

# **LIGHT RAILWAYS**

**Number 115**

**January 1992**

**Cheetham Salt Tramways, Part 2: South Australia  
Wensleydale — Aireys Inlet Tramway Proposal**

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**Cover Photo:** *Vale battery locomotive BL08 and Hexham Engineering diesel DL2 in the yard at Angus Place Colliery, New South Wales on 17 July 1989.*

Photo: Craig Wilson

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## EDITORIAL

A series of articles on the tramway operations of Cheetham Salt Limited and its associated companies commenced in *Light Railways* No. 112. In Part 2 of the series, Norm Houghton introduces us to the company's operations in South Australia and describes the salt tramways at Edithburgh, Port Augusta, Lake Hart and Lake Macdonnell. Articles covering the larger operations at Kangaroo Island and Price will follow.

This article provides further insight into the management style which helped Cheetham to gain control of the Australian salt industry. With a bulky, low-value such as salt, efficient transport and handling was a key factor in gaining a commercial edge. The use of tramways to transport raw salt from the lakes to refineries and thence to dispatch points were therefore an important element of Cheetham's strategy. Detailed descriptions of the various tramway operations highlight the varying degrees of sophistication in the transport systems adopted by the fledgling South Australian salt companies prior to Cheetham's involvement and the efforts of Cheetham management to improve the systems.

Colin Harvey reports on his research into proposals to construct a light tramway from Wensleydale to extract timber from the forests near Aireys Inlet in southern Victoria.

Several book reviews and our usual letters columns round off the issue.

# CHEETHAM CHRONICLES PART II

## EARLY SOUTH AUSTRALIAN OPERATIONS

by Norm Houghton

Ed: The first part of this series, covering Victorian lake operations, appeared in *Light Railways* No.112. Part II covers operations at Edithburgh, Port Augusta, Lake Hart and Lake Macdonnell. Articles on more substantial South Australian operations at Kangaroo Island, Lochiel and Price will follow.

### Introduction

South Australia is Australia's driest state. The low annual rainfall and consequent lack of run-off, high evaporation rate and the presence of numerous basins of internal drainage resulted in a high incidence of salt. In the early part of the twentieth century, salt was the most important non-metal based mineral output of South Australia. The geographical distribution of the lake deposits in South Australia, favourable climatic conditions for the solar evaporation not only of the natural lake brines, but also of the sea water, and the relation to the chief Australian markets gave the State a comparative advantage in salt production.

The cost of transport of the low value salt limited the development of saline deposits to localities close to rail and sea outlets. Salt was gathered on a small scale for strictly local requirements for many years in the nineteenth century, but it was not until 1891, when 7500 tons were produced, that the output became notable. Production remained around 7500 tons per annum until 1895, when output more than doubled to 17,116 tons. Production rose rapidly to 30,794 tons in 1898, and remained at 30-40,000 tons until 1906. It increased to 75,000 tons in 1907 and 1908, and averaged 67,000 tons per year between 1907 and 1939. The Second World War brought a further large boost in production, which averaged 166,500 tons per annum over the ten years to 1949. The first of the large companies, the Castle Salt Co-operative Company, was formed in 1898 to take over the salt interests of Henry Berry & Company. It was followed by Commonwealth Salt Refining Company in 1905; Standard Salt Company in 1912; Australian Salt Company in 1913; Crystal Salt Company (sea salt) in 1915; and the Gulf Salt Company (sea salt) in 1918. The Cheetham Company gained either a controlling interest in or reached joint managing agreements with all the above mentioned businesses between 1926 and 1951.

The Australian Salt Company was the vehicle used by Cheetham. After the amalgamation agreements of 1930, the reconstructed company ran the salt fields at Kangaroo Island, Lake Macdonnell,

Edithburgh, Port Augusta, Lake Hart and Lochiel. A separate agreement with the Ocean Salt Company gave Cheetham a hand in the management of the Price saltworks.

Through the 1930's to the 1950's, Jack Cunningham and his principal lieutenants in Geelong kept in direct and frequent contact with the Australian Salt Company local office, first in Port Wakefield and then in Adelaide. These communications in the form of letters, reports, memos and telegrams have survived as a large batch of ASC chronological files and form the basis of this article. The records are not fully complete because bulky enclosures and plans, photographs and some sensitive papers were removed at the time of filing and have not reappeared.

The minutes of the company survive in the custody of Cheetham Salt Limited at Geelong and have also been researched for this article. Records for the Ocean Salt Company are not as comprehensive, but the writer had access to the Ocean Minute Books (held by Cheetham) as well as the Ocean Company's engineer's reports to Geelong and Cheetham's correspondence with Price.

### EDITHBURGH

#### Pioneers

The lower Yorke Peninsula in the region of Edithburgh, Yorketown and Stansbury contains



*A typical salt lake light rail operation on the Yorke Peninsula of South Australia in the 1930s.*

*Photo Adelaide Advertiser*

over 200 small salt lakes in an area climatically and geologically suited for the production of salt. Edithburgh (established 1861) became the major centre for an emerging salt trade in the latter part of the nineteenth century.

The salt industry was pioneered by the firm of Harrold Brothers who began regular shipments of crude salt via Edithburgh. Henry Berry & Company established the first salt factories in the area, initially with primitive affairs at Lakes Fowler and Paragon, and then as a fully operational refinery on a prime seafront site overlooking the Edithburgh jetty. Berry's concern was incorporated as the Castle Salt Co-operative Limited in 1898. The Castle Company soon had two neighbours at Edithburgh, one in what later became the Standard Salt & Alkali Limited Refinery, but originally established in 1903 by C McGlew, and another in the Commonwealth Salt Refining Company in 1905. Harvested salt from the lakes was carted to the re-refineries by road vehicles and the processed product despatched to markets by sea.

### Salt Tramways

Jetty tramways from the refineries provided access to the pier. The refineries were built on the high foreshore above the jetty with inclined-grade tramlines running north and south to them, along O'Halloran Parade, as well as west along Edith Street and these three lines converged at the western end of the jetty. Loaded salt-wagons (five-ton four-wheel flat tops) were gravitated down to the wharf and manually or horse-shunted. The files mention one incident of a truck plunging over the end of the wharf. The empty trucks were hauled back by horse-power through the shipping agency and jetty-shunting operation run by Messrs Richardson, Kempe, Howarth & Edwards.



*A Standard Salt Company advertising postcard depicting salt harvesting operations near Edithburgh*

The Castle and Standard Companies had a stock of what they called 'Lake Plant', i.e. all the equipment required to harvest salt on the lakes and transport it to the bank. An inventory of the Castle Company in 1930 showed their lake plant to comprise an assortment of shovels, picks, forks, rakes, barrows, planks, ploughs, drays, wagons, 25 tramway trucks, 732 lengths of tramline and eight horses. The inventories make no specific mention of tramway plant in the refineries but it is known that at the Castle Refinery a short system was used to convey salt from the stacks to the mill.

The Castle Company had leases in its own right to portions of the larger lakes (such as Lake Fowler and Weavens Lake) and used most of its lake plant at these locations. The balance of the plant was loaned to some individual lake-holders who undertook to harvest and sell to the Company. These suppliers received lengths of tramline and a tramway truck for the duration of the harvest. The Standard Company had a similar operation, possibly about the same magnitude as Castle, but no detailed plant inventories could be found in the files to confirm this.

The harvesting methods were very flexible and varied from year to year, lake to lake. For example, at Weavens Lake with its very soft bottom, motor truck haulage and even tramway haulage was dubious, with the only long-term successful means being the use of light-loaded, horse-drawn jinkers fitted with very wide tyres (up to 355 mm). Tramway haulage was used occasionally at Weavens.

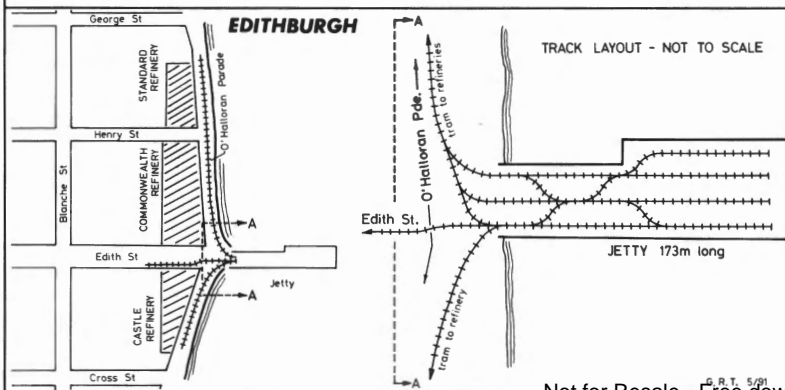
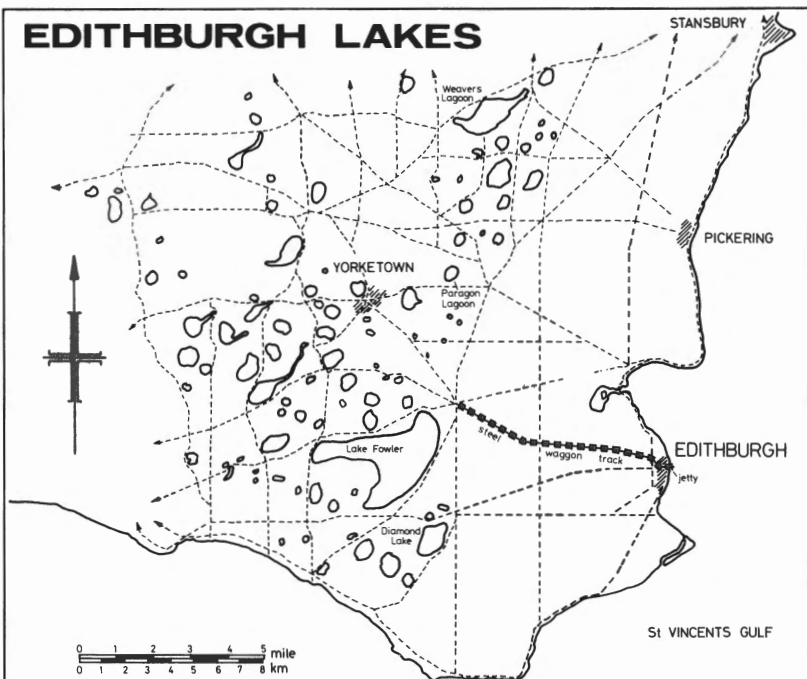
There were more than twenty leases operating on Lake Fowler by 1930, the major ones being the Castle, Standard and Commonwealth Companies, R Kinnane and Jim Ramsay. Ramsay possessed his own lake plant, but the files record at least one instance in 1932 when he used both the Castle and Standard tramways to convey salt to the lake bank and to the main road, presumably due to the positioning of his lease. The Companies charged Ramsay 3 pence per ton running rights.

It was Company policy that the lake tramlines and trucks were to be retrieved at the conclusion of the harvest, but this did not always happen. The writer's impression from the files is that the Castle and Standard Companies had a casual and relaxed attitude to the lake suppliers and left the plant at the same lakes year after year.

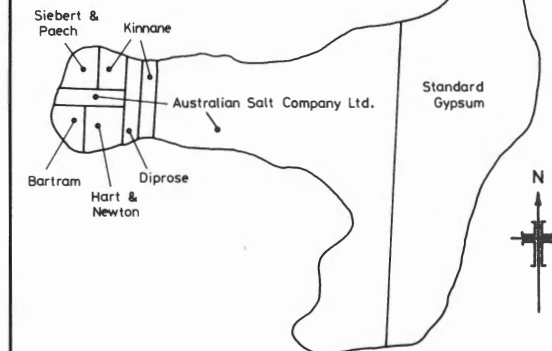
### Cheetham Takeover

This was to change with the Cheetham takeover of the Castle, Standard and Commonwealth Companies through the Australian Salt Company, and Cheetham's policy to rationalise the supply side of the Edithburgh salt trade. In 1932 a total of 66 individuals who controlled salt lakes in the district were approached by Australian Salt and offered a five-year royalty and supply contract and some 49

# EDITHBURGH LAKES



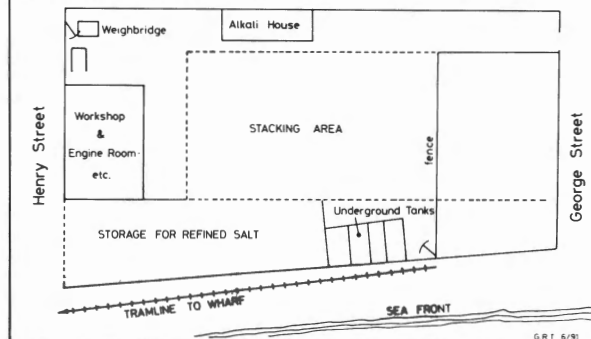
## LAKE FOWLER



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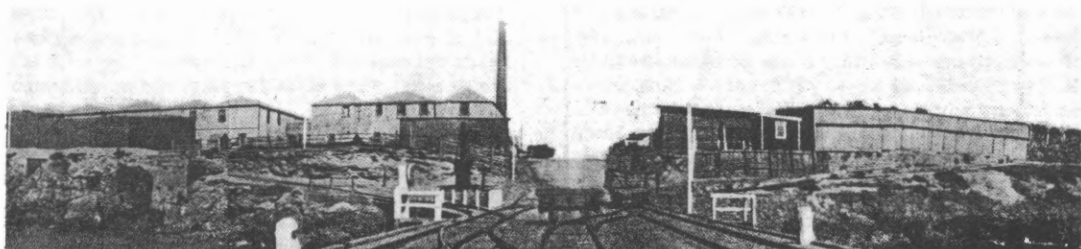
## STANDARD YARD - LAYOUT

NOT TO SCALE



G.R.T. 5/91



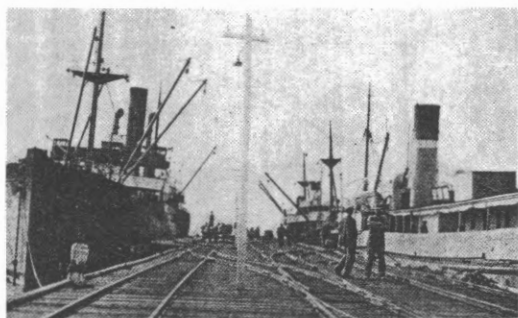


*Panoramic view of the Edithburgh salt refineries from the jetty.*

*Photo: Pocock, 16th Series of Country Centres*

signed. Those who did not sign had their tramway plant removed and Jack Cunningham told the local manager to adhere to the policy of retrieving loaned tramway plant at the end of each harvest season. It was standard Cheetham policy in Victoria to remove each harvest line off the lake or crystalliser at season's end. It was also part of Cheetham's strict accounting methods to justify assets and adhere to written agreements, so those suppliers who signed with Australian Salt Company would be looked after and those who declined would get nothing. Jim Ramsay was one of those who refused to sign and he spent the next few years in running battles with the ASC over lease boundary questions and water flow diversions on Lake Peesey. Ramsay's plant at Lake Fowler was taken over in 1932 by R Kinnane who had the advantage of freehold access to the Western end of the lake.

After the takeover the refineries were rationalised within three years and by 1933 the Standard and Commonwealth yards became storage sites only. A large quantity of plant and equipment became surplus and in 1937, when 11 boilers had accumulated, attempts were made to sell these boilers as water tanks.



*View of the Edithburgh jetty and shipping. The jetty tramway was 3ft 6in gauge.*

*Photo: Pocock*

## **Decline**

The Edithburgh salt trade went into a decline throughout the 1930's due to outside competition (primarily from Price), adverse weather patterns and the gradual exhaustion of the salt making potential for many regularly harvested lakes. ASC production for 1936 - around 17,000 tons - was about half of previous records, and the last substantial harvest for many years. For example, in 1938 the Company leases on 14 lakes produced less than 2,000 tons of salt. The effect of the decline in production was that contract working was introduced and the company ceased to supply tramway plant.

There were some surplus rails lying at Edithburgh (presumably heavy lines for the jetty tramway) and most of these were despatched to Kangaroo Island in February 1937 for repair work on that Centre's main line to the jetty. Nevertheless some rails were required for maintenance on the wharf lines and on the stack to mill lines in the refinery. Nowhere is the gauge mentioned for the latter line but it was probably 2 feet (610 mm) the same as used at other sites (except Kangaroo Island) by the Company. The jetty tramline extension outside the old Castle refinery was in need of renewal at the same time, and Jack Cunningham's proposal in March 1937 was to lift the unused track outside the old Standard refinery to provide the materials and send the released rails from the Castle line to Price. The Edithburgh manager disagreed, and mentioned that the old rails were thin in the web and unsuitable for Price, but that he had enough rails in stock for the jetty line renewals. This program was begun soon after, and by August 1937 the lines in Edith Street and O'Halloran Parade were regraded and relaid with good second hand rails. In January 1938 Jack Cunningham minuted the South Australian manager that "the Company used to have rails and trucks for taking salt off their own leases, but I presume these are now more or less on the scrap heap". Cunningham's presumption was correct.

## **Port Vincent**

The Company then took out a lease on a lake at Port Vincent, 60 kms north of Edithburgh, an area not

previously worked by the Company as it was too far out. Opposition contractors and Pacific Salt Company had been working portions of this lake for some years previously. In 1935 Jack Cunningham had inspected the lake and he noted that the operators seemed very slow and inefficient. The salt was lifted through the water, placed in small heaps, then barrowed towards the bank to where the tram-line ended, shovelled into a 6 cwt (305 kg) tram truck, which was then pushed by six men to the bank (taking ten minutes to do so) and then the salt was shovelled, not tipped out.

The Port Vincent lake offered the prospect of a reasonable harvest, and a contract was let in December 1938 to a Mr Benbow to harvest it. Benbow asked for tramway plant consisting of 100 sets of rails each 16 ft (4880 mm) long and some trucks.

Since nothing of this kind was available at Edithburgh the Company asked its managers at Lochiel and Price to supply the gear. Lochiel offered 25 sets of 12 ft (3650 mm) rails, but Price refused outright, saying nothing was available, as even the recently arrived surplus rails from Lake Hart had been used to build a new stacker line. No trucks were available anywhere except for the decayed stock at Lake Hart. Jack Cunningham conceded that these trucks were beyond use and suggested that it was time for the Company to buy stocks of rails for use at Edithburgh and Price. In the event Benbow purchased his own rails and trucks and worked Port Vincent lake until 1940. Benbow's contract for 1940-41 was not renewed due to a disagreement over rates so the Company decided to work the lake on its own account. There was still no company plant and equipment at Edithburgh for the task so arrangements were made to bring in rails from Lochiel and trucks from Price. Lochiel had a stock of ex Lake Hart 10 lb (5 kg/m) rails and could supply 640 metres of track made up of 150 sets of 14 ft (4260 mm) panels. But before these arrangements were put into effect climatic conditions rendered the potential harvest useless and nothing was done.

### Refinery Tramways

The limited system of tramways involved at Edithburgh was represented by the factory and jetty lines. The files contain only occasional references to these operations after 1941.

In July 1943 the hopper trucks in the refinery were fitted with auto trip doors. During 1954 Edithburgh acquired three quarters of a ton of 40 or 50 lb (20 kg/m and 25 kg/m) rail from Kangaroo Island for repair works on the jetty line. The jetty horse shunting service closed down in mid 1956 and from then on the company used its harvest motor trucks to haul the jetty trucks when required, which at that stage averaged one outwards ship load per month.



*The Castle Salt Co-operative refinery at Edithburgh from an early postcard. The blur in the centre is probably a wagon coasting down the tramway.*

The nature of most lake bottoms in the Edithburgh district ruled out mechanical harvesting but Cheetham successfully introduced such harvesting in 1951 at Lake Fowler. Other lakes could not enjoy this advantage and even as late as 1955 tramways continued to be used at several sites, including Peasey Lake, by the Pacific Salt Company, and Jenzens.

In August 1960 the trucking lines in O'Halloran Parade were reconditioned for the despatch of a large export order to New Zealand. The ASC works at Edithburgh remained in operation until 1964 when its main export trade to New Zealand for unrefined salt fell away due to import restrictions. The site was then used as a transit store for Price salt *en route* to export markets via Edithburgh until 1970 when this trade ceased. The factory was then demolished and the site sold, thus ending the Cheetham tramway connection with Edithburgh.

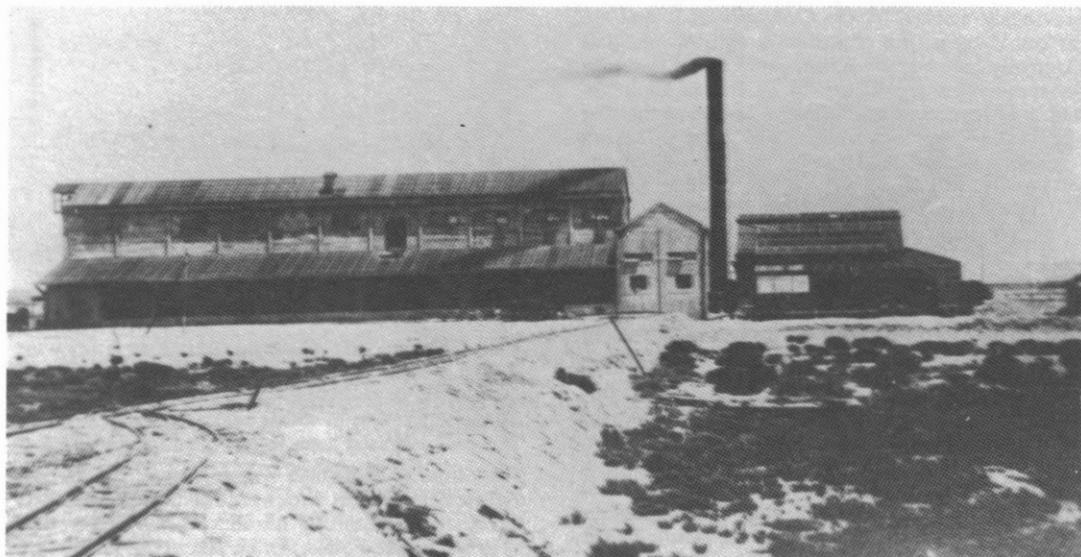
### PORT AUGUSTA

#### Crystal Salt Company

Cheetham's interest in the Port Augusta salt works (through the Ocean Salt Company) dates from 1930 but the enterprise had a history stretching back to 1915. The Crystal Salt Company installed the works in an isolated area on the west side of the gulf almost eight kilometres north of Port Augusta.

The works comprised a refinery and salt-lick press, boiler house, engine room, pump house and blacksmith shop housed in several sheds near the gulf. Behind this was a stacking plant and another engine house and to the west, behind a sea wall, were the condensers and crystallisers. A barracks and two houses for the harvest labourers were sited near the crystallisers.

Transport problems proved to be the bane of this salt works. Originally sea transport was used to despatch salt, but this became expensive and unreliable due to the methods used (towed barges) and



*Crystal Salt Company works on west side of Spencer Gulf, Port Augusta.*

*Photo: AD Lockyer collection, from Public Library City of Port Augusta*

distance from regular shipping lanes. As a result, sea carriage was abandoned in favour of a surface tramway connection with the trans-continental line on the other side of the gulf in 1920.

### **Tramway**

The tramway necessitated a bridge across the gulf and a long embankment over the tidal flats to the railway siding 800 metres to the west. At the siding was a ramped platform and goods shed. The line was of 2 ft (610 mm) gauge and laid with 40 lb (20 kg/m) rails numbering 218 of 6700 mm in length and 70 in varying lengths from 4880 mm to 6100 mm. A harvest tramway, 900 metres in length, was laid from the mill and stacker straight towards and along the crystallisers. This line was built with 20 lb (10 kg/m) and 14 lb (7 kg/m) rails on hardwood sleepers.

The files show that two tractors were employed on the tramways during the late 1920's but photographic evidence indicates that a steam locomotive was used in earlier days. These tractors were described as a "heavy" and a "light" one. It is known that one was a *Fordson* and the other was a side-coupled *Purcell*. The access tramway conveyed bagged salt to the railway siding by means of several flat-top bogie wagons 1295 mm wide by 6110 mm long. The crystallisers were served by around 20% yard (.57 cubic meters) and half yard (.38 cubic metres) hopper trucks. In addition, several flat-top trucks, 914 mm wide by 1370mm long, and mine hoppers were used for various purposes.

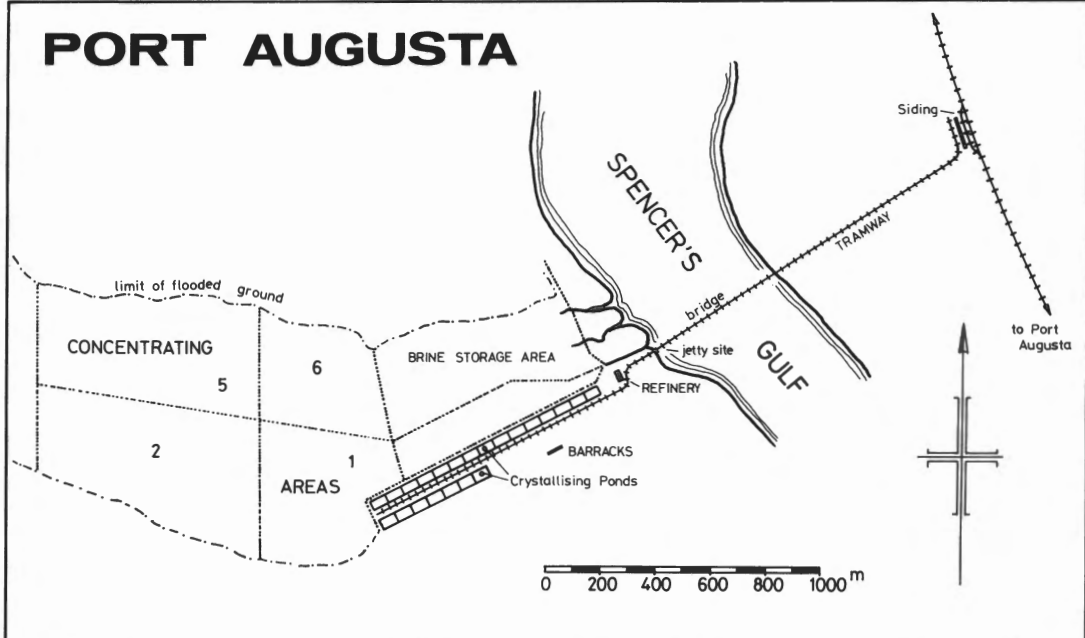
### **Ocean Salt Takeover**

The transport problems encountered at Port Augusta proved too great for the Crystal Company, and it went into liquidation in 1921. The Ocean Salt Company acquired the Port Augusta operation in October 1921 and ran the place in conjunction with a solar works at Price (established 1918 by Gulf Salt Limited) until 1929 when the company was reconstructed. In 1930, when Ocean Salt (Extended) Limited took over, the works were chronically plagued by sand drifts and its effectiveness was increasingly questioned by Jack Cunningham. In fact the reason the Ocean Company abandoned Port Augusta in favour of the works at Price was due to sand drift.

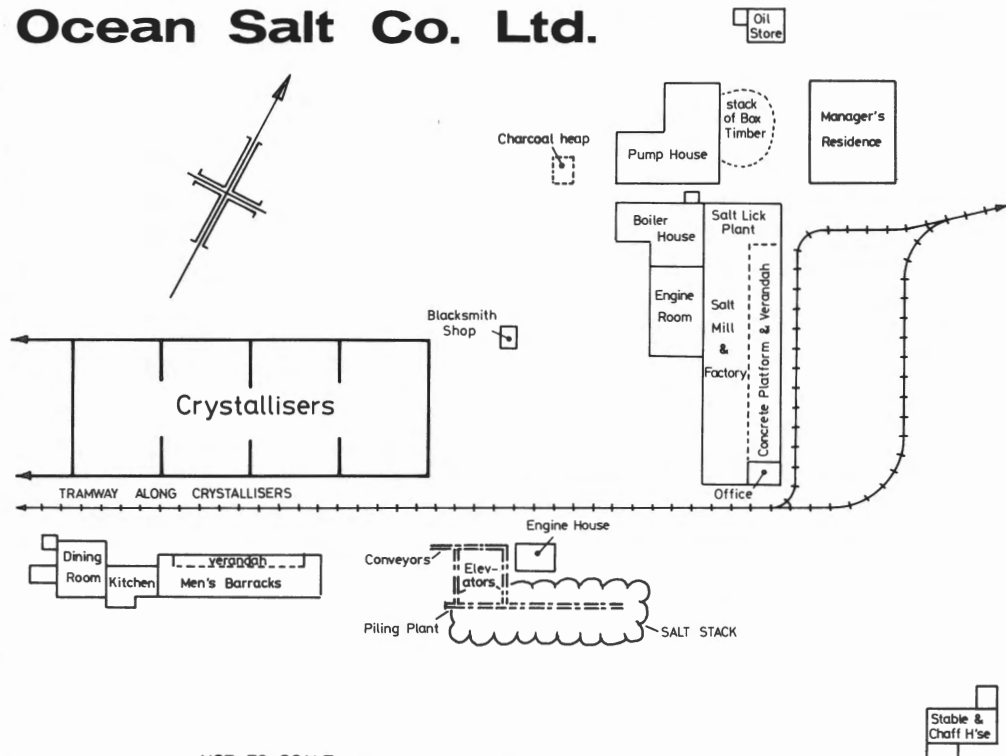
Each year the works was used to produce less and less tonnage, until by 1935 it was closed for regular production. Cunningham looked at the possibility of building a new battery of crystallisers further west beyond the sand hill zone, but the cost did not justify the move especially since export markets for Port Augusta Salt could not be found. The sand gradually engulfed the crystallisers and tramway and coated the salt stack. Small orders were met on an *ad hoc* basis from the salt stack until 1937 when the railway siding was disconnected due to the uneconomic cost of repairs needed to keep it in commission. Commonwealth Railways engineers inspected the access tramway at the Company's request and reported that the bridge over the gulf was unsafe for heavy loads. Jack Cunningham thought the Commonwealth factor of safety "some-



# PORT AUGUSTA



## Ocean Salt Co. Ltd.





*View from the crystallisers towards the Port Augusta salt works in 1937. Note the sand drifts across the line.*

*AD Lockyer collection*

what too high" and indicated that the works' light tractor could haul two tonnes in safety, "although deflection of beams might be unduly high", but this was not put to the test as the line was not used again.

### **Salvage**

The light tractor referred to was the *Purcell*. In 1935 its motor was reported as being worn out, and attempts were made to buy a cheap replacement (of any type) and adapt it to fit but nothing resulted. In 1940 it was decided to close the plant and salvage materials either for sale or for use at Price and Lochiel. The plant was valued by the Bingle Machinery Company of Melbourne in June 1941, and a low assessment given - mainly because the plant was not in working order and was situated in a remote location. The tramway rails were assessed as being the most saleable lots, as rails were then very scarce due to the war.

Cunningham and fellow directors decided against a general sale, and over the next five years the works were stripped of plant and equipment for use elsewhere as the need arose. Some plant remnants were retained to re-commission the works if wartime needs required it. The only impetus to reopening the works was a Commonwealth Railways contract in 1941 for salt to be used in locomotive water softening but the access tram was in such a poor state that Jack Cunningham ruled against supplying the order from Port Augusta.

In 1941 several flat wagon trucks, hopper trucks, some rails and the *Fordson* tractor were transferred to Price, but the access tram was left intact. Sufficient rolling stock was also kept on hand, and this comprised the *Purcell* tractor, 2 flat wagon trucks, 1 flat-top truck, 17 hopper trucks and 2 mine hopper trucks. At the end of the war what was left of the works was put up for sale, and this included

engines, boiler, pumps, iron-work, wall cladding, window frames, tramway trucks and rails, bridge timbers etc. There were few offers. Most of the tram rails and one flat wagon truck were salvaged and sent to Price. The remaining rolling stock was near derelict.

A status report on the *Purcell* tractor in May 1945 mentioned that the tractor was without a motor, front wheels and front axle, and that the radiator, "a huge thing", was in poor condition. The missing wheels had been sent to Price for re-turning as the tyres were grooved from years of working on the small rails. The report concluded that the tractor, "with the wheels returned to it and another engine, would be quite good - it has side driving rods like a loco motion".

In June 1945 Jack Cunningham instructed the caretaker at Port Augusta to freight the *Purcell* to Lochiel, where a suitable engine had been found, and advised that the missing wheels had been located at Price. During July the caretaker dismantled the tractor into five easily handled parcels and despatched the pieces to Lochiel in early August 1945. The remaining bits and pieces of the tramway at Port Augusta either rusted to pieces or were sold in fragmentary lots to small mining operators over the period 1946-1948.

The last of the salt stocks at Port Augusta were removed by a contractor using road vehicles from June 1946 to January 1947 and soon after this the caretaker was authorised to sell everything for whatever price could be secured so as to clear the site. Parts of the lease were not renewed after 1949 and were finally relinquished in 1955. The last assets to be written off were the tramway embankment and bridges on 15 April 1955.



*Remains of the trestle which carried the tramway over Spencer Gulf in 1954.*

*Public Library, City of Port Augusta*

The concrete portions of the factory structure survive to this day as does the embankment and major portions of the bridge frames. Member Arnold Lockyer reports that the rails of the standard gauge siding alongside the platform mound are still under sand and vegetation.

## LAKE HART

### Commonwealth Salt

The Commonwealth Salt Refining Company initiated a salt works at Lake Hart, on the transcontinental line 220 kms out from Port Augusta around 1917. The Commonwealth Company had leases over approximately 400 hectares for salt and gypsum (from 1912) and mostly supplied the Sydney market.

The railway passed very close to the lake's south bank, and here the Company erected its works about ten metres from the railway. The equipment comprised a washing plant and conveyor, hydro and mill for coarse salt, and a vibrator. Buildings were provided for use as a manager's residence, office, workers' quarters, workshop, store, lighting plant and stable. A dead-end siding 135 metres in length and capable of holding 13 'R' or 'G' wagons was laid in from the transcontinental line for the despatch of products to the Port Augusta docks. A portable tramway was laid from the salt stacks to a

loading platform 110 metres long, facing the railway siding. The method of harvesting was much the same as at the Company's Kangaroo Island field, that is, the brines were impounded behind low walls out from the south bank, the resulting salt was forked up from the mud bottom and loaded into tramway trucks that were run out on light rails laid on the crust. The trucks were then drawn back to the works and the salt tipped into hoppers, then elevated to the washers and thence, by another elevator, to a stockpile at the east end of the factory. Friction winches and lengths of 10 mm wire rope were used to pull the crude salt trucks from the end of the lake tram into the washers, and also used to pull the washed-salt trucks along the railway siding tramway from the stack.

### Tramway

Rolling stock on the tramway comprised 20 trucks, 3 end-tip trucks, 1 side-tip truck and 2 rail carrying trucks. Three horses and one rail tractor were employed on the tram lines on the lake and to the works. The tractor was described in a report as being "a petrol tractor (that) runs on rails, being fitted with a Studebaker engine".

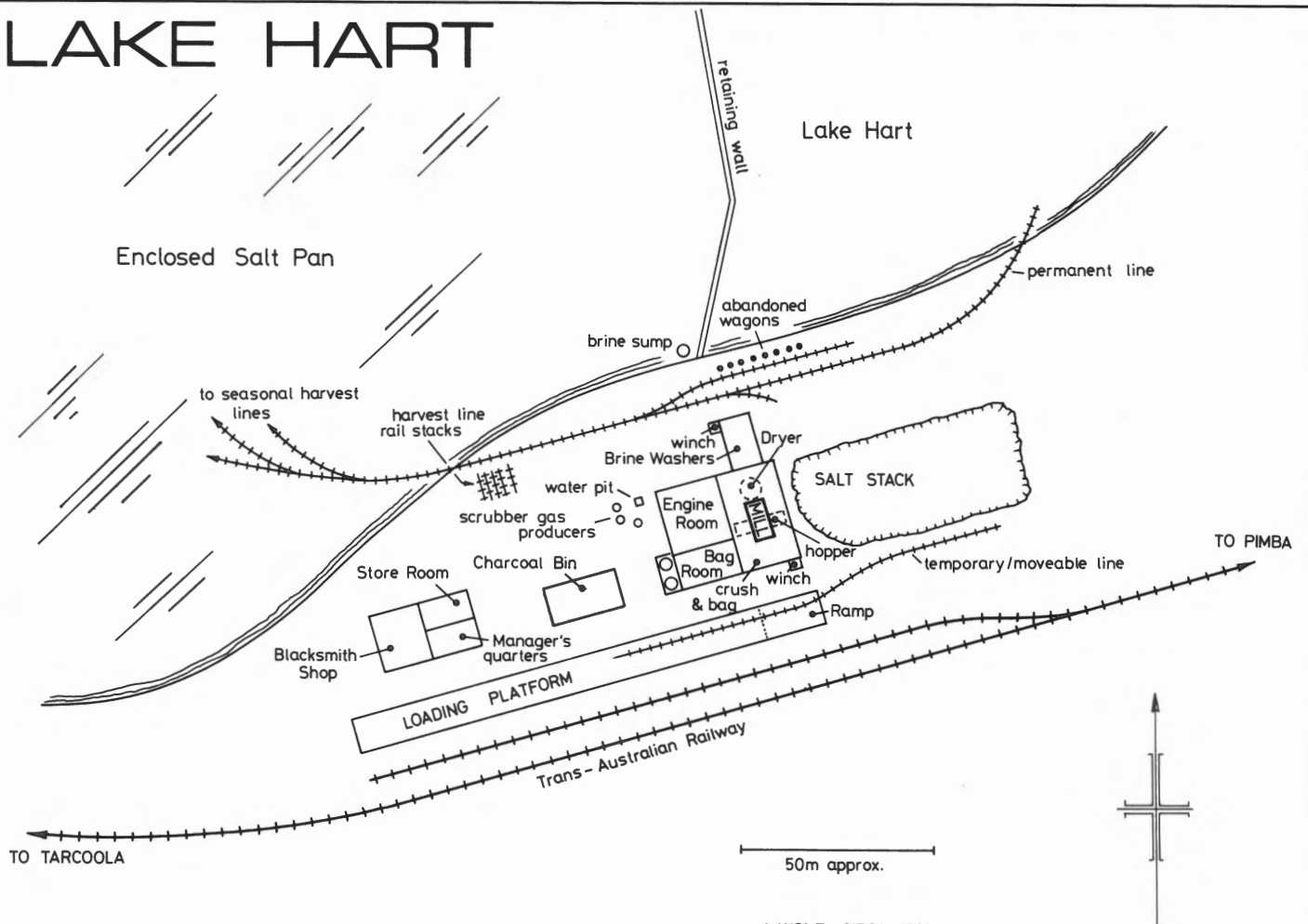
The tramway plant totalled 2.4 kms of 2 ft gauge (610 mm) track made up of 50 sets of 21 lb (11 kg/m) rails and sleepers, 209 sets of rails and sleep-



*Remains of the Lake Hart salt tramway c.1954.*

*Photo: Reg Mayes*

# LAKE HART



G.R.T. 6/91

ers of 30, 14 and 10 lbs sections (15, 7 and 5 kg/m), 9 sets of points and crossings, and 100 single rails - a total of just over 600 rails. Most of the track was portable; it was put down in panels each season to whichever area of the lease was being worked and taken up again at the conclusion of the harvest. The track sleeper panels were scraped, tar-painted and stacked on the bank at the end of each season in order to better preserve them. There was a short length of permanent line on the north side of the factory running into the lake as well as a spur siding to stable the lake trucks. The Australian Salt Company took over this field in 1930 and almost immediately wound back production.

### Decline

The major problems at this field were a low salt deposition rate due to the area's limited rainfall, dust discolouration of the salt and transport difficulties. Until the 1950's labour supply was not a problem but transport concerns were an ever present consideration. For example, empty trucks were provided from east-bound trains because of the lie of the siding points and the availability of empties from the west. These trucks were frequently in a dirty condition after their loaded journey towards Kalgoorlie conveying coal, grains and other bulk freights in addition to having faulty doors and floors that allowed bulk salt to trickle out. It was for this reason, as well as the Company's having sufficient salt supplies from other sources, that the Australian Salt Company ceased harvesting there in 1931. The Company maintained the leases as a contingency against future re-opening and to prevent competitors working the site. A caretaker was left on site to oversee the plant and keep vigil on a salt stack containing 6000 tonnes of product.

In 1938 the parent company required additional rails and equipment at Price and Lochiel and sent a senior officer to Lake Hart to inventory the tramway plant and prepare for loading a quantity of rails and the hydro. The officer detailed the salvageable

plant in a report and wrote off the tractor, two lake trucks, one end-tip truck and a quantity of rails as being beyond redemption.

Goods trains called at the siding on 16th May 1938 and 18th May 1938, and onto these, for Price, were loaded 26 x 21 lb rails, 81 x 30 lb rails and the hydro. A larger stack of rails comprising 337 x 10 lb and 36 x 14 lb section were left for later trains for despatch to Lochiel and were forwarded over the next six weeks.

The 1938 file reports make no mention of the disposal of the balance of the running plant, i.e. about 100 rails and the 18 lake trucks, except to mention their generally poor condition. The permanent line was left *in situ* either because it was in poor condition or the two employees sent up for the reclamation work could not pull up the track with the resources at hand. In regard to motive power, the tram tractor had been mounted on a frame by then and converted to a starter motor for the factory suction gas engine (apparently after September 1930, when Jack Cunningham had seen it running) and of the three horses, two had died and one had strayed.

In 1940 a Japanese enquiry for salt offered hopes of reviving the Lake Hart trade, but transport and worker accommodation problems, plus a lack of sufficient tramway plant to move the salt, caused the proposed sale to lapse. The surviving tramway plant had all but rusted out or fallen to pieces, leaving only one truck in a working condition.

All loose tools and equipment had been pilfered, most water tanks were useless, and the workers' barracks needed repairs to be made habitable. Labour was available (surplus shovel men from the Commonwealth Railways lifting gangs) but by this stage the salt stack had hardened and could be loosened only with explosives, the cost of which made the option unattractive.

In addition, the Company was dissatisfied with the standard of rolling stock offered by CR to move the salt to shipside at Port Augusta. It was nine years since the company had used the CR for long distance haulage and no improvement in the rolling stock had been noted in that time. A report dated 12 September 1941 by the company had this to say of the trucks.

They are a poor lot of trucks, bad floors and badly fitting sides. If used for bulk salt, we would lose half coming down. The R trucks have open tops and are no good at all for bulk loading. The Gs are full of cracks and badly fitting sides. The Gs hoppers are really the best. Some have bad bottoms filled up with earth and coal, and others sleeper bottoms, but these would only carry seven tons of loose salt each. I understand from them that trucks are scarce, and that no set trucks would be available to us at anytime. We would have only just what trucks were offering on return trips from the West.

In 1943 one friction winch was sold along with some other plant, and in 1946 the main dynamo was similarly disposed of, thus ending any chance of readily re-activating the plant.



*Remains of salt harvesting trucks at Lake Hart, September 1973.* AD Lockyer



## Post-War Activities

In 1946 a shortage of salt prompted the Company to again look at the salt stack for sales to New Zealand, but various difficulties intervened. The Commonwealth Railways asked for 190 pounds to reinstate the points and replace some defective rails. The availability of shipping space was erratic, and a stacking site at Port Augusta offered by the railways was thought to be unsuitable by the Company so the idea lapsed.

The resident caretaker remained until 1947, when the isolation and ill health finally caused him to leave. The siding points had been removed during resleeper operations, (date unspecified in the files) and in consequence the Commonwealth Railways ignored the siding for train-running purposes. The caretaker complained that not even the *Tea and Sugar* would stop at the siding to provide food supplies and the section ganger was forbidden by Port Augusta management to take mail or supplies to the siding site. The caretaker was required to walk the four kilometre distance to Burando for mail and groceries. After this departure the Company secured the services of the son of the ganger at Burando for two pounds a week.

A note of despair creeps into file references to Lake Hart from here on. In July 1947 Jack Cunningham minuted the South Australian Manager that "this centre is certainly a millstone around our necks, but we can hardly dare throw it off".

In 1949 the company looked at dismantling several of the buildings for re-use at Lake Macdonnell but lack of road access to the site thwarted the move. A stocktake of plant and inventory was taken at this time, March 1949, and the only tramway items mentioned were two point frogs for 14 lb lines and "some tram lines that were lying about".

The Commonwealth Railways then asked to rent the old barracks to house a cyclic track gang for the period June to September 1949 and this was agreed to. Although not required to do so, railway staff had kept an eye on the site after the departure of the caretaker and reported any unusual occurrences. From 1951 these reports mentioned an increasing incidence of theft and vandalism caused, it was surmised, by bored off-duty staff from the nearby Woomera Rocket Range.

The company retrieved some items of plant from time to time but most items were of doubtful value and were left behind. The wooden skeleton frame of the factory and the abandoned lake trucks were burnt by vandals after the lease was relinquished in 1964 but the salt stack still remains to this day.

## LAKE MACDONNELL

### Seesalt Ltd

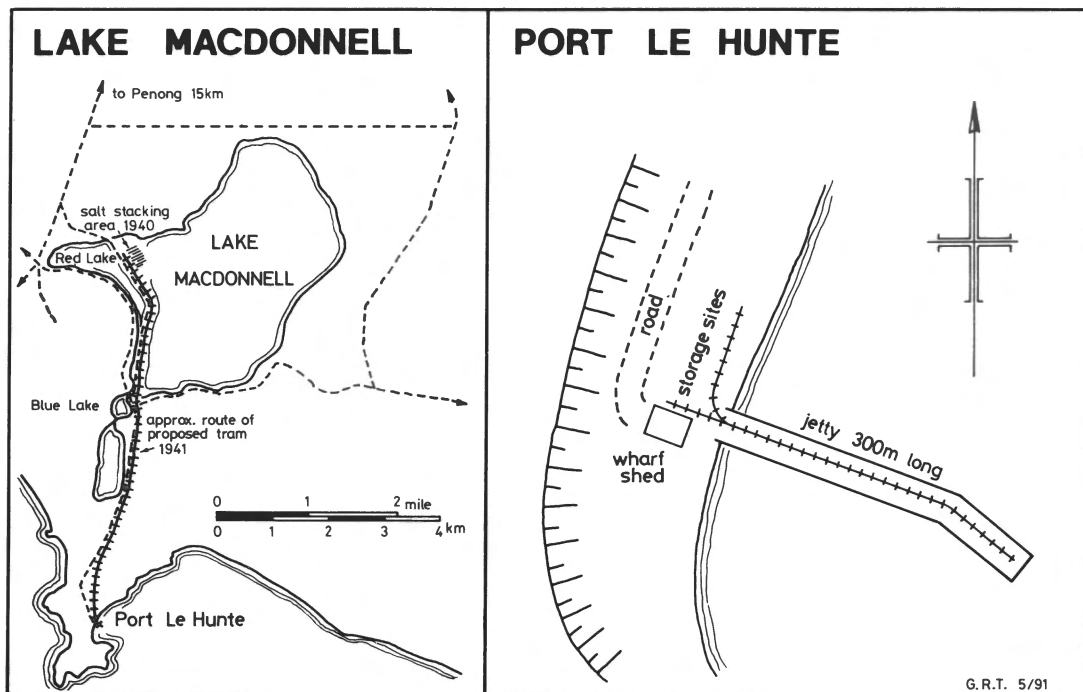
The large salt and gypsum-bearing shallow depression some eight square kilometres in area known as Lake Macdonnell is situated near the coast 12 kms south of Penong. Its salt resources were well known but the lake's isolation hampered development for many years. In 1915 Cheetham was approached by a development company to jointly work the lake but, after a thorough examination decided against it mainly due to transport and handling problems. Other venturers worked the lake on a small scale in subsequent years. In 1926 a major company, Seesalt Limited, was formed to harvest the lake. A Cheetham report in 1930 stated the lake was then being worked for salt under several leases, six held by the Macsalt Company and one by LF and FH Nicholls, who also had shares in Macsalt. Seesalt had an agreement with Macsalt to work the lake for them and market the product under a royalty basis. Jack Cunningham negotiated a Cheetham takeover of Seesalt Limited in 1931 in a complicated share deal (due to the nature of Macsalt) that required Nicholls to transfer the lease to Seesalt.

Lake Macdonnell has a firm bottom, and by 1932, when Cheetham arrived on the scene, it was mostly being worked by means of tractor-scoops and motor trucks. The assets handed over by Nicholls (who worked the lake for himself and Macsalt) comprised three Fordson tractors, one motor tip-truck, one crushing mill, four tramway tipping trucks of one tonne capacity, and several parcels of rails. The rails were a 6.5 tonne, rusty assortment of 40, 24 and 10 lbs (20, 12 and 5 kgs/m) sections in poor condition.

The more valuable assets (the motor stock and mill) were removed to storage in Penong and taken out only for the harvest. The other materials were stored in or alongside the Company shed at the lake. The rails were left on the bank because they were not worth picking up. It is not clear what precise role the tramway played after 1932 but it appears to have been very minor in view of the low priority given to the care of it.



Right: Port Le Hunte in 1921 showing part of the tram line



The crushed and bagged salt was carted direct from the lake by motor trucks for 6.4 kms to the jetty at Port Le Hunte, where it was transferred to the jetty tram 300 metres in length and taken for loading into whatever shipping space had been arranged. Shipping was coastal only and salt was not sent further than Adelaide as it was uneconomic to transship to further destinations. Cheetham sought wider markets by direct sales to New Zealand or Sydney, but not with much success, especially since the SA Harbors Board allowed the jetty at Port Le Hunte to fall into disrepair during the 1930's and caused the salt to be carted further to Thevenard in an operation involving road to Penong, thence by rail for 120 kms to dockside at Thevenard. International and interstate shipping companies were loath to call at Thevenard, unless a freight premium was paid, so Lake Macdonnell production remained on the limited scale provided by coastal ketches.

### Closure

By 1936 the tramway plant had ceased to be used at all. The salt crust was ripped by a scarifier and then banked and loaded by tractor scoops. Two ageing trucks, an AEC and a Berliet provided the necessary transport at that time. During the Second World War the Company looked at re-opening the jetty at Port Le Hunte and laying a tramline 6.4 kms in length between the lake and the coast. After consideration, the idea was abandoned in April 1941

due to the need to overcome 500 metres of drift sand along the route.

In September 1941 a local farmer asked to buy 14 lengths of tram rail for roofing purposes and after much haggling the company finally agreed to release eight lengths of rusted rail. The gypsum company also working the lake had some rails for disposal at the same time. Over the years plant at the lake was barely kept up to minimum requirements (as the lake was not regularly harvested) but if required various items such as stackers and harvesters were freighted in from as far away as Laverton, Victoria, when the occasion warranted. Mechanical harvesting techniques remained in use right through to 1953 when the field was shut down due to, as one internal memo put it, "no labour, no equipment and the costs are blue murder".

The tramway epitaph was probably written in 1956 when a report on abandoned equipment at Lake Macdonnell dated 30 October 1956 mentioned that in and around the sheds at the lake were stored sundry bits and pieces of scrap iron and two old 1925 tractors.

### Sources

1. Cheetham Salt Ltd, Managing Director's correspondence 1926-1956, Series 950, held at Geelong Historical Records Centre.
2. Australian Salt Company Ltd, Head Office correspondence 1927-1956, Series 920, held at Geelong Historical Records Centre.

3. Cheetham Salt Ltd - South Australian Reports 1927-1953, Series 937, held at Geelong Historical Records Centre.
4. Cheetham Salt Ltd, Managing Director's Special Reports, 1932-1955, Series 945, held at Geelong Historical Records Centre.
5. Australian Salt Company, Board of Directors Minutes 1923-1970, held by Cheetham Salt Ltd, Geelong.
6. W. Laker, 'Brief Histories of Australian Salt Company, Standard Salt & Alkali, Commonwealth Salt Refining Company and Castle Salt Cooperative', Internal Manuscript Draft, Adelaide, 1974, held by Cheetham Salt Ltd, Geelong.
7. R. Lockhart Jack, 'The Salt and Gypsum Resources of South Australia'. *Geological Survey of South Australia*, Bulletin No. 8, Department of Mines, Adelaide 1921.

## TOWARDS AIREYS INLET

by Colin Harvey

### Introduction

From time to time, *Light Railways* has published articles covering proposals for the construction of light railways which did not eventuate. This article describes proposals and surveys for constructing a light tramway from Wensleydale or Deans Marsh into the iron bark country between Wensleydale and Aireys Inlet, south-west of Geelong in Victoria. On 4 March 1925 the Secretary of the Forests Commission Victoria asked Mr CH Perrin, Chief Engineer for Railway Construction in Victoria, to make available an officer to examine the feasibility of such a light tramway. This request followed a visit by the Minister of Forests to the area.

Assistant Surveyor FC Bell inspected the area and recommended a route starting at Wensleydale and running via the saddle at the head of the Anglesea River, along the ridge to the junction of the Boonah and Wensleydale Roads, then along the valley of Distillery Creek to the Painkalac Creek. From this point the line would climb over the divide into the Moggs Creek valley then run along the coast to terminate at Coal Mine Creek or Spout Creek; a distance of about 17 miles [27 km] from Wensleydale. Mr Bell based his route on the use of three feet gauge with curves of three or four chains radius and a ruling grade of 1 in 30. Locomotive traction was proposed as far as Moggs Creek with horse haulage beyond and also for suggested branches to serve the Painkalac and Moggs Creek valleys. Earthworks would not be very heavy as the cross slope would not exceed 20 degrees and significant bridges would only be required at Painkalac and Moggs Creeks.

Based on this report, the Chief Engineer for Railway Construction estimated the cost of construction with 20 pounds per yard rails, at about 30,000 pounds for 17 miles, including rolling-stock. However a survey would be required for a reliable figure.

### Forests Commission Proposals

Chief Inspector Ingle from the Forests Commission inspected the area in August 1925 and produced an evaluation of the viability of the proposal. The first

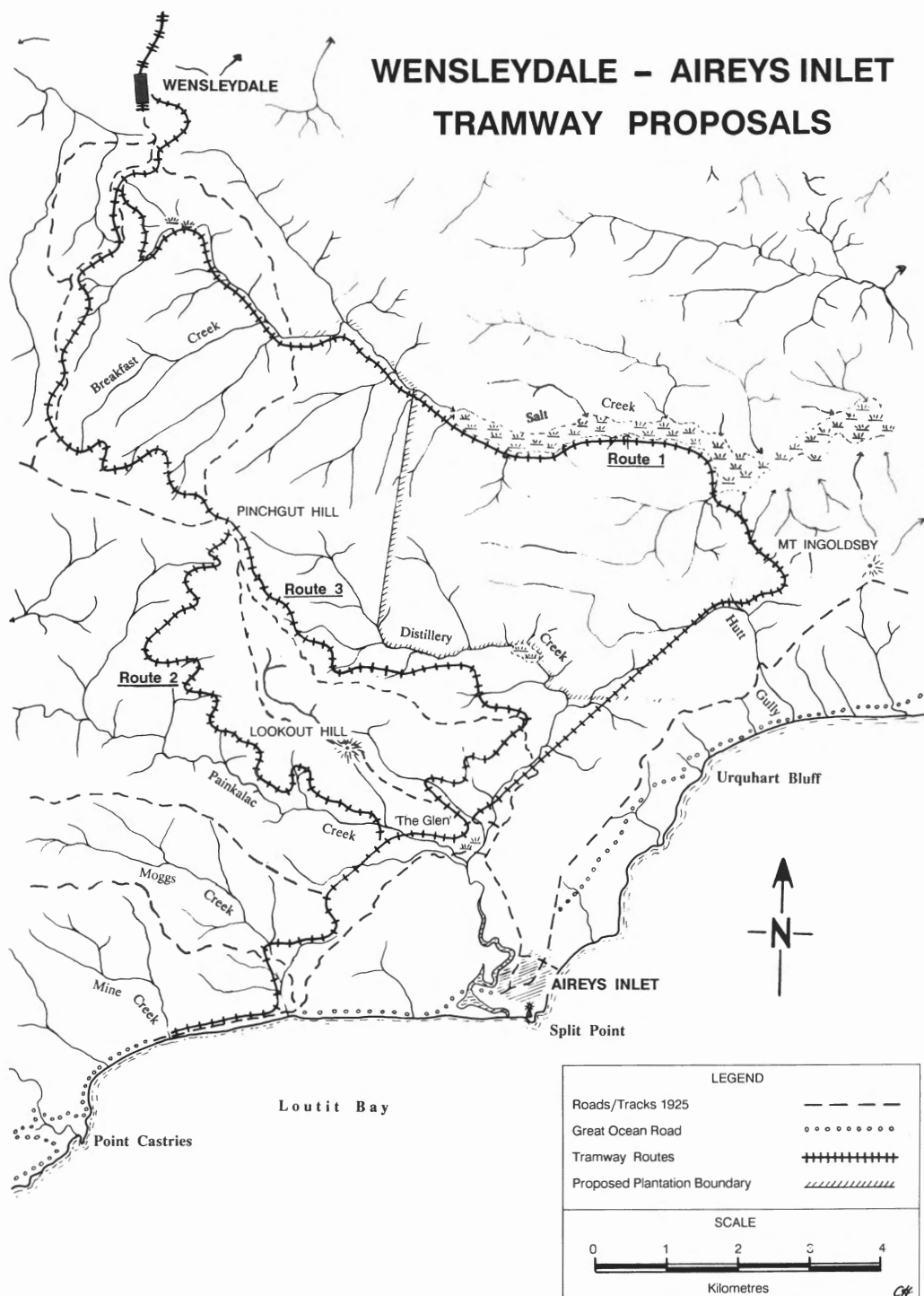
five miles of the route would be too close to Wensleydale station to generate any traffic and for the next seven miles timber supplies were poor. Most traffic would be generated from an area about six miles long and two miles wide near the coast. He suggested that the first loading siding be located 12 miles from Wensleydale. Beyond this point the line could be fed by subsidiary tramways up the main creek valleys; these valleys being worked in succession with the tramways progressively removed and relaid.

Mr Ingle estimated that total freight available was 284 600 tons of forest produce, about 98 percent of this being firewood, plus about 30,000 tons from private property. This would generate about £24,000 in royalties and £34,000 in freight charges. On this basis, the cost of construction (at £320 per mile), operation and maintenance of an ordinary bush tramway could not be justified. The freight available would also not justify the construction of a line at the cost estimated by the Railway Construction Branch. However Mr Ingle believed that this estimate was too high. If the line was built, his opinion was that it should use steel rails and be capable of carrying a light locomotive.

In September 1925 the Commission began inquiring about the cost of construction materials and rolling-stock and the staff surveyor conducted a trial surveys for estimate purposes. The Commission sought quotations for the supply of rails and fastenings for 17 miles of track with rails of 30 pounds per yard in 24 or 30 feet lengths.

Imported rails were found to be cheaper than locally made however these would probably be subject to "dumping" duty in addition to customs duty. By far the cheapest were second-hand, 67 pounds per yard (when new), cable tram rails available from the Melbourne and Metropolitan Tramways Board at £3 per ton, but the high cost of freight from the Prahran store to the railway and then to Wensleydale (for double the weight of the other rails) made these uneconomic.

# WENSLEYDALE - AIREYS INLET TRAMWAY PROPOSALS



## Surveyed Routes

Three routes were surveyed for costing purposes by staff surveyor Ecclestone. Each route started at the Wensleydale Railway Station and finished at Coal Mine Creek and allowed for maximum grades of 1 in 37, a gauge three feet and rails of 30 pounds per yard.

Route 1 ran down the Breakfast Creek and Anglesea River valleys to the Commission's Anglesea softwood plantation, then being developed, and then along the coast to Aireys Inlet. This route was 18 miles long. The estimated cost of constructing this route was £29,215 (excluding rolling-stock).

Route 2 was the route recommended by the Railway Construction Branch with the exception of a deviation of 6½ miles down Sailors Gully. This route was 17½ miles long and would cost £31,680.

Route 3 was that recommended by the Railway Construction Branch. The surveyor's estimate of cost was £32,395 for a length of 18¼ miles - which was higher than the Railway Construction Branch estimate which Mr Ingle thought too high!

Routes 2 and 3 would cost more than Route 1 due to the heavier engineering required. Route 1 also had the advantage of a climb of only 895 feet against the load compared with 1,200 feet for routes 2 and 3. Other advantages of Route 1 were an additional 80,000 tons of potential freight, giving a total royalty and freight revenue of £69,365, and permanent access to the Anglesea softwood plantation. [Tramway access would assist the development of the plantation by allowing timber, then being cleared and burnt at a cost of £7 per acre, to be sold as firewood.]

Route 1 was recommended by both the surveyor and Inspector Ingle.

## Locomotives

Offers for the supply of locomotives were received from three companies.

Cameron, Sutherland & Seward Pty Ltd offered a three feet gauge locomotive available "in a neighbouring State" close to a shipping port at a cost of £400 *in situ*. They believed this to be a Kerr Stewart with 8x12 in. cylinders and a weight to 10 or 11 tons. [This may have been B/N 685 at Beaconsfield, Tasmania.]

Electro-mechanical Engineering Company Limited was apparently the agent for *Societa Italiana Ernesto Breda per Costruzioni Meccaniche* of Milan and it offered a seven ton locomotive from this builder for £1500 new or £925 second-hand. [A page from the manufacturer's catalogue was included with the offer. This depicted a 1445 millimetre gauge locomotive, *Casario*, of the type supplied to the Italian Navy and the Port of Genoa]. In a further letter, on 15 October 1925, the Company stated that they had a crude kerosene locomotive built by *Roma* Italian locomotive works available "for immediate delivery" at a cost of £750. [What was this locomotive?]

A rail tractor was available from Malcolm Moore at a cost of £490 but the Commission officer who inspected it thought was "hardly powerful enough for a full load" but it could be used for lighter work.

## Outcome

On 27 October 1925, the Forests Commission "approved of No. 1 route through the Anglesea Plantation. To be carried out after the construction of the proposed Erica tram line." By March 1926, however, the Commission had decided that they were not prepared to spend a large amount on constructing the tramway without a further estimate of the traffic available. A detailed survey of the approved route was undertaken during 1931 but approval for construction was never given.

## References

All information is from Forests Commission Victoria file no. 31/3634 and LR 76, pages 96 and 97.

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# HUDSWELL, CLARKE & CO., LEEDS

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(ESTABLISHED 1860.)

## LOCOMOTIVE TANK ENGINES

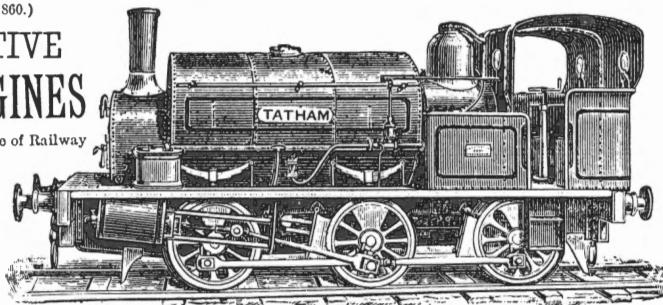
Of all Sizes & any Gauge of Railway

Of greatly improved  
construction.

For Main or Branch  
Railways, Contractors  
Ironworks, Collieries.

For Cash or

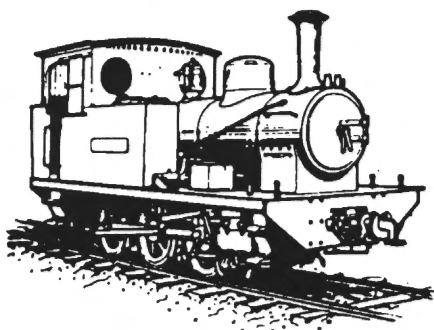
Deferred Payments  
AO215a



SOLE MAKERS OF RODGERS' PATENT WROUGHT IRON PULLEYS.

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## BOOK REVIEW

**KANAKA: a history of Melanesian Mackay**, by Clive Moore. Port Moresby, Institute of Papua New Guinea Studies and University of PNG Press, 1985.

This fine history of the Australian sugar industry should have received attention in the pages of *Light Railways* before now. Possibly its publication in Papua New Guinea has restricted its distribution in Australia.

Clive Moore traces the migration of Melanesian labourers from Malaita, in the Solomon Islands, to the Queensland cane fields. He then provides a detailed account of the life and work of the Melanesian community in the Mackay district in the nineteenth century, the compulsory repatriation after the federation of the Australian colonies, and the progressive divorce of the few who remained in Queensland from the sugar industry they and their fellows had done so much to create.

Some 62,000 labour recruits came from the Pacific islands to work on the Queensland cane fields between 1863 and 1904. About 9,200 of them are estimated to have come from Malaita, more than twice the number recruited from the next most important islands (Epi, 5084 and Tanna 4241). *Kanaka* commences with an exploration of Malaitan society and the factors which contributed in the active participation of Malaitans in the indentured labour trade. While initial recruiting was primarily by deception, it became an increasingly voluntary affair. This came about not only from changes in European attitudes to Melanesians, but more importantly from increasing awareness amongst Islanders of the real nature and benefits of the labour trade and life on the plantations.

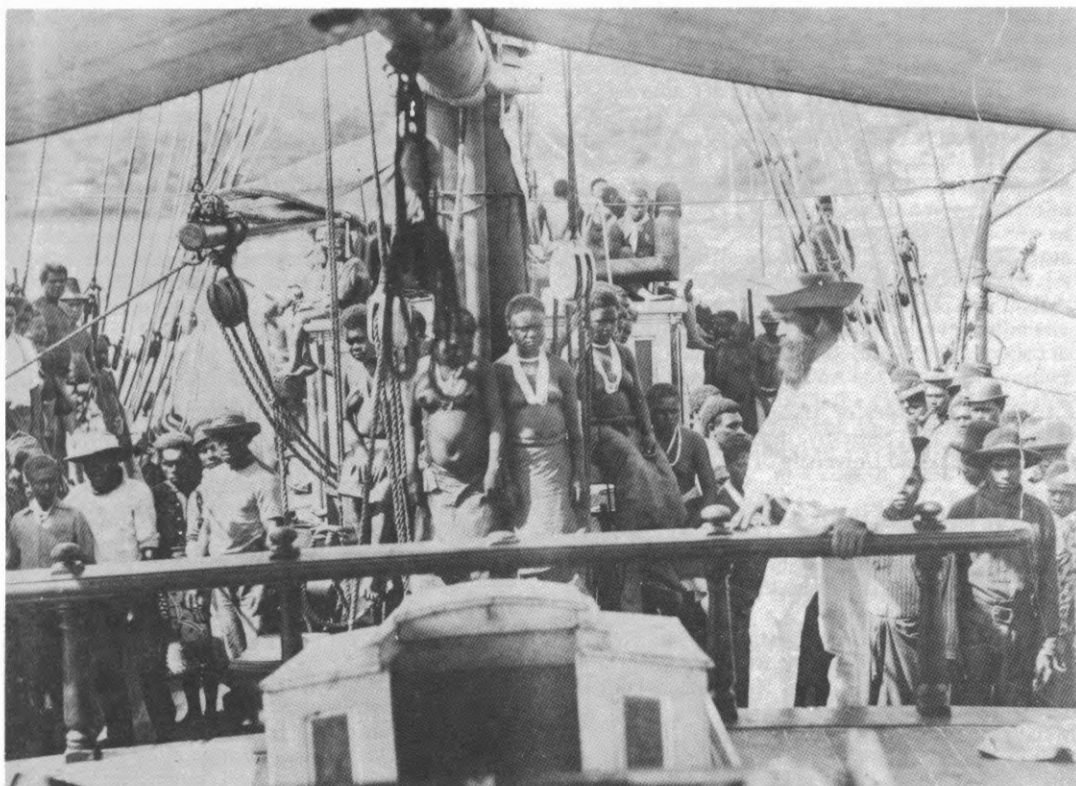
Moore's examination of the role of Melanesian labour in the Queensland sugar industry commences with a "Short History of European Mackay". This chapter offers an excellent overview of the evolution of the Australian sugar industry in general and its contribution to Mackay district in particular. That evolution commenced with local

pioneer planters from the 1860s, who gave way to to capital intensive plantations funded by southern capitalists in the 1880s. By 1885 there were 30 plantation mills operating at Mackay. Twenty eight grew most of their own cane, but accepted cane from surrounding small farm operators; the other two (*Victoria* and *Marian*) operated primarily as central mills supplied by surrounding farms.

During the following decades the industry was transformed from a plantation regime to one of large central mills co-operatively owned by small farm operators. Moore notes that the forces which dictated this transformation were largely technological, but readers of this review will be surprised and disappointed that the role of light railways in developing the necessary low cost transport system for efficient central milling has not received adequate recognition. While this is an excellent social history, it would be further enhanced by stronger linkages to the technological and economic factors which underlie social changes.

Nevertheless, the social perspectives provided by Moore make a valuable contribution to our understanding of the foundations to the Australian sugar industry. The plantation system of the nineteenth century required a large, cheap and tractable labour force. The value systems of the era held that such labour was best provided by coloured races, whom they deemed intellectually inferior but physically better adapted to the task of labouring in the tropical heat. These social mores also generated strict racial and class divisions between plantations labourers and managers. The emergence of these divisions at Mackay dominates the experience of Melanesians who worked in the sugar industry and of those who remained in the district.

This is not to argue that Melanesian labour was employed exclusively on plantations or that their removal resulted in abandonment of the plantation system. Small-scale farmers were as dependent as the largest planter on Melanesian labour and the crucial transition from plantation to small farm



*Islander labourers aboard a recruiting ship bound for the canefields in the 1880s.*

*Archives of Business & Labour ANU/ABL CSR 142/3649 p77 Neg 775*

occurred in the 1890s when the labour trade was still functioning. Again, reference to technological changes, including the development of cane tramway systems, would have helped to explain this crucial transformation.

*Kanaka* offers many valuable insights into the experience of Melanesians in the plantation era: their working lives; the rewards and punishments handed out; private lives, including diet, housing, health and mortality; and Melanesian politics are covered in fascinating chapters. The theme is that Australia's immigrant Melanesians were the true founders of the sugar industry, for it was their muscles and sweat which was used to carve the cane fields out of the coastal scrub of Queensland.

The concluding chapters trace the families and communities who remained in Queensland after 1908. Their descendents constitute approximately ten per cent of the Australian black community, but their origins as labourers in a plantation system placed them at the bottom of the social pyramid. By 1920 there was no longer a place for them in the Australian sugar industry. Those who owned or

leased small cane farms gradually lost them, and by the 1930s and 1940s, almost all were rural labourers.

One consequence of the depressed socio-economic conditions of the Islander communities in Queensland has been the perpetuation of the myth that the *kanaka* labour trade was based on kidnapping. Moore notes that the bias toward the more colourful events of the labour trade in school text books may have contributed to this belief, but goes on to suggest that the myth may be held as a psychological balm against the treatment of Islanders as second-class citizens. He concludes that, ironically, in dwelling on the wrongs inflicted in the 40 years the labour trade lasted, Islander communities have largely ignored those of the 80 years since the traffic ceased.

*Kanaka* is a must for the serious student of the Australian sugar industry: Check out your local library for a copy.

**RFM**

**COAL IN QUEENSLAND: The first fifty years**  
**COAL IN QUEENSLAND: The late nineteenth century, 1875 to 1900**

**COAL IN QUEENSLAND: From Federation to the twenties, 1900 to 1925**

by RL Whitmore. Published by University of Queensland Press.

Ray Whitmore is the former Professor of Mining and Metallurgical Engineering at the University of Queensland. These are the first three volumes of a monumental work which promises to be the standard general reference in its field, and a remarkable achievement of historical scholarship.

The three volumes have appeared over a ten year period. Each has been bigger and better than the one before, with the most recent having 505 pages, 152 plates and 54 figures, maps and diagrams.

Each volume deals with the development of the industry on a geographical basis. In addition it provides brief details of the remains that have survived on the ground until the present day. Also of very great interest are chapters which put the story of coal mining into the social, legislative, economic and technological context of the time.

As one would expect, in the volumes under review there are numerous references to rail transport. Underground tramways were commonplace, whether worked by hand, ponies or rope haulage. Tramways were less common for haulage across country on the surface, but quite a number of tramways are mentioned and usually indicated on the detailed maps.

Although light rail transportation is generally only peripheral to the author's theme, the many detailed references will enable future researchers to locate material according to specific interest. The photographs provide a fascinating insight into the technology of a former age. These books are essential reading for anyone who wishes to gain an understanding of the coal mining industry in Queensland. They are likely to appeal to most readers of *Light Railways*.

JKB

***Bent Backs: An illustrated social and technological history of the Western Coal Field***, by Jim W. Brown. 1989. Portland-Wallerawang Rotary Club.

The western coal field of New South Wales is an area patterned with the lines of now abandoned light railways. One hundred and twenty six coal and/or shale mines have operated in the area bounded by this book. Most used rail, either internally and/or to connect with the NSWGR main line.

Most of the book is in the form of biographical essays, prosaic and personal. This is one man's view of social history and many social conventions are well challenged.

Some photographs of industrial railway interest have been published before. However, the book contains many new and interesting photographs.

Regretably, no source is given for either photographs or information. When approached by a friend of the reviewers, the author could only refer to the "he remembered" or "thought someone told him once".

Despite being unusable as an information source or guide to primary data, the book is eminently readable and provides entertaining narrative. As a social history on apportioning wealth and hardship to different social groupings, the book is a real winner.

JL

***The Georgetown Loop Railroad; The Cripple Creek and Victor Book; Teller County, Colorado; Cog Wheel Route: The Manitou and Pike's Peak Railway***, all by Claude and Margaret Wiatrowski, Mountain Automation Corp, Woodland Park, CO.

Colorado was the hub of narrow gauge railways in the United States. The mountainous topography served as a barrier to transport routes to reach the gold and silver mining centres of the state, so 3ft (914 mm) gauge lines were laid to open up the country. By 1888, the Denver & Rio Grande Railway and other narrow-gauge operators had covered Colorado with 2670 km of railway.

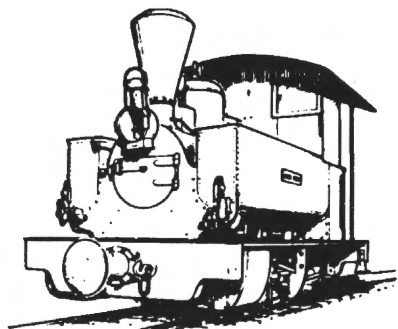
That heritage lives on in several operations catering for the tourist market. These four booklets, well illustrated in colour, provide an introduction to the history and present-day operations of three of these railways.

*The Cripple Creek and Victor Narrow-gauge Railroad* operating over the roadbed of the former Midland Terminal railway. It transports tourists to the reconstruction of a goldmining boom town of the 1920s. Shades of Sovereign Hill with added railway interest!

*The Georgetown Loop Railroad* is a reconstruction of one of Colorado's most famous railways, the narrow-gauge Colorado Central Railroad, which reached the silver mining centre of Georgetown in 1877. A project to reconstruct the mines and railway in the valley between Silver Plume and Georgetown, featuring the spectacular Devil's Gate Bridge and loop was completed in 1984. The railway operates three Shay and two conventional steam locomotives. The spectacular *Manitou and Pike's Peak Railway* which opened as the world's highest cog railway (14,110 ft) in 1891 is covered in similar style.

These attractive booklets provide a visual appreciation of tourist railway operation in North America. They are available for \$4.95 each from ARHS Sales, PO Box E129, St James 2000.

RFM



### HARTLEY VALE SHALE RAILWAYS: LR.64, 71, 78 AND 107

Unfortunately, the photograph of the 2-4-0ST published in *LR.107* is not much of an advance on that in *LR.78*. I am afraid that we can not even necessarily conclude that the two photographs show the same locomotive, as an examination of the two sets of motion parts tends to suggest some dissimilarities. The *LR.107* photo shows the front axle as a driving axle, which is by no means clear on the other, even bearing in mind the foreshortening effect of the lens used in taking the photograph. Of course, it is possible that this apparent discrepancy is real but the result of an alteration carried out at some time in the life of the one locomotive. Certainly, in spite of the grooved wheel, the photograph in *LR.78* seems to show a much younger locomotive than the battered machine shown in *LR.107*.

On the other hand, enough detail appears very similar to suggest that, if two different locomotives are shown, then they come from the same builder. I think we can easily dismiss the builder concerned as being John Fowler. An examination of the photographs on p.26 and 27 of *LR.92* gives a good idea of the general characteristics and level of sophistication of the similarly sized Fowler locomotives which came to Australia in the 1880s.

While not having the advantage of knowing much about the products of Vale & Lacy (or even the approximate date when the locomotive(s) in question arrived at Hartley Vale), I was able to examine photographs of Vale & Lacy products in Ken McCarthy's *Gazetteer of Industrial Steam Locomotives, Illawarra District, NSW*, particularly their builder's numbers 2 and 4. The following similarities are noted:

- \* stovepipe chimney (B/N 2)
- \* backhead details (B/N 4)
- \* cab step shape (B/N 4)
- \* driving wheel casting
- \* general (but not exact) shape of saddle tank

## LETTERS

There were other general or suspected similarities, as well as some dissimilarities. Readers who know more about this subject than I do may wish to comment.

**John Browning**  
Mackay, Qld

### NORTH MT LYELL RAILWAY: LR.105-6, 109 AND 111

Congratulations are extended to Ray Ellis for his excellent and complete article on the history of the North Mount Lyell Railway and I am pleased to have been able to contribute some information towards it. In *LR.111*, though, some doubt re positioning of signals at various sidings along the way has prompted me to clarify the source of information as to whether they existed or not.

Firstly, the existence of the semaphores was not based on photographic evidence, but rather from drawings made of the sidings in 1902 and which clearly identify the signals as depicted on pages 18-19 of *LR.106*. Ken Milbourne (Letters *LR.111*) questions whether signals other than those at Smelters Junction actually existed. I am inclined to agree with him, although the following is worth noting:

On 24 June 1902, a report listing proposed signals etc. at various stations is outlined thus:

Kelly Basin: 1 single arm semaphore, 3 stop blocks  
 Kelly Basin Camp Sawmill Siding: 2 single arm semaphore, 2 stop blocks and safety siding  
 Junction Limestone Quarry: Points kept locked  
 Darwin: 2 single arm semaphore, 2 stop blocks  
 Smelters Junc: 1 single arm semaphore, 1 double arm semaphore  
 Crotty: 2 single arm semaphore, 2 stop blocks  
 Gormanston Junc: 1 2 single arm semaphore, 1 double arm semaphore, 2 stop blocks  
 Gormanston: 1 2 single arm semaphore.

Yet, in a memorandum from the Public Works Department to NMLR Coy, dated 6 August 1903,

lists signals and safety appliances arranged between Acting Engineer-in-Chief and General Manager:

Station	Signal Request	Signals Erected
Kelly Basin	3 stop blocks	
Sawmill Siding	2 stop blocks	1 stop block
Junc Limestone	Points locked	Points locked
Darwin	2 stop blocks	
Smelters Jc	3 semaphore	3 semaphore
Crotty	2 stop blocks	1 stop block
Gormanston Jc	2 stop blocks	
Gormanston	1 stop block	1 stop block

In a report dated 25 March 1904, the only signals mentioned are the single arm semaphores at Smelters Junction. It is worth mentioning that many sidings along the Emu Bay Railway were protected by small semaphore home signals, but this was a much busier railway than the NMLR.

Since drawing the diagrams for Ray's article, I have had access to a photograph of South Lyell terminus. This shows a different layout to that in the original diagram as shown in the accompanying drawing. As no official drawings of this yard seem to exist and the site is now completely obliterated, I must confess to having originally produced a "guess work" plan. The layout at Gormanston is also slightly altered and this drawing replaces map M on page 19 of *LR.106*.

Ken Milbourne also refers to turning facilities on the line. Apart from the wye (triangle) at Smelters Junction, no turning facility existed except for a turntable that was destined for Linda, but remained sitting on blocks at Kelly Basin. As depicted in the photographs, the Avonside locomotives were fitted with a single bogie and fixed wheel on the tender which would have allowed them to travel equally well in either direction. The wye would have purely served as a convenient method of operating through train services to the smelters from either Linda or Kelly Basin.

In later years, most services seem to have been trains loaded with timber running between the Darwin area and Linda. A photograph discovered in the *Tasmanian Mail*, dated 1925, depicts a junction with rails *in situ* which appears to be Gormanston Junction (refer map L, *LR.106*, p.19). This was 20 odd years after the Gormanston branch was closed and dismantled. Original drawings do not show a triangular junction, but the 1925 photo certainly suggests that a wye did exist in later years. It seems prudent, therefore, to assume that locomotives were able to be operated funnel first in both directions on later day trains by utilisation of turning facilities at both Smelters and Gormanston Junctions.

Ray's comments on the photograph on page 3 of *LR.105* deserves comment as he has identified the railway in the right foreground as the South Lyell branch. It is in fact, the North Lyell tramway and the haulage is an ore slide ending in an ore bin beside the tramway. In the centre of the photo can be seen the embankment curve of the Gormanston branch prior to its entering Gormanston station, and at the farthest end of the curve can be seen the South Lyell branch curving around the edge of the valley to the right. Near the lower left hand corner of the photo (almost microscopic), and opposite the large building which would most probably be a hotel, can be seen the locomotive shed at Linda.

Tony Coen  
Austin's Crossing, Tas

### CORNWALL COAL COMPANY, TAS: LR.105

The fact that General Electric 2376 of 1906 is preserved at the West Coast Pioneers Memorial Museum, Zeehan, suggests that latterly it may have worked at Mt Lyell. According to Keith McDonald, Cornwell Coal Company purchased two Mancha four-wheeled battery-electric locomotives (3093 and 3106) in 1949.

John Browning  
Mackay, Qld

### TIMMSVALE TRAMWAY: LR.100

Ian McNeil's description of the Timmsvale tramway (*LR.100* p.32-34) referred to the use of a Fordson rail tractor. The enclosed photograph dated 1930 (from the Mitchell Library, State Library of NSW) illustrates this locomotive and log bogies at a logging ramp prepared for loading. Note how vertical stop logs have been chained to the log bogie to prevent logs rolling off during loading.

Jim Longworth  
Cheltenham, NSW

### ADELAIDE TIMBER COMPANY TRAMWAYS, WA: LR.95 AND 107

The name *ASHBURY* stamped on a spoke of one of the front wheels of the traction engine locomotive *SNORTING LIZ* could be a reference to the Ashbury Railway Carriage & Iron Company of Belle Vue, Manchester, England. This firm supplied some early railway carriages to Australia.

John Browning  
Mackay, Qld

**Rear Cover. Top:** Tony Coen's revised drawing of the North Mt Lyell Railway layout in the Gormanston area. **Bottom:** Fordson locomotive on Timmsvale logging tramway, Dorriggo Plateau, New South Wales circa 1930.

Mitchell Library, State Library of NSW



