th January weather moderated; made way through channels to 72° 04′ S., 173° 09′ E., when open water was reached on 7th January at 4 p.m. Southing through pack, 104 miles. Met tongues of loose pack off coast of South Victoria Land as far as 76° 24′ S., 172° 10′ E. Pack also visible towards the land.

SUMMARY OF ICE MET ON HOMEWARD VOYAGE.

18th January.—From Ross Island: Open sea southward to Cape Barne. Dense pack northwards from Cape Bird past Beaufort Island, closing in to the land near Nordenskiold Ice Tongue.

20th January.—75° 02′ S., 171° 22′ E. Loose lines of pack.

21st January.— 73° 08′ S., 172° 42′ E. Line of pack to west, extending N. and S.

22nd January.—71° 38′ S., 173° 44′ E. Dense pack ahead—viz., marked blink to northward. Proceeded south again.

25th January.—Ross Island. McMurdo Sound full of pack.

25th–27th January.—Proceeding north observed many bergs.

28th January.—71° 00′ S., 171° 40′ E. Scattered lines of pack seen.

29th January.—70° 50′ S., 171° 30′ E. Off Cape Adare. Close pack E. to W. through N. Made way through it. Good-water sky to northward.

30th January.—68° 40′ S., 170° 56′ E. Dense pack to W., with lines across ship's course. Pack became thicker, and continued to 67° 08′ S. 66° 10′ S.: Scattered ice.

Sighted numerous bergs during next few days, the last one being in 63° 31′ S., 171° 50′ E.

WIRELESS REPORT OF "AURORA," 20TH DECEMBER, 1916, TO 10TH JANUARY, 1917.

On 20th December, the date of our departure from Port Chalmers, traffic was exchanged O.K. with Awarua, N.Z., but after that date and up till the 25th it was almost impossible to make my signals heard at the Bluff station, despite the fact that his incoming signals at that same time were reaching me at maximum strength (5).

On 26th December, as delayed traffic was still on hand, I decided to connect up a new lead to "earth," and as a result succeeded in disposing of all messages which had accumulated for the past two or three days without the slightest trouble.

On 27th December aerial was carried away in a gale, and owing to the weather conditions it was impossible to re-erect same before 28th December, on which date two unsuccessful attempts were made—at 11.40 p.m. and 12 p.m. respectively (ship's time)—to re-establish communication with the Bluff.

On 29th December a further effort was made to get in touch with the land without success. Noting on this occasion that the hot-wire ammeter was reading lower than usual, I examined the "lead in" wires on the top of the wireless-house, and discovered that the "earth switch" had fallen into place—probably through the continuous rolling of the ship—and had practically earthed the aerial. To prevent a recurrence of this trouble I lashed back the switch of the lightning-arrester to the "off" position. As this discovery was not made until 12.45 a.m. on 30th December all efforts on the previous night were obviously useless.

On 31st December, at 10.52 p.m., Awarua was heard sending the "war warning" (nil) to ABMV on the 2,500-metre wave-length. Heard nothing further until 2nd January, when very weak signals from Awarua were picked up.

On 1st January the ship's dynamo failed, and it was found on examination that the armature was short-circuiting in several places, thus necessitating the unwinding of the whole of the outer binding-wire and a considerable portion of the armature winding in order to permit these faulty portions to be reinsulated. As there was a considerable amount of soldering to be done it was not until 6th January that the dynamo was once again in good working-order.

As no signals had been heard since 2nd January it was deemed inadvisable to attempt to transmit from this station, but the times arranged for listening-in were always strictly observed.

The three-step amplifier has been in use solely as an amplifier for the crystal detector, and has given satisfaction. The ultra-audion detector proves most unreliable, owing to the critical adjustment required for the graphite potentiometer, which it was impossible to maintain owing to the severe vibrating and rolling of the vessel, and for this reason it was seldom used.

T. M. RYAN,
Wireless Operator, "Aurora."

To Captain Davis, Commander "Aurora" Relief Expedition.