bridge and ran over a short length of temporary track which could be slewed as required to serve the slopes of the chitter dump.

Before beginning retorting and refining operations at Hartley Vale the company wisely erected an experimental plant in Sydney under the supervision of Professor Watt and Mr Nicolle, a well known engineer. These gentlemen conducted experiments relative to the extraction of crude oil from shale and the subsequent refining processes. As a result when the company installed its full scale equipment at Hartley Vale they produced kerosene of excellent quality, which was placed on the market during December 1865. It was found that each ton of shale provided 160 gallons of crude oil.

THE WESTERN KEROSENE OIL CO' LTD' HARTLEY VALE

A joint stock company, called the Western Oil Company Limited was established under deed of settlement bearing the date February 12th 1866. This concern, fostered by Messrs Jolly, Mortimer, and Stanford, of Sydney, was no doubt inspired by the success of the Hartley Kerosene Oil and Paraffine Company at Hartley Vale and took immediate steps to obtain some 1600 acres of shale-bearing land in the vicinity of the earlier mining activity. They acquired a large rectangular shaped block, bisected by Reedy Creek, north of the valley division afforded by the east-west crossing of the Hartley Pass Road, together with a large portion of steep hill slopes on the east side of Petrolea Vale, the western boundary of which bordered lands held by the older company.

Evidence relative to the site of the first shale-mining operations is sparse and only obtainable from the somewhat loosely defined contemporary newspaper cuttings which are subject to a degree of misinterpretation. Little precise information can be gleaned from these sources but judging from the location of the company's rope haulage way the three adits, together with a shaft, were placed a little below midway in the 600 feet high steep western slopes of the out-jutting spur leading westwards from the Darling Causeway, in the vicinity of the present Hartley Vale Railway Station. The kerosene shale, when first mined, was taken by road vehicles to Mount Victoria Railway Station, the then terminus of the Great Western Railway, which had opened for traffic on May 1st 1868.

THE WESTERN KEROSENE OIL COMPANY'S HAULAGE AND METRE GAUGE TRAMWAY

To obviate the slow and expensive road transport from the mines to the rail-head the Western Kerosene Oil Company decided in August 1868, to construct a metre gauge tramway some two miles in length between their workings and the Great Western Railway at Hartley Siding. This loading place was located at a distance of about three and a half miles north of Mount Victoria Railway Station on the extension of the main line to Bowenfels. This tramway was the first industrial siding to be opened on the Great Western Railway. The outer, or western section of the company's tramway consisted of a rope haulage descending some 650 feet from the crest of the spur to the lower terminus. The grades of the haulage way were excessively steep, ranging from about 1 in 1 to 1 in 4, thus necessitating the sinking at intervals of vertical posts, laid against and spiked to specially strong cross sleepers in an endeavour to prevent rail creep. The single-tracked haulage way, laid with light flat-bottom rails spiked to round-backed sleepers laid in ash ballast, was operated by a wire-cable which raised or lowered the wagons by means of a steam driven winding-engine and boiler unit installed at the bank-head and suitably enclosed within a brick-walled engine shed. The slack of the wire-cable operating the haulage way ran on wooden rollers placed between the rails.

A high-level staith, served by the outer terminal of the surface extensions of the 2 foot gauge underground tramways, was constructed against the southern side of the 30 foot long terminal loop siding of the main haulage way. It is surmised that empty wagons were lowered the full length of the haulage and then brought back by the cable on to the loop and there chocked and made ready for loading. The haulage cable was then attached to the wagon already loaded by means of a shackle and pin connection, after which the vehicle commenced its slow and dignified ascent to the bank-head and its reception siding. At the eastern end of the terminal loading loop a trailing point gave access to a short dead-end siding which curved sharply southwards, passing through a low one-sided rock cutting to serve a brick-built powder magazine.

At the crest, or bank-head of the haulage way there were two loop sidings, the one on the southern side being utilized for the standage of wagons preparatory to their descent into the valley far below, and on the northern side for the reception of "Full" wagons destined for the journey onwards