

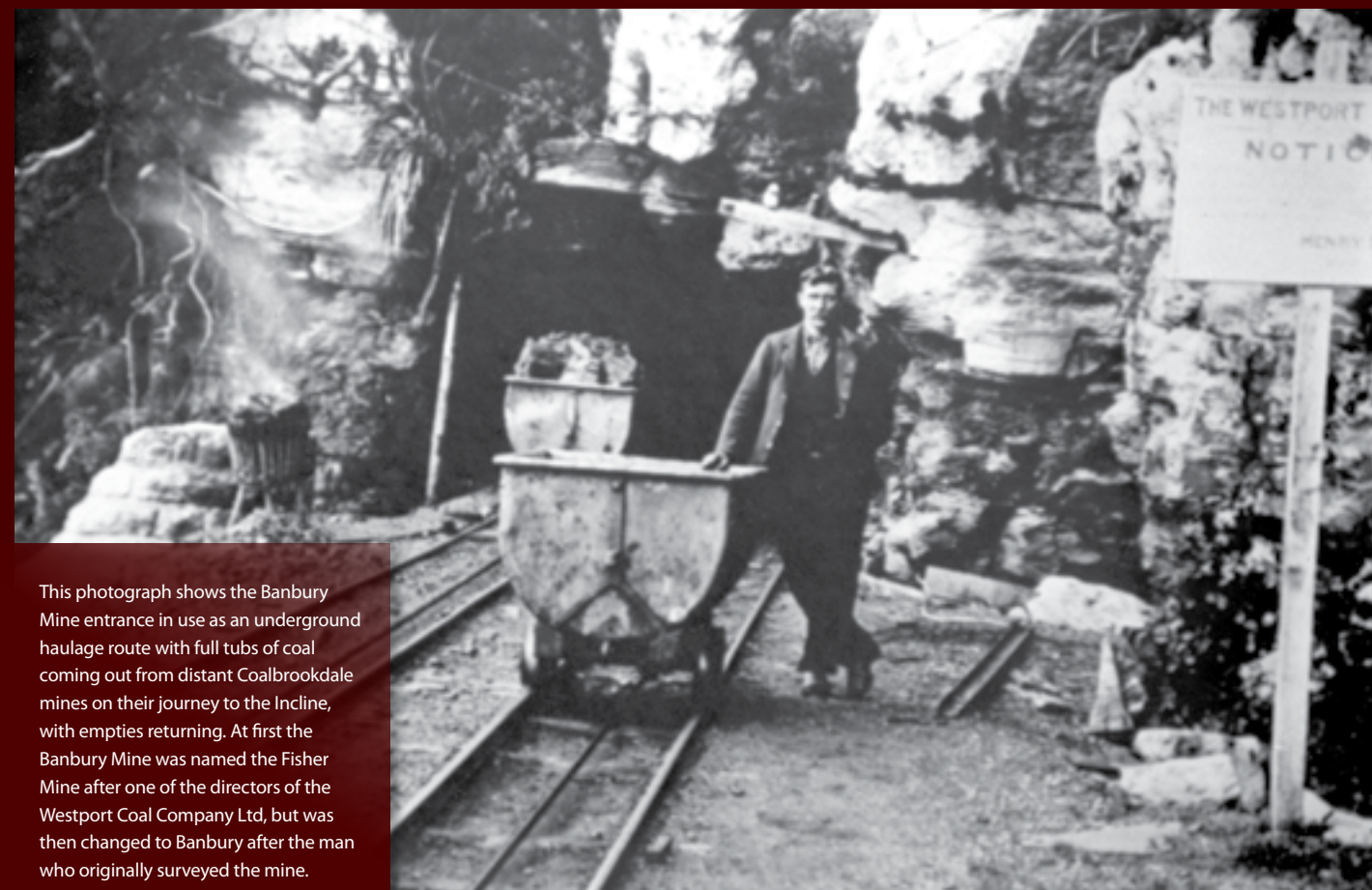
DENNISTON AT WORK

BANBURY MINE 1879 – 1890

The stone arches were built to support the tramway that carried coal from the Banbury Mine to the Incline. Cornish stonemasons are thought to have built the arches and other stone structures in the area. Working on such a steep slope would have challenged the masons' skills.



GRAHAME KYLE DEPARTMENT OF CONSERVATION WEST COAST



This photograph shows the Banbury Mine entrance in use as an underground haulage route with full tubs of coal coming out from distant Coalbrookdale mines on their journey to the Incline, with empties returning. At first the Banbury Mine was named the Fisher Mine after one of the directors of the Westport Coal Company Ltd, but was then changed to Banbury after the man who originally surveyed the mine.

THE BANBURY MINE AND TRAMWAY

The Banbury Mine entrance is 50 metres to the left of the arches. It was the first coal seam worked at Denniston. Although not of the highest grade, it was close to the Incline and provided an immediate income for the coal company. Miners started work before the Incline was completed and stockpiled bags of coal near the entrance to await transport. Once the tramway was fully operational, horses were used to haul tubs of coal to the Incline. A steep track, with steps cut directly into stone in places, led from the Plateau above to the entrance of the mine and continued down to the Camp. Known as Jacobs Ladder it was used by miners to get to and from work, as well as by townsfolk for getting around Denniston.

THE BANBURY ROPE ROAD

Once coal workings broke through to distant Burnetts Face, more productive mines could be developed up-valley from there at Coalbrookdale. In 1887 the tramway became an underground haulage route. In 1904 a new surface haulage route was installed on the Plateau and the Banbury Mine no longer used.

MEN ON THE JOB UNDERGROUND



MINERS

Worked in pairs at the coal face. They drilled and laid explosives, picked the coal, and shovelled it into the tubs (sometimes called boxes or trucks). They tied their identity number onto each filled tub, so they would be paid for their output. Employed on contract, miners had to buy their own tools – a pick and a banjo shovel – as well as their carbide head lamp. They also had to pay for the explosives, but were not allowed to fire them. Due to the physical strength and experience required, an older miner would often take on a younger mate to form a balanced team of brain and brawn.



TRUCKERS

'Ran' (pushed) the coal tubs underground along the 'flat sections'; sometimes for up to 200 metres. Truckers had to keep the miners supplied with empty tubs; sometimes a source of conflict between truckers and hewers.



JIG OPERATORS

Operated the self-acting inclines (or jigs), used where tubs required lowering to a different level. An operator was positioned at each end. Truckers (or horses) on the lower level would then resume the journey of the tub.



WINCH DRIVER

Operated the engine required to haul tubs up out of dip sections (lower sections requiring a long and steep grade to ascend/descend).



HORSE DRIVER

Responsible for the horses; used underground for hauling coal tubs along the long stretches, sometimes over 1 kilometre. Horses that were stabled underground came outside once a year at Christmas holidays.



CLIPPERS

Clipped and unclipped the coal tubs to and from haulage ropes.



SHIFT MEN

Carried out general underground maintenance. They timbered the mine as excavation progressed underground, laid rails and dealt with drainage problems.



MINE MANAGER

Responsible for the entire operation of the mine, on the surface and underground.



MINE UNDERVIEWER

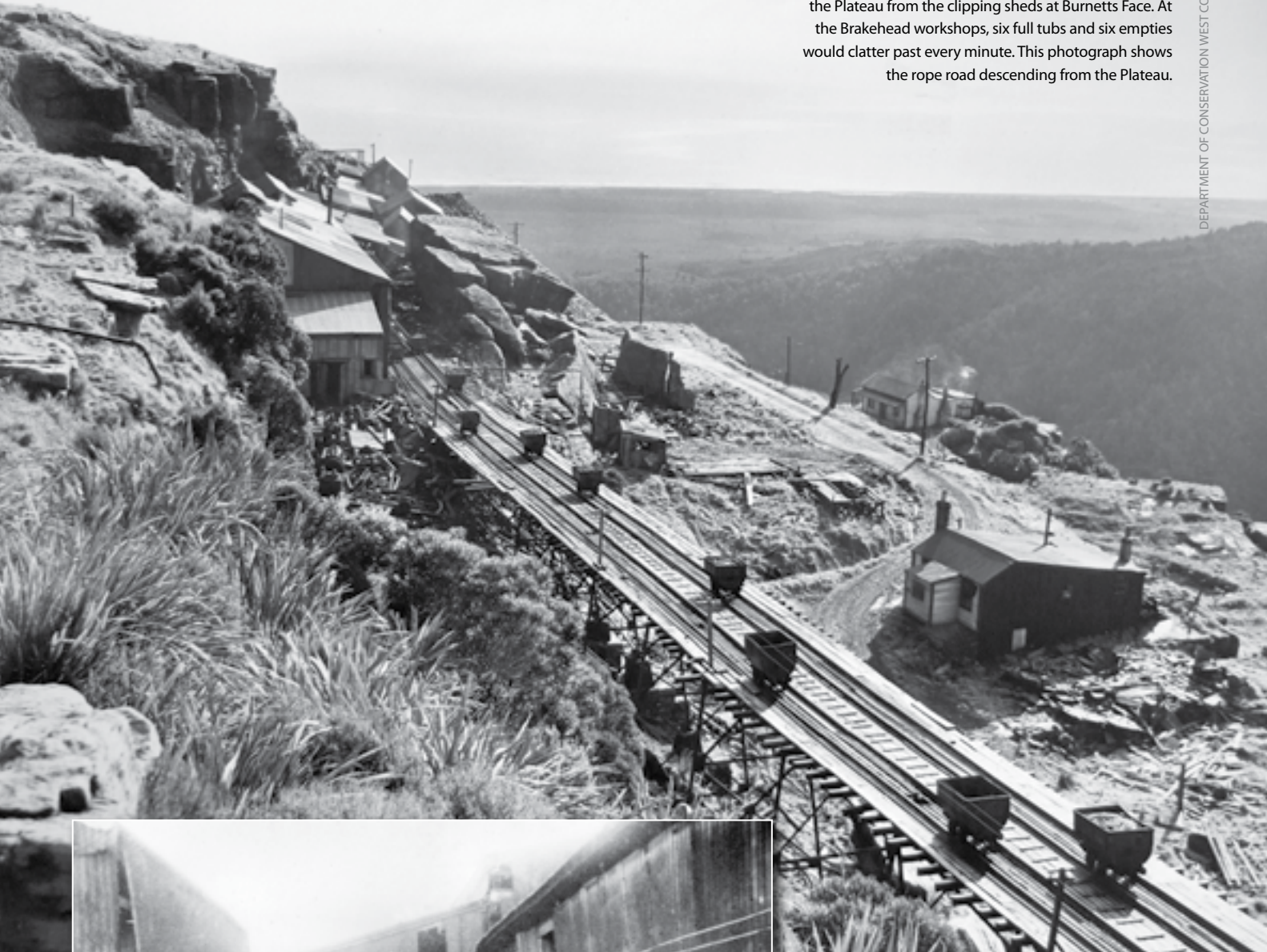
Overseer of underground workings only.



MINE DEPUTY

Responsible for a section of the mine. Only the mine deputy was allowed to use the detonators that fired the explosives. The checks and calls that were made before firing shots followed strict procedures.

ILLUSTRATIONS: JOHN@OBSCUREGALLERY.CO.NZ



This rope road once brought coal 2.5 kilometres across the Plateau from the clipping sheds at Burnetts Face. At the Brakehead workshops, six full tubs and six empties would clatter past every minute. This photograph shows the rope road descending from the Plateau.

DEPARTMENT OF CONSERVATION WEST COAST



FRIENDS OF THE HILL MUSEUM

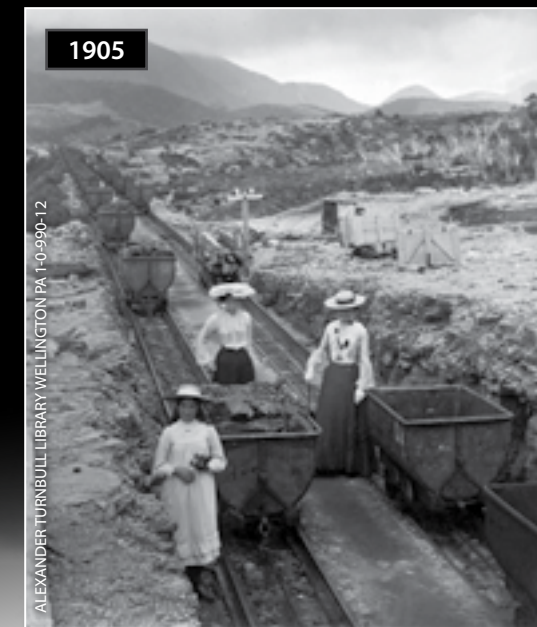
The rope road passed right between the workshops and associated sheds. The view on the next page looks the opposite way, across the top of the fitters' shop. Full coal tubs weighed 11–12 cwt.

WORKSHOPS

All around you stood the engineering workshops where mine equipment was maintained. Men operated lathe, steam hammer, forge and various machinery for punching, shearing and rolling metal. Carpentry skills were in demand too, but less so when the original wooden coal tubs or boxes were replaced in the 1880s by the galvanised steel type seen in the photograph. The closest building in the cluster directly under the cliffs was the fitters' shop followed by the blacksmiths' shop, the coal tub body shop and the tub repair shop, flanked by storage sheds and a covered section of rope road. Rock was blasted to make way for these buildings.

ROPE ROAD SHEDS

Beyond the workshops, a cluster of corrugated iron buildings stretched around the rope road haulage engine and power house, covering the coal tubs as they were unclipped, weighed and tumbled at the screens into the huge storage bins overlooking the Incline. Workers around here had some comfort in being under a roof, although the corrugated iron offered little protection from the freezing cold temperatures in winter. The blacksmith's forge was possibly a good place to be, although not in summer!



1905

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BANBURY UNDERGROUND HAULAGE

When mining first began at Denniston, horses hauled coal boxes along a tramway from the Banbury Mine to the Incline. In 1883 horses were replaced by a steam-driven, overhead endless chain. The moving chain broke up to 30 times a day and was replaced by a steel rope system in 1887. When the distant Coalbrookdale and Ironbridge mines were opened, coal from there was hauled through the old Banbury workings to the Incline. The faint line of the Banbury line can be seen in the photograph, falling away to the left of the rope road where it ascends the 'deviation' on steel trestles.

NEW SURFACE HAULAGE

A surface rope road was built in 1904 for transporting coal from the distant mines on the Plateau. The Banbury underground workings were no longer used. Workers' houses spread up the Plateau near the line of the rope road. Miners rode the tubs to work and used them to deliver their household coal.

LEFT Women pose for the photographer on the surface rope road near Denniston about 1915. In 1954 the rope road was replaced by an aerial coal transport system.

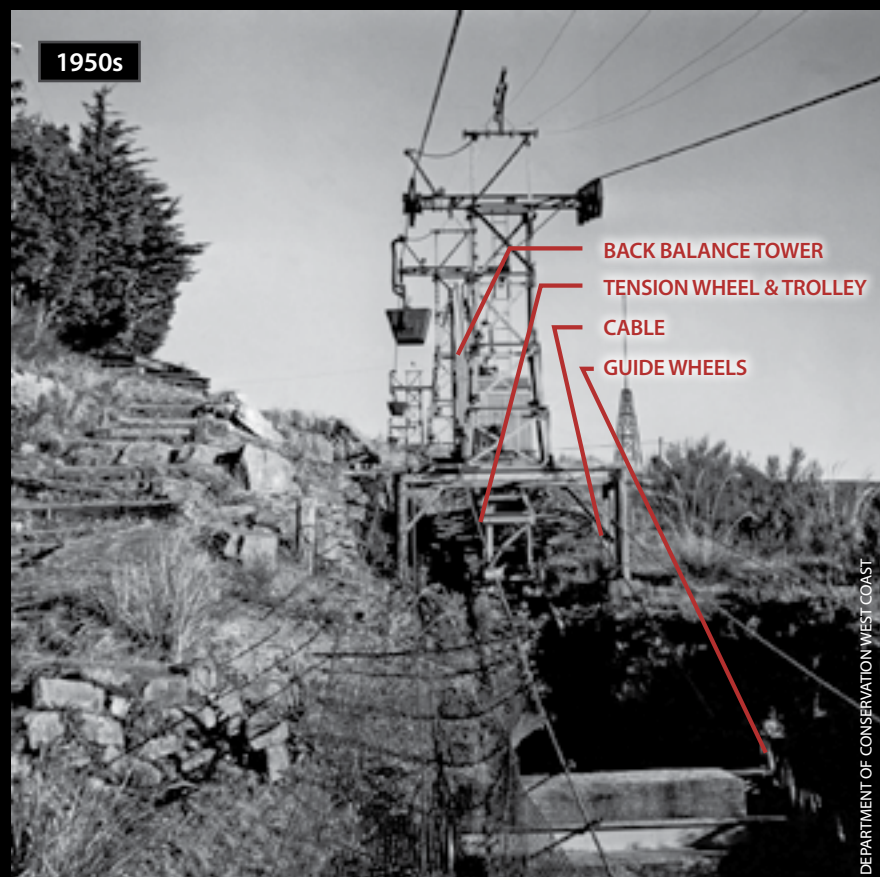
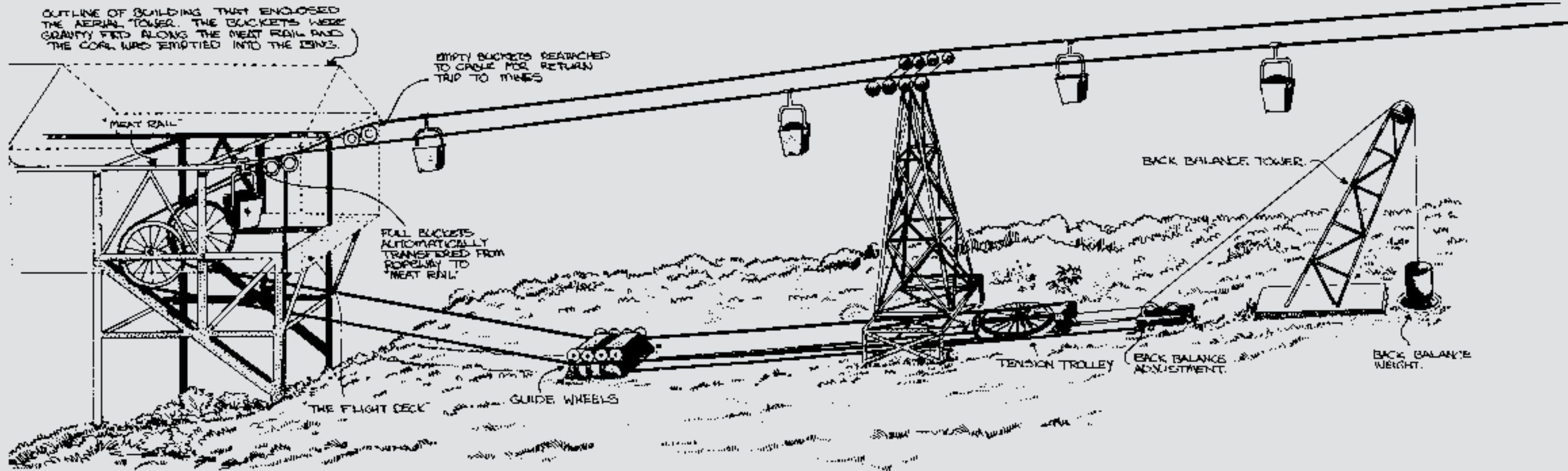
BOTTOM View looking over the top of the fitters' workshop to the distant Mt William.



DEPARTMENT OF CONSERVATION WEST COAST

DENNISTON AT WORK

AERIAL ROPEWAY 1954-1968



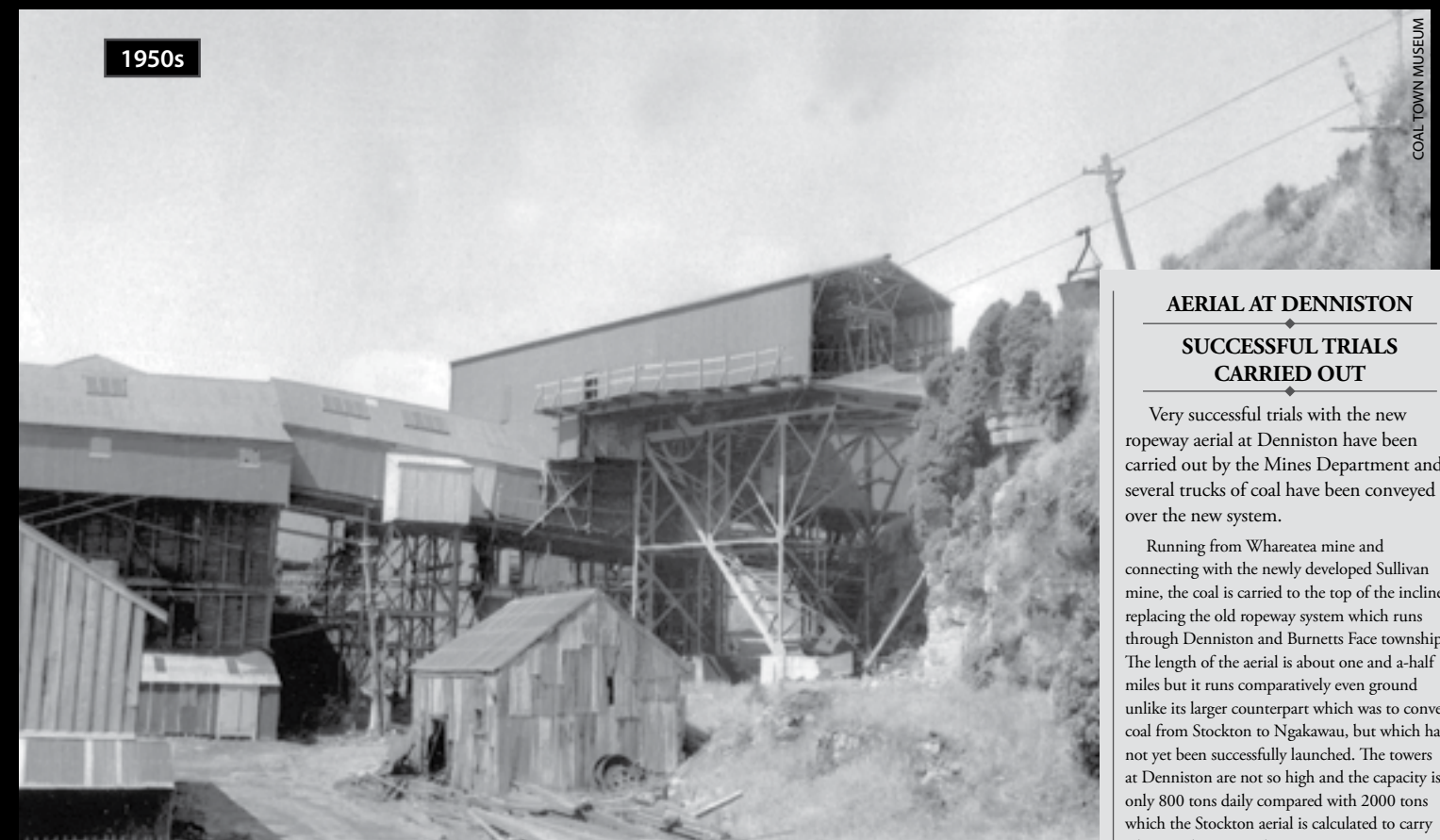
The aerial ropeway replaced the surface rope road in 1954. The aerial ropeway carried coal from the distant Whareatea and Sullivan mines to the Denniston Brakehead. Here, coal was screened and stored in huge bins that were sited nearby, then loaded into wagons and sent down the Incline. The aerial ropeway was replaced by road transport in 1968, the year after the Incline closed.

TIPPING COAL INTO THE SCREENS

On arrival at the terminal tower, buckets ran off the moving steel cable onto the 'meat rail' to empty into a chute. From there they were pushed along the rail to run again onto the cable back to the mine.

BACK BALANCE AND TENSION TROLLEY

The trolley maintained a constant tension on the aerial cable via a self-adjusting back-balance. Part of that is further up the slope. The 'endless' cable from the aerial terminal tower ran around the large wheel and back to the tower as shown in the diagram.



AERIAL AT DENNISTON

SUCCESSFUL TRIALS CARRIED OUT

Very successful trials with the new ropeway aerial at Denniston have been carried out by the Mines Department and several trucks of coal have been conveyed over the new system.

Running from Whareatea mine and connecting with the newly developed Sullivan mine, the coal is carried to the top of the incline replacing the old ropeway system which runs through Denniston and Burnetts Face townships. The length of the aerial is about one and a-half miles but it runs comparatively even ground unlike its larger counterpart which was to convey coal from Stockton to Ngakawau, but which has not yet been successfully launched. The towers at Denniston are not so high and the capacity is only 800 tons daily compared with 2000 tons which the Stockton aerial is calculated to carry when working at peak.



1920

Boys, some as young as 14, started their working lives in the clipping shed, at first as token callers or running the boxes between the weighbridge and the tumblers at the bin screens. Clipping skills required fitness and co-ordination, especially in cold weather. Fingers were hurt and sometimes lost. When the aerial ropeway came into use in 1954, the surface rope road was obsolete. This corner of the Brakehead fell quiet. ABOVE: Weighbridge workers and clippers outside the store shed at the Brakehead. Front row (left to right): B Stephens, H Slaven, P Insull, S Allott, T Muir, B Brownlee. Back row: A Allen, T Coppersmith, G Hill, J Oldham.



The smoko shed chimney – a much appreciated place in winter, especially for those working in the nearby clipping and weighing shed.

THE CLIPPING SHED

'Clippers' were the fit young men who clipped and unclipped the coal tubs to and from the endless rope.

A chain with large links was wrapped three times around the constantly moving rope, then one link passed through the other and dropped deftly over the hook on the stationary coal tub. Unclipping reversed the process as the clipper ran alongside the moving tub.

FROZEN FINGERS

In winter the smoko shed fire was kept burning all day long with a tin of hot water beside it. The clipping lads would run into the shed between working batches of tubs and plunge their frozen fingers into the water to thaw them out. The chimney and the frame of the weighbridge, seen a few metres along the line of the rope road, are all that remain of this once frenetically busy and highly dangerous place.

WEIGH AND TALLY

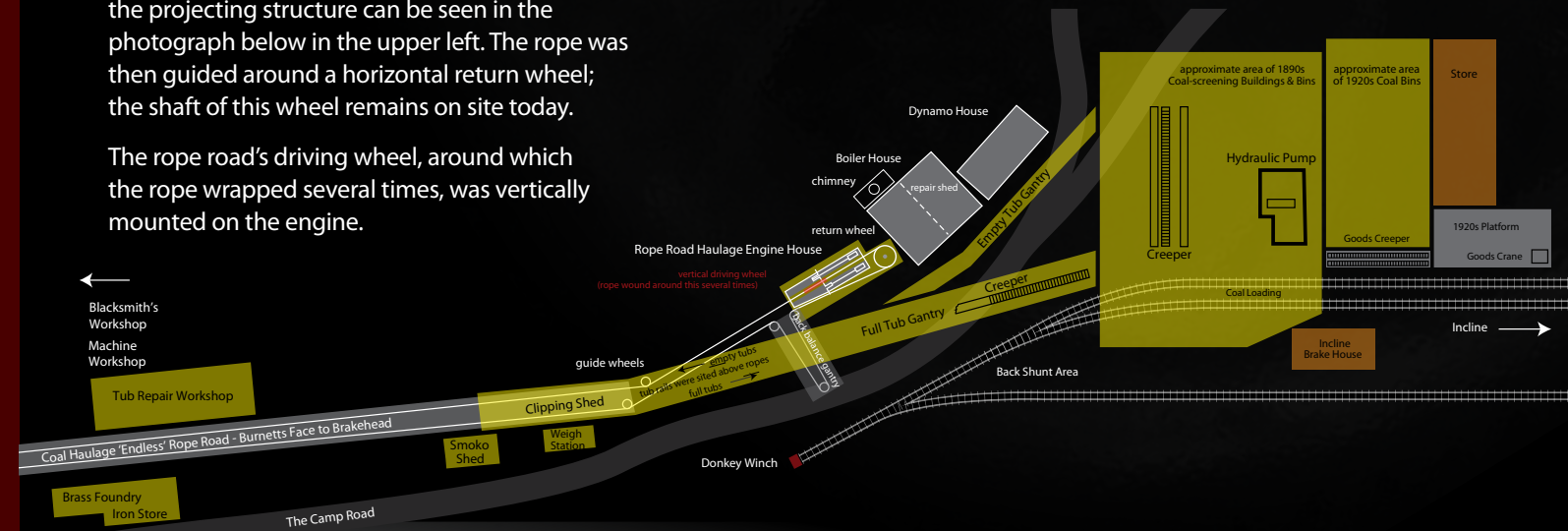
Upon unclipping, each tub of coal was weighed (a full tub weighed about 11 cwt). A leather I.D. tag or 'token' – attached to each tub by the pair of contract miners who filled it – was removed and hooked on a nail. The tub was weighed, the number called out and the ledger filled by the tally clerk. At the end of the working day, written entries were checked against the number of tokens on each miner's hook.

The road haulage engine pulled the endless rope that hauled coal tubs across the Plateau from the distant mines of Burnetts Face.

HAULAGE ENGINE

It remains a mystery as to the exact make of engine that was sited here. We do know that the steel haulage rope was directed by guides to a tension wheel, mounted on a trolley that projected out over the lower road to the Camp; the projecting structure can be seen in the photograph below in the upper left. The rope was then guided around a horizontal return wheel; the shaft of this wheel remains on site today.

The rope road's driving wheel, around which the rope wrapped several times, was vertically mounted on the engine.



View of the Brakehead from down the bank where rubbish and slack was tipped. From left to right: the smoking, boiler house chimney; the shed for the Donkey winch, used to marshal wagons for loading; the rope road back-balance gantry jutting out over the bank; the coal tub gantry to the bins; the screening sheds and the bins; the hydraulic crane for unloading goods; the Incline brake house and a mine office at far distant right.

BOILER HOUSE

The foundations of the boiler house lie just beyond the haulage foundations. Large coal-fired boilers raised steam and after 1904 drove dynamos to power the haulage engine and other machinery such as rocking screens and conveyor belts at the bins. The dynamo house sat beyond the boiler. When the 1929 Murchison Earthquake knocked the top off the boiler chimney, it was of little consequence as by then the Brakehead was being powered by the main Denniston power house up on the Plateau.