

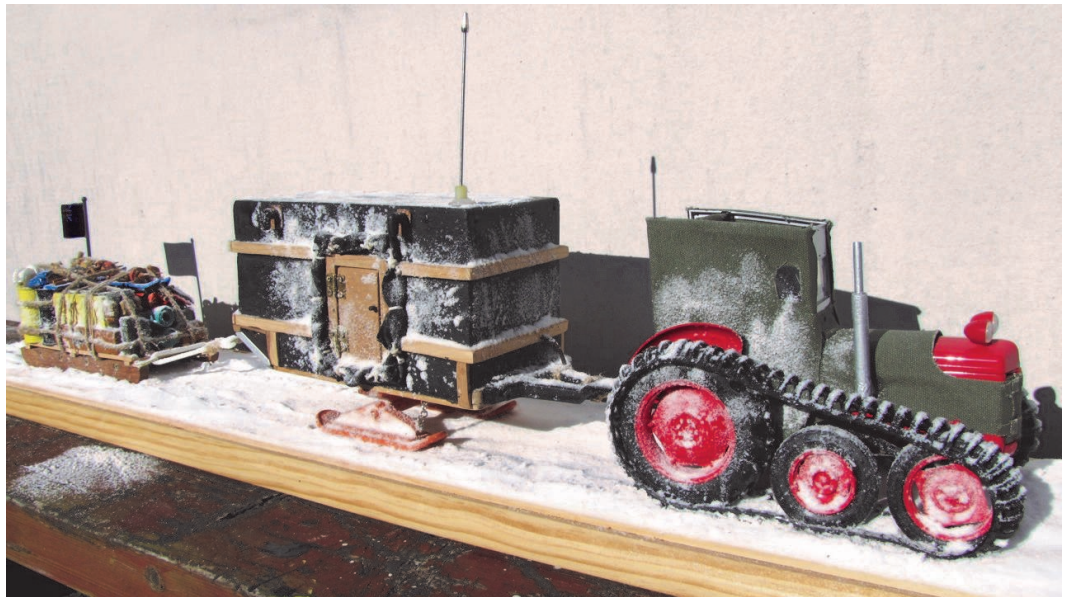
# Ferguson Furrows

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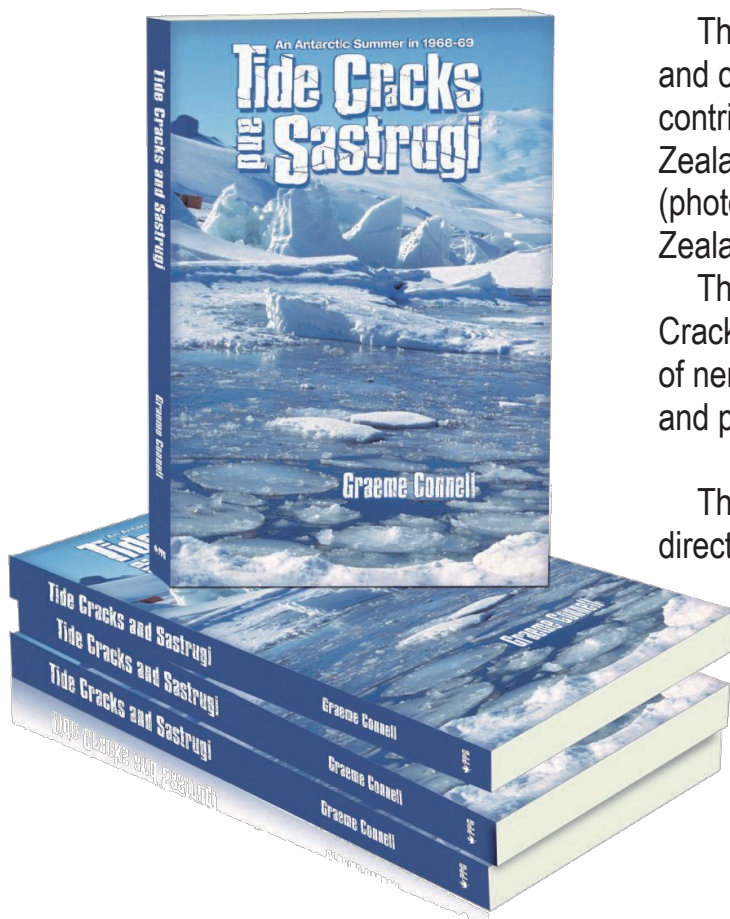
## FERGUSON ADVENTURES -

### FARM, ICE AND FROZEN DESERT

By Graeme Connell  
Photography by Derek  
Cordes, Marcello  
Manzoni & Graeme  
Connell (copyright)



A model of the TEA20, sledge accommodation hut and Nansen sledge made by Derek Cordes. (July 2012)  
Derek Cordes photo



This article was written especially for Ferguson Furrows and could not have been completed without the kindness, contribution and support of Allan Guard of Christchurch, New Zealand and Derek Cordes of Blenheim, New Zealand, (photos numbered 1-14,) both fellow members of the New Zealand Antarctic Research Programme of 1968-69.

The writer, Graeme Connell, recently published Tide Cracks and Sastrugi: An Antarctic Summer of 1968-69, a mix of nerve-tingling drama, history, anecdote and the emotional and physical unknown on the Antarctic continent.

The book is available (black and white) on amazon.com or direct (colour) from the author [graemekc@telus.net](mailto:graemekc@telus.net).

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## FERGUSON ADVENTURES - FARM, ICE AND FROZEN DESERT

By Graeme Connell      Photography by Derek Cordes, Marcello Manzoni & Graeme Connell (copyright)

I think I was only about eight years old when I first got behind the wheel of a Ferguson tractor. I can recall Ivan leaning over me, showing me how to stand on the clutch and the brake, how to waggle the throttle lever and how to push it in and out of second gear. My instruction was brief. No matter that we're in the very centre of a dead flat field on a South Taranaki (New Zealand) dairy farm.

Behind us the cows waited. Some had started to pull the hay from the trailer. It was feed out time. As Ivan dropped off the drawbar, he threw some last minute instructions to me and got up on the trailer with the fork and started pitching brunch to his guests.

"OK, let's go," he yelled, and with that I stood on the clutch, gaunched into second gear and slowly, ever so slowly, lifted my leg, and the Fergie pounced forward as I pulled the throttle lever. Relieved, I sat back on the seat. It was a slow walking pace and all that was needed. Now all I had to do was aim straight ahead, slowly turn the wheel to the left and bring the tractor back to center field.

To this day, I am sure that's how my fondness for Fergies started. Now, umpteen years later, I paint rosy pictures of how it was just to bore my grandchildren. As an eight year old, the tractor was really a bit big for me. Before my arrival at the farm, Ivan used to do this by himself. He'd set the tractor going and jump on the trailer, toss the hay, clamber across the drawbar, turn the wheel to change direction and then return to his pitchfork, all in a morning's work.

From that day on, I was allowed, with Ivan always watching, to move the tractor in and out of the milking shed. I even had a shot at back up. I was fascinated with the little grey Fergie. My next real encounter with this icon of the 100-acre Taranaki (New Zealand) dairy farm came six to eight years later when I worked during the school holidays on a 68-cow farm. There I could do much more with the tractor, including harrowing, hay baling, feeding out and general farm stuff. The cows didn't seem to mind me at the wheel either. I was always surprised at neighboring farmers who had not discovered the full attributes of the Fergie and operated their farms with tractors like David Brown and Allis Chalmers. I completed the farm life and took a career in journalism. Fergies became a thing of my youth, but the fondness remained.

Some 12 years after I said goodbye to the cows, the fencing, the hay baling and delivering milk to the factory, I was once again confronted with the pilot's seat of a Fergie as a journalist and photographer with the New Zealand Antarctic Research Programme of 1968-1969. You could say I was an "experienced"

Ferguson operator, meaning I could make the thing go forwards and backwards by the time I "penguined" across the ice of Antarctica.

But what a machine, the ubiquitous farm vehicle transformed. I'd followed Sir Edmund Hillary's adventures to the South Pole a decade earlier and marveled that three Fergusons were the first motorized vehicles to do so, laying supply depots for the Transantarctic Expedition (TAE) of Sir Vivian Fuchs with his Sno-Cats (a Chrysler/Dodge in Antarctic clothing) coming in from the Weddell Sea on the opposite coast.

New Zealand's vehicle fleet, in my summer on the ice, included a grey TEA20, possibly a remnant from the support group for the TAE, and two full track red TEA35s, which formed part of the last great tractor train taking fuel and building supplies to the Wright Dry Valley to be ferried up the valley to Lake Vanda for the establishment of New Zealand's first winter-over station on the mainland.



Allan Guard of Fairlie, New Zealand, Base engineer 1968-69, flies his flag from a TEA35 as the tractor train leaves Scott Base. (Oct 1968). Graeme Connell photo

In late October, 1968, I was one of the six-man crew on the First Overland Traverse Party from New Zealand's main station at Scott Base on Ross Island at McMurdo Sound to the Wright Dry Valley and eventually to Lake Vanda. The tractor train was comprised of Able, a Sno-Cat from the TAE (now restored and regally-displayed in the Canterbury Museum in Christchurch, New Zealand,) a D4



The tractor train with the two red TEA35s and their wheeled trailers leave Scott Base for the Wright Dry Valley, some 85 miles to the northwest. (Oct 1968) Graeme Connell photo.



1. The supply dump at the foot of the Wright Glacier where it was dropped by the Sno-Cat and the D4 Caterpillar of the tractor train. The TEA35s ferried the materials to the Vanda Station site 25 miles up the valley. (Nov 1968)

Caterpillar bulldozer and the two red TEA35 Fergies bringing up the rear and pulling rubber-tyred trailers.

I was super delighted on our tractor train to get a shot as relief driver on the Fergies as we clattered northwest over the sea ice of McMurdo Sound. And when I was not at the wheel, I could be found riding on the drawbar. In spite of the way-way below zero temperatures, I found it "warmer" than lying inside the big Sno-Cat. Besides, by travelling at the back of the train, I took advantage of many photograph opportunities of the vehicles struggling over the Sastrugi, wind-blown, hard-packed snow ridges or waves, if you like.

Our pace across the sound was governed by the D4. The Sno-Cat took the lead and with its double sledge pull, the big beast could manage maybe 8-10 miles and hour. Every hour of so it stopped and waited for the rest of us to catch up.

I do have a little bit of the daydreamer in me, and it was easy to count off the clattering, bouncing miles in the brutal cold, believing I was some sort of heroic explorer of the very intrepid kind. My bear-mitt hands



1. Setting up the ferry base camp at the Bay of Sails with Sno-Cat Able and TEA20. Stranded and grounded icebergs in the background. From this point drums of fuel and supplies were tracted across the Wilson Piedmont Glacier at the Wright Dry Valley. (D68)



2. Campsite at the Bay of Sails, showing the wannigan (plywood accommodation hut on sledge runners) and the TEA20. (Dec 1968)



3. The TEA20 and sledge out on the sea ice in the Bay of Sails. (D68)



In bitter conditions, Base engineer Allan Guard and technician Alan Magee scuffle under a TEA35 for minor field repairs during the tractor train. (Oct 1968) Graeme Connell photo.

clung to the mudguards as I stood astride the drawbar, yelling back and forth to the driver, about how thick the ice was and the likely depth of the Ross Sea beneath us. And then there were hop off times as we walked along an open lead (crack) in the ice to find the best place to cross. Mostly though, we left that sort of a decision to the leader of the train because of his previous Antarctic experience. There was cold comfort in our bravado: you'd probably drown in the icy water before you ever froze!

We'd left Scott Base in the early evening. Not that it mattered much in the almost 24 hour daylight we enjoyed. Nevertheless, to keep life in perspective, we stopped about 20 miles out at a US science hut way out on the sea ice to have a good supper and sleep. It paid off, as the next day we put in around 18 hours to reach the Bay of Sails some 50 miles away.

Periodically, the Sno-Cat had to wait for the D4 to catch up and blade a crossing through steep, high Sastrugi. Vehicle challenges had been confined to the Fergies at this point: oiled up plugs early on and a replacement for a sheared pin on the drawbar. The high Sastrugi ridges had slowed us to around a mile an hour at some points after we'd left the influence of Ross Island and headed across the exposed open sound to the mainland. The Fergie driver was the most disadvantaged in the bitter cold of about minus 25 degrees F. The constant wind made it even colder. The Fergie pilots had the toughest ride, in spite of the canvas skirts and Plexiglas windshield around the cockpit. Snow thrown up from the tracks and the wind made it quite uncomfortable. As the drawbar passenger, I was fine, sheltered below and behind the bulkily-clad driver! With four vehicles and six men, we were able to spell off frequently, finding a better degree of comfort out of the wind in the cabin of the D4 or the Sno-Cat.

It was a beautiful twilight of pinks as we set up camp in the Bay of Sails. The assault on the climb up from the sea ice onto the Wilson Piedmont was another complete unknown in this silent, strangely beautiful and captivating landscape. Each driver picked his own way up the 600-foot elevation to the top of the piedmont. Our Fergies did well with their wheeled trailers angling across the difficult and lumpy ice-covered terrain.

We camped at the top, spent another day there in the very exposed and bitter cold (about minus 25 deg F with a 15 mph wind,) making repairs to the aging Sno-Cat before the final leg of around 12 miles to the foot of the Newell Glacier.

The tractor train reached its planned destination at the foot of the Newell, where it joins the piedmont and the Wright Lower Glacier at the eastern entrance to the Wright Dry Valley. Then things came unglued. The Sno-Cat and D4 spent several days hung-up in crevasses, the Sno-Cat required drive train and axle repairs and the group was unable to find a suitable route over the 300-foot high Wright Lower Glacier face to the scoria floor of the valley. After several



4. Derek Cordes at the TEA20 about to leave the Bay of Sails for a crossing of the Wilson Piedmont Glacier. The sledge is loaded with building materials for a refuge hut near the shore of Lake Brownworth at the foot of the Wright Lower Glacier in the Wright Dry Valley. The return trip took more than six hours. (Nov 1968)



5. The TEA20 with Bruce Brookes hauls a sledge of fuel across the Wilson Piedmont. Mt Newall in the background. (Dec 1968)



6. The staging camp at the base of the Newall Glacier. (Dec 1968)

days, the D4 and the Sno-cat were repaired and freed from their crevasse traps. They then winched the TEA35s, their trailers and the equipment, fuel and supplies over the edge to the valley floor. The D4 and Sno-Cat returned to Scott Base leaving the Fergies

and a couple of drivers to ferry the 25 miles up the valley.

The Wright Dry Valley is one of the most amazing and intriguing places on this planet. From where we were, this dry and barren landscape stretches about 50 miles west to the Wright Upper Glacier and the polar plateau. The valley is up to 3 miles wide with 6000-foot mountains on either side. It is all tones of brown and grey with glaciers tumbling down from some of the peaks. The valley floor is rock and sand that many liken to the landscape of Mars. Sand-laden winds blow almost non-stop, all day long, first from the west, then from the east.

At our end and just below the Lower Glacier is Lake Brownworth, fed by the very short summer melt water season. In turn, the melt water brings a sparkling short life to the Onyx River, the largest and longest river in Antarctica, which, in the height of the summer season, ripples its way west to Lake Vanda about midway down the valley.

After it had completed work on an ice-drilling program further south in McMurdo Sound, the TEA20 was sent on the Wilson Piedmont Glacier, where it attained its place in history in the custody of maintenance/field assistants Bruce Brookes and Derek Cordes. This pair became known as the Flower Pot Boys after they made a stone path outside their camp hut at the Bay of Sails. It was suggested their next project would be a "flower garden". Their task was to use the old Fergie towing a Nansen sledge to ferry fuel across the Wilson piedmont from the bay and into the valley. The fuel was being transported from Scott Base in non-stop round trips while the sea ice held. It was a race against time.

Derek and Bruce faced a lonely Christmas until they devised a plan to drive the TEA20 down the face of the Wright Lower Glacier and up the valley to a small US research station 10-15 miles along the valley at the Meserve Glacier. To accomplish this daring feat, they spent a few hours cutting a rough track with their ice axes down the face of the glacier. The trip was successful, and their hangovers got them up the terminal face and back to work the next day. This TEA20 therefore became the first vehicle to be driven into and out of the dry valley.

The 1968-69 year Base Engineer, Allan Guard, also a member of the tractor train and very able TEA35 driver, reports that of the five original TEA20 tractors taken down to Scott Base in the 1956/57 summer, three were taken to the South Pole by Sir Edmund Hillary's group, while the remaining two were left at Scott Base.

One of the original five TEA20s (serial number 512066, named "Liz") was sent out to New Zealand in February, 1962, for overhaul. It returned to Scott Base in December, 1962. It was fitted with a low reduction gearbox. It may have been the Fergie Bruce and Derek used. Another TEA20 (serial number 512091) was fitted with a forklift and halftracks. It was used around the base for general duty including



7. Bruce Brookes flags down a passing US helicopter with a request to drop off some mail and "goodies" next time they pass. (D68)



8. Whoops, the ever-present dangers of Antarctic travel. The TEA20 finds a small crevasse and dives in headfirst while ferrying fuel drums. The tractor was unhitched and some six hours later was finally eased clear from the crevasse. (Dec 1968)



9. Easy does it Bruce! The TEA20 negotiates a steep pitch on the face of the Wright Lower Glacier on the way to some Christmas cheer. (Dec 1968)

handling fuel drums. It was not in our fleet in 1968-69.

Another of the five original Fergies was given to VXE6 at McMurdo for towing helicopters around. It was still there in 1968-69. A fourth is in the Canterbury Museum. One of the TEA20s was last known to be in private hands in Christchurch. It may



10. The plucky little TEA 20 makes its way up the 300ft elevation of the Wright Lower Glacier. This event along a crude route chipped out with ice axes marked the first time a vehicle had been driven into and out of the Wright Dry Valley under its own power. (Dec 1968)



11. The refuge hut constructed at the base of the Wright Lower Glacier at Lake Brownworth. The supplies were hauled in by TEA20 and lowered over the glacier. (Dec 1968)

have been one that was used at Scott Base in our year.

The two TEA35s were sent down in 1957-58. Of those, serial #47619 was reconditioned in New Zealand and sent back to Scott Base in the 1961-62 summer. It was sent out to New Zealand for overhaul again over the winter of 1964. Serial #47592 was sent to New Zealand for overhaul in February, 1963, and returned in November, 1963. These were the two tractors used on the Vanda tractor train that were left in the Wright Valley. When they got to Vanda Station, one was stripped of its tracks and put back on four wheels for use on the rocky surface.

Eik's Maskinforretning A/S, of Stavanger, Norway, supplied the Gogrip brand full track attachments for all the Fergusons.

The engines of the two TEA35 Fergies were damaged by the sandy dust in the valley. The standard oil-based air cleaners had been removed by a previous base administration, probably because of snow clogging problems. Both Fergies had been overhauled with new piston rings in the winter prior to our team's arrival. When the tractors were put to use in the Dry Valley, the tracks kicked up a lot of dust which was immediately sucked into the engines through the unprotected carburetor inlets.

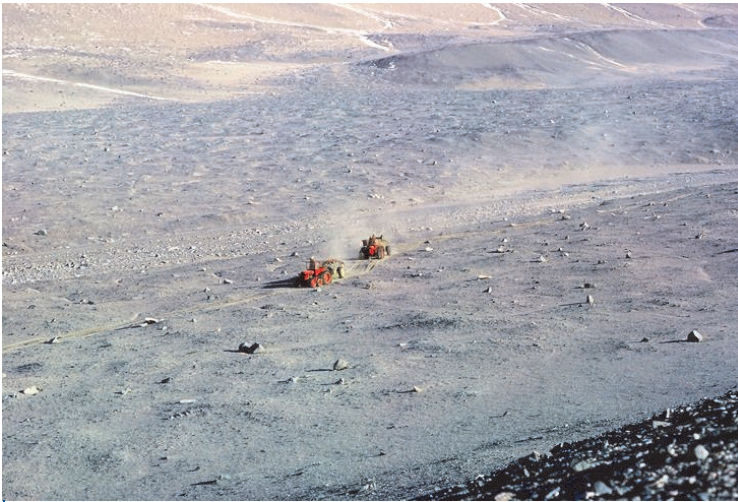
"The dust was pretty savage stuff, and once it got into the cylinders, it started wearing the piston rings and cylinder liners," says Engineer Guard. "It was



12. Two TEA35s with their wheeled trailers at the supply dump at the foot of the Wright Lower Glacier preparing for a run 25 miles west along the Wright Dry Valley to Vanda Station at Lake Vanda. The tractors and supplies were winched over the glacier. (Dec 1968)

only a matter of a few operating hours before the dust mixed with the worn metal particles and the oil to form a grinding paste which destroyed all the metal to metal wearing surfaces."

It wasn't long under these conditions, before the tractors had only enough power to drag themselves along in low gear. The Vanda Station construction crew removed the complete engine from one Fergie and had it flown to Scott Base where it was fitted with new sleeves and pistons, crankshaft, camshaft, all

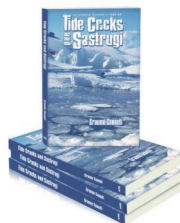


13. The TEA35s stir up a dust cloud as they make their way towards Vanda Station, in the "Martian" landscape of the Wright Dry Valley. (Dec 1968)



14. The TEA20 gets an untimely soaking in the Ross Sea when the sea ice gave way while on an ice-for-water expedition. It was a dicey eight hour job to extract the stricken machine. (Dec 1968)

bearings, valves and guides. A helicopter took the engine back to Vanda on January 30, 1969. Base mechanic Wayne Maguiness did the reinstall and had it running by February 4. Meanwhile, two sets of air cleaners were flown in from New Zealand. Wayne then removed No.2 engine and flew back with it to Scott Base where it was overhauled during the winter. Vanda Station leader Bill Lucy removed the tracks from the now mobile Fergie for use around the valley during the winter. The second now reconditioned engine was crated by carpenter Noel Wilson and taken across the sea ice to the head of the Wright Valley by Sno-Cat in the first week of September, a few weeks before the helicopters could fly. Bill and Ron Craig met them at the head of the valley, and the engine was winched over the edge of the glacier onto a trailer along with drums of fuel, and a single cylinder diesel generator that Guard had built at Scott Base. Bill and his crew made several trips along the valley to get all the resupply equipment and fresh supplies down to Vanda. The new engine was installed in the laid-up tractor soon



after it arrived.

"It really was the worst extent of wear I had seen in an engine," Guard adds. "It was almost possible to shake the piston rings off the pistons, as there was so little metal left in them. They were just like thin bicycle clips."

Little did I know that my association with Ferguson tractors would end with the tractor train. When my six-month assignment on the ice came to an end, my wife, children and I moved to the Fiji Islands and then to Canada. Fergies were not in the mix. It would be another 40 years and a reunion of all members of the 1968-69 team in Christchurch in October, 2008, before I reflected on piloting a farm tractor across the sea ice of McMurdo Sound.

Together with our wives and partners, we had a special tour of the Canterbury Museum and, with a good lot of nostalgia and camera flashing, checked out the restored Fergies and other vehicles we'd all been so familiar with.

Today, as I brought anecdote and pictures together for this article, the story of the Fergusons and their role in Antarctic exploration brought vivid recollections of a fantastic summer in a part of the world hitherto reserved for penguins. I touched off memories with colleagues of the day in New Zealand, the Cayman Islands and Italy.

Those memories are now my Ferguson heritage.

This article was written especially for Ferguson Furrows and could not have been completed without the kindness, contribution and support of Allan Guard of Christchurch, New Zealand and Derek Cordes of Blenheim, New Zealand, (photos numbered 1-14,) both fellow members of the New Zealand Antarctic Research Programme of 1968-69. The writer recently published *Tide Cracks and Sastrugi: An Antarctic Summer of 1968-69*, a mix of nerve-tingling drama, history, anecdote and the emotional and physical unknown on the Antarctic continent. The book is available (black and white) on amazon.com or direct (colour) from the author [graemekc@telus.net](mailto:graemekc@telus.net).



"Vanda Motors"... the open air garage at Vanda Station at Lake Vanda in the Wright Dry Valley. Here, the two Fergies had their engines lifted and sent out for reconditioning and one TEA35 had its tracks removed for driving in the rocky dry valley terrain. Above: the Fergie is being used to install a wind generator tower. (Jan 1969).

Below: Italian geologist Marcello Manzoni tries his hand at cleaning a TEA35 distributor cap at Vanda Station. (Dec 1968) Marcello Manzoni photos.

