

# BY AN OLD HYDROGRAPHER

## 'As it Was'

In 1958 Commander Hunt MBE, RN was about to undertake a survey in HMNZS *Lachlan* to complete NZ Chart 61, which included part of the rugged West Coast of the South Island much of which then lacked geodetic control stations. The members of the crew of *Lachlan* and Lands and Survey personnel were organised to work together to complete a traverse on foot through very difficult terrain, using a theodolite and the newly developed Tellurometer.

The ship needed to have trigonometric stations ashore marked by beacons for sextant fixing from the ship and boats. But there were no trigs, as land surveyors had not yet reached some of the roughest country along the West Coast. After a reconnaissance by *Lachlan* it was obvious that the Tasman surf and rocky shore would make boat landings impossible. The only option was to traverse the coastline on foot. This would be difficult, but possible. The foreshore was mainly rocks, with cliffs rising up behind to 200 feet or more, and the mountains in the hinterland rising to 4,000 feet. A rainforest with large trees, dense bush, ferns and â€˜gigiâ€™ (a very thick and strong â€˜supplejackâ€™ cane) covered almost everything above the high tide. To make any progress the gigi had to be got through, and this meant slashing it down. The difficult part would be the first 23nm of coastline.

We had a good liaison with Lands and Survey Department (Govt.), so we suggested that they might like to join us on this one, as it would benefit us equally. They were keen to accept. Cdr. Hunt's plan was for a substantial shore-party of eleven men, with a survey team under Lt. Monro and the L&S team of one surveyor, Mr Watkins and two assistants. The survey for trigs was to start from the north. Another team of five men under Lt. Vennell was to work from Kohaihai northwards, laying out supply depots of food and batteries for the survey team coming south and looking out for suitable positions for trig stations.

As it happened, Cdr. G.S. Ritchie, the previous captain of *Lachlan*, was passing through Cape Town. He found that South Africa had produced a new instrument, a â€˜Tellurometerâ€™, which measures distance ashore up to 40nm. He informed Cdr. Hunt, who then put in a case for the Navy Board to purchase it. We were successful! It was the first instrument in New Zealand. The Telluro-meter transformed the surveyors work greatly, as now we could fix positions on a traverse. It also had a voice channel between the two units, which was invaluable. This probably landed in a museum long ago.

Now â€˜The Big Trekâ€™ could go. We had sixteen volunteers from *Lachlan* and three from L&S. Each would be carrying 75-80lbs on nineteen backs (11/2 tons). The important and heavier items were:

- tellurometer â€˜theodolitesâ€™ tripod legs
- 4 truck batteries (supposedly with jellied acid)
- slashers, or cane cutters
- dehydrated food for 19 men to last 3 weeks
- boots with steel tricoini
- and a promise of a small tot of Naval rum for each man at night (incl. L&S).

On 21st January 1958 the â€˜Big Trekâ€™ commenced. The *Lachlan* slid quietly alongside the wharf in Golden Bay to land all the equipment, and sixteen of the ship's company. At the same time, the three men from L&S arrived with two elderly 4WD open trucks. After our last civilised lunch we started off, on top of a truck and the equipment, with some comic on the focâ€™se loudly playing â€˜The Happy Wandererâ€™. The ship slid away. After that we wouldn't see anyone for a few weeks, except the lighthouse keeper. Vennell and his four men went southward with a truck, taking the inland road to the West Coast towards Kohaihai, some 200 miles away and the end of the road. As there was still 7 miles of beach and forest to reach the Heaphy River and a trampers' hut, they hired four pack horses and, with the five men, got all the gear and food into the hut by 10pm. The horses were then given a pat on the rump and told "Home". They turned around and plodded into the dark. In the morning the farmer saw four horses standing with their heads over the gate. The next day the team would start carrying food and batteries northward to make supply depots.

Back in Golden Bay we had a dozen men sitting on the gear on the truck, heading towards Paturau River on the coast. When we got there a community hall was waiting for us, but there was no one around. It being the West Coast the rain started, but a sleeping bag on a wooden floor was heaven.

We had scheduled a few days for training the ship's men, as there would be some difficulties and dangerous areas ahead and we didn't want them falling, complete with tellurometers and batteries. The batteries were supposed to contain â€˜jelliedâ€™ acid, but that was not so. We had had special pack-frames built, but when the carrier bent forward a little trickle of acid dribbled down his neck. We had very upright sailors. We had detailed the various tasks so that everyone knew what was wanted of him. The surveyors operated the Tellurometer Master, with two L&S assistants on the Slave. For training we packed the backpacks with stones to 80lbs for a hike through the forests and gigi for a day, and next day up landslides, climbing cliffs and crossing rivers.

From the last L&S traverse station from Nelson at Paturau we were able to use the tellurometer for the first time to close a traverse line on to Kahurangi Lighthouse. On the 27th we decamped with the truck 13nm down south to the Kahurangi Lighthouse. Five rivers had to be forded at low tide, and if the truck got stuck fourteen men had to un-stuck it. Nearer the lighthouse we were on sand and rock, with 200-foot vertical cliffs towering above us. It was touch and go when driving over some rocks, as low tide was not far from the cliffs. We paid our respects to the lightkeeper and daughters, who were quite excited. We were offered an old house for the night, which was better than canvas. When they heard that we were working our way down the coast, their comment was that it was impossible with all the equipment, and the lighthouse log showed that only sixteen people had ever gone that way. So one of our team had the honour of being the seventeenth. The usual track was much further back, in the mountains.

From the next day on it was all footwork. Lachlan was now in Westport, to be available if any emergency arose. We moved, having derived a starting traverse station in relation to the lighthouse but leaving two L&S men to operate the tellurometer slave, and three sailors to help by humping. The rest of us headed south with the hope of finding a promontory that looked up and down the coast, which we did, about 11/2 nautical miles from the slave. We set up with the tellurometer master, woke up the slave and started operating. The high-frequency radio waves between master and slave are sensitive to humidity, temperature and air pressure. Multi-readings are necessary at each end, particularly for humidity. A special rattle is spun to record it, much like in English football matches.

Thus the first day was nearly over. The slave team was on the way to us, some two-man tents were up, the cook had something for fourteen men, and crystal-clear water tumbled down nearby. The equipment was checked, ready for the next day. For dinner there was stewed dehydrated vegetables and a cup of tea. It wasn't bad. Our cuisine was, breakfast: porridge and tea; lunch: three sardines, two ships biscuits, a cube of cheese, and tea; and at about 8pm the tot of the ship's rum was measured out. It had been an easy day and all was well. Oddly, the sailors couldn't go to bed without a cup of kai (cocoa)!

Up at 6am, with porridge and a cup of tea for breakfast. The team with the Master unit was off to find a position for the next trig. The other half cleared the vegetation, built and painted a trig, set up the theodolite and Slave, and waited for the others to call. And that was the routine, more or less, for the next two weeks.

We depended on the rain, seas and tides as to whether we took a low-level rocky track or climbed the cliffs and hills and fought with the gigi. For most of the way the coast curled inland, so that each line could be only 1/2 to 11/2 miles in length. If the sun was overcast, the forest was so dim it was difficult to see any bearings. On one occasion we found the gigi softer, which was good. So we thought. Looking down at our boots, however, a hole showed us only sea beneath; the cliff was about 15 feet inland - a bit scary. Sometimes when walking quickly on a rocky beach with 75lbs on the back some "rocks" turned out to be seal heads. What a great fuss and noise they made.

After 22 days we were at Kohaihai, and that was the end. The surveying and the white-painted trig stations all came out well. The ship could start back right away with the coordinates, and she sailed that evening.

Earlier the L&S team had re-surveyed the nation grid lines from Nelson to Paturau, and later from Kohaihai to Mt. Newton. The final calculations were done at head office. For our use: the traverse was reported to be in error by not more than 1 in 80,000.

The surveying covered 35nm of coastline, 23nm of which was the roughest terrain, where everything was carried. The southern team had to keep the depots going, which made it all possible. Finally, one of the crew, speaking for all the others, said they wouldn't have missed it for all the world.

#### Footnote

How a pressed man came to be on the Big Trek.

He was a Royal Navy rating serving onboard HMS Cook in the South Pacific, due to refit in Davenport Dockyard, Auckland, from December 1957 to March 1958. Being a person who disliked being on a ship during refit, he requested to see if it was possible for him to have a temporary transfer to the N.Z. Survey ship. This was agreed between the two COs. When he arrived to join *Lachlan* in Wellington he was puzzled by the greeting he was met with from the First Lieutenant, with whom he had served aboard Cook in 1953: "Nice to see you again, what size boots do you take?" He had been volunteered for the Big Trek!

He was Robert Grisedale, ex-Ldg. Seaman SR2 who now resides at "Knapps", Fendine, Carmarthen, SA33 4PQ, Wales, UK.

Commander Monro commanded *Lachlan* for three and a half years and served as the Hydrographer RNZN for seven years.