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The Mount Cameron Water Race Board — A history of management

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THE INSTITUTION IS ESTABLISHED

Prior to George Bell's tin discovery in March 1874[1], the Mt Cameron area was virgin bush. Within twelve months, large areas on both sides of the Ringarooma River had been taken up with tin leases.

Many miners were finding it difficult to work their alluvial claims because of a lack of water, especially during the summer months. Although the area was served by the Ringarooma River, the supply of water was generally below the level of most of the workings, and the summer capacity was inadequate to cater for demand. Many of the local creeks which allowed miners to operate their claims during winter would dry up over summer.

This scenario was unacceptable if the mineral potential of the Mt Cameron district was to be realised.

It was not surprising that due to local pressure the Government set up a Select Committee in 1885, to investigate the feasibility of a permanent water supply for all mines in the area[2]. It was found that there were only three permanent sources of water. These included the Esk Company's water wheel and race near Gladstone, the Edina Company's race from Old Chum Creek, and the Mount Cameron Company's unfinished race from Musselroe Creek.

The Musselroe Creek race was finally accepted because it was the only scheme capable of carrying water to the potentially rich tin deposits of the Scotia area and out on to the Great Northern Plain.

Having decided on the appropriate water supply, the Government engaged George J. Burke, a civil engineer, to furnish a detailed estimate for the completion of the race. His report was submitted to the Minister of Lands and Works on 3 September 1886, and presented to both Houses of Parliament[3].

Although the Secretary for Mines report for 1886 stated that there were 120 Europeans and 100 Chinese engaged in mining around Gladstone, Parliament seemed reluctant to rush into a decision which would secure their future employment[4]. However, under an Act of Parliament in December 1887, the Government was finally authorised to purchase from the Mount Cameron Hydraulic Tin Mining Company the 12½ miles of constructed main race and nine miles of branch races. At the same time a board of management was constituted to take over the responsibilities of control of the race. It was to be known as the Mount Cameron Water Race Board, an institution which faithfully served the Gladstone district for more than a century[5].

EARLY PROGRESS

Meeting for the first time during February 1888, the Board immediately tackled the priority task of rehabilitating the already constructed section of the main race.

The inaugural committee consisted of Chairman Francis Belstead (Secretary for Mines), Christopher O'Reilly (Commissioner of Mines), Gustav Thureau (Inspector of Mines), Michael Griffin and Robert Thompson (both nominated by local miners). They immediately appointed James Brown as Acting Race Manager to supervise the race upgrading. Brown, who was formerly manager of the Mount Cameron Hydraulic Tin Mining Company's operations, was personally involved in the original construction. Employed at a weekly rate of £6, he supervised a 15 man labour force which completed the 12-mile rehabilitation project within three months.

The Board's next objective was to establish an alternative source of water supply, which at that time came from Musselroe Creek. During a long dry summer this proved to be totally inadequate and with the planned extension of the race, it was obvious that Musselroe Creek was incapable of meeting the increases in demand for water. It was therefore decided to investigate George Burke's suggestion of Great Musselroe River as the new permanent water supply.

As stated in a Parliamentary Report of 1886, the race's carrying capacity of 50 sluiceheads would only be achieved by constructing an intake on the Great Musselroe River. It was also recorded in the report that the Mount Cameron Company had engaged civil engineer Alexander Clerke to lay out the route of the existing race, along with a 5½ mile extension from Musselroe Creek to the Great Musselroe River[7]. The proposed extension did not materialise because of the Company's poor financial position.

Constituted by the Government and funded from taxpayers' revenue, the original Board of five members came from diverse backgrounds. It was generally accepted that the Chairman be a government employee and where else than from the Mines Department. As Secretary for

Mines, Francis Belstead was the departmental head. His agency was also given the responsibility of funding the salaries of the race staff and for the routine operating costs. Belstead had been an employee of the Mines Department since its inception in 1882 and was appointed as its second head during 1886. Ill-health forced his resignation in December 1897 just before his death in April 1898, aged 63[8].

The other member from the Mines Department appointed to the Board was the Inspector of Mines, Gustav Thureau. German born, he was recruited by the Government to join the Lands and Works Department in May 1881, before becoming Inspector of Mines in January 1882. He retired from this appointment in 1889, at the age of 68[9].

It is worth remembering that as Belstead and Thureau were based in Hobart, four days of travelling time had to be allowed for them to attend meetings. The first day would be taken up travelling by rail from Hobart to Launceston and staying overnight. With the Scottsdale Railway still under construction, the remainder of the journey to Gladstone was a five hour ordeal by coach.

The third appointed member was Scottsdale Magistrate Christopher O'Reilly, who experienced a long and distinguished public service career. The Irish-born farmer, mining engineer and politician migrated to Victoria in 1854 before taking up farming in Tasmania near Cygnet, as well as working periodically as a mining engineer near Scottsdale. He entered politics in 1871 as the member for Kingborough, where he became Minister of Lands and Works in 1876 until his resignation in 1882[10]. The following year saw his appointment as Stipendiary Magistrate and Coroner at Ringarooma, as well as Commissioner for Mines and Goldfields for the North East District. He retired from the Public Service in 1903, but remained a member of the Mount Cameron Water Race Board until 1904. His name is perpetuated in the North East by Mount O'Reilly near Weldborough.

The remaining two members of the Board were nominees from the local mining industry. The first of these was Robert D. Thompson, whose mining background could be traced back to a large tin lease near Goulds Country in 1875. He also worked a 20 acre tin lease at Main Creek near Derby from 1883 to 1885[11]. Very little is known of his working life apart from dairy farming pursuits at Ringarooma between 1881 and 1895. Thompson retired from the Board in May 1889 because of ill health.

The other nominee to the Board was Derby miner Michael Joseph Griffin, who was later to make an important contribution as race manager. Born in 1848, he began his mining career working a mineral lease at Blythe River, on the North West Coast, in 1875. Twelve months later Griffin moved to Derby and commenced working an 80 acre tin lease on Main Creek[12]. He also became involved in community affairs as a member of the Derby Board of Health. After serving only nine months on the Mount Cameron Board, he became the first full time manager of the Mount Cameron Water Race. In October 1897 Griffin was also appointed Inspector of Mines for the North and North East, combining the two responsibilities while still living at Gladstone. In June 1904 he resigned as race manager and moved to Waverley, near Launceston, where he continued as Inspector of Mines until retirement in 1917[13].

During two days, 10 and 11 February 1888, the Board personally inspected Burke's proposed dam and intake sites on the Great Musselroe River. It was found that at the point of intake, with a velocity of one foot per second, a quantity of 65 sluiceheads of water could be delivered. The Board, however, rejected the site, because of its position at the fall of a rapid and the possibility that the proposed intake, through a tunnel, could be susceptible to debris blockage in the event of flood.

A new site about 20 chains upstream was chosen instead. This gave the race an increased elevation of 50 feet by means of a short open channel, making the construction less costly and less vulnerable to flood damage.

The new race, or Southern Extension as it was officially known, had to be resurveyed back to the old Musselroe Creek intake. That task was carried out by Government Engineer McCormick, who marked out the route with wooden pegs positioned at half-chain intervals[14].

John MacNeill McCormick was, at that time, employed as Government Superintending Engineer on the construction of the Launceston to Scottsdale railway line, construction of which had commenced in 1885 and was eventually completed in 1889[15]. He was appointed Resident Engineer on the construction of the Bellerive to Sorell Line during 1889 and 1890, Engineer of Existing Lines from 1890 to 1902, and General Manager of the Railways Department between 1903 and 1911. He retired in 1913 after two years as Engineer in Chief, Engineering Branch of the Department of Public Works. Born near Dublin in 1842, McCormick was educated in England and worked there before migrating to Melbourne in 1873.

MAJOR CONSTRUCTION BEGINS

After completing the survey of the Southern Extension, McCormick was required to complete another two important tasks for the Board.

The first was to furnish a report concerning the repairs carried out on the existing 12 miles of main race, to be followed by a survey of the proposed 15 mile Northern Extension. Both reports were tabled at the next Board meeting in July 1888. For the first time, water was available to customers at the following rates:–

When the English quoted market price of smelted tin was	*Day Water*	*Night Water*
£60 per ton and under	10/- per head	10/- per head
£60 to £80 per ton	12/6 per head	11/8 per head
£80 to £100 per ton	15/- per head	13/5 per head
£100 to £120 per ton	20/- per head	15/- per head

Day water was supplied during the hours of 8 a.m. to 4 p.m., while night water refered to the hours between 4 p.m. and 8 a.m. the following morning. The above charges were calculated for one sluicehead (or head) per week of six working days of eight hours each.

The position of Race Manager had to be re-advertised after the Board had decided that the five applicants were unsuitable[16]. In the meantime, James Brown was retained as temporary manager without salary but allowed free use of water to work his Arcadia tin mine.

The Manager's appointment was finally decided at the September meeting, when Michael J. Griffin was selected from five new applicants to commence duties from 1 October 1888, at an annual salary of £250[17].

As tenders for the construction of the Northern and Southern Extensions, which had been called during January, had been rejected, the Board decided to call for new submissions during November. Of the eleven applicants received, the successful (and lowest) tender of £18,503 was submitted by John and William Wishart and Son of London. The highest tender was £33,000. Race Manager Griffin was appointed on 26 January 1889 to supervise the contract on behalf of the Public Works Department.

On 5 February earthworks were commenced at the 2 mile 50 chain mark of the Northern Extension, and by early March the Southern Extension had been cleared of timber to a width of 18 feet and fluming constructed to connect Cascade Creek.

July 1889 saw the retirement from the Board of Gustav Thureau and the appointment of Alexander Montgomery as his replacement. Educated at the University of New Zealand and the Otago School of Mines at Dunedin, Montgomery was recruited to the Tasmanian Department of Mines where he served for seven years as a geological surveyor. He resigned from the Department and the Mount Cameron Board at the end of 1896 and returned to New Zealand to take up a position as manager of a gold mine[18].

The Southern Extension was completed by the end of 1889, securing a permanent water supply for the whole of the race. The completion of the Northern Extension was to take a further nine months to achieve. The official opening of the race (21 August 1890) was performed by Sam Hawkes MHA, who was Griffin's replacement on the Board[19].

Samuel Hawkes was a prominent but sometimes controversial identity of the North East. He was appointed to the Mount Cameron Board early in 1889 and faithfully served until the end of 1913, when he was forced to resign due to ill health. Hawkes emigrated from England to New Zealand as a 17 year old seaman in 1862. After mining gold for ten years, he returned to London in 1872.

Shortly after returning home, Hawkes was attracted to the tin mines of North East Tasmania[20]. He set up a general store at Ruby Flat (2½ miles from Branxholm) to supply local miners, as well as taking up about 80 acres of tin leases in the area. Later (about 1876), Hawkes became the first manager and part owner of the Arba Tin Mine at Branxholm. He lived with his family at the mine until 1882 when they moved to a newly constructed residence at Scottsdale[21]. Known as "Ellesmere" and situated along Bridport Road, the historic home still stands today.

During 1886, Hawkes was elected a member of the House of Assembly and served until 1893. Appointed a Justice of the Peace in 1887 and a Magistrate in 1895, he also served periodically on the Licensing Court between 1888 and 1897. He was a member of the Scottsdale Municipal Council from 1908 to 1910, being Warden during 1908 and 1909[22]. After an 18 year association at the Arba Mine, he was appointed manager of the Musselroe Tin Mining Company during 1898.

Sam Hawkes will probably be best remembered for his involvement in the recruitment of Chinese to provide cheap labour for his tin mining operations. He died at Scottsdale on 16 February 1937, aged 91, and was buried at Carr Villa Cemetery in Launceston.

Although the race was officially open, there was still construction work to be completed on the Northern Extension. At that stage, the Scotia Mine was the temporary terminus of the Mount Cameron Water Race.

The Board had recommended the construction of a conserving dam at Mathewsons Lagoon with a connecting race to the Scotia Syphon. This project was completed during October at a cost of £213[23].

With the completion of the manager's residence at Gladstone six months earlier (May 1890), the Board had decided to construct four other staff cottages to be strategically placed along the race. The sites were determined by Board members, namely Commissioner O'Reilly and John Simpson[24].

The first cottage, known as Scotia Cottage, was built near the outlet of the Scotia Syphon (July 1890) in time for the official opening. This was followed by Chum Cottage in November, which was situated about 9 miles south of Gladstone and close to Old Chum Creek. The other two cottages were later built at Cascade Creek during August 1891 and Edina Sugarloaf during September 1892. The construction of the race was soon vindicated with the sale of water to 10 different customers during November, with the total during 1890 being 15. The principal areas of mining were located around Amber Creek, Edina Sugarloaf, Hardens Ravine, Scotia and Aberfoyle.

The retirement of Robert Thompson from the Board in May 1889 created a vacancy which was not filled until the end of that year, when John Simpson, of South Mount Cameron, was appointed the fifth member of the Board. When he retired in 1926, his 36 years of service made him the second-longest serving member in the history of the Mount Cameron Board.

The highly respected mining engineer and mining entrepreneur was a prominent identity in the Gladstone district. His tin lease at Edina Flats during the late 1870s was one of the earliest in the area, and the beginning of a successful career in mining. He later concentrated his mining interests on extensive tin leases at South Mount Cameron and along the Wyniford River, where he employed Chinese labour.

According to Mrs Greta Wood of Pioneer, her parents rented one of the many properties in Pioneer (then known as Bradshaws Creek) owned by Simpson. He was reported to have owned a farm at Winnaleah, as well as having the hotel built at South Mount Cameron about 1907.

Mrs Elvie Richardson of Gladstone vividly remembers working for the Simpsons, as a 14 year old domestic. Incredibly, part of their old residence is incorporated in Mrs Richardson's present Gladstone home.

Appointed a Justice of the Peace in 1889, Simpson was elected to the first Ringarooma Municipal Council in 1908[25]. He served intermittently (about six years) until 1918, being Warden from 1908 to 1910. Prior to this were his appointments to the Boobyalla Road Trust and Board of Health, and later as a Magistrate at Derby.

John Simpson will also be remembered as the long-serving Postmaster at South Mount Cameron between 1886 and 1906. He died on 20 September 1932, aged 71, and is buried alongside his wife Alice in the Gladstone Cemetery. His name is perpetuated in the district by Simpson Creek near the Old Banca Tin Mine.

The first full year of operation of the race (1890–91) produced an encouraging result for the Board, with an average of 10 customers per week. During this period, 2330 heads of water were sold producing receipts amounting to more than £1750. With maintenance and management costs totalling £1087, the race was certainly paying its way. The price of water was calculated against the London market price of tin, which during the year ranged from £80 to £100 per ton. The rate for 'day water' had been fixed at 15 shillings ($1.50) per head, 'night water' at 13/4 ($1.33) per head, with 'prospecting water' granted to customers at 10 shillings ($1.00) per head. It was also learned that the final cost of purchase, repairs and construction of new race amounted to £31,460[26].

During the 1890–91 period, the Board employed a manager, together with four watermen and channel keepers, whose duties were to distribute the water and work on channel maintenance. The following year saw the average weekly use of water increase to 18 claims. The total consumption of 3700 heads was more than a 50% increase on the previous figure, while producing an encouraging 202 tons of tin ore[27].

During 1891 Charles Ogilvie pressured the Board to construct a syphon across the Ringarooma River to service his leases. However a lack of proven mining potential resulted in the project being scrapped.

Communications between the race manager and staff were significantly improved when the Board authorised the construction of telephone links to Scotia and Edina Cottages early in 1892.

To combat leakage and evaporation along the race, it was decided to construct a conserving dam to store 'night water'. It was found that there was a 20% difference in the quantity of water supplied at the northern end compared to that supplied through the southern intake. Situated on the eastern side of the main race and just to the south of the Amber Race junction, the No. 2 Conserving Dam was completed in May 1893 at a cost of £490[28]. It was expected to supply up to 75 heads in combination with the daily supply from the main race. 1893 saw the first of the original fluming to be substituted by earth channeling, which was the start of an ongoing plan to eventually remove all wooden fluming from the race network.

Attention was then focused on the Amber Branch, which was struggling to cope with the increase in mining activity west of Amber Creek. The nine affected claims were only able to operate for four months in the year from the existing water supply. The Board agreed to the construction of a 1600 ft (490 m) inverted steel syphon across Amber Creek to shorten the distance by almost 2 miles. The rehabilitation of the branch was completed in March 1894[29].

As previously documented, Charles Ogilvie utilised the opportunity to install his long-awaited syphon across the Ringarooma River[30].

The Mount Cameron Water Race continued to pay its way until the end of 1897, even though tin production had gradually fallen throughout this period. However 1898 and 1899 proved to be disastrous years for tin production, with 90 tons and 74 tons respectively, with the Board recording an operating loss on both occasions.

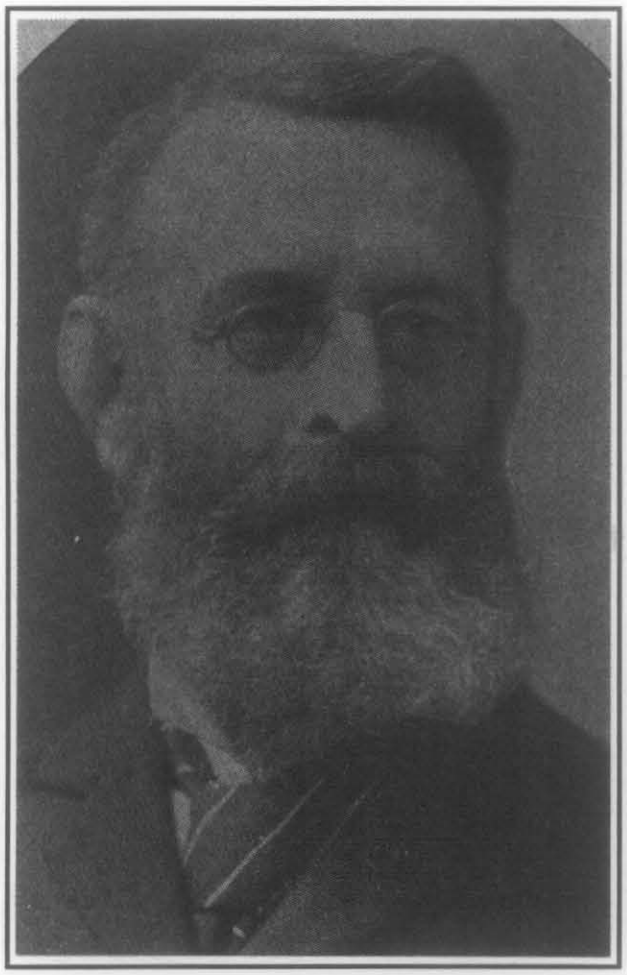
March 1897 saw the appointment of James Harcourt Smith to the Board. Also a geological surveyor with the Department of Mines, he replaced Alexander Montgomery who had resigned a few months earlier. After only two years service with the Board, Smith unexpectedly died in June 1899, aged 34. Harcourt Smith was born at Launceston in November 1864, and after his education at the Launceston Church of England Grammar School, attended Cambridge University (England) on a Tasmanian Scholarship. He furthered his education in Germany before returning to Launceston in 1891.

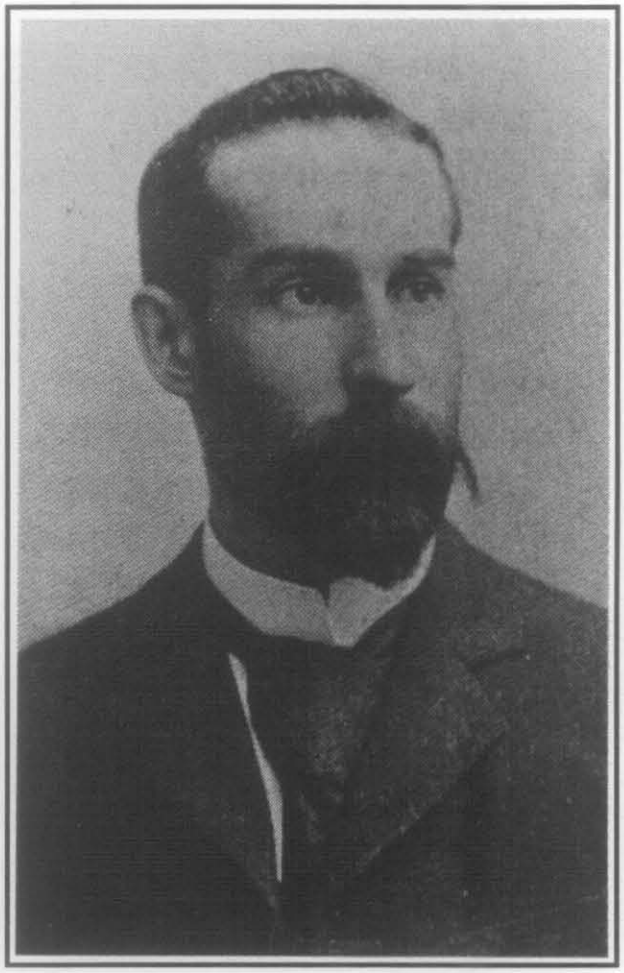
During 1892, he worked as an assayer at the Central Broken Hill Mine in New South Wales. He gained a similar position at the Western Silver Mine, Zeehan from November 1892 to March 1897, when he was appointed to the position of Chief Inspector of Mines and Geological Surveyor with the Tasmania Department of Mines in Hobart.

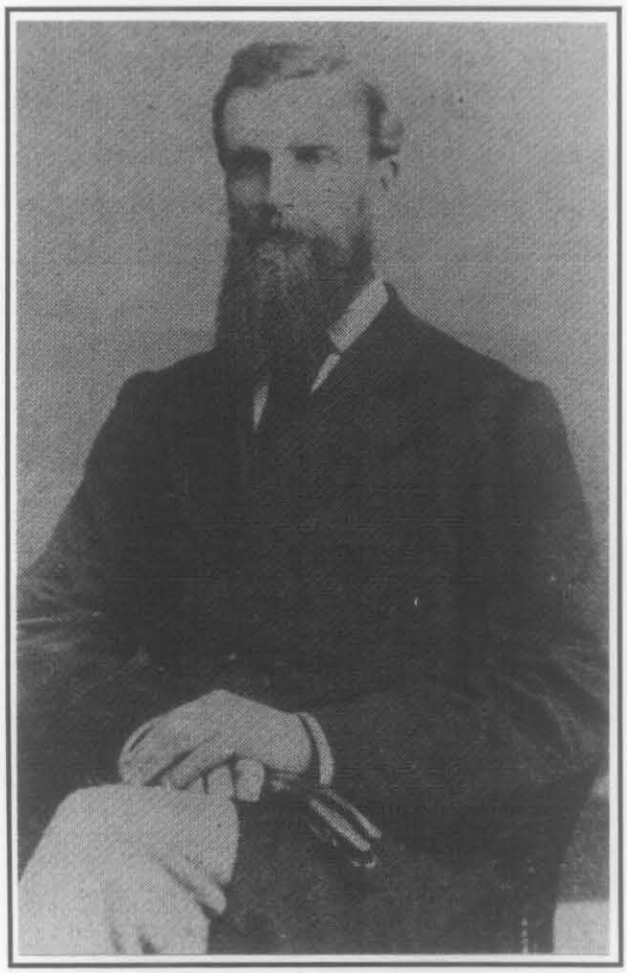
James Harcourt Smith was on a visit to Clarke Island (Furneaux Group) in Bass Strait, when he unfortunately contracted pneumonia and pleurisy, and tragically died there[31].

1897 saw a second change on the Board, with the early retirement of Francis Belstead on 31 December. Being the original Chairman, he was one of two remaining foundation members. His successor was William Henry Wallace, who took up his appointment during January 1898.

Born and educated in Hobart, Wallace joined the State Public Service as a 14 year old junior clerk with the Department of Lands and Works in March 1878. After transferring to the Mines Department in 1882, he gradually gained seniority after occupying the positions of junior clerk, senior clerk (1884), cashier, accountant, chief clerk (1894) and chief clerk/cashier (1895)[32]. Apart from his appointment as Secretary for Mines, Wallace became a Justice of the Peace in July 1903, and Warden of Mines (Southern Division) in 1912. His career ended with his sudden death in November 1920, aged 56.







TOP LEFT:

Francis BELSTEAD

Chairman (1888–1897)
Secretary for Mines

TOP RIGHT:

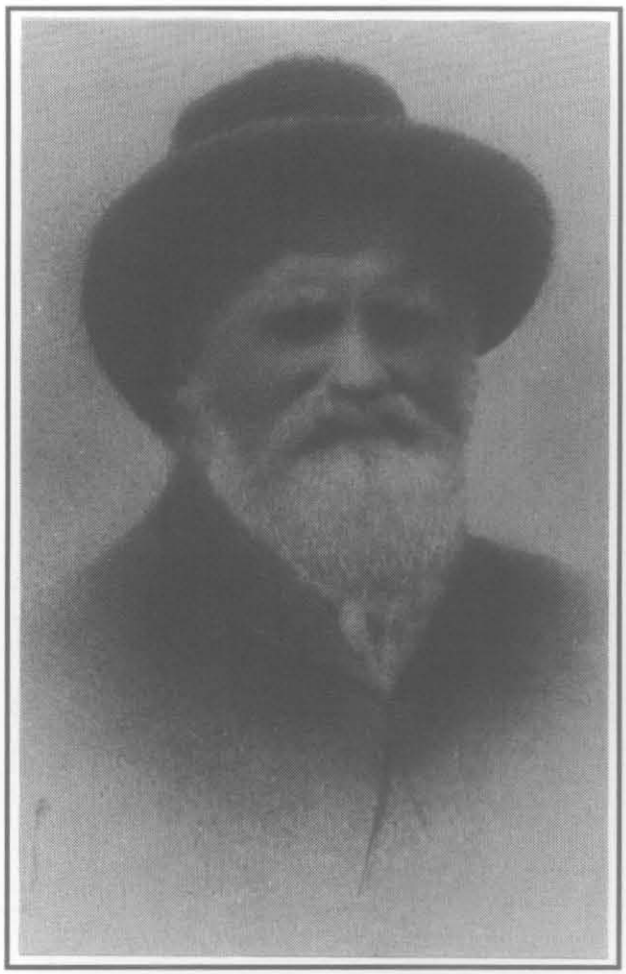
William Henry WALLACE

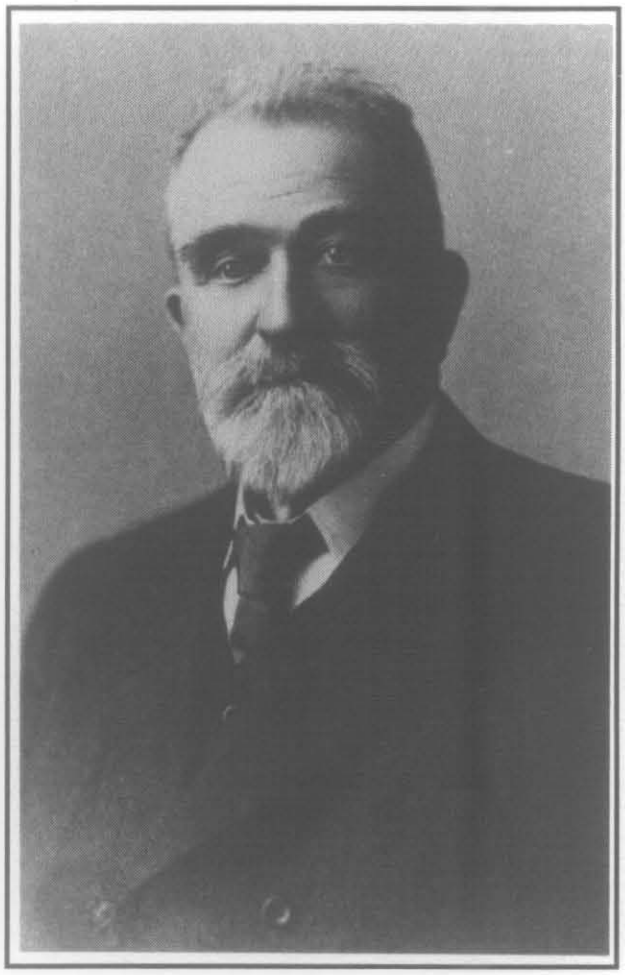
Chairman (1898–1920)
Secretary for Mines

LEFT:

Christopher O'REILLY

Member (1888–1903)
Commissioner of Mines
Magistrate, Scottsdale





TOP LEFT:

Gustav THUREAU

Member (1888–1889)
Inspector of Mines
Mining Geologist

TOP RIGHT:

Michael Joseph GRIFFIN

Member (1888)
Miner, Derby
Race Manager (1888–1904)

LEFT:

Alexander MONTGOMERY

Member (1889–1896)
Chief Inspector Of Mines
Geological Surveyor

AFTER TEN YEARS — THE CONSTRUCTION CONTINUES

Because of the depressed state of the mining industry in 1898, the Board reduced the water race staff to a manager, two channel keepers and a waterman.

With the task of repairing or replacement of all flumings completed, attention was focused on the condition of the syphons. Manager Griffin compiled a detailed report for the Board during July 1899, recommending those repairs requiring immediate attention. Of the six syphons along the main race, only No. 4 and No. 5 (south and north of Edina Sugarloaf) were considered in urgent need of repair[33].

August saw a new member on the Mount Cameron Board, replacing the late James Harcourt Smith. He was William Harper Twelvetrees, who became the new Government Geologist and Chief Inspector of Mines.

Born in England in 1848, Twelvetrees completed his education in Germany, and spent most of the first twenty years of his working life in Eastern Russia and Asia Minor before emigrating to Tasmania in 1891[34]. After working in Launceston for eight years, he finally secured a position with the Mines Department at the age of 51. His twenty years contribution to Tasmanian geology and to the Mines Department was outstanding.

Twelvetrees was a prolific writer, producing 177 reports which included a wide range of topics such as the goldfields of Mangana, Mathinna and Lisle, the tinfields of North Dundas and Gladstone, and the mining districts of Zeehan, Balfour, Scamander and Mount Farrell. It was Twelvetrees' vision that initiated the long-term systematic investigation of Tasmania's mineral deposits[35]. He devoted a great deal of his working life researching existing mining fields and was regarded very highly for his contribution in the zoning of mineral deposits of the Zeehan district.

During his fifteen years as a member, the Board was responsible for the complete rehabilitation of the Mount Cameron Water Race with the removal of all wooden flumings (1910), the renewal or replacement of all syphons (1911), and the construction of the Empress and Aberfoyle Races (1913–14).

Twelvetrees relinquished his position as Inspector of Mines and his position on the Board during 1914. He continued his work as a government geologist until his death on 7 November 1919 at the age of 71.

1899 was a difficult year for the Board. Most of the customers were experiencing low yields of tin from their respective claims and finding it difficult to pay for the high price of water. As a result, a petition was forwarded to the Board on 1 June containing the signatures of 24 disgruntled miners. It was interesting to note that during those difficult times, Chinese accounted for more than 50% of the mining workforce.

To stimulate the ailing tin mining industry around Gladstone, the Government decided to investigate the possibility of increasing the capacity of the race. On 23 July 1900, the Secretary for Mines (Wallace) accompanied by a civil engineer (Rahbek) made a tour of inspection of the main race[36].

Karl L. Rahbek was engaged by the Government to inspect the capacity and general condition of all the syphons, as well as recommend improvements to other aspects of the water supply. The cost of restoring the six syphons and a proposed reservoir on Old Chum Creek was estimated at £22,000. His report was later tabled in both Houses of Parliament. The results of Rahbek's work were not realised until 1908, when the first of the six syphons was replaced.

Rahbek was also commissioned to compile a comprehensive report for the Minister for Mines on the capacity of the Ringarooma River to carry large quantities of mine tailings. The 62 miles (99 km) between Branxholm and Boobyalla was being considered for a sludge channel. The report was completed during November 1901[37].

The depressed state of mining also rekindled interest in a syphon across the Ringarooma River to exploit new ground on its western bank. Ogilvie's Syphon was considered as unreliable and unsuitably sited to carry water to Gladstone and beyond. As previously mentioned, the 1891 proposal on an Edina to Gladstone 'over the river' race had been shelved[38]. However the Board decided that it was time to give serious consideration to a western extension. At its 3 October 1899 meeting, the Chairman was asked to approach the Minister for Lands and Works to discuss the matter.

In the meantime the Government Geologist (Twelvetrees), who was also a board member, was asked to investigate the mineral bearing character of country to be mined with water from the race[39]. A report was compiled in May 1901, and published in the Secretary for Mines Annual Report for the year 1901–02[40]. This report suggested that the race continue to service existing claims, whereas closure would cause "the immediate and almost entire abandonment of the Gladstone district". Tin mining at that time (1901) supported a population of 150 people.

According to Twelvetrees' report, the race had paid its way and returned £6262 surplus revenue into the Public Debts Sinking Fund. The annual tin output from claims served by the race was 80 tons[41]. Because Mt Cameron itself had not at that stage revealed any substantial tin lodes, the idea of an 'over the river' syphon and western branch could not be justified.

Despite the unfavourable report from Twelvetrees, the Board still maintained its interest in a western branch. At the July 1902 meeting an estimate for the construction of a water race around the northern face of Mt Cameron was tabled. The 12 mile (19 km) long extension was to join the main race near the Amber Branch junction at a cost of £10,000[42]. However the Board had more pressing worries, with 75 major breaks to the steel syphons recorded during 1901–02. These were repaired with the use of plate-iron bands wrapped around the affected areas[43]. The following year (to 30 June 1903) saw the number of breaks increase by 103, making a total of more than 200 during the past three years[44].

During 1904 a further 83 breaks were recorded to No. 4, No. 5 and No. 6 syphons. The old wooden flumings were

also causing problems, with one section near the main intake collapsing. The intake fluming itself was in a very decrepit condition[45].

To reduce operating costs, Race Manager Griffin transferred to Launceston to take up full time duties as Inspector of Mines. His position was filled on 1 July 1904 by existing channel keeper Henry C. Harvey, who had been stationed at Chum Cottage for eleven years[46].

1904 also saw the retirement of Commissioner O'Reilly after sixteen years service. Christopher O'Reilly had been a member of the Mount Cameron Water Race Board since its inception in December 1887, and was the only survivor of the original five appointments. He was replaced by Edward Hall, the newly appointed Commissioner of Mines, who was based in Launceston.

Edward Laret Hall was born in Hobart and educated at Hutchins School. He began a legal career as a Barrister and Solicitor in 1887 and continued in private practice until he was appointed a Stipendiary Magistrate at Franklin in 1891 and at Zeehan from 1893 to 1901. He served as a Police Magistrate at Launceston and North East Tasmania between 1902 and 1924, and later became acting puisne judge in the Launceston Supreme Court during 1925.

Other Government appointments included Justice of the Peace in 1892, Commissioner of Mines for the Western Division (1893 to 1901), Southern and Northern Divisions (1901 to 1903), and Northern and Northeastern Divisions (1904 to 1905). He was also appointed Warden and Commissioner of Mines (1906 to 1933), State Mining Board (1901 to 1905), and Mount Cameron Water Race Board (1904 to 1926). Edward Hall's distinguished career of public service was recognised in 1939 when he was awarded the CMG. He died on 29 December 1947 at Launceston, aged 83[47].

1905 saw a rapid deterioration in the condition of many of the wooden flumings. Of the remaining 24 flumings, all but one required attention. It was thus not surprising that the Board requested urgent Government funding for their replacement with earth channel. The only exception was the replacement of No. 26 fluming (over Old Chum Creek) with an iron flume.

This year also saw the purchase of the water-right on Old Chum Creek from James Ogilvie, which allowed the water to be connected with the main race. Constructed at a cost of £565, it provided a much needed boost to the water supply when demand was high.

Rehabilitation work commenced during May under the watchful eye of engineer Grove and was completed six months later[48]. It is worth noting that after nearly ninety years, the Old Chum intake is still in first class condition. Frank Sneyd Grove started his career with the Mines Department in Launceston. Originally a draftsman/clerk, he was appointed Engineer-in-Chief of Works in April 1905. He was later appointed to the position of assistant engineer of railway construction for the Department of Public Works in 1914. With the completion of the Old Chum intake and flume, Grove turned his attention to the other troublesome flumings. To supervise this project he moved into the vacant Cascade Cottage in June 1906.

Commencing at the Great Musselroe intake, Grove systematically replaced the flumings most likely to threaten the viability of the water supply. The task was finally achieved in 1910, when the last wooden fluming was replaced by an earth channel. The one flume to remain on the Mount Cameron Race was the iron flume over Old Chum Creek.

Although the long-term plan was to replace Syphons 1 and 2 with earth channeling, Rhabek's report suggested that Syphons 4, 5 and 6 were in an advanced state of decay and would need to be replaced first[49]. Therefore it was not surprising when No. 4 Syphon was the first selected for replacement in 1908, No. 5 Syphon in 1909, with No. 3 and No. 6 Syphons replaced with wood-stave pipes in 1910. No. 1 and No. 2 Syphons were finally converted to earth channeling during 1911.

Engineer Grove continued to reside at Cascade Cottage until March 1910, when he moved to Gladstone. He remained there until his contract expired on 24 April 1912.

May 1908 saw a consignment of 161 mild steel (30 inch diameter) pipes for No. 4 Syphon arrive at the Boobyalla wharf. Supplied by Mephan Ferguson of Melbourne, 19 had arrived in a damaged state and required repairs before being transported to Gladstone[50]. The transport of pipes between Boobyalla and Gladstone was carried out by local carters Thomas Dwyer and William Sutton. The laying of the No. 4 pipe column was completed in time for an official opening on 29 June[51].

There was one important issue that needed to be highlighted, and that was the Board's policy of utilising local materials, labour and enterprise wherever possible. This policy was to remain with the Board throughout its long history.

October 1908 saw the Board place a new order for 212 pipes to replace No. 5 Syphon. Unfortunately, and without warning, the old pipe column collapsed during December with the first consignment of replacement pipes still in Melbourne. This serious break in the water supply, effectively closed down every customer north of Edina Sugarloaf. During January 1909, the first of the 27 inch diameter pipes for No. 5 Syphon began to arrive.

Holyman and Sons' ketch *Heather Belle* was reported to be able to carry between 20 and 25 pipes per trip between Launceston and Boobyalla. Of the first 82 pipes to arrive, 41 had been damaged. All were repairable except for one, which was refused by the Board and promptly returned to Melbourne. By early March, all the No. 5 pipes had been delivered by the *Heather Belle* and carted from Boobyalla to the site by Malcolm Cross of Gladstone. The final 'repaired' pipe arrived via Scottsdale railway station on 24 March, which then allowed the completion of No. 5 Syphon a few days later[52]. After a break of more than three months the main race was back in service.

The replacement of the two steel pipe columns during 1908 and 1909 proved to be a logistical nightmare for the Mount Cameron Board. Transport in and out of Gladstone at that time was an extremely tedious exercise. The main access was through the tidal port of Boobyalla, located at the mouth of the Ringarooma River. Being one of only two

safe anchorages between the River Tamar and St Helens, it had been the principal outlet for the mining centres of Moorina, Pioneer, Derby, Branxholm and Gladstone. The rough and dusty ten miles between Gladstone and Boobyalla was a busy scene, with shipments of tin concentrate and farm products moving towards the coast, while heavy machinery and building supplies travelled inland from the port.

There were many cartage contractors in the district who operated large bullock teams. These proved to be the most efficient means of transporting the 19½ feet long steel syphon pipes used on the Mount Cameron Water Race. With the railhead at Scottsdale (about 45 miles away), Boobyalla continued to maintain its importance until the line was extended to Herrick during 1919.

A shipping service was provided by William Holyman and Sons linking the port of Launceston with Bridport, Boobyalla and St Helens. The service continued until the closure of Boobyalla in the early 1920s.

With the completion of No. 5 Syphon, the Board wasted little time in ordering the materials required for Syphon No. 6 near the Scotia Mine. Wood staves were ordered from the Australian Wood Pipe Company of Sydney through their Launceston agent A. E. Evershed (65 George St).

January 1911 saw 385 packages of wood staves arrive at Boobyalla from Launceston aboard the ketch *Heather Belle*. The remainder required to complete the project arrived by 9 February[53]. The cost of constructing 2904 feet of continuous pipe, reinforced with 3630 steel bands, each 9 inches apart, was estimated at £1602. The 30 inch diameter pipe column was to be laid in a trench and buried to protect the exterior from the elements[54]. The task was completed during March 1911.

December saw the completion of No. 3 Syphon over Musselroe Creek. Also a wood-stave pipe column, it was the last of the syphons to be rebuilt. Being much smaller than No. 6, it had a 20 inch diameter, was only 263 feet long (machine banded in 14–16 feet lengths), and was laid above the ground on sleepers. The estimated cost was £156[55].

Three months later (February 1912), the Musselroe Creek intake was reconstructed from 44 feet of 10 inch diameter wood-stave pipe. Supplied in 12 feet lengths, the pipes were designed to stand a working pressure of up to 50 pounds per square inch while discharging a maximum water capacity of six sluiceheads[56]. The old intake pipes were eventually sold to Robert Long, a local tin miner.

Along with the completion of all syphons, 1911 witnessed the addition of Charles Barnes to the Board's personnel, increasing the total to six members[57].

Affectionately known as the 'Little Master', Barnes was appointed during February as a result of his extensive background of tin mining experience. He had previously been a race customer between 1891 and 1899 while operating the Black Duck mine, situated on the eastern bank of the Ringarooma River near the No. 1 Government Reservoir.

According to the *Post Office Directory*, Charles Barnes was listed as a Moorina resident as early as 1881. He was still living there during the early 1900s while pursuing mining activities at South Mount Cameron and Bradshaws Creek. About 1910 he was reported to have moved to Gladstone to supervise his operations at the Edina Workings, where he continued work until 1921. In June 1918 he purchased the discarded No. 4 pipe column from the Board for £112, to use on his nearby mining leases[58].

In 1922, the Board appointed Barnes as Foreman of Works on the construction of the Western Deviation. He continued in that capacity until December of the same year[59]. The following two years saw him working for the Endurance Mine at South Mount Cameron. During April 1924 water users petitioned the Mount Cameron Board for his resignation. They considered that as he was no longer a race customer, he was not eligible to represent their interests at Board meetings[60]. Their nominated replacement was James Ogilvie, who was subsequently appointed one month later.

Charles Barnes' 13 year membership on the Board was immediately followed by a similar period as manager of the Monarch tin mine from 1925 to 1938.

A PERIOD OF PRODUCTIVITY

The years 1908 to 1911 were later seen as the most critical period in the history of the Mount Cameron Water Race.

The Board's decision to completely rehabilitate the main race was to ensure the viability of the water supply, as well as maintain the existence of tin mining around Gladstone, for the next 70 years. The three years of intensive reconstruction was responsible for the productive decade that followed.

Records show that for every year from 1911 to 1920, the race showed an operating profit[61]. For every year from 1912 to 1918, receipts from the sale of water showed an increase on each preceding year.

To consolidate the race's assets, the Board initiated the survey of each of the 5 acre cottage sites[62]. The surveys were carried out during May 1912 by Donald Fraser, the District Surveyor, who was based at Derby. The four channel keepers cottage sites were then reserved in the interests of the Mount Cameron Board. 1912 also saw the completion of a new wall at the No. 1 Reservoir. The storage capacity of the dam was slightly increased by excavation and by raising the height of the new dam wall. The reservoir was used for the purpose of storing water on Sundays, to keep up the supply to customers during the summer months[63].

The only major construction during 1913 centred around the old Empress Dam and its connecting race. Originally built during the early 1880s, the dam provided water for the Empress Mine which was located on the northern side of Hardens Ravine. The workings were supplied through a small one-mile long water race.

The Empress Dam was eventually linked with the Mount Cameron Water Race about 1910. The two-mile long race was widened from a width of one foot to four feet during

1913. Known as the Empress Race, it was extended a further 1½ miles to Empress Saddle about the same time. Capable of carrying 18 sluiceheads of water, the race was supplying eight claims during winter and five claims during summer. After spending several years abandoned, the Empress Dam was repaired by the Board to be incorporated into the system for storing stormwater during the winter months[64].

Sam Hawkes, who had been battling ill health for some time, decided to step down from the Board after almost 24 years of dedicated service. His position was filled towards the end of 1913 by Cecil Ryan, who was a respected mining identity from Bradshaws Creek.

Cecil Godfrey Ryan had been manager of the Pioneer tin mine since 1899 and had also been a Ringarooma Councilor since the councils inception in 1908. Born in Victoria during 1866, he was the son of stock agent Charles Ryan. After being educated at Melbourne Church of England Grammar School and the University of Melbourne, he gained experience at gold mining in Western Australia and New Zealand as a fitter (1888–93)[65]. He was then employed as a mining inspector during the six years prior to his appointment at the Pioneer mine[66].

He proved to be a resourceful man, and his use of the centrifugal pump and sump method revolutionised local tin mining. Under his management, the Pioneer Tin Mining Company paid its shareholders more than £500,000 in dividends[67].

Ryan remained as mine manager until the leases were sold in 1934. He immediately transferred as manager of the Endurance Mine until 1937, when he with wife Audrey, moved to Launceston to live at historic 'Newstead House'. He remained on the company board as a consulting engineer until his death. Audrey, whom he married in April 1909 at Derby, was the niece of Lindsay Clark, who was at one time manager of the Briseis tin mine.

Cecil Ryan's public duties included 26 years service on the Ringarooma Council (1908–34), 13 years on the Licensing Court at Derby (1917–30), and as a Justice of the Peace (1903–37). He was very keen on the outdoors, and spent many hours shooting and fishing around his holiday cottage at Musselroe Bay. He was also a keen photographer and recorded many important events which occurred during his time in the North East. He will be remembered for his involvement in the construction of the Frome Dam and electric power station for the Pioneer Mine in 1908. He was also responsible for the construction of the Pioneer Water Race, which supplied the mine with water from the Frome Dam.

As a member of the Mount Cameron Water Race Board, Ryan will be best remembered for his 38 years of devoted service. He was recorded as being the longest serving member in the history of the Board (1913–26 and 1929–53).

Cecil Ryan died at Launceston in 1954, aged 88.

The Annual Report of the Mt Cameron Water Race Board for 1913 indicated the buoyant state of the local tin mining industry, with a weekly average of 18 customers employing 37 men. During the winter months, the maximum number of water users reached 26. As a result, the Board granted Manager Harvey a generous salary increase of £50, resulting in an annual income of £225. The channel keepers were also granted a bonus by being paid for a 7 day week in lieu of the previous 6 day week[68].

For the previous 25 years, it had been the custom of the Board to conduct meetings at various centres in the North East. In the majority of cases, Board meetings were conducted at Gladstone or Scottsdale, with Derby, Branxholm and Pioneer used on occasions. The Mines Department's Launceston office was also used for four meetings, of which the last occasion was 9 May 1910. Since that date, Gladstone has been the selected venue.

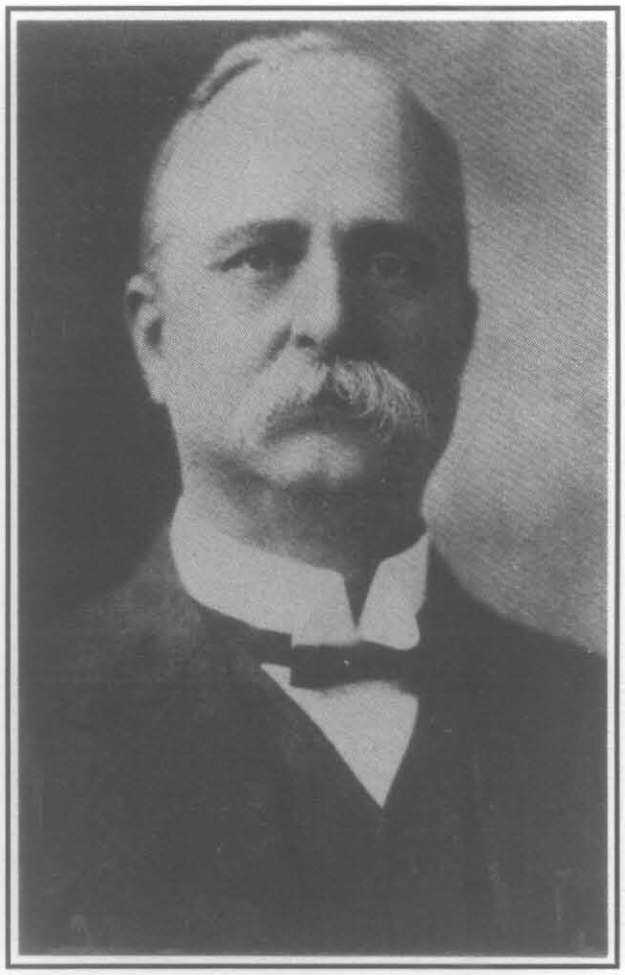
The Mount Cameron Race system continued to operate smoothly with only £23 required for maintenance during the year of 1914. During this period the main race was extended 1½ miles beyond the No. 1 Government Reservoir to the Aberfoyle Dam, which had been reserved for the Aberoe Tin Mining Company since 1910. Known as the Aberfoyle Race, the 2 feet wide channel was installed to service the McGregor and Beltz workings. The 5 acre Aberfoyle dam site was eventually acquired by the Mt Cameron Water Race Board in March 1917.

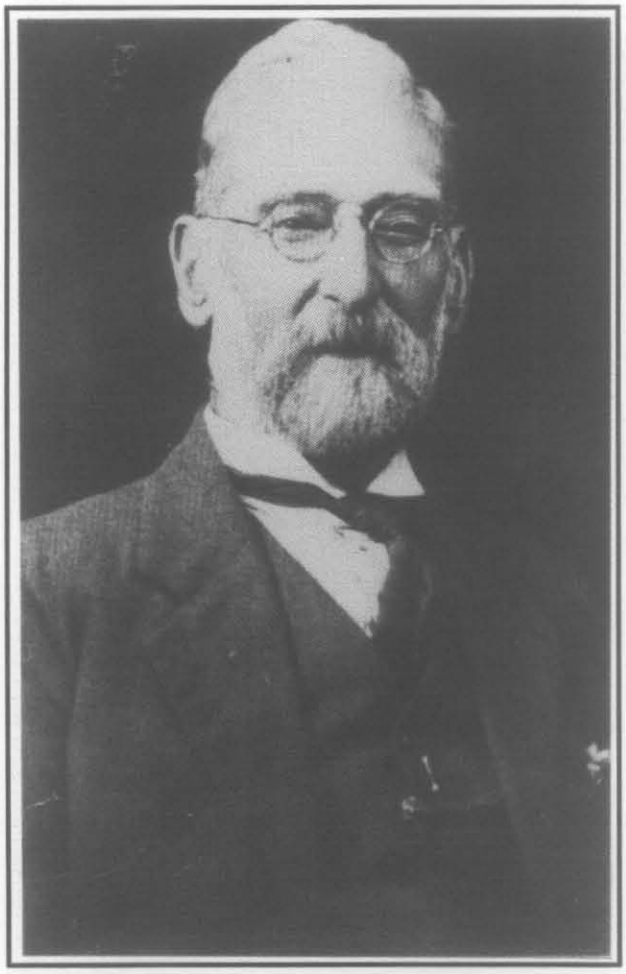
As previously mentioned, William Twelvetrees relinquished his position as Chief Inspector of Mines in May 1914. The increased workload in the Inspectorate necessitated the position be made full time. Twelvetrees therefore was required to resign his post on the Board to make way for the new appointee. He remained as Government Geologist for a further five years until he died in 1919.

James Owen Hudson became the new Chief Inspector of Mines, but did not attend his first Board meeting until 11 February 1915. He became a long serving member of the Mines Department as Chief Inspector of Mines (1914–37), State Mining Engineer (1915–16), Chief Inspector of Magazines and Explosives (1917–27) and Chief Inspector of Explosives (1928–37). He was persuaded to come out of retirement to fill the role of Acting Chief Inspector of Mines and Explosives for four years (1939–43)[69]. In addition to his 27 years with the Mines Department, he served 14 years as a member of the State Mining Board between 1915 and 1929.

Hudson maintained his position on the Mount Cameron Board for almost 12 years until 1926, when the Board was abolished by an Act of Parliament.

The reopening of the Doone Mine by Frederick Richards and Arthur Murray in 1915 saw the need for the Scotia Branch to be extended to the old Doone Dam. Originally built in 1891 as a 2 acre dam site, it was acquired by the Board in 1893 and enlarged to 5 acres. The newly constructed branch, known as the Doone Race, was approximately 1½ miles long and 2 feet wide. The original Doone Workings were opened up about 1885, but because of an unreliable water supply, were not actively worked until 1893. The area had been abandoned since 1898. The outbreak of World War I resulted in a decline in the number of customers, but surprisingly a substantial increase in





TOP LEFT:

James HARCOURT SMITH

Member (1897–1899)
Chief Inspector Of Mines
Geological Surveyor

TOP RIGHT:

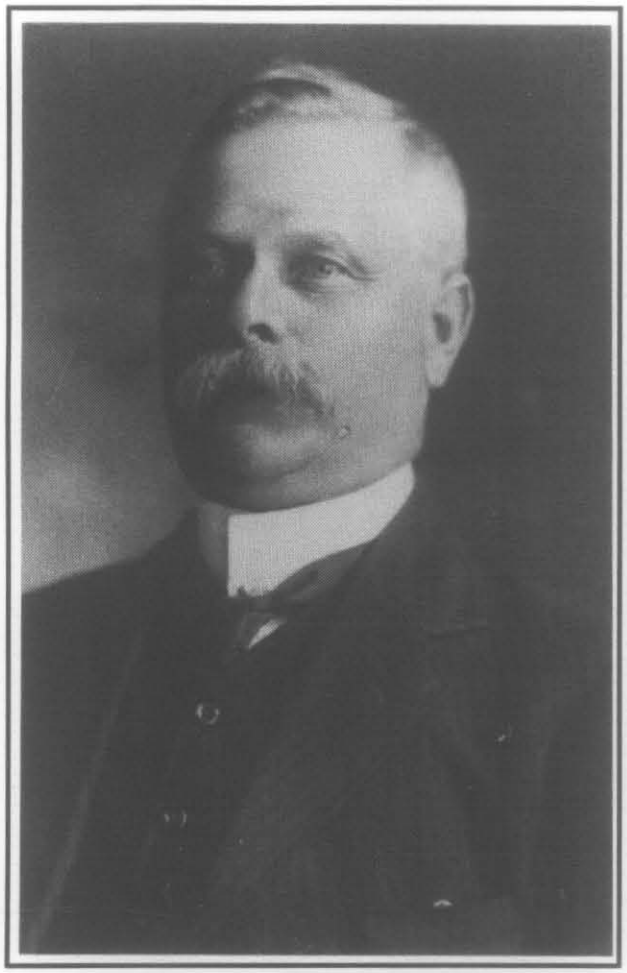
William Harper TWELVETREES

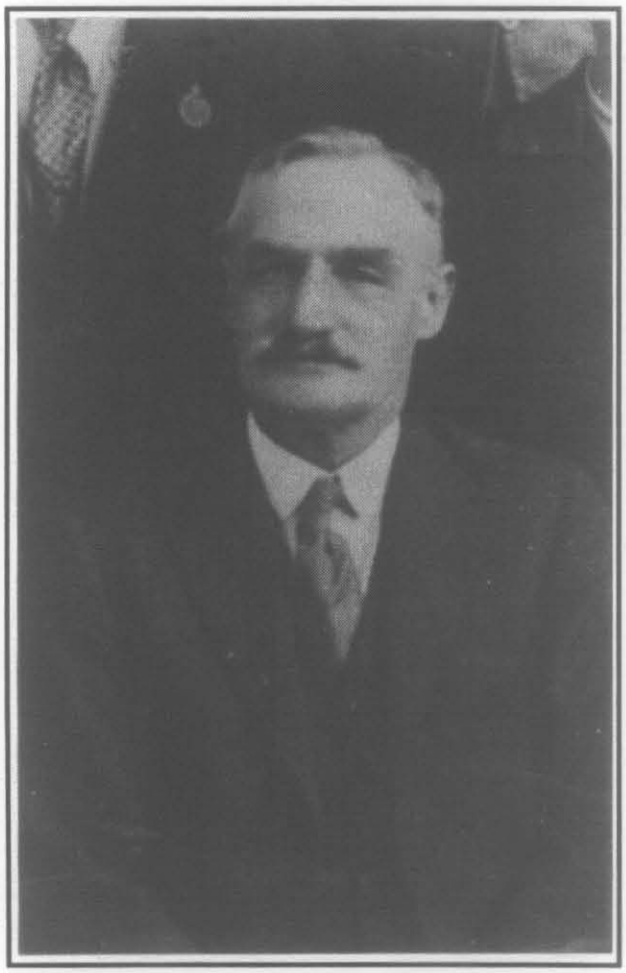
Member (1899–1914)
Chief Inspector Of Mines
Government Geologist

LEFT:

Samuel HAWKES MHA

Member (1889–1913)
Manager, Arba Mine





TOP LEFT:

John SIMPSON

Member (1890–1926)
Mine Manager
South Mt Cameron

TOP RIGHT:

Edward Laret HALL

Member (1904–1926)
Commissioner of Mines
Magistrate, Launceston

LEFT:

James Owen HUDSON

Member (1914–1926)
Chief Inspector Of Mines

water consumption[70]. Therefore, the race was able to operate profitably during depressed economic times.

During the latter war years the average weekly number of customers was between eight and nine. However the annual production of tin for the same period began to decline steadily from 70 tons in 1916 to 28 tons in 1919.

The Board, at the request of the Government, established a drilling plant to test the Gladstone Tinfield for new deposits. Under the supervision of Harry T. Roach, the boring plant began systematic drilling during the spring of 1916[71]. The search for tin continued into the following year with disappointing results. After drilling a total of 506 bores which aggregated 9625 feet (2934 m), little worthwhile new ground had been found[72].

During the ensuing years, the race had been maintained in excellent condition, which also included renovations to the channel keepers' cottages. However the declining tin production was a cause of great anxiety to the local mining community, and many miners were seriously considering the undeveloped ground closer to Gladstone.

The 18 November 1920 saw the unexpected death of Board Chairman William Wallace. His demise coincidentally marked the conclusion of what was regarded as the most productive period in the history of the Mount Cameron Water Race. The race was about to enter an era of dramatic change coupled with uncertainty.

THE GLADSTONE CONNECTION

William Arthur Pretyman took over as Board Chairman in November 1920 at the age of 57. At that stage, he had been a public servant for more than 40 years, most of which was served with William Wallace as his superior[73]. Pretyman was born at Hobart in 1863 and educated at the City School, before joining the Public Service in April 1879 as a volunteer draftsman with the Lands and Works Department. He was appointed as Registrar of Mines in January 1883 followed by Chief Clerk in January 1898, a position he retained for almost 23 years[74]. His patience was finally rewarded with his appointment as Acting Secretary for Mines in November 1920.

Pretyman was finally appointed as permanent head of the Department early in 1921, after much opposition from the geological section. A further twelve turbulent years as Secretary (an intriguing story in itself) saw him through to retirement in April 1933, at the age of 70. He had completed a total of 54 years with the State Public Service[75]. He died at Hobart on 16 July 1949, aged 86.

Meanwhile, after 23 years of achievement under Wallace, the new Chairman was about to make some significant decisions regarding the future of the race, and how it could stimulate local tin mining.

Ever since Charles Ogilvie constructed his own syphon across the Ringarooma River in 1894, there had been several attempts at persuading the board to provide a similar water supply for the Gladstone area. A favourable report by Government Geologist Loftus Hills during July 1921, which covered the mineral potential on the western side of the river, was another reason for the Board to seriously consider a western deviation.

The Board engaged the services of Donald Fraser, the prominent mining surveyor and hydraulic engineer of Derby, who was required to submit to the Minister for Lands and Works a detailed report showing the most suitable route, as well as specifications and cost estimates. Fraser had experienced a long and distinguished career in surveying, having worked for the Government as well as in private practice. Born at Ballarat in October 1866, he was educated at Scotch College before commencing work in Victoria as a surveyor's assistant in 1885.

After moving to Tasmania, he worked as a cadet surveyor (1893–1898) at Port Esperance under District Surveyor E. G. Innes. He continued in private practice until his appointment as a mining surveyor for the Mines Department in 1905. He carried out extensive survey work on King Island during 1909. Between 1915 and 1919, he worked as an inspecting surveyor for the Lands Department while residing at Bishop Street in New Town. He returned to Derby in 1919 to continue in private practice, which included the position of manager, Briseis Central Tin Mining Company at The Valley. The year 1928 saw his return to Hobart, where he continued to pursue mining and real property surveying until his death in 1942, at the age of 71[76].

During his 50 years as a surveyor, Fraser was involved in many important projects, namely the New River to Pyengana road in 1920, the New Bonanza Company's water race at Lisle in 1923, the Mount Paris Dam and water race in 1933, and his work on the Mount Cameron Water Race. During his early years working in the North East, he travelled everywhere by bicycle. Later, he used a buggy drawn by a retired trotter named 'Briseis'. Two of his seven children later became federal politicians, with Allan the member for Eden-Monaro while Jim became the first member for the Australian Capital Territory[77].

Donald Fraser will be best remembered for the survey (1899) and construction (1900–02) of the Ringarooma Race for the Briseis tin mine at Derby. His name is perpetuated in the Ansons Bay area by Fraser Creek and Fraser Road.

On 5 August 1921, the Parliamentary Standing Committee on Public Works accepted Fraser's submissions on the six-mile long Western Deviation and recommended the appropriation of £7700 for its construction[78].

The Board meeting of March 1922 initiated the commencement of work on the new race with Race Manager, Henry Harvey, being appointed to take charge of construction. A section of the Scotia wood-stave syphon was sent to the manufacturers in Sydney for analysis. If found to be in sound condition, the Board planned to use the materials as part of the Ringarooma Syphon. The Board also agreed to compensate various property owners for land required for the new race.

The meeting also decided to seek the services of District Surveyor George Campbell-Smith from St Helens. His task was to carry out survey work on the new deviation, and to periodically supervise the construction of the race in

compliance with the survey. His first survey task was for the alignment of the proposed one-mile long Ringarooma Syphon.

The name of Campbell-Smith had a long association with Tasmania's North East. George Snr was originally appointed Mining Surveyor and Registrar for the Fingal District Goldfields from 1871 to 1895. He was also District Surveyor for Portland from 1879 to 1881, and Cascade River (Ringarooma) from 1882 to 1895. Born in Tasmania during 1835, he was educated at the University of Aberdeen in Scotland before commencing duties as District Surveyor at Fingal in April 1871. He died at Fingal in August 1896 aged 62[79].

George Jnr was born at Fingal during 1877 and lived there until 1909, when he moved to St Helens and built his home 'Wybalenna' about the same time. He became District Surveyor for St Helens from 1910 to 1953. During this period, he resided at St Helens until 1926 when he moved to Launceston. In 1950, he returned to the North East and lived at St Marys until his death in 1954 at the age of 77.

Although remembered for his work on the Western Deviation, George Campbell-Smith Jnr was best remembered for his survey of the Siamese Water Race during 1931. Commencing at its intake on the South George River, just below St Columba Falls, the race travelled almost 28 miles (45 km) to the Siamese Tin Mining Company's leases about 5 miles (8 km) west of St Helens.

George's son, Ralph, became the third Campbell-Smith to become a district surveyor after serving four years articles to his father (1931–35). Born at St Helens in 1912, he moved to Launceston with his father in 1926 and has lived there ever since. Even since his retirement in 1977, he can still vividly recall his experiences while working for his father on the Siamese Race survey. Ralph's working life is comprehensively illustrated at the St Helens History Room, which is located in the municipal library building[80].

The Campbell-Smith family has served the North East's mining industry with distinction for more than a century. This remarkable achievement was started with George Snr at Fingal in 1871, and completed with the retirement of grandson Ralph at St Helens in 1977.

George Campbell-Smith continued to work periodically for the Mount Cameron Board until July 1923, when the first six miles of the Western Deviation were completed. The project included syphons across Cybele, Fly by Night and Mount Cameron Creeks, as well as the short Purdue Branch which was located near the outlet of the Ringarooma Syphon. The terminus of the new race was located a short distance beyond Mount Cameron Creek.

Meanwhile, the Board lost little time dismantling the steel syphons No. 4 and No. 5 at Edina Sugarloaf. After careful inspection, the No. 4 pipes were cleaned, dipped and reassembled. The new No. 4 pipe column was extended 9 chains to obtain a greater head of water, as the connecting race to the Ringarooma Syphon had been constructed at a higher level than the old main race. The remaining No. 5 pipes and the Scotia wood-stave pipes were combined to construct the Ringarooma Syphon[81].

By October 1922 the Board was seriously short of funds, with less than £1,500 left to complete the project. The Government was approached for a further £1,000 grant. However, an extra £500 was later required to finish the job.

The cost blow-out was mainly attributed to £500 worth of additional steel bands to strengthen the wood-stave pipes, more rock found in the race construction than was first estimated, and extra work required to restore the steel pipes. To make matters worse construction work, beyond No. 4 Syphon, had stopped any water, which could have generated much needed revenue, from being carried along the new race.

February 1923 saw the resignation of Race Manager Henry Harvey, along with the final Government grant of £500 to complete the Western Deviation. The extra money included the survey and construction of the Purdue Branch[82]. By the end of July, water was reported to be flowing throughout the deviation, with 35 sluiceheads being discharged from the Ringarooma Syphon. The old main race north of Edina Sugarloaf had been officially abandoned.

1922 proved to be a disastrous year for revenue, with only £138 worth of water sold, a £420 reduction from the previous year. Tin production of 6 tons was in stark contrast with the 27½ tons achieved in 1921. Therefore, with race construction completed, the Board was looking forward to a more profitable year.

David Shields was appointed Race Manager upon the resignation of Henry Harvey. At the same time, the Manager's new salary had been fixed at £250, plus a forage allowance of £50 per year. Harvey, who was Shields' father-in-law, was forced to resign due to a deterioration in health. He had been employed on the race for more than 29 years, serving the first 10 years as a channel keeper.

Severe flooding during June 1923 caused considerable damage to the Cybele Syphon intake approaches (costing £60 to repair), a landslip at J. T. Shields' cutting, and a break in the bank near the Mount Cameron Creek syphon. Another flood during November caused further damage to the deviation, costing more than £100 in repairs.

About the same time, the Board acquired the Eureka Dam for its own use. The other dams under the Board's control were at Mathewson's Lagoon (No. 1), the Empress Dam (No. 2), the Edina Dam (No. 3), at Junction Creek (No. 4), and Harvey's Dam which was located close to the manager's residence in Gladstone. This small reservoir was completed during February to store water for local consumption.

The Annual Report for 1923 indicated a massive increase of almost £700 in water receipts. The far-sighted decision to build the deviation was beginning to show encouraging results.

1924 was another successful year when water receipts produced a 50% increase in revenue from the previous year. From a 'break even' 1923, the race achieved a substantial operating profit of £390 for the year 1924.

Apart from normal maintenance, the race incurred no extra expenses during the year. However, for the first time since November 1920, the Board witnessed a change in personnel. As previously mentioned, Charles Barnes was replaced by James Ogilvie at the request of the water users.

James Thomas Ogilvie commenced duties in May 1924 and remained with the Board until it was abolished in November 1926. As the son of prominent Gladstone mining identity Charles A. Ogilvie, James was the third generation of the Ogilvie family to be involved in tin mining at Gladstone. His grandfather (also named James) had emigrated to Tasmania from England in 1857. He later, with son Charles, took up tin leases at Mount Cameron in 1875, and eventually erected a house on the Ringarooma River at Ogilvies Bend. The family name is perpetuated in the Gladstone district by Ogilvies Bridge and Ogilvies Bridge Road.

At the time of his appointment to the Board, James Jnr had been operating the Edina workings for many years. During 1924, the disused Scotia Cottage was sold to the Monarch Tin Mining Company and relocated at their mine site. With the destruction of the Cascade Cottage in a bushfire during April 1921, the Board was left with only the manager's residence, Edina Cottage and Chum Cottage to maintain.

1925 saw the widening of the Purdue Branch from 2 feet to 3 feet at a cost of almost £60, half of which was paid by the Compeer Tin Mining Company whose leases it served[83]. However, the race's operations only broke even during the year, due to a slight decrease in tin output and a drop of £130 in the sale of water. As a result, the Board submitted a recommendation to the Minister for Mines for a 4½ mile extension to the deviation[84].

With some leases around Gladstone indicating a decline in output, miners were looking to undeveloped ground in the vicinity of Native Lass Plain.

1926 proved to be an eventful year for the Mount Cameron Water Race, with the declaration of a £800 operating profit, the deferral of the race extension, the serious deterioration of the Fly by Night Syphon, and finally the abolition of the Mount Cameron Water Race Board. By an Act of Parliament which received the Royal Assent on 29 November 1926, the Board, consisting of W. A. Pretyman (Chairman), J. T. Ogilvie, J. O. Hudson, C. G. Ryan, E. L. Hall and J. Simpson, was abolished, with the management and control of the race being vested in the Minister for Mines[85].

After 39 years under Government control, the race was about to experience a period of uncertainty.

THE STRUGGLE FOR SURVIVAL

The postponed extension of the deviation by the Government did not deter interest in undeveloped areas to the west of Gladstone. In fact a detailed report by State Mining Engineer James B. Scott, during August 1926, confirmed the potential of new ground beyond Mount Cameron Creek[86]. Scott also carried out a detailed investigation of alluvial tin deposits north of the Ringarooma River, most of which had been serviced by the abandoned Northern Extension[87].

As a result of requests for water supplies to both areas, Scott carried our surveys and furnished cost estimates for the construction of a seven-mile extension to the Western Deviation, and for the restoration of the Northern Extension.

Tenders were immediately called for the installation of an 18 inch diameter concrete pipe column for the northern side of Edina Sugarloaf on the site of the old No. 5 steel syphon. The new Edina Syphon was completed early in 1927. As no tender was accepted for the extension of the Western Deviation, construction had to wait until the following year[88].

1927 also saw the addition of two rooms to the Edina Cottage to accommodate the ever expanding family of Tasman 'Budge' Moore. After his appointment as Channel Keeper in 1923, Moore lived at the cottage for more than 26 years, where he raised 12 children.

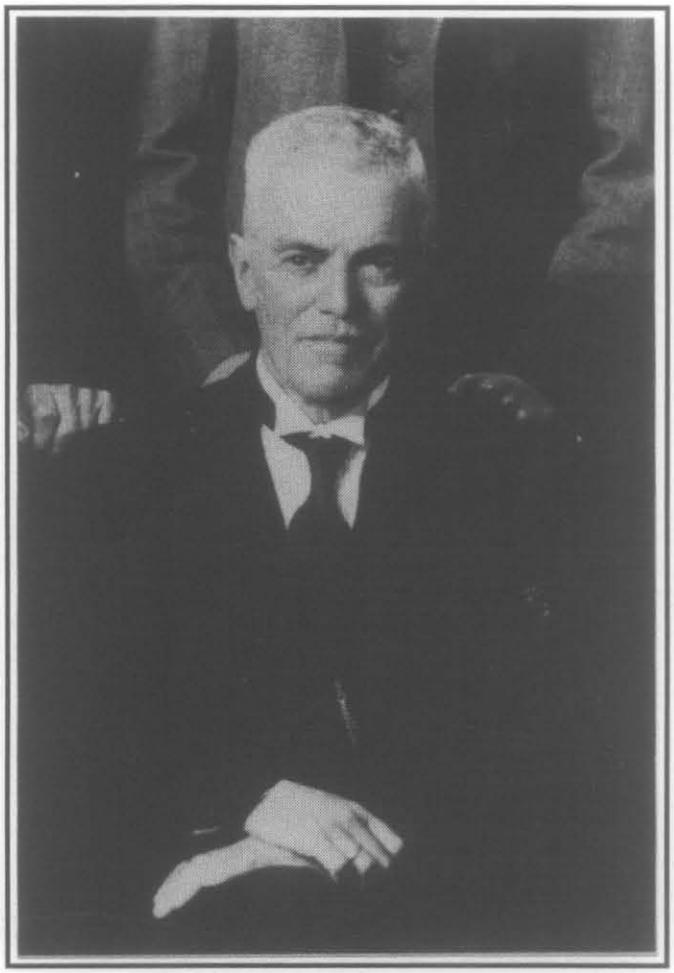
November 1928 saw the long awaited start on the deviation extension, which included repairs to the abandoned Native Lass Dam. Although completed during August 1929, the three year delay had finally affected the races' profitability. After an operating profit during 1926 and 1927, 1928 saw a loss of £200. Tin production for the same period was 56 tons, 44½ tons and 29½ tons respectively, which further illustrated the lack of foresight shown by the Government[89].

Many dissatisfied water users considered that the operation of the race under the control of the manager, who was directly responsible to the Minister for Mines, had not been successful. As a result, the Mount Cameron Water Race Board was reconstituted on 28 February 1929, under the provisions of *The Mount Cameron Water Race Act 1928*. The new Board consisted of W. A. Pretyman (Chairman), C. G. Ryan and G. S. Mallinson, who had been elected by the water users as their respresentative.

George Samuel Mallinson was born in 1879 and was a second generation tin miner at Gladstone. His father (John) migrated to Tasmania in the 1870s as a school teacher, but turned to tin mining at Cascade River instead. He had eight children.

George had two brothers (Aubrey and Dudley) who also became involved in tin mining at Gladstone. During World War I, he operated the McGregor Mine in partnership with Aubrey. George later operated leases at the Doone Mine (1927–41), McGregor Mine (1933–37) and with John Watt at the Vulcan Mine (1941–45). His house, which was located by Pig and Whistle Creek, was completely inundated by the disastrous 1929 flood. Being beyond restoration, the building was dismantled and erected on higher ground at Gladstone. He continued to live there until his death in 1951, when it became the home of George and Terry Green.

George Mallinson was a capable bushman and fond of hunting and fishing. He also owned a house and land at Ansons Bay, which was used as a holiday retreat with his wife Emma and three children. To those who knew him, he was described as easy-going, slow-talking, and as being a philosopher. The Board also acknowledged George Mallinson for his 16 years of valuable service.



LEFT:

Donald FRASER

District Surveyor,
Derby

RIGHT:

George CAMPBELL SMITH Jnr

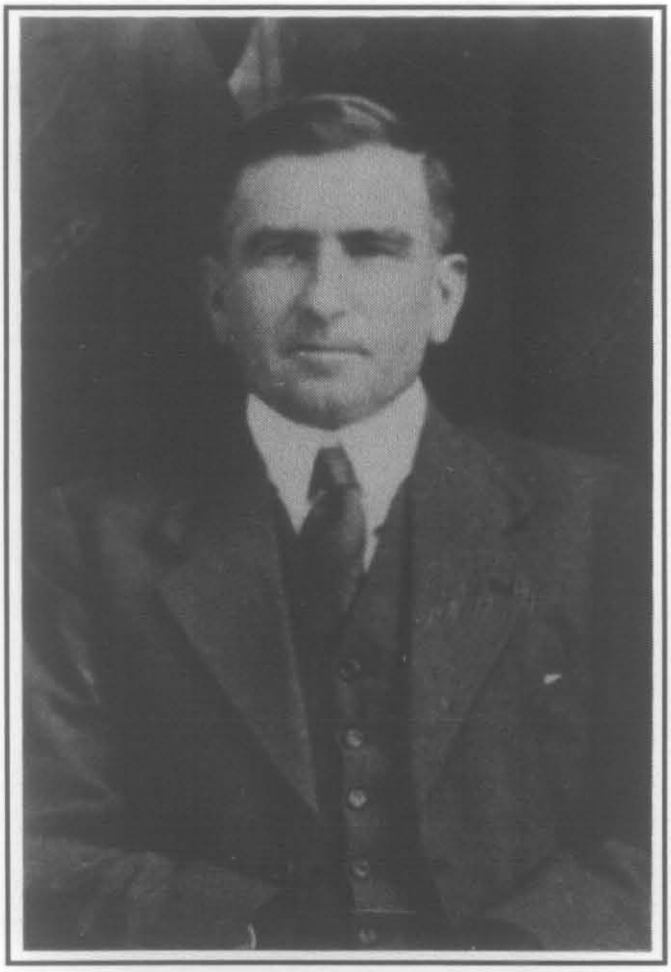
District Surveyor,
St Helens

17/42

LEFT:

William Arthur PRETYMAN

Chairman (1920–1933)
Secretary for Mines



RIGHT:

James Balfour SCOTT

Chairman (1933–1939)
Secretary for Mines

The first meeting of the reconstituted Board was held at Gladstone Town Hall on 24 April 1929. The most important item on the agenda was to provide immediate funding for the repairs to the Ringarooma Syphon and sections of the race which were damaged by flood on 4 April.

This was the disastrous flood caused by the collapse of the Cascade Dam, and which severely damaged the town of Derby. Such was the force of the flood that the Ringarooma River was pushed backwards past Branxholm. When it eventually turned, it was so full of debris that it destroyed all the bridges between Derby and the sea[90].

The Board appointed Robert Long (who was the original builder) as construction foreman for the replacement of the damaged syphon trestles. A request of £1000 was made to the Minister for Mines to effect the necessary repairs. At the same meeting, a recommendation was made to complete the last four miles of the Western Deviation to the rebuilt Native Lass Dam. Once again, Robert Long was appointed to supervise the project[91]. Two special visits were made by State Mining Engineer James B. Scott to view the work being carried out before it was satisfactorily completed in August[92].

An interesting observation regarding the flood damage to the Ringarooma Syphon was revealed in a letter to the Board by Donald Fraser on 7 May. Fraser noticed that many of the pipes were washed off the trestles because they had not been bolted down. It was also his opinion that the trestling was built too high, causing debris from a high flood to bank up behind it. He considered that a lower profile structure would have allowed debris to safely pass overhead, minimising the threat of damage.

By September 1929 the Mount Cameron Water Race consisted of a main race from Great Musselroe River to the Empress Dam (29 miles), and a branch race from Edina Sugarloaf to Native Lass Dam (12 miles). The remaining sections, which included the Amber, Scotia, Doone and Aberfoyle branches, had been abandoned. The final 6 miles of the Northern Extension had also been abandoned.

It was not long before the deviation was again ear-marked for extension. The discovery of payable tin by F. and J. Floyd near Echo Dam in November 1930 created the need for a two-mile extension and repairs to the reservoir. The Board, acting on the recommendation of State Mining Engineer James B. Scott, agreed to allow the Floyd brothers to construct the race themselves. By the end of December, Echo Dam had become the terminus of the Western Deviation.

Although the race was generally in good condition, a vigorous growth of weed in a section between the Musselroe Syphon and the intake had reduced the water flow to about 25 sluiceheads. It took the combined efforts of the channel keepers and two extra men almost a fortnight to rectify the problem[93].

A special Board meeting was held at Gladstone on 29 October 1930, to consider a request from water users for a reduction in rates. It was claimed by many of the miners that their average earnings were barely able to provide them with a living. The effect of the depression, together with the low world price for tin, had forced them to take drastic action.

The average number of claims supplied by the race during 1930 was 13, a figure which had remained fairly constant over a period of several years. 1931 saw the level of mining activity maintained much the same as the previous year, leaving little doubt as to the importance of the Western Deviation to the Gladstone district. However the miners were beginning to work poorer ground, which required greater quantities of water to achieve profitability. As a result there was renewed interest in many of the abandoned tin leases on the northern side of the Ringarooma River.

Therefore, it was hardly surprising when during October, the Board was petitioned for the restoration of the old Scotia (No. 6) Syphon.

State Mining Engineer James B. Scott submitted a report which recommended that the replacement syphon be a 15 inch pipe of 16 gauge galvanised iron. His estimated cost of construction was £660[94].

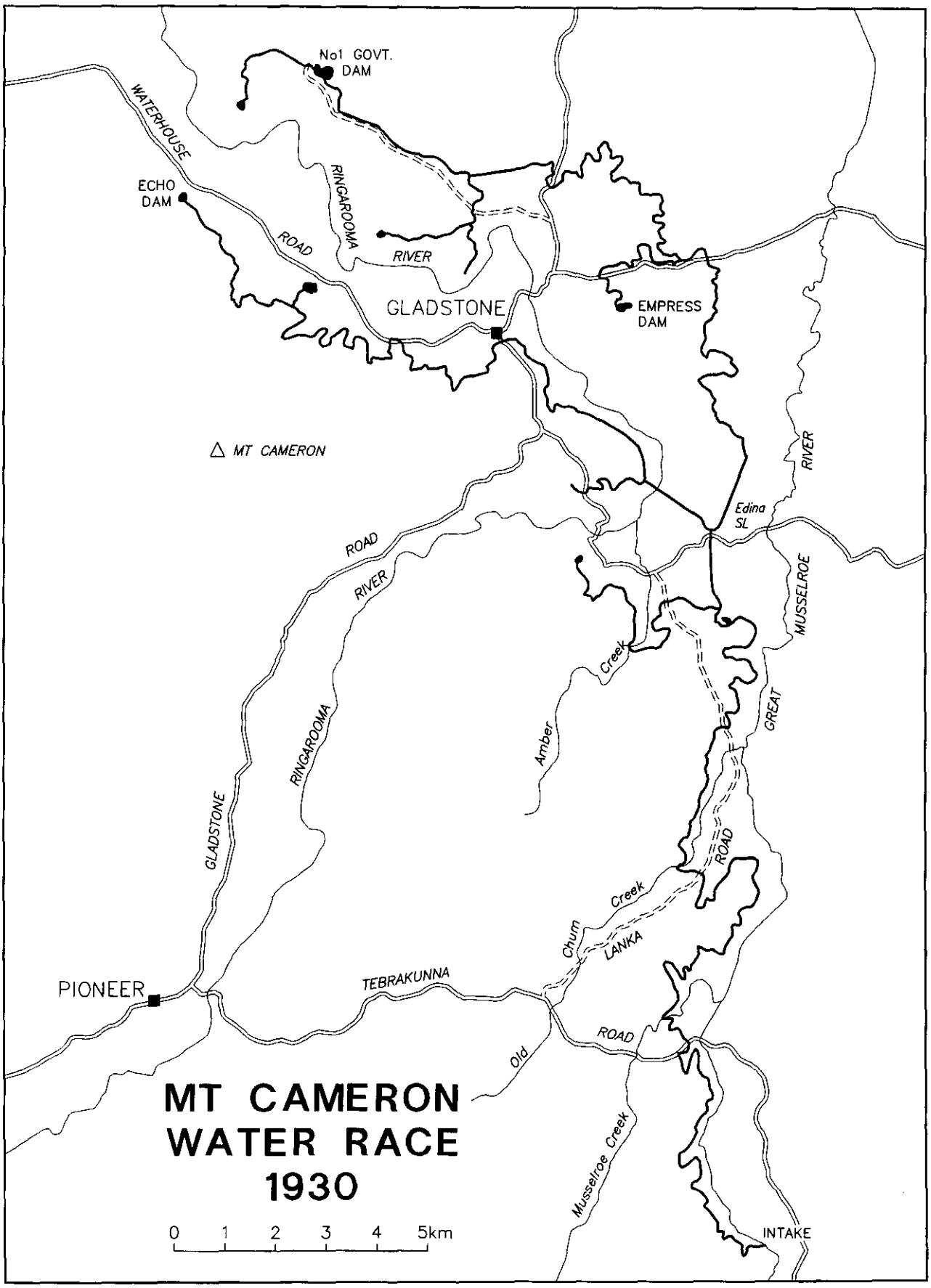
Meanwhile, Government Geologist P. B. Nye carried out a comprehensive survey of tin reserves from areas to be supplied by a restored Northern Extension. Nye's report also suggested the restoration of the Scotia Syphon[95]. However the Board could not be convinced, and subsequently deferred the project for a further three years. 1931 marked the 50th year of operation by the 'main race' section which was built by the original Mount Cameron Company. The year also saw the reopening of the Lochaber Mine, which had become the northern terminus of the race.

Despite the depression, 1931–32 proved to be a stable period for the Board with 38 and 45 tons of tin ore being produced respectively. During both years, the average weekly employment remained fairly constant at about 24. William A. Pretyman, after 54 years in the Public Service, retired from the Board on 19 April 1933[96]. During his 10½ years as Chairman, the race had progressed from a period of near extinction to one of optimism. With both sides of the Ringarooma River being serviced by the race, there were tangible signs of a tin mining revival. The struggle for survival was surely over.

THE DISINTEGRATION OF THE DEVIATION

The appointment of former State Mining Engineer Scott as Chairman heralded the start of a successful period for the Board. During his six years (1933–38) at the helm the race delivered an operating profit in each annual report. During that period, the average annual output of tin ore was 47 tons, while employing 25 miners each week. The most successful year was 1933, when 59½ tons were raised.

James Balfour Scott was born in 1875 at Leith, Tasmania. He spent his early years gaining practical mining experience at Beaconsfield, Rosebery and Mount Farrell. In 1902, he enrolled at the Zeehan School of Mines which was affiliated with the University of Tasmania. He gained diplomas in mining, and metallurgical chemistry and assaying respectively, specialising in economic geology as applied to mining. After completing his studies, he was appointed analytical chemist and assayer at the West


No1 GOVT. DAM
WATERHOUSE
ECHO DAM
ROAD
RINGAROOMA
RIVER
GLADSTONE
EMPRESS DAM
MT CAMERON
RIVER
Edina SL
ROAD
RIVER
MUSSELROE
Creek
GREAT
Amber
RINGAROOMA
GLADSTONE
ROAD
Creek
Chum
LANKA
PIONEER
TEBRAKUNNA
ROAD
Old
Musselroe Creek
INTAKE
MT CAMERON
WATER RACE
1930
0 1 2 3 4 5km

5 cm

Comet Mine, Dundas. A short time later, he was appointed head sampler at the Tasmanian Smelting Works, Zeehan, only to resign in August 1910. The following two years saw him as assayer and surveyor at the Renison Bell Mine before finally becoming its manager.

Between 1911 and 1924 Scott practised as a consulting mining engineer, often extending his activities to the mainland states. 1913 saw him elected as a member of the Australian Institute of Mining and Metallurgy, and he was appointed as a Justice of the Peace in July 1914 while residing at Renison Bell.

Scott was appointed Government Mining Engineer for the Zeehan district in 1924, and three years later, in 1927, became State Mining Engineer[97]. It was during his term as State Mining Engineer that he became involved in the development of the Western Deviation.

After three years of procrastination, the Minister for Mines finally agreed to make funds available for the restoration of the Scotia (No. 6) Syphon. By the end of 1934, tenders for its construction had been called by the Board.

At this stage, the Mount Cameron system was operating efficiently, with the only maintenance problem coming from the syphon fluming at Mount Cameron Creek. With little or no demand for water beyond that point, it seemed unlikely that there would be a replacement[98]. After only five years, tin mining at the Echo and Native Lass areas had virtually ceased. This was to be the start of the gradual disintegration of the deviation.

With the reopening of the Scotia Syphon early in 1935, it was all good news for the Main Race. For the first time in 13 years (since March 1922), water was flowing from the Great Musselroe intake to the No. 1 Government Dam at Mathewsons Lagoon. By the end of 1935, the deviation had been abandoned beyond Fly by Night Creek. The branch was only operating as a supplier of domestic water for the Gladstone township.

The demise of mining along the deviation coincided with the revival of activity along the Amber Branch. To cater for the increase in demand for water, the race was carefully scrubbed and cleared of accumulated silt. The increased use of the branch resulted in the construction of a new syphon across Amber Creek during 1937. This was the second syphon to be built on the same site, replacing the one which had been removed some 35 years earlier.

At the same time, the Northern Extension was also experiencing a revival in mining activity with the reopening of the Scotia and McGregor workings. During 1938, while celebrating its 50th Anniversary, the Board continued to maintain the deviation as far as the disused Fly by Night Syphon, along with the Purdue Branch which supplied water to Star Hill Syndicate's dam near Ogilvie's Bridge. However the decrepit Ringarooma Syphon was requiring constant maintenance to keep it operational.

The same year saw the construction of a new low-level race to carry the overflow of water from the Scotia Syphon directly into the No. 1 Government Reservoir[99]. This race was later to become the main section of the Northern Extension.

Mining activity continued to increase during 1939 with the re-opening of the Garfield workings by the Star Hill Syndicate. The Empress Branch, which serviced the area, was subsequently cleaned out to cater for the increase in water supply. Other important works carried out by the Board were the partial retimbering of the Gladstone Road tunnel, and the replacement of the iron fluming across Old Chum Creek. The 34 year old pipe flume was replaced with a wooden structure[100].

What was a fairly productive year for the Board came to a sad conclusion with the untimely death of its Chairman. James Balfour Scott died on 1 December 1939 at the age of 64, from heart failure[101].

His immediate replacement was William Henry Williams, who was affectionately known as 'Lead Pencil Jimmy'. Born in 1889, he was recruited from the Queensland Mines Department during 1919 to fill the position of Mines Inspector at Queenstown. His duties included Inspector of Magazines and Explosives for the Western District. In 1927 he transferred to Launceston to continue in the same capacity until his promotion to Chief Inspector of Mines, Magazines and Explosives at Hobart in November 1937. He was appointed as Acting Director of Mines in December 1939 upon the death of James B. Scott.

He was appointed a Justice of the Peace in December 1943. According to those who remembered him, Williams tended to be over-bearing and stubborn. During his duties as a mines inspector, he preferred to present himself unannounced in an effort to catch mine managers unprepared. He was also known to 'accommodate' anyone off the mining lease to settle any differences of opinion. Rumour had it that he was supposed to have carried, at all times, a note confirming his sanity.

During board meetings Williams would usually resist suggestions from other members unless he was able to gain kudos from them. However he always expected agreement regarding his own suggestions or initiatives. Williams' first year as Chairman (1940) produced an operating profit for the Board and included a solid tin output of 53 tons. The only significant expense was attributed to the deterioration of the steel section of the Ringarooma Syphon, which was replaced with 1280 feet of 15 inch diameter reinforced concrete pipes[102].

The dramatic downturn in tin production to 36 tons during 1941 set a trend for the following 18 years, where annual output failed to reach 40 tons.

Meanwhile, the Western Deviation was still operating as a domestic water supply for Gladstone, with the small Cybele Syphon at the Sugarloaf still operating satisfactorily.

1942 saw the rehabilitation of the Amber Creek Syphon, along with repairs to a collapsed section of the Gladstone Road tunnel on the deviation. However Moores (No. 4) Syphon was showing signs of serious bottom corrosion. The Ringarooma Syphon also required attention during the year, and sections of wood-stave pipe were replaced along with the reinforcement of some wooden trestling[103].

The continuing decline in tin production during the following three years to 27, 22 and 16 tons respectively was extremely worrying for the Board. During the same period there had been a gradual deterioration throughout the race system, which had placed the management in a financial bind. The marked decrease in revenue would not be able to completely fund the proposed upgrading. The race could no longer be expected to pay its way.

The long awaited replacement of Moores (No. 4) Syphon was finally underway during the latter part of 1945. The wood-stave section of the Ringarooma Syphon was also under serious consideration for replacement, with the merits and costs being investigated[104]. As a result, it was suggested that a second concrete pipe column parallel to the present Edina (No. 5) Syphon be constructed as an alternative to the costly replacement of the Ringarooma Syphon. In the meantime, the Board would continue to maintain the 23 year old structure for as long as possible. The Western Deviation was officially on borrowed time.

The No. 4 Syphon, which was originally laid during 1908 under the direction of engineer F. S. Grove, had managed to outlive all other syphons along the Main Race. The 30 inch diameter steel pipe column had operated continuously for more than 37 years.

The Board decided to engage the services of David Dickinson from the Mines Department to assist them in the installation of a replacement. It was his task to conduct a survey of the site, and prepare a detailed plan for a 27 inch diameter reinforced concrete pipe column, to be located along the western side of the existing syphon. The project was completed early in 1946.

David Rushbrook Dickinson originally joined the Mines Department in 1940 as an extension officer. His duties included the investigation of potential mineral projects which required Government expenditure. After a period of three years he left the Department, only to return two years later in a different capacity.

He was appointed technical and administrative assistant to the Director (W. H. Williams), which included the duties of geologist, surveyor and "amateur" mining engineer. Dickinson resigned in 1948 to take up a senior geologist position with the Bureau of Mineral Resources in Melbourne. He was later appointed Chief Surveyor for Associated Pulp and Maper Mills and eventually retired as field engineer for that company. In "retirement" he still remained an APPM consultant, and was involved in the construction of the Tonganah Clay Mine complex.

After the success of the Edina Syphon, which had given eight years of maintenance-free service, the Board decided to continue the practice of using concrete pipes in preference to steel pipes. 1945 also saw the extension of the transmission line of the Hydro-Electric Commission to Gladstone. It was hoped that electric power would further stimulate the local mining industry. The retirement of George Mallinson occurred during the year after a 16 year stint on the Board. Following a meeting of water users, V. C. Dawe of Gladstone was nominated as his replacement[105].

Vivian Charles Dawe, who was born in 1912, had a family background in tin mining. Mines Department records show that his father, Alfred, was mining tin at Thomas Plains (Weldborough) during the early 1880s before working tin leases along Fly by Night Creek (Gladstone) during World War I. During the 1920s he was reported to be mining at Star Hill. Charles Dawe, an uncle, had also operated mining leases on Amber Creek and Lark Creek.

Viv, and older brother Athol, operated the Edina Workings from 1934 to 1950 with water from the Mount Cameron Race. Their operations included leases north and south of the Ringarooma Syphon. David Dawe, a younger brother, became a storekeeper at Gladstone between 1942 and 1947. Viv and Athol can vividly recall digging trenches at both ends of the newly-laid No. 4 Syphon during 1945–46.

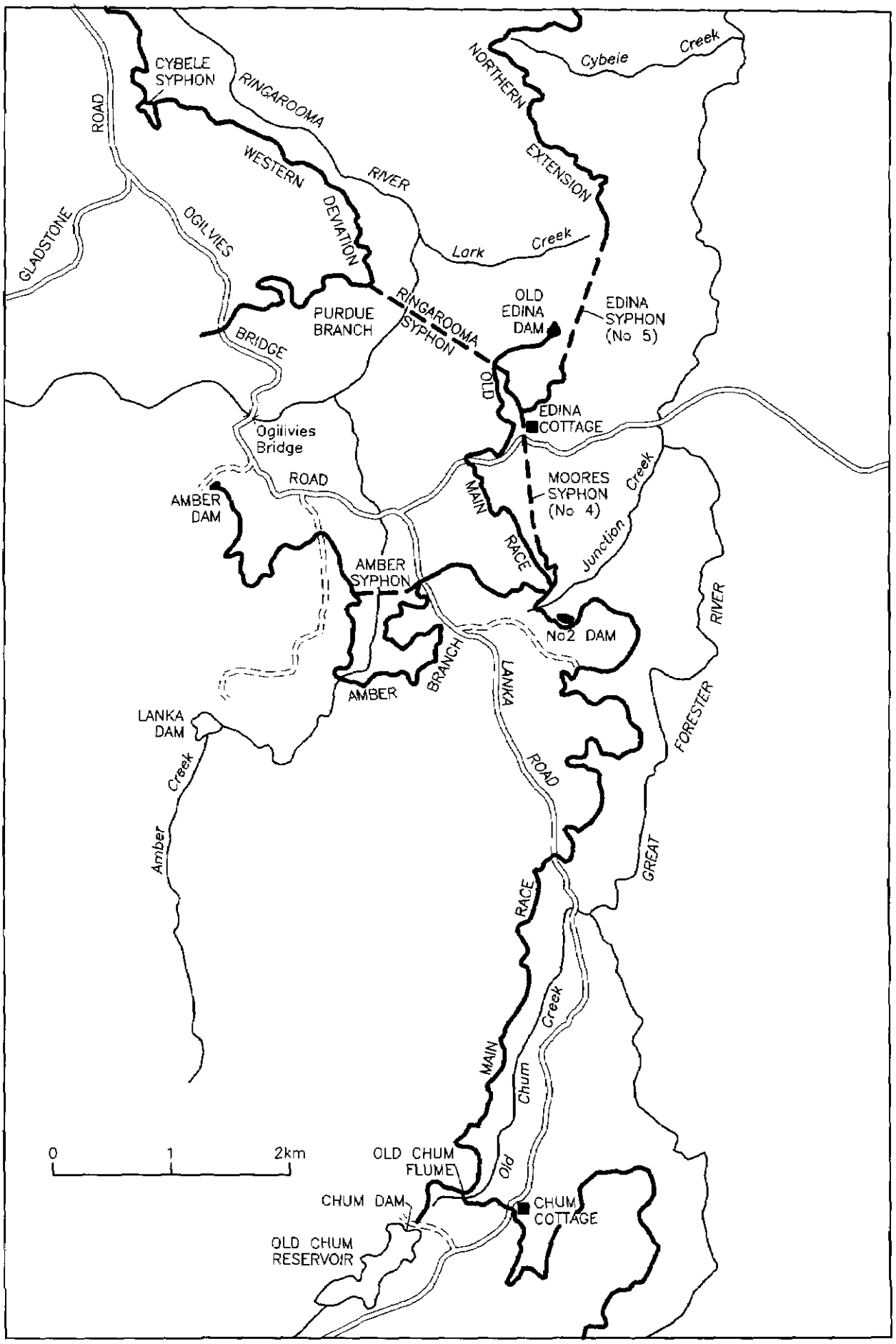
During his five years on the Board, Viv Dawe saw the replacement of Moores (No. 4) Syphon, the duplication of the Edina (No. 5) Syphon, and the closure of the Ringarooma Syphon. He remembers, with great affection, his association with fellow board member Cecil G. Ryan. He claimed that Ryan was well liked and highly respected by his employees. He apparently told his foreman one day to take more notice of what the workers had to say, as they had taught him most of what he knew about mining. Viv claimed that Ryan owned a shack at Musselroe Bay, and used to indulge in quail shooting on Preservation Island every year. Each excursion would supply him with enough pickled quail for the following twelve months[106].

The 1946 tin production of 28 tons was a significant improvement from the disastrous figure of 16 tons in the previous year, which made it the lowest for 23 years. This provided encouragement for the Board in view of the expenditure of £2880 in replacing Moores (No. 4) Syphon. However further funds were required to replace the Cybele Syphon, which had been causing concern for some time, along with the reconstruction of the intake weir on the Great Musselroe River[107].

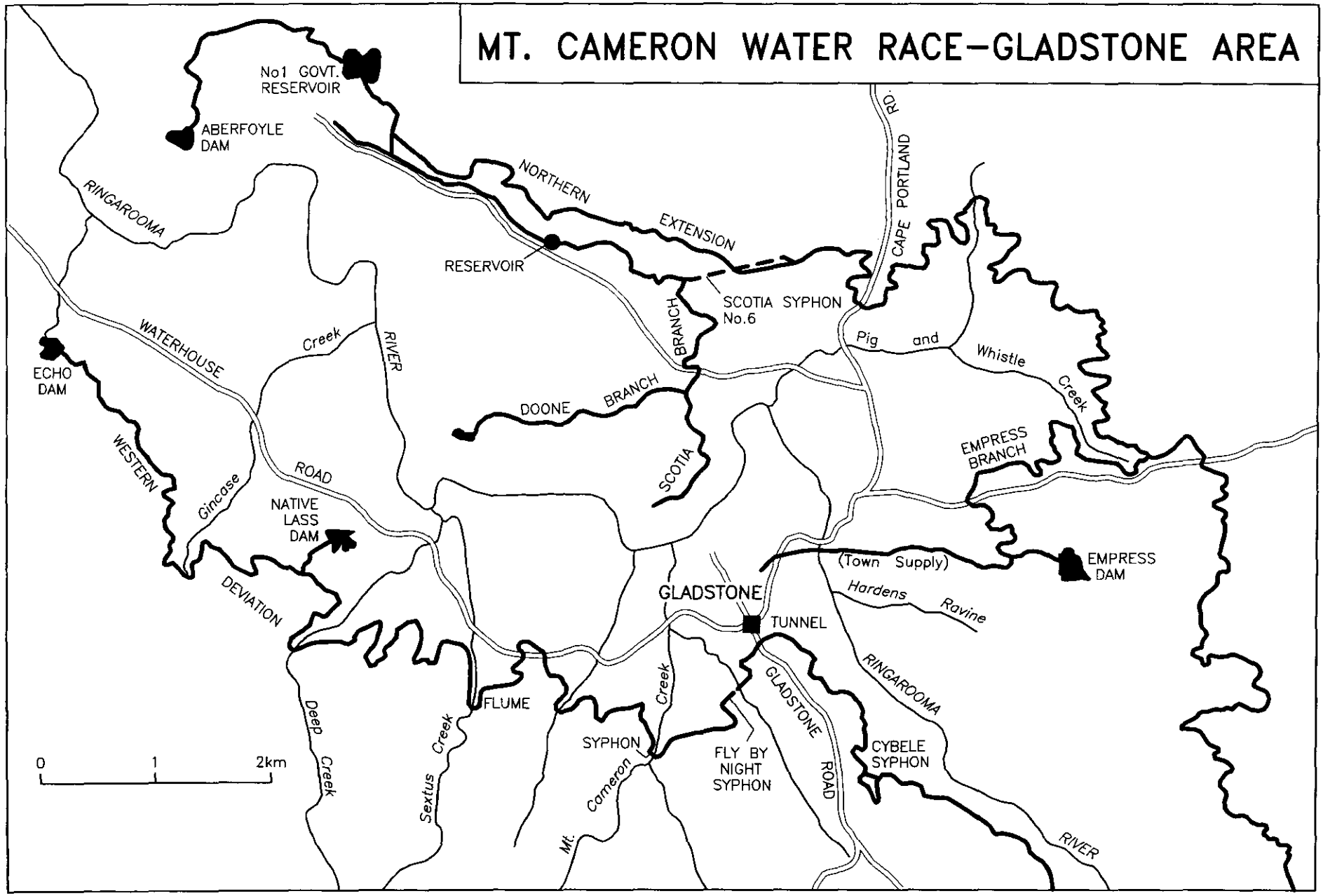
Another syphon causing concern was that across Amber Creek, which had only been in service for ten years. Although some restoration work had been carried out during 1942, serious corrosion was beginning to appear once more. Because of its critical financial position, the Board was hoping to delay major repair work for another couple of years.

The Ringarooma Syphon also continued to cause problems, with the collapse of a portion of trestling carrying a section of concrete pipes. A metal filling-piece had to be inserted, together with repairs to the wooden trestling. This latest incident illustrated the fragile condition of the mile-long structure. It was the Board's opinion that an alternative or replacement was urgently needed. A duplication of the 18 inch diameter Edina (No. 5) Syphon was agreed upon as the best option.

Once again, David Dickinson from the Mines Department was called upon to carry out a site survey and prepare a detailed plan. Like Moores Syphon, the new concrete pipe column was to be located parallel to and west of the existing syphon. Dickinson was also required to design intake and delivery boxes to accommodate the twin syphons.



MT. CAMERON WATER RACE–JUNCTION CREEK AREA


MT. CAMERON WATER RACE—GLADSTONE AREA
No1 GOVT. RESERVOIR
ABERFOYLE DAM
RINGAROOMA
NORTHERN
EXTENSION
RESERVOIR
CAPE PORTLAND RD.
SCOTIA SYPHON No.6
BRANCH
Pig and Whistle Creek
WATERHOUSE
Creek
RIVER
ECHO DAM
DOONE BRANCH
SCOTIA
EMPRESS BRANCH
WESTERN
Gincase
ROAD
NATIVE LASS DAM
(Town Supply)
EMPRESS DAM
GLADSTONE
TUNNEL
Hardens Ravine
DEVIATION
RINGAROOMA
FLUME
Deep Creek
Sextus Creek
SYPHON
Cameron Creek
GLADSTONE ROAD
FLY BY NIGHT SYPHON
CYBELE SYPHON
Mt.
RIVER
0
1
2km
5 cm

Although preparatory work was completed during 1947, construction did not commence until the following year.

1947 also saw other major works carried out, with the installation of a new 15 inch diameter metal syphon across Cybele Creek and the reconstruction of the intake weir and training wall of the main intake on the Great Musselroe River. The old wood-concrete weir, which was originally built in 1889, was completely moulded in concrete and raised six inches in height to increase the water storage at the intake. A special appropriation of £1200 was made to cover the cost of the projects[108].

The following year saw a start made on the duplication of the Edina (No. 5) Syphon. Costing more than £3000, the work was completed early in 1949, only a few months before the anticipated demise of the Ringarooma Syphon. Fortunately for the Board, the timely completion of the extra Edina pipe column enabled the surplus deviation water to be diverted along the main race, which eliminated any loss of water from the system.

Heavy flooding in the Ringarooma River during June weakened some of the Ringarooma Syphon trestling which caused a major collapse. Because of the poor condition of the whole structure, the Board decided to abandon the Ringarooma Syphon, leaving Gladstone without a domestic water supply. After 27 years of service, the Western Deviation was officially closed. Although the branch was never to reopen, its brief history remains an important chapter in the development and survival of the Mount Cameron Water Race.

THE 1950s — A TIME OF REFLECTION AND RATIONALISATION

The closure of the Western Deviation had allowed the Board to consolidate its precarious financial position, as the continual maintenance of the Ringarooma Syphon had been a constant drain on funds. With little revenue generated from the operation of the deviation, the construction of a replacement syphon could not be justified. It was therefore highlighted in the Annual Report of 1949 that there were insufficient mining prospects on the western side of the Ringarooma River to merit the expenditure required to restore the syphon.

The closure of the deviation had also rendered the rebuilt Cybele Syphon obsolete. Its three-year old steel pipes were subsequently dismantled to be incorporated in the anticipated restoration of the Amber Creek Syphon. As the latter syphon was much longer, only the seriously corroded sections could be replaced[109].

November 1949 brought the retirement of long-serving channel keeper Tasman 'Budge' Moore, whose 26 years of employment was second only to Basil Keegan's 35 years. During that time, one of his more important duties was to maintain the Ringarooma Syphon. The dedication shown by 'Budge' Moore had been a major factor in prolonging its life.

Appointed six months after the syphon's construction, Moore coincidentally retired only months after its closure. Dismantling commenced early in 1950, with the best of the 27 inch diameter steel pipes on the western bank being cut up and sent to the Endurance Mine at South Mt Cameron. Similarly, some steel pipes on the eastern bank were transferred to the Dawe Brothers' Edina workings nearby.

The 1680 feet woodstave section, also on the eastern bank, was reported to have been purchased in the name of Ranson at Scottsdale. The remaining 15 inch diameter concrete section, which was located on trestles over the river, remained intact until 1953. The pipes, which weighed 8 hundredweights each, were eventually relocated to Lawry's Garfield Mine.

The reconditioning of the Amber Creek Syphon was completed during 1950 at a surprisingly low cost of £20, with the recycling of the Cybele Syphon pipes being a contributing factor. Small increases in water sales and tin production during the year had reduced the annual operating debt from £600 to £300[110]. This was extremely encouraging for the Board members, who were conscious of a recurring financial loss, and were always considering ways and means to address the problem.

The closure of the Edina Workings by brothers Athol and Viv Dawe was a setback for the Board and for the district, as they had been water users for the past 15 years. As a result of his exit from local mining, Viv Dawe relinquished his membership on the Board to Bert Dunn. Athol and Viv Dawe later moved to Launceston and worked for the Mines Department until their retirement.

Bertram John Thomas Dunn operated a tin lease at Amber Hill in partnership with Owen Park. They were later involved in mining on the Musselroe River near Browns Bridge during the period 1953–55. Dunn, along with his two sons, also reopened the old Doone Mine for a brief period during the early 1950s. He remained on the Board for ten years until his retirement in 1960.

The 1950s tended to be an uneventful decade for the Board, with annual tin output gradually increasing from 20 tons in 1950 to 44 tons at the end of 1959. Although the operating loss of £312 for 1950 compared favourably with £279 during 1959, losses had increased dramatically to more than £1400, £1500 and £1400 for the years of 1955 to 1957 respectively[111]. While these figures were disappointing for the Board, it was important for Gladstone's struggling tin mines that the Mount Cameron Water Race remained operational.

With only the Main and Amber Races to look after, maintenance had at last become fairly routine. However, for a brief period between 1953 and 1955, the 2 feet wide Doone Branch was back in service. It was the first time since 1941, when George Mallinson had used the race to supply his Doone Mine. On what proved to be the final occasion, the branch serviced three leases taken up by Bert Dunn and his sons who were working the same tin deposits.

1953 saw the retirement of Cecil Ryan from the Mount Cameron Water Race Board. His 38 years of faithful service had qualified him as its longest serving member. Since his appointment in 1913, the 87 year old Ryan had witnessed the establishment of most of the branch races, the conversion of the pipe columns from steel to concrete, and the abolition and later reinstatement of the Board. Probably the most significant development during his time

was the construction and final disintegration of the Western Deviation.

Herbert Keith Turner JP, Ryan's replacement on the Board, was at the time manager of the Dorset tin dredge and director consultant at the Endurance tin mine. Both operations were located at South Mount Cameron. The highly respected mining engineer was born on 23 April 1910 at Broken Hill, NSW. After gaining his Mine Manager's Certificate from the Broken Hill Technical College School of Mines, he commenced a mining career with BHP as a Junior Underground Officer in 1929. He was promoted to Assistant Underground Manager in 1935, and remained in that position until his appointment as mining engineer in New Caledonia during 1936.

The following year saw Turner return to NSW as field engineer for Wellington Alluvials, followed by an appointment as assistant manager with Ronpiton Tin in Thailand from 1939 to 1941. It was there that he was unfortunately interned as a Prisoner of War by the Japanese until 1945[112].

From 1946 until his retirement in 1960, he resided with his wife Ada at South Mount Cameron. He must have been an accomplished sportsman, as he played tennis for many years, country football in South Australia, as well as cricket while at South Mount Cameron. He was also a respected member on the North Eastern (Tas.) Football Tribunal from 1957 to 1961.

Turner was heavily involved in community affairs as a committee member of the Gladstone Medical Centre, and the Pioneer and St Helens Town Water Supplies. Turner is probably best remembered for his 13 years service on the Ringarooma Municipal Council between May 1949 and June 1962.

During his 19-year association with the Board, he was able to make available, free of charge, the workshop facilities at the Dorset Dredge to carry out repair and maintenance work for the race. This assistance had provided a worthwhile contribution to reducing the race's operating budget. Although moving to Melbourne in 1962 to pursue a career as a mining consultant, he continued to serve on the Mount Cameron Water Race Board until May 1978[113]. In 1992, Keith and Ada Turner were reported to be residing at Mt Eliza on Victoria's Mornington Peninsula.

Another retirement which occurred during 1953 was that of Race Manager David Shields. The former Gladstone storekeeper was appointed in 1923 and served a record 30 years.

The following year saw the retirement of Chairman Williams. His replacement later became the Board's longest serving Chairman.

Jack Gilroy Symons was appointed Director of Mines (and Board Chairman) in December 1954, after 18 years of mining experience with North Broken Hill Limited.

Born at Broken Hill (NSW) in 1915, Symons spent his childhood in Adelaide. It was after graduating from the University of Adelaide as a Batchelor of Engineering in Mining, that he moved back to his native Broken Hill. He was employed at the North Broken Hill Mine from 1936 to 1954, the last eight years as underground manager. His 25½ years service as head of the Tasmania Department of Mines is a record.

Symons has been a member of the Australasian Institute of Mining and Metallurgy since 1934, having been a Councillor representing Tasmania (1973–86), Vice-President (1976) and President for 1977[114]. Upon his retirement from the Department of Mines in June 1980, he joined the board of Industrial and Mining Investigations Limited which later became Savage Resources Limited. He was Chairman from 1985–88. He has also been a director of the Mount Lyell Mining and Railway Company Limited and was a founding councillor of the Tasmanian Chamber of Mines[115].

Jack Symons' term as Board Chairman virtually covered the remaining years of Gladstone's tin mining industry. His retirement in 1980 was within four years of the closure of the last mine, Vern Wood's Musselroe Mine. Even during 1992, he retained his interest in mining as a company director and as a consultant, but divided his leisure time between his Hobart residence and sailing his beloved yacht.

1955 saw the long-awaited restoration of Gladstone's domestic water supply. It was the first supply of race water to the township since the collapse of the Ringarooma Syphon during 1949. The Gladstone Progress Association had been responsible for the construction of a pipeline and race linking the Empress Branch near Lawry's Dam. The pipeline crossed the Ringarooma River by using Bells Bridge.

Apart from a £25 contribution from the Government through the Department of Mines, the balance of the construction costs was funded by local public subscription. The Board was allowed to retain all revenue accrued from domestic users in return for the maintenance of the scheme.

The Mount Cameron Board continued to rationalise its operations with the closure of the Amber Creek and Scotia Syphons in 1956. The pipe columns were dismantled and transferred to the Elizabeth Mine[116].

The removal of the Scotia Syphon had relieved the Board of its responsibilities for the maintenance of the Scotia and Doone Branches as well as the high-level race which supplied Lawry's Canary workings. The closure of Chum Cottage as a channel keeper's residence during July 1956 was another casualty of the Board's declining finances. A lack of maintenance over a number of years had rendered the premises uninhabitable. Its isolated position and no electric power were other contributing factors for abandoning the site. However the cottage did serve as an 'overnight camp' for a period up to the early 1970s. Originally constructed in 1890 at a cost of £40, the building remained intact until 1989 when it was demolished by a local tin miner who salvaged most of the materials for his nearby Musselroe tin lease.

Two small projects were undertaken during 1957 which involved the widening of the Empress Race, and the replacement of supports for the Little Musselroe Syphon[117].

The use of weedicides in clearing growth from the race, a task which once required many hours of manual labour, had substantially reduced maintenance costs. The resulting improvement in water flow had enabled the Board to increase its revenue from the sale of water, and was also responsible for the improvement in tin production[118].

The continuing policy of rationalisation resulted in the closure of Edina Cottage during October 1958. Built in 1892, it became the home of channel keeper Tasman 'Budge' Moore, who during a period fo 26 years (1923–49) had raised 12 children. The cottage remained a derelict landmark until its demolition about 1972. After 1958, the manager's house in Gladstone remained the only survivor of the original five staff residences.

For the remainder of the decade the Board had managed to avoid any further maintenance expenditure. With a continual increase in tin production and the gradual reduction in operating expenses, the strict rationalisation policy of the 1950s had probably secured the future of the Mount Cameron Water Race and Board for at least a few years. However the fact that both the race and Board were still in existence some 25 years later illustrates the unpredictability of mining.

SURVIVAL AGAINST THE ODDS

Since the conclusion of World War II, tin mining in Tasmania's North East had experienced a rapid decline. The fifteen year period up to 1960 saw the closure of every major producer between Scottsdale and St Helens. The only active tin producers were in the Mount Cameron district.

The low price of tin had made the larger operations like Briesis, Arba, Anchor and Pioneer unprofitable. In each case substantial machinery and water supplies had to be provided and maintained at the mines own expense to make them viable.

The Gladstone tin mines were never more than small to medium-size operations. The tin field was an area of small rich deposits which had been worked intermittently for a period of 70 years. Most operations were small enough to be worked by two or three men, which kept overheads fairly low.

However the most significant factor in their survival was a cheap and efficient water supply, where the operators were only required to pay for the water used from the Mount Cameron Race. Being a Government-funded utility, the Board was able to maintain the water supply even with an operating loss.

It was against this background that tin mining around Gladstone had remained stable. With farming being the only other significant employer, the Mount Cameron Race still had an important role to play.

For the fifteen years since the conclusion of World War II, the race had provided a permanent water supply for between three and five tin producers, which in turn had maintained an average permanent workforce of nine people. However the following four years (1961–64) saw a gradual increase in tin production from 40 to 50 tons, which also resulted in an improvement to the average employment from nine to eleven people[119].

The annual reports for 1961 and 1962 showed that the Board had made an operating profit for the first time since 1948. Against a background of a depressed tin market, this had been a remarkable achievement.

The retirement of Bert Dunn from the Board during 1960 necessitated the appointment of H. C. Lawry as his successor. Henry Champion Lawry was born in Victoria during 1891, and with three brothers, had migrated to Tasmania to take up tin mining in the North East. 'Harry', as he was known to his friends, commenced mining on the Blue Tier during the early 1920s. He was responsible for the reopening of the Mount Michael tin mine in 1924[120].

During 1928, he moved from Lottah to live at the Moorina Power Station residence by the Frome Dam. For four years he was manager of the old Echo Mine, which had been renamed the New Moorina tin mine.

From 1932 to 1935, Lawry worked a number of tin leases on the Dorset Flats at South Mount Cameron while residing at Pioneer. He commenced mining at Star Hill during 1935, which became the start of a long and successful association with the Gladstone area. It was the same year that he constructed a substantial residence in the township. Located at the top of the main thoroughfare, Chaffey Street, it still remains an imposing landmark.

By 1939 the Star Hill workings were approaching imminent closure. In anticipation, Henry Lawry purchased the Garfield Lease from Aubrey Mallinson and moved the Star Hill Syndicate's operations there two years later. The Lawry family continued to operate this mine for the next 40 years.

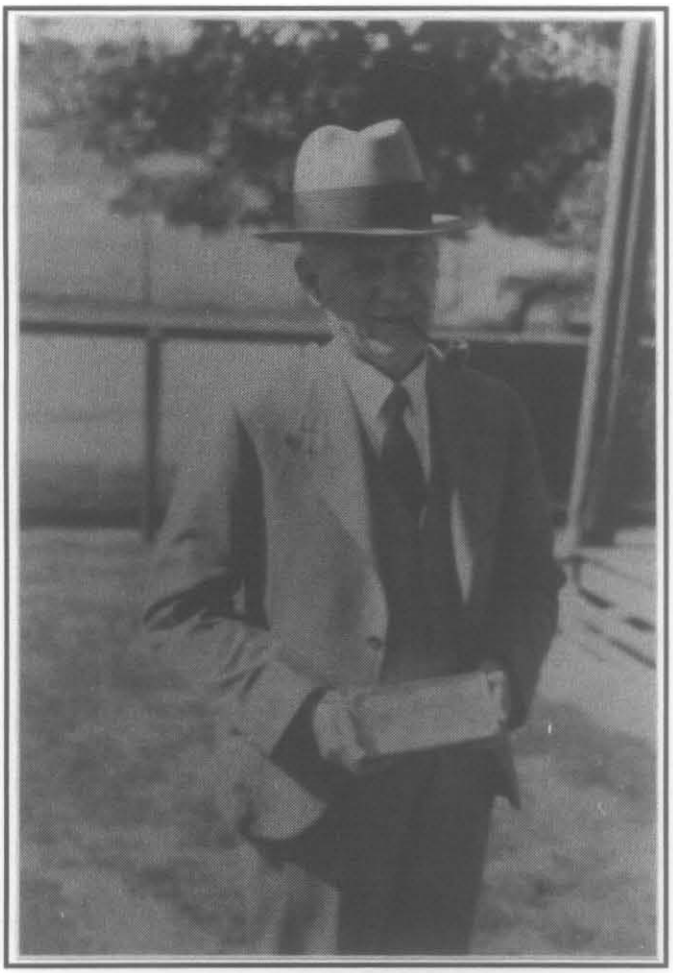
During 1947, the Syndicate had been credited for initiating the extension of electric power from South Mount Cameron to Gladstone via the Star Hill Mine. It had been their intention to operate the mine's pumps by electricity instead of from the existing 78 h.p. steam engine.

In addition to Star Hill, Henry had successfully worked tin leases at Dryden Creek, Amber Hill, Ogilvies Bridge and near Aberfoyle Hill. He also became involved in community affairs as Secretary of the Gladstone Progress Association and as an elected member of the Ringarooma Municipal Council. After his retirement from the Council in 1958, he moved to St Helens to live while leaving his mining operations in the capable hands of son Ronald.

During 1961, Henry was elected to the Portland Municipal Council and remained in this capacity until he died in 1964, just two days short of his 73rd birthday[121]. His death also terminated a four-year association with the Mount Cameron Water Race Board.

A deeply religious person, 'Harry' Lawry would always be remembered for his enthusiasm and for his kindness and consideration towards others.

Meanwhile, 1964 saw the commencement of operations by the Dorset Dredge at Black Duck Lagoon, which provided a much-needed boost to the district's ailing mining



LEFT:

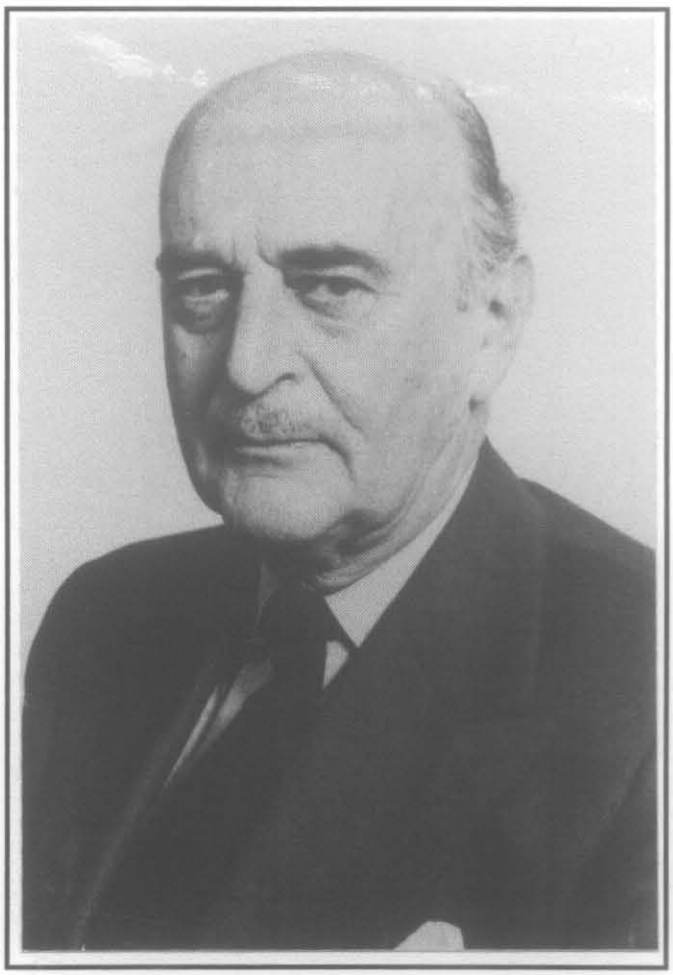
William Henry WILLIAMS

Chairman (1939–1954)
Director of Mines

RIGHT:

Jack Gilroy SYMONS

Chairman (1954–1980)
Director of Mines



LEFT:

Herbert Keith TURNER

Member (1953–1978)
Manager, Dorset Tin

RIGHT:

Henry Champion (Harry) LAWRY

Member (1960–1964)
Manager, Star Hill Mine

industry. The urgent task of replacing the Old Chum Flume was completed during the year at a cost of £519. The 25 year old wooden structure had previously replaced an iron flume back in 1939. This was the only significant construction project for almost ten years, the remainder of the race appearing to be in excellent working order.

The unexpected death of H. C. Lawry saw the appointment of Vernon Wood from Pioneer as the producers' representative on the Board[122]. He was to serve 21 years on the Mount Cameron Water Race Board, retiring shortly after its final meeting on 5 December 1985.

Born in July 1913, Vern had been a tin miner and sawmiller for most of his working life, having been introduced to both industries during the early 1930s by his father Henry 'Bricky' Wood. The pair later worked tin leases along the Wyniford River between 1935 and 1946. His father was also a sawmiller on the Ringarooma River at Pioneer and later, through Vern, built and operated a sawmill until it was sold in 1972[123].

During 1963 Wood took over the role as Manager of the Endurance and Clifton Mines at South Mount Cameron. The following year (1964) saw him acquire the leases at the closed Pioneer Mine. It was his 14-year involvement with the Pioneer tin mine for which Vern will be best remembered.

His association with the Mount Cameron Water Race began in 1958 when he reopened the Musselroe Mine, which operated with water purchased from the Board. When the mine closed in 1984, Vern Wood was the only remaining customer to use race-water for mining purposes.

As a member of the Board, his contribution was immeasurable. When finances were tight, he would offer his own time and equipment free of charge to carry out maintenance work on the race. This was best illustrated with the replacement of the ageing wood-stave Musselroe Syphon during 1977.

Mrs Greta Wood, Vern's wife, vividly remembered her childhood days at Bradshaws Creek (Bradshaws Creek was officially changed to Pioneer in 1955). At that time John Simpson, a major employer and property owner, was regarded as the unofficial 'mayor' of the district. Greta was raised in one of the many houses owned by Simpson. Her marriage to Vern ensured her association with the district for the rest of her life.

During his younger days, Vern was also remembered for his sporting achievements as an accomplished axeman and footballer[124]. It was probably his competitive involvement with football that earned him the nickname of 'Smacker'. That mining and sporting tradition was later carried on through his son Chris, who eventually worked a tin lease on the Wyniford River, and became a long-serving senior player with the Scottsdale Football Club.

The closure of the Musselroe Mine in 1984 saw the 70 year old miner finally accept retirement. However it was unfortunate that retirement did not allow the best of health. It was at the age of 78, after enduring a long illness, that Vern Wood died at Scottsdale during March 1992, only sixteen months after the death of his wife Greta.

Vernon Wood will always be remembered for his 50 year association with the local tin mining industry, along with his important contribution to the Mount Cameron Water Race Board.

The 1965 Annual Report had indicated a small operating profit of almost £200 despite a significant decline in tin production of 10 tons. At that stage, the Board was supplying water to three major consumers.

The following year saw a further drop of 10 tons in tin production, resulting in a 40% reduction in annual output from 50 to 30 tons in just two years.

The 30 ton output level was also achieved during 1967, while race maintenance was kept to a minimum. The only significant work carried out on the race was near the Musselroe Mine. A section of channel was widened to increase water storage to the mine during periods of low rainfall, the work being carried out at the expense of the manager, Vern Wood[125].

This had been the first genuine attempt to solve a recurring problem of limited supplies during extended dry periods. There had been recent occurrences of insufficient water from the race to maintain production levels by its consumers. The summer of 1968 had produced drought conditions during which the Board was unable to meet contracts for the supply of water. The unfortunate result was a disastrous annual output of just 18½ tons of tin[126].

The local tin mining industry was therefore fighting for survival, principally because of a water supply which was unable to efficiently meet its demands. The Board was required to take immediate action.

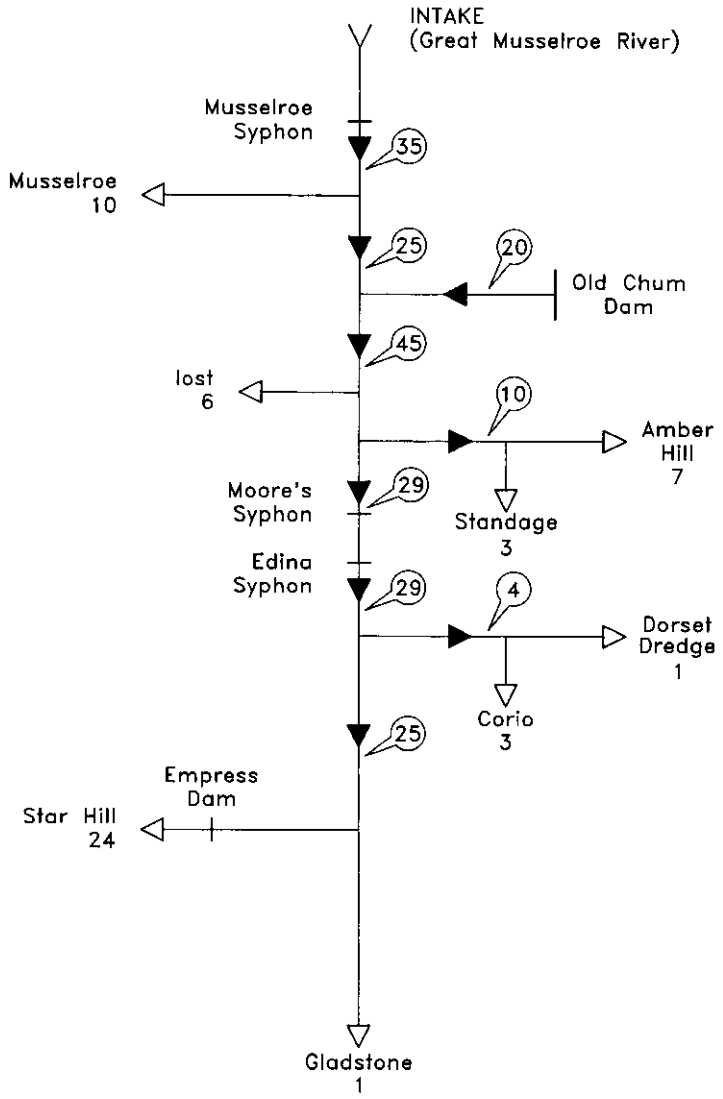
They investigated a proposal to construct a 12.5 metre high dam across Old Chum Creek, which would create a 340 megalitre storage capable of supplying 30 sluiceheads of water for five days per week for 50 weeks a year. The successful tenderer was the Avoca Transport Company who completed the project during May 1969 at a total cost of $7,362. The immediate result was an annual increase in tin production of more than 4 tons[127].

To further improve efficiency it was also decided to replace the Amber Creek Syphon, which was servicing the Amber Hill Mine and one other producer. The work commenced during the year (1969) and was completed early in 1970.

The encouraging 1969 production figure of 22½ tons, however, failed to warn the Board of an imminent decline in demand for race water. One of the two main consumers closed down during April 1970, resulting in a total annual return of only 13½ tons. There were further worries for the Board, with the added expense of $4,500 to effect repairs to the recently-constructed Chum Dam which had been damaged by flood.

The depressing scenario continued in 1971, with mine closures during February and May. One other consumer closed down from May until July. The annual tin output had plummeted to 5½ tons. The Board at that stage was relying on favourable results from exploration[129].

Approximate allocation of water during 1970. (measurements given in sluice heads)



Note : Supply from intake at Musselroe Syphon, only 35 sluice heads due to silting and leakage. In 1890, the intake capacity was 50 sluice heads.

Meanwhile the race system had been maintained in good condition against a background of increasing operating costs and diminishing revenue. The following two years saw little change, with annual operating losses continuing to increase. By 1974 the Board had incurred a deficit of more than $13,000. With only Lawry's Star Hill Mine still operating along with the Gladstone water supply, future prospects were looking extremely bleak. The only consolation was an improved annual tin production of 14 tons[130].

That figure again improved in the following two years to 18 and 19 tons respectively with the re-opening of Vern Wood's Musselroe Mine. However the increase in mining activity failed to reduce the operating loss, which had blown-out to almost $19,000[131].

1977 saw the last major development carried out on the Mount Cameron Water Race. After years of constant maintenance, the wood-stave Musselroe Syphon was finally replaced with a concrete pipe column. Tin output for the year exceeded 24 tons[132].

May 1978 saw the retirement of long serving Board member Herbert Keith Turner after 19 years. Stephen Everett, Turner's replacement, had been the first appointment to the Board for 14 years[133].

Very little is known about Everett except that he became manager of the Pioneer Mine in 1978 when he purchased the operation from Vern Wood. He was to serve on the Board for almost five years until his resignation on 31 July 1981. During that period tin output continued to gradually increase to a maximum of 33½ tons during 1981. On the debit side, the Board's operating losses peaked at $28,000.

The brief period of prosperity resulted in supplies to five operating tin mines, in addition to about 60 domestic water

consumers in Gladstone[134]. It hardly seemed possible that within three years, the mining field would be totally abandoned[135].

The early 1980s saw the final makeup of the Board, with the retirements of Chairman Jack Symons in 1980 and Member Stephen Everett in 1981. Hugh Murchie was appointed as Chairman of the Mount Cameron Water Race Board during July 1980.

Murchie was born in April 1928 at Glasgow, Scotland. After attending Hutchesons Grammar, he graduated from Glasgow University and later Glasgow Royal Technical College. His professional experience began in 1951 while contract diamond drilling in Europe and the Middle East.

From 1952 to 1962, Murchie worked in gold mines in South Africa and Ghana. During that period he occupied numerous positions such as mine surveyor, shift boss, mine captain, underground manager and finally acting general manager.

His stint in Africa was immediately followed by four years as Manager, Mining Sales Division in the U.K. for the Swedish company of Uddeholm Ltd. It was from this position in 1966 that he secured his appointment as Mines Inspector with the Tasmania Department of Mines. Since then he graduated through the ranks of Mining Engineer and Inspector of Mines, Senior Mining Engineer and Senior Inspector of Mines, as well as Deputy State Mining Engineer in 1977[136].

Hugh Murchie succeeded Jack Symons as Director of Mines in July 1980 and retained that position until his premature retirement in July 1989. He remained Chairman of the Mount Cameron Water Race Board until its final meeting on 5 December 1985[137].

During his five year involvement with the Board, he experienced the demise of local tin mining as well as performing the melancholy duty of dismantling the Board. However, he successfully negotiated the transfer of the race to pastoral interests in the Gladstone area. It was his initiative that enabled the race system to remain intact and therefore guaranteed its long-term survival.

It was also his appreciation of the historical significance of the Mount Cameron Water Race and its Board that initiated a documented report to be undertaken by the Mines Department.

Murchie's involvement in the design of the Old Chum Dam in 1968 will remain a tangible reminder of his contribution to the development of the race.

The final appointment to the Board occurred in July 1981, when Ken Davey replaced Stephen Everett. The composition of the Board remained as Murchie (Chairman), Vern Wood and Davey until it was dissolved in 1986.

Kenneth Robert Davey was born in November 1914 at Derby, Tasmania. His family had a background in mining as his father had been a tin miner for most of his working life. Born in 1880 at Weldborough (another tin mining town), he moved to Derby to work a mine on the Cascade River. Ken commenced his mining career at the age of 16, while working with his father at the Briseis Central Tin Mine at The Valley. After two years, he worked as a chainman for Donald Fraser who was surveying the Mount Paris Water Race.

From 1934 to World War II, he served his apprenticeship with the Briseis tin mine at Derby, during which time he attended Melbourne Institute of Technology and graduated as an electrical, mechanical and mining engineer. During April 1947 he was appointed resident engineer at Aberfoyle's tin mines at Rossarden and Storys Creek, and retained this position until July 1971.

Early 1972 saw his appointment as manager of BMI's operations at South Mount Cameron and at the Monarch Mine, which closed down during 1975. Although later taken over by Amdex, he remained as manager until his resignation in June 1979[138].

Ken Davey was a member of the Mount Cameron Water Race Board between 1981 and 1986. He also served on the Ringarooma and Cascade Water Board.

The collapse of local tin mining in 1984 was the culmination of a twenty-year struggle by the Board to maintain a viable industry. For every year since 1966, the race continued to incur an operating loss which eventually amounted to a debt of more than $300,000.

As there was no longer a requirement to operate for mining purposes, the extensive race system was considered totally uneconomic to maintain purely as a domestic water supply for Gladstone[139]. It was therefore suggested to seek local support to retain the Mount Cameron Water Race as a going concern.

By June 1985, the race seemed destined to be dismantled due to a lack of interest. It was therefore decided at the Board's final meeting (5 December 1985), to advertise its assets for disposal by tender[140].

The Mount Cameron Water Race Board was abolished early in 1986 after 98 years of management.

REVIVAL AND RESTORATION

The fate of the race hung in the balance as it was rumoured that the network would be dismantled for the disposal of the syphon pipes. The Government's Supply and Tender Department conducted the sale on behalf of the Mines Department. Although there appeared to be some local nostalgic interest in the race, it was the sale of the concrete syphon pipes that generated genuine interest.

The long-term future of the race was assured when prominent pastoralist Bert Farquhar of Scottsdale successfully tendered for the syphons and pipework. His interest in the Mount Cameron Water Race was stimulated by the need to provide a permanent water supply for his extensive pastoral property known as 'Rushy Lagoon'. The prospect of retaining the race network as a going concern was the deciding factor in favour of the successful tender.

'Rushy Lagoon', which occupies an area of almost 69,000 acres (28,000 hectares), is the largest property in North East

Tasmania. One of the biggest problems which hampered the development of the property over many years had been a lack of a summer water supply. The newly acquired Mount Cameron Water Race was to change that.

The tender notice, dated 18 February 1986, included 2½ miles of 18 inch diameter concrete pipe and 1 mile of 30 inch diameter concrete pipe, together with lengths of aluminium piping and 2 gate valves. The purchase of these items cost Farquhar a total of $6,155.

For the most part of 1986, the main race was cleaned out and stabilised back to the outlet of the Old Chum Reservoir. The original Southern Extension (to the intake) remained abandoned, as it was thought at the time there would be sufficient water supplied along the restored section to meet any future demand. This assumption was later to be proven incorrect.

To divert water from the race towards 'Rushy Lagoon', it was decided to construct a deep cutting and connecting channel at a point just north of the Eddystone Road bridge. A further 48 kilometres of channel was constructed to carry water to the northern boundary of the property. Affectionately known as the 'Big Cut', the cutting was pressed into service during February 1987. However during the first six months blockages occurred as a result of landslips. The cutting was eventually enlarged by regrading the sides and cutting a wider bench to eliminate further erosion. Today, the 8 metre deep 'Big Cut' is an imposing sight. With the Mount Cameron Water Race once again fully operational, it was decided to reconstitute the Board in order to maintain its viability.

Invitations were sent to Bert Farquhar and Terry Green of Gladstone to join former Chairman Hugh Murchie, to establish a new Mount Cameron Water Race Board. The newly appointed Board met for the first time on 1 December 1987 at Scottsdale. As Director of Mines, Hugh Murchie was automatically reinstated as Chairman. His background has previously been illustrated.

Bertram Albert Farquhar was selected as a member on the basis of his position as race manager. Born near Scottsdale in 1918, he was one of a family of four boys born to Robert and Jane Farquhar. Robert originated from a pioneering family who settled in the district during 1857[141]. Bert's great-great grandfather, Alexander Farquhar, arrived in Tasmania from Scotland aboard the barque *Broomielaw*, which coincidently carried James Ogilvie Snr., whose grandson James Ogilvie became a Board member during the 1920s.

Farquhar's fascinating life story is comprehensively documented in his autobiography *Bert's Story* which was published in 1990. Regardless of his many fine achievements, Bert is especially admired for his sincerity and uncomplicated approach to life. The revival of the Mount Cameron Water Race is solely attributed to his remarkable foresight.

The appointment of Terry Green completed the make-up of the three-member Board. Born at Lottah in 1937, Terrence John Green came from a family with a mining background. His father, George Green, had worked as a tin miner and coal truck driver, as well as a channel keeper on the Mount Cameron Water Race.

During his working life, Terry gained state-wide fame for his magnificent gem collection at Gladstone. Opened to the public during the mid 1970s, it was sold about ten years later and re-established at Westbury where it remains today.

For 17 years he worked as a driller for the Mines Department, his last assignment being the construction of the Bowen Bridge at Hobart during 1976. After resigning from the Department, he returned to Gladstone and his gem collection.

1987 saw his election to the Ringarooma Municipal Council, replacing another Gladstone resident in Brian Mountney. As Councillor, fire chief and odd-jobs man, Terry is often referred to as Gladstone's unofficial mayor. He lives with his father, George, in the house once owned by George Mallinson, the former Board member. The house, originally erected on Pig and Whistle Creek, was moved to its present Gladstone site after the disastrous 1929 flood[142].

Highly respected and constantly in demand, he is often away doing a favour for a local resident or "lost" inside his extensive orchid nursery which is situated behind his home.

Terry Green has provided many hours of his valuable time as a guide and consultant into the research of the Mt Cameron story.

At the inaugural meeting of the reconstituted Board, a contract of supply had been entered into with Bert Farquhar in which 85% of capacity would be allocated for irrigation purposes[143]. However, this was later adjusted to sole water rights, with 15% of capacity allowed for mining purposes when required. In return, he was made responsible for the maintenance and cost of all repairs.

Throughout 1987 and 1988, the race network was systematically upgraded. After the main race between Old Chum Reservoir and "Rushy Lagoon" had been rehabilitated, attention turned to the other unused sections.

The 33 miles (53 km) of main race was cleaned of silt and growth, in some sections for the first time in 38 years. In some areas, where machinery could not be used, the cleaning had to be done by hand[144].

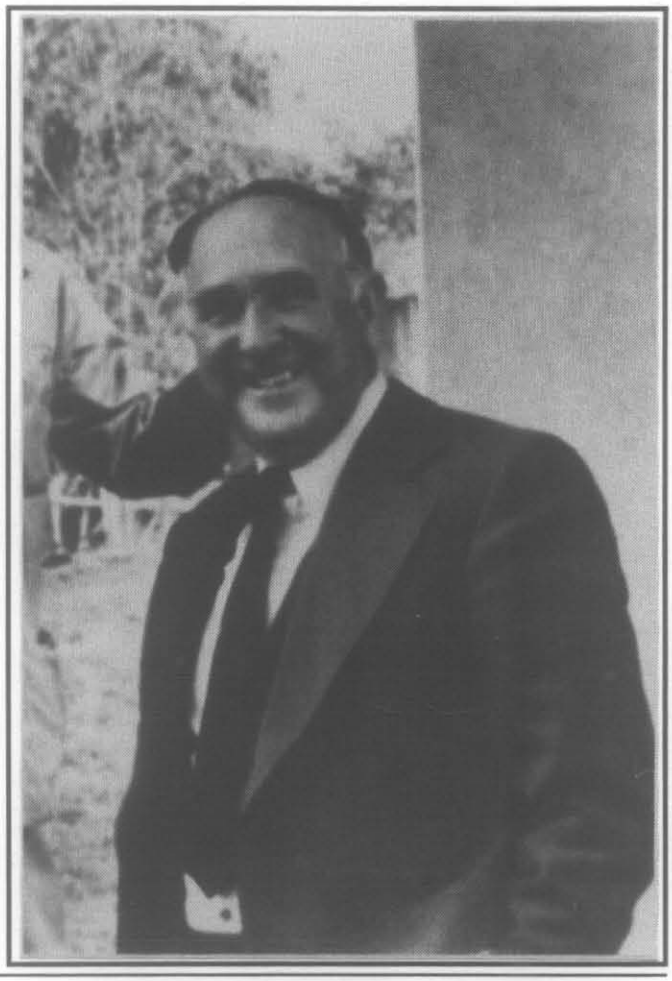
With the increased capacity of the Old Chum Reservoir (completed 1986) and the restoration of the Old Chum Creek Flume, the race was once again operating at normal capacity.

McGregor Dam (formerly known as No. 1 Government Dam) was cleaned out and a new valve installed. This water storage had not been used since the closure of the Dorset Dredge in March 1971. The disused Empress Dam at Star Hill was also reopened, with the addition of a new valve. The dam and connecting race was to be kept as an emergency supply. The construction of the new network through "Rushy Lagoon" is described in great detail in the book *Bert's Story*.

ABOVE:

Vernon WOOD

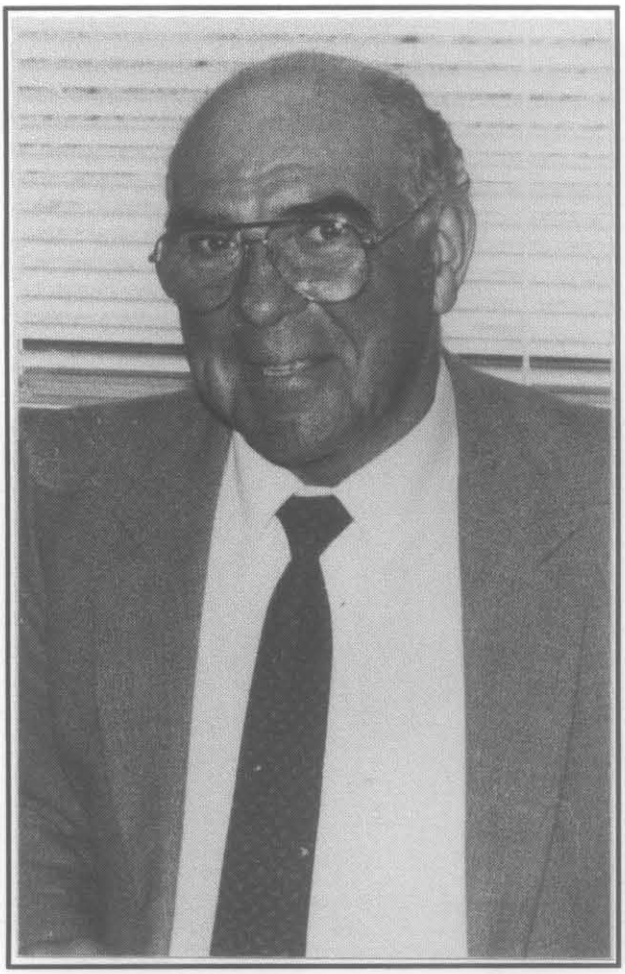
Member (1964–1986)
Manager, Pioneer and Musselroe Mines

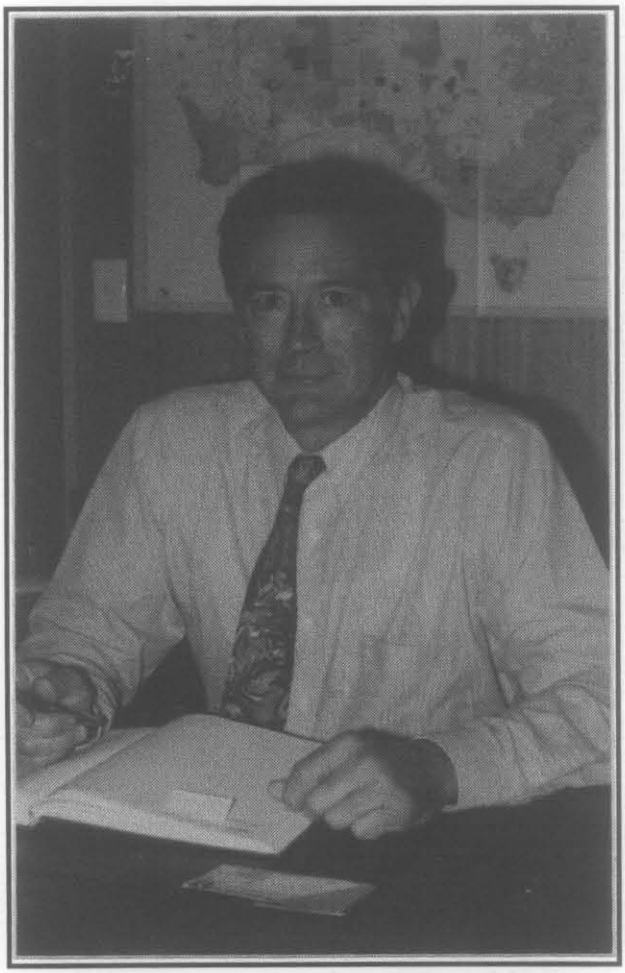


RIGHT:

Kenneth Robert DAVEY

Member (1981–1986)
Manager, Endurance and Monarch Mines





TOP LEFT:

Hugh MURCHIE

Chairman (1980–1989)
Director of Mines

TOP RIGHT:

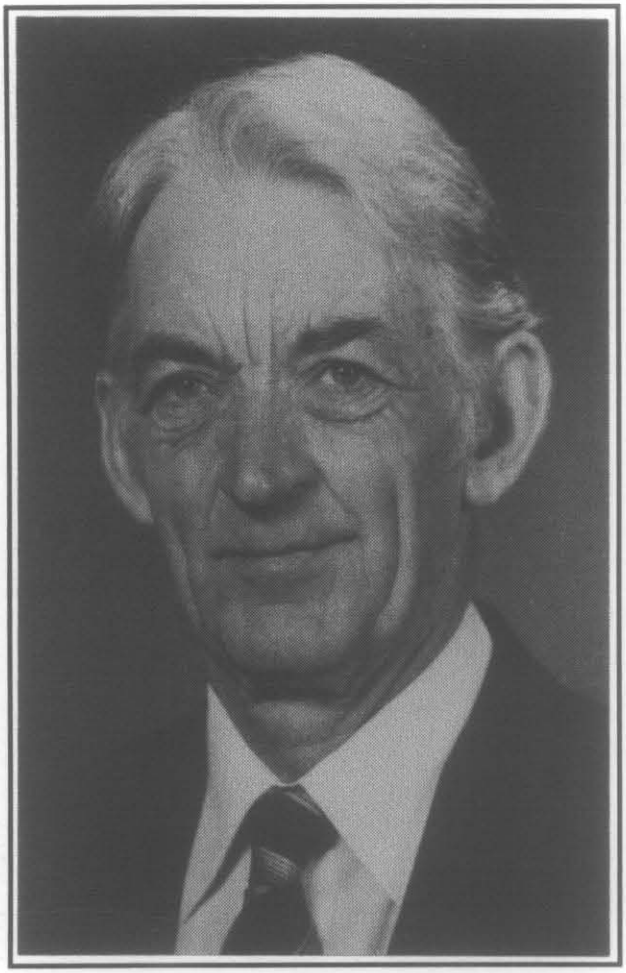
Michael Rodney (Rod) HARGREAVES

Chairman (1989–1992)
Acting Director of Mines

LEFT:

Michael William Dowling AYRE

Chairman (1992–)
Director of Mines



LEFT:

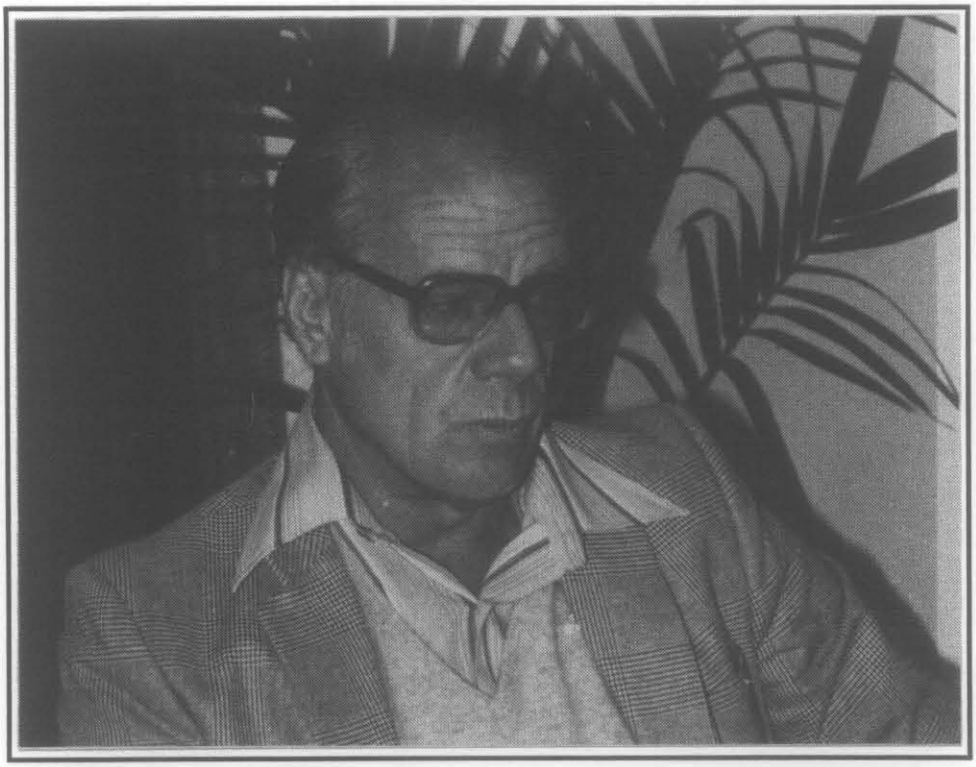
Bertram Albert (Bert) FARQUHAR

Member (1988–)
Race Manager (1986–)
Pastoralist, Scottsdale

BELOW:

Terrence John GREEN

Member (1988–)
Channel Keeper (1981–1985)
Orchid Grower, Gladstone



At the following Board meeting in March 1989, Bert Farquhar tabled a comprehensive report on works achieved during his first two years as Race Manager[145]. It was shortly after the meeting that an unexpected change of Government occurred, which precipitated the premature retirement of Hugh Murchie as Director of Mines and his resignation from the Board in July of 1989. His association with the Board had exceeded seven years.

A replacement was appointed on 2 October 1989, when Rod Hargreaves became the eighth Chairman of the Mount Cameron Water Race Board, which was then in its 98th year of management. He was to serve on the board for the next three years.

Michael Rodney Hargreaves was born in March 1943 in Wakefield, Yorkshire. After attending Roundhay School in Leeds, he graduated from the University of Liverpool and later the University of Western Australia as a geologist.

He began his professional career in Botswana in 1966 where he was part of the exploration team which discovered the Selibe and Pikwe copper-nickel ore bodies. After arriving in Australia in 1969 he was employed by AMAX until 1971, when he became the Chief Geologist of the Worsley Alumina Project. His association with Worsley lasted until 1977, when he became Vice-President of Reynolds Australia Mines, and included the discovery of the Boddington Gold ore body.

After a period in the UK Hargreaves returned to Australia in 1979 and after consulting for 6 months, was appointed Western Australian Exploration Manager for CSR Limited. During this period he was involved in the Yandicoogina Iron Project, the Paringa Gold Mine, the Haveluck Gold Joint Venture and the Tuckabianna Gold Project[146]. He took the position of Deputy Director of Mines in Tasmania in April 1984.

Since his appointment to the Board, he has developed an appreciation of the historical and practical aspects of the Mount Cameron Water Race.

August 21 1990 marked the centenary of the official opening of the race. To mark the occasion Bert Farquhar decided to organise an open day at Gladstone.

Monday 4 March 1991 was chosen for the event, as it was during a long weekend and at a settled time of the year regarding the weather. Significantly, the venue chosen was the Gladstone Hall, which was where the very first Board meeting was conducted back in February 1888. It was also the venue of the official opening banquet in 1890.

Held during beautiful autumn weather, the successful open day was attended by more than 400 local and intrastate visitors. Proceedings included an opening address from the Hon. Michael Weldon MHA, an historical photographic display which had been prepared by Greg Dickens and Jeff Jennings, lunch, and afternoon guided tours of the race and 'Rushy Lagoon' property.

A Board meeting, which was held in the Gladstone Hall the following day, reflected on a memorable and hectic two days. Members Hargreaves, Farquhar and Green had all been involved in the preparations and the programme of events.

Coincidentally, while the Board was acknowledging the historical milestone, they were creating their own history. However it was not realised, until later, that the meeting had marked the completion of 100 years of management. Although established in 1887, the Board had experienced a two year recess during the 1920s and again during the 1980s.

Mid-1991 saw the retirement of maintenance foreman Reginald James Moore, who since the acquisition of the race in 1986, had been responsible for the restoration work. Like his father, Tasman "Budge" Moore, Reg had a long association with the Mount Cameron Water Race.

Born in 1926, he came from a family of 12 children (6 boys and 6 girls) who were brought up at Edina Cottage which is alongside Moores (No. 4) Syphon. He spent most of his working life in the Gladstone area as a tin miner, driller, channel keeper and plant operator. He had also worked on the Dorset Dredge at South Mount Cameron and at Gladstone.

During his employment with the Board, Moore carried out part-time maintenance work along the main race between the Great Musselroe intake and Scotia (No. 6) Syphon. During 1945–46 he worked on the replacement of Moores (No. 4) Syphon.

With regard to his tin mining exploits, his various stints over a 40-year period included the Amber Mine, Peacock Creek, the Arcadia Mine, at Jewel Flat and Edina Flat. On each occasion, he used water from the Mount Cameron Water Race.

Reg and his wife Beulah live in retirement at Gladstone[147].

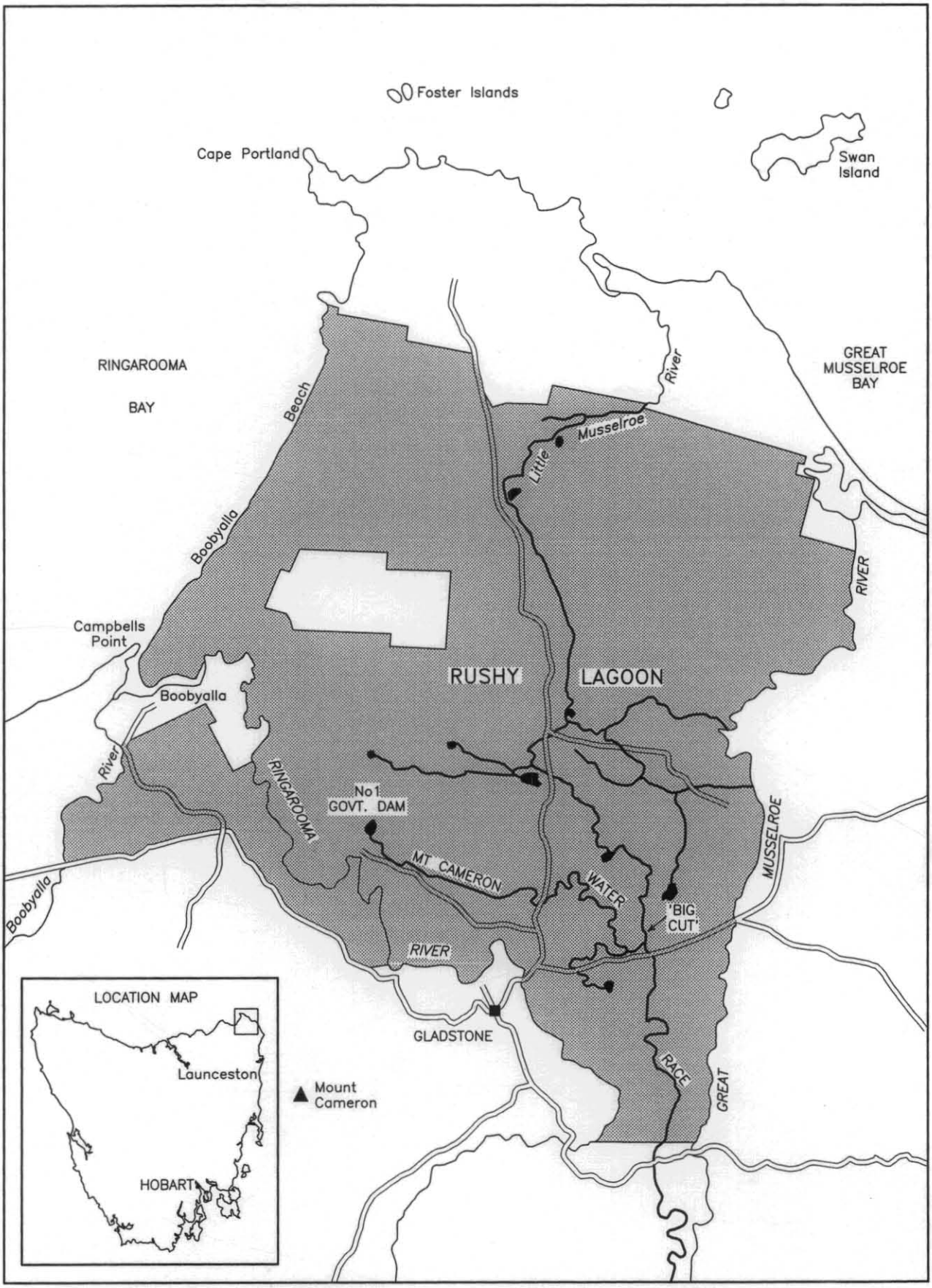
A serious setback for the race occurred during December 1991, when the Old Chum Flume was extensively damaged by fire. The southern end of the wooden fluming was accidently burnt as a result of forestry operations in the area. The structure was completely refurbished at a cost of approximately $2,000.

By the end of 1991, the network was again being extended another 2½ miles, with a new channel out of the rarely-used Forester Dam.

According to Bert Farquhar (June 1992), the total length of the Mount Cameron Water Race had reached 78 miles (125 km). Under the watchful eye of Robert Canning, the race was being maintained in good condition throughout.

The appointment of Mike Ayre as the new Director of Mines during October 1992 resulted in the conclusion of Rod Hargreaves' three year term as Chairman. For the ninth occasion since its inception in 1887, a new Chairman had been appointed to the Mount Cameron Water Race Board.

Michael William Dowling Ayre was born in October 1941 in Morogoro, Tanzania. Following his primary and secondary education at St Mary's School, Nairobi, he joined the mining industry as a Trainee Miner during



MT CAMERON WATER RACE 1990

5 cm

MOUNT CAMERON WATER RACE BOARD

CHAIRMEN

Period	*Occupant*	*Title*
1887–1987	Francis BELSTEAD	Secretary for Mines
1898–1920	William Henry WALLACE	Secretary for Mines
1920–1933	William Arthur PRETYMAN	Secretary for Mines
1933–1939	James Balfour SCOTT	Secretary for Mines
1939–1954	William Henry WILLIAMS	Director of Mines
1954–1980	Jack Gilroy SYMONS	Director of Mines
1980–1989	Hugh MURCHIE	Director of Mines
1989–1992	Michael Rodney HARGREAVES	Acting Director of Mines
1992–	Michael William Dowling AYRE	Director of Mines

MEMBERS

Period	*Name*	*Occupation, Address*
1887–1904	Christopher O'REILLY	Commissioner of Mines, Scottsdale
1887–1889	Gustav THUREAU	Inspector of Mines, Hobart
1887–1888	Michael Joseph GRIFFIN	Miner, Derby
1887–1889	Robert D. THOMPSON	Miner, Ringarooma
1888–1913	Samuel HAWKES	Mine Manager, Branxholm
1889–1896	Alexander MONTGOMERY	Inspector of Mines, Hobart
1889–1926	John SIMPSON	Mine Manager, Sth Mt Cameron
1897–1899	James Harcourt SMITH	Chief Inspector of Mines, Hobart
1899–1914	William Harper TWELVETREES	Chief Inspector of Mines and Govt. Geologist, Hobart
1904–1926	Edward Laret HALL	Commissioner of Mines, Launceston
1911–1924	Charles BARNES	Miner, Gladstone
1924–1926	James Thomas OGILVIE	Miner, Gladstone
1913–1953	Cecil Godfrey RYAN	Mine Manager, Bradshaws Creek
1914–1926	James Owen HUDSON	Chief Inspector of Mines, Hobart
1929–1945	George Samuel MALLINSON	Miner, Gladstone
1945–1950	Vivian Charles DAWE	Miner, Gladstone
1950–1960	Bertram John Thomas DUNN	Miner, Gladstone
1953–1978	Herbert Keith TURNER	Mine Manager, South Mt Cameron
1960–1964	Henry Champion LAWRY	Miner, St Helens
1964–1986	Vernon WOOD	Miner, Pioneer
1978–1981	Stephen EVERETT	Mine Manager, Pioneer
1981–1986	Kenneth Robert DAVEY	Mine Manager, Bicheno
1987–	Bertram Albert FARQUHAR	Pastoralist, Scottsdale
1987–	Terrence John GREEN	Councillor, Gladstone

December 1959, working for Kilembe Copper Mines Limited in Western Uganda.

To further his education he attended Camborne School of Metalliferous Mines in 1962. After graduating in 1965, he began his professional career as an Engineer with Giant Mascot Mines in British Columbia, Canada.

To gain further experience, he moved to Zambia during 1967 where he was employed as Shift Boss at the Nchanga Consolidated Copper Mine. This was followed twelve months later by his appointment as Assistant Mine Manager with Limni Mines Limited on Cyprus.

The next appointment occurred in 1971 as Mine Captain, Wheal Jane Limited in Cornwall, UK.

Four years later Ayre migrated to Tasmania to work for the Mt Lyell Mining and Railway Company at Queenstown. During the period from 1975 to 1988, he occupied the positions of Project Engineer at the Prince Lyell Shaft, Project Underground Manager for the Prince Lyell Mine, and finally as General Manager of the Mt Lyell Company from 1982 to 1988.

March 1988 saw his appointment as General Manger of Renison Limited at Zeehan. He resigned three years later (March 1991) to take up private consultancy work. He became Director of Mines in October 1992[148].

In October 1992 a sign was erected by the Department of Mines giving a brief history of the Race. The sign is strategically located on the road to Eddystone Lighthouse, and draws the attention of passing motorists to the importance of the race to the district.

With the revival and restoration of the race having been achieved, the Board had fulfilled its obligations once again. The Mount Cameron Water Race is now on the Register of the National Estate.

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