Pegging the Northern Territory.
The history of mining in the Northern Territory of Australia, 1873-1946

Timothy G Jones
Timothy G Jones

Pegging the Northern Territory. The history of mining in the Northern Territory of Australia, 1873-1946.

ISBN: 0 7245 0756 6
0 7245 7067 5 (CD)


KEYWORDS: Northern Territory, Economic geology, Industrial archaeology, Biographies, Exploration history, Mining history, Mine heritage.

For further information contact:
Reference Geologist
Northern Territory Geological Survey
Department of Business, Industry and Resource Development
GPO Box 3000
Darwin NT 0801
Phone: +61 8 8999 5281
Website: http://www.dbird.nt.gov.au/ntgs

First Edition 1987 (Department of Mines and Energy)
Reprinted 2003

© Northern Territory Government 1987, 2003

Printed and published by the Department of Business, Industry and Resource Development

Disclaimer
While all care has been taken to ensure that information contained in Pegging the Northern Territory. The history of mining in the Northern Territory of Australia, 1873-1946 is true and correct at the time of publication, changes in circumstances after the time of publication may impact on the accuracy of its information. The Northern Territory of Australia gives no warranty or assurance, and makes no representation as to the accuracy of any information or advice contained in Pegging the Northern Territory. The history of mining in the Northern Territory of Australia, 1873-1946, or that it is suitable for your intended use. You should not rely upon information in this publication for the purpose of making any serious business or investment decisions without obtaining independent and/or professional advice in relation to your particular situation. The Northern Territory of Australia disclaims any liability or responsibility or duty of care towards any person for loss or damage caused by any use of, or reliance on the information contained in this publication.
Tim Jones is a graduate of the University of Melbourne. Prior to self government for the Territory he was, for a number of years, the Public Service Inspector for the Northern Territory, and well known to many Territorians, public servants and otherwise. A close and abiding friendship developed between him and Col Adams, the then Director of Mines, who encouraged his long-standing interest in mines and mining which culminated in the research and writing of the Territory's mining history.
FOREWORD

When one visits the old goldfields at Arltunga or Winnecke or The Granites in the waterless heart of Australia or the old mines of the Pine Creek district where too much water was sometimes the greatest problem, one cannot cease to wonder at the sheer determination of those cosmopolitan pioneers who brought mining to the Northern Territory. And in the more recent past, the nineteen forties, fifties and sixties, to have known many of the wolfram miners of Hatches Creek and Wauchope, the gold miners of Tennant Creek, the tin miners of the Mt Wells area of the top End and those who looked for the up-and-coming new metal, the “uranium hunters”, was an education. All were stamped with those same positive qualities — toughness, vigour, enthusiasm, optimism and sufficient cunning to enable them to tap the wheeling and dealing sector of the mining world when this was necessary. What was their motivation? What was the extent of their courage and determination? Whence came the wherewithal to enable them to develop great mines or survive the failures? From those early endeavours, the annual value of mineral production today has reached over seven hundred million dollars, making mining by far the most lucrative industry in the Northern Territory.

Tim Jones, who developed a consuming interest in the history of mining in the Northern Territory during his time here, undertook research which has enabled him to unfold the answers to most, if not all, of these questions.

The early explorers and the construction workers on the Overland Telegraph Line made discoveries which whetted the appetites of those who were to build the industry; the tough and wiry prospectors with their basic tools and their feel for gold, the mineral explorers with their more sophisticated approach, the financiers, the developers and the Chinese, who provided an important work force when workers were hard to find. These days, the technology is better, as are communications and the conditions, but apart from these factors the main ingredients are the same: vision, courage, hard work, persistence, knowledge, as well as money and people.

Thankfully, Tim Jones has opened the door much wider to the story of mining as it still unfolds in this remote part of Australia.

CREED LOVEGROVE
Northern Territory Department of Mines and Energy
# CONTENTS

**FOREWORD**  
**LIST OF PLATES**  
**LIST OF MAPS**  
**ACKNOWLEDGEMENTS**  
**INTRODUCTION**  
**CHAPTER 1** The Early discoveries and the Speculative Hysteria: 1865–1874  
**CHAPTER 2** The end of the Boom; Pause and Review: 1874–1885  
**CHAPTER 3** The Chinese in Northern Territory Mining: 1875–1925  
**CHAPTER 4** Railway construction and the Mines: 1875–1894  
**CHAPTER 5** The English Companies: 1895–1906  
**CHAPTER 6** The Government and the Mines: 1895–1910  
**CHAPTER 7** Commonwealth Control and the World War I Years: 1911–1918  
**CHAPTER 8** A Declining Industry: 1919 to The Depression  
**CHAPTER 9** The Depression to World War II: 1932–1946  
**APPENDIX 1** Mineral Production of the Northern Territory, 1873–1946  
**APPENDIX 2** European and Chinese Population of the Northern Territory  
**APPENDIX 3** Government Residents and Administrators of the Northern Territory  
**APPENDIX 4** Weights and Measures  
**REFERENCES**  
**BIBLIOGRAPHY**  
**INDEX**
LIST OF PLATES

Chapter 1
The warden’s quarters, Yam Creek, 1873 17

Chapter 2
Adam Johns’ residence and battery at the Union, 1879 37
Telegraph office at The Shackle, 1879 38
“The Miners’ Hospital”, Yam Creek, 1879 39
The Union, 1879 40
Mt Wells Tin Mine, 1885 41
The “Gothenburg” in port 42
The “Gothenburg” wreck, 1875 43

Chapter 3
Invoice for Coolie No. 123 66
Chinese dam, near Spring Hill 67
Chinese water-race, Mt Wells 67
Ping Que’s workings, Union Reefs 68
Chinese Temple 69

Chapter 4
Cornish lift pump, Pine Creek 95
Mixed train at Yam Creek crossing 96
Union Reefs Station 97

Chapter 5
Brock’s Creek Mine, 1891 (later re-named Zapopan Mine) 119
Zapopan Mine, early 1900’s 120
Ruins at Zapopan Mine 121
Cosmopolitan Mine, Pine Creek (formerly the Eleanor Mine) 122
Iron Blow Mine, early 1900’s 123
Two views of ruins at Iron Blow Mine 124
Chapter 6

Jolly's Battery at the Union, early 1900's
Jolly's Store, Pine Creek, early 1900's
Reg Weston and author with remains of the Daniels' gas engine
Arltunga Government Battery, 1899

Chapter 7

Ruins at Arltunga
Arltunga, about 1920
Teamsters carting ore, 1918
Government tractor hauling machinery from Zapopan to Iron Blow, 1916
Mt Wells Tin Mine, 1916
Daniels' battery, Mt Wells Tin Mine, about 1918

Chapter 8

Derelict battery, Spring Hill
Gas engine, Spring Hill
Maranboy battery, early 1920's
Battery manager's residence, Maranboy, early 1920's
Old oil engine, Maranboy
Ruins of Maranboy Mining Company's battery

Chapter 9

Fazal Deen's battery, Tennant Creek, about 1936
Lone Star Mine, Tennant Creek
Mammoth (later Government) battery, Tennant Creek
Harts Range mica mines and camp
<table>
<thead>
<tr>
<th>Map Description</th>
<th>Page/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historic Map of the Northern Territory</td>
<td>Inside Front Cover</td>
</tr>
<tr>
<td>Map of Palmerston–Pine Creek Railway</td>
<td>98</td>
</tr>
<tr>
<td>Mineral deposits of Spring Hill–Union Reefs–Pine Creek area</td>
<td>117</td>
</tr>
<tr>
<td>Map of Brock’s Creek district</td>
<td>118</td>
</tr>
<tr>
<td>Mineral deposits of West Arm area</td>
<td>148</td>
</tr>
<tr>
<td>Historic Mine locations, Pine Creek area</td>
<td>Fold Out</td>
</tr>
</tbody>
</table>
ACKNOWLEDGEMENTS

Quite a number of people helped in the research and writing of this book, particularly in suggesting where information might be found. It is not practicable to thank each by name, but some who were particularly helpful will be mentioned.

The staffs of the National Library in Canberra, the Mitchell Library in Sydney, the Australian Archives in Canberra, Melbourne and Darwin and the South Australian State Archives in Adelaide were very helpful, both in pointing to written records and in unearthing old photographs.

I think some of my requests went close to alienating some long-standing friendships and here I refer particularly to Alex Burgoyne, who spent many hours going through old documents in the South Australian Archives and who accompanied me on several trips to old mining fields years ago, to Reg Weston, who drove me all over the old mining fields in 1977, to Ron Patterson for Tennant Creek material and to the late “Tiger” Brennan for his recollections of early days at Tennant Creek. Finally, Col Adams, who painstakingly examined the text, suggested additional research where conclusions were obscure or additional facts needed, and who kindly wrote his own recollections of time spent in the Territory as a young mining student fifty years ago.

I am grateful to the Commonwealth Literature Board for a grant which enabled me to visit the old mining fields and to obtain some of the illustrations.

My thanks are due to the Australian Government Publishing Service for permission to quote from Commonwealth Royal Commission evidence and reports. The Historical Society of the N.T., the National Library and the Mitchell Library are also thanked for permission to reproduce some of their historical photographs, as is Mr E.D. Jensen for permission to use material in the late Dr Jensen’s papers.

I also gratefully acknowledge the encouragement and assistance given by Helen Wilson of the History Unit of the University Planning Authority, Creed Lovegrove, former Secretary, Department of Mines and Energy, and his officers: Ann Alderslade, who edited the bibliography, Tony Hosking, who helped in a number of ways, and Len Helberg, who was responsible for the complete editing of the work and liaison with the Government Printer.

And, finally, Jenny Leigh, Pat Mitchell, Rita Ferguson and Sue Bandte, who gave very necessary secretarial support.
INTRODUCTION

To most Australians the Northern Territory is an unknown and mysterious place. There are limits to what our own education systems can and do teach about our heritage, whilst the sheer distance of the Territory from closely settled areas tends to increase the air of mystery. The past circulation of many conflicting reports on the Territory, expert and otherwise, has not helped. On the one hand, it is supposed to offer enormous possibilities for settlement, agricultural and otherwise, whilst on the other, much of it is described as an uncompromising desert with few prospects for settlement. The real truth is somewhere in between. So it is with mining.

The idea of writing this book began in the beer garden of the Grove Hill Hotel in the early 60's after a day when Col Adams, the then Director of Mines, had shown me rusting machinery and other relics of a long-gone era. Wanting to know more of the history of these mines, I searched the indexes of the National Library but, apart from a necessarily brief coverage in Geoffrey Blainey's history of Australian mining, *The Rush that Never Ended*, I concluded that here was an important corner of the mining scene in Australia which historical writers had neglected.

From then on, the research and writing of this history has been a dominating interest. With the exception of a few areas, I found that reasonably complete and authoritative information was available, but scattered through many documents and publications and at widely separated locations. Originally I had intended to confine the work to the story of the mines but, as research progressed, I found the history of the mines to be inseparable from the development of the Territory generally, from Government activity, both by the State of South Australia and the Commonwealth, and from the story of the Chinese.

The research revealed some very colourful characters whom recorded history seems to have overlooked, men like John Lewis, father of Essington Lewis of BHP fame, John Knight, one of the Territory's finest public servants, and Dr Jensen, the first and highly controversial Commonwealth Director of Mines. It also exposed some turbulent periods in the Territory's history, plus a little-known Royal Commission, and showed conclusively that popular works on the Territory have given rise to a number of misconceptions about important events, particularly in relation to the Chinese.

The aim of the work is to bridge the gap in distance and neglect and to record, not only the development of mining in the Territory from the early 1870's up to the end of World War II, but also the beginnings and development of Darwin's present-day multi-racial society, while also conveying the atmosphere of the times with pessimism on one half of the scale and optimism on the other. The scale has never stood still. The real obstacles were the climate and isolation rather than human frailty and all three are still with us. No doubt the pastoral and agricultural industries had similar problems, but my interest and concentration has been with the mining industry. My conclusion is that, because mining did not generate sufficient wealth, Governments did not have access to enough money to subsidise fundamental research essential to the proper development of the pastoral and agricultural industries in a virtually unknown tropical context.
Up to relatively recent times, other enterprises in the Territory failed because the mines failed, but this was not due to lack of spirit. The unknown hazards of climate and terrain, and the initial lack of communications, supply lines and equipment limited the efforts of the early miners, but one thing they were not short of was spirit. Almost a century later we, with our modern techniques, appliances and communications, have not unearthed one new gold mine in the Brock's Creek–Grove Hill–Pine Creek area.

TIMOTHY G JONES
Canberra 1986
CHAPTER 1

The Early Discoveries and the Speculative Hysteria: 1865–1874

Until the Overland Telegraph Line was built, the Northern Territory of Australia was an almost unknown land. In earlier years, the British Colonial Office had established military outposts at Port Essington and Melville Island, mainly to forestall the French at the former and the Dutch at the latter, but with some hopes of building up trading posts. Melville Island was abandoned in 1829 and Port Essington in 1849, as trade did not develop and the expense and difficulty of maintaining the settlements in a remote and isolated area under harsh conditions could not be justified. Those settlements were made by sea and very little was known of the interior until John McDouall Stuart succeeded in crossing the continent from south to north in 1861–1862 at his fifth attempt.

The major result of Stuart’s success was that in September 1863 the Northern Territory was placed under the charge of South Australia, and on 1 October 1863 a bill was introduced in the House of Assembly to provide for disposal of land in North Australia, plus the appointment of a Government Resident and all other necessary officers for securing the order and good government of the Territory. On 1 March 1864 offices were opened in London and Adelaide for the sale of Territory land. In London the North Australian Company was formed to purchase land, whilst in Adelaide there were 455 applicants for country land and town allotments.

B.T. Finniss was appointed as Government Resident and his tasks were to survey the land applied for and to establish good government in the Territory. His expedition of forty-two persons left Port Adelaide on 25 April in the good ship “Henry Ellis”, bound for Adam Bay, where it was thought that a suitable site might be found for the first town, although absolute discretion was left to the Resident.

Shipboard dissentions increased after landing, particularly when Finniss, against the strong protests of his officers, chose Escape Cliffs as the new capital. Disease developed, as did conflict with the natives, and dissent grew until, in July 1865, news reached Adelaide of the total disorganisation of the expedition. Finniss was recalled and replaced by McKinlay. By September 1866 he had fared no better, so Parliament decided to call tenders for the survey of 300 000 acres of land. Surveyor-General E. W. Goyder examined the tenders and advised that competent officers should be sent to report on areas between the Victoria and Adelaide Rivers. Captain Cadell was appointed and set sail on 26 February 1867, returning fifty-two weeks later. Even at this time, land for which money had been paid in early 1864 had still not been surveyed.

By 1868 the shareholders in the Northern Territory Company were becoming impatient at the delay in gaining title to land and sued for damages. The South Australian Government then sent up a far larger and better-equipped party under Goyder himself, who ran up the flag at Fort Hill – still a landmark of today’s Darwin. Goyder named the settlement Palmerston, after the British Prime Minister of the
day, although the actual port, less than half a mile away, was known as Port Darwin. Goyder and his party of 135 men worked well and, with the new and suitable site, many of the difficulties of earlier parties vanished. They quickly selected and surveyed 500,000 acres for agricultural purposes, as well as marking out the streets of Palmerston, naming many after the surveyors themselves (Daly, McMinn, Smith, Mitchell). Work completed, the expedition returned to Adelaide in November 1868 to find that the Northern Territory Company had succeeded in its legal action.

Disappointed that a settlement had still not been established, the Government then offered the surveyed land at half the price previously asked of the Northern Territory Company. Pioneers came forward and two ships set out with a total of sixty people, including the newly-appointed Government Resident, Captain Douglas, his wife, seven children and an Irish maid, a surgeon, surveyors and a posse of police under Captain Paul Foelsche. The accompanying livestock included one bull, five cows, 150 sheep and two goats, as well as horses. The group entered Darwin Harbour on 24 June 1870. Its presence was supported by an agreement between the South Australian Government and the British Australian Telegraph Company, by which the Government was to build the Overland Telegraph Line (with Charles Todd in command) to link with a cable from Java to Port Darwin to be laid down by the company. Construction began at once from the southern end and in early September 1870 the SS “Omega” arrived at Port Darwin with horses, equipment and men, who began their work from the northern end. In so doing, these men unwittingly became the founders of the Northern Territory mining industry.

The main aim of the South Australian Government was to establish an agricultural colony, as reflected in the instructions issued to Captain Douglas and in the nature of the small public service placed under his general control. The latter comprised J. S. Millner, Government Medical Officer; G. G. McLachlan, Senior Surveyor; F. W. Hood, Accountant, Postmaster & Storekeeper; P. Foelsche, Inspector of Police; and F. Schultze, Naturalist; together with five clerks, four police, surveyors and a total of twenty-nine artisans, labourers and teamsters.

The Government Resident was instructed, amongst other things, to keep the Government fully informed on important events through the Commissioner of Crown Lands, not to leave that portion of the Colony without express permission from Adelaide (as the Government attached considerable importance to the constant presence of the Government Resident at his post) and to concentrate on the selection of town and country lands by the settlers and the survey thereof.¹

According to written reports, Captain Douglas did press on with the land matters and this included the successful raising of a number of tropical crops, including sugar cane. At the same time, work was going on with the Overland Telegraph Line, which was completed on 23 August 1872.

The Overland Telegraph men were not the first discoverers of gold in the Northern Territory. In 1865 Litchfield, a member of Finniss’ party, found some specks in the Finniss River but, though reported in the Adelaide “Advertiser” and “Register”, his find caused little interest. In 1868, according to S.W. Herbert, a member of the Overland Telegraph construction party, R. C. Burton, was sent out by Goyder to
search for minerals and he found gold at Tumbling Waters. In July 1870 McKinlay and Dominic Daly found a few grains, but it is not clear where, and the following month a party again found flaky gold at Tumbling Waters, not far from Southport, where the supplies for the Overland Telegraph Line were unloaded. These first finds were uneconomic and it was not until December 1870 that, at Yam Creek, about one hundred miles south of Palmerston, a telegraph post-hole yielded alluvial wash containing coarse gold. This find was quickly followed by others at Adelaide River, Cullen River and Pine Creek.

Several of the Overland Telegraph men marked their areas of discovery for later attention, but none was immediately followed up as there was no means of gaining legal possession without travelling to Adelaide to register their claims, or even of obtaining the most basic of documents, a Miner’s Right. The South Australian Government’s experience with mining had come mainly from a series of important copper discoveries beginning in 1844 with Kapunda, followed by Burra Burra the year after and Moonta in 1862. These were large mines, giving employment to thousands of men and boys. All three, and many other smaller mines, were within one hundred miles of Adelaide. South Australian mining law had therefore been designed to cover mines which were no more than a few days’ journey from the capital city. There was some criticism of the long time it took to pass new legislation appropriate to a totally different set of conditions in the Northern Territory, but, in all fairness, it must be said that the South Australian Government had pressing problems arising from the rapid development of its southern mining areas. Some were very serious and included a typhoid epidemic at Moonta in 1873 with some 300 victims. Nevertheless, it recognised that some form of government control of northern areas at field level was essential, so Surveyor McLachlan was appointed in August 1871 as the first Warden of Goldfields for the Territory. However, all business had to go to Adelaide for finalisation and it was not until some two years later that the Northern Territory Goldmining Regulations were passed by the South Australian Government. Such regulations were to prove inadequate, but at least they enabled the local Warden to issue Miner’s Rights and to register claims.

As word of the discoveries drifted back to Palmerston in June 1871, at a time when the Telegraph Line had reached 120 miles south of Darwin, Captain Douglas, the Government Resident, instructed George McLachlan, the Senior Surveyor, to take two troopers and a labourer and search the country for minerals as far south as Pine Creek. McLachlan found many signs of gold and, although he did not actually locate a reef, concluded that a payable goldfield existed in the Northern Territory. He recommended that a few well-equipped prospecting parties should be sent out for one year, adding a stern warning in his report that people should not rush to the Territory unless they were well supplied with horses, drays, provisions, tools and firearms to carry them for twelve to eighteen months. Captain Douglas at once sent McLachlan’s report to the South Australian Government and supported its conclusions that a payable goldfield existed in the Northern Territory. By so doing, he took what was probably the initial step in promoting the first gold rush.

At about this time, some of Goyder’s men floated the Northern Territory Gold Prospecting Company, but subscriptions were slow and eventually it was largely financed by E. M. Bagot, a wealthy South Australian grazier. This company sent a
well-equipped party to the Northern Territory under the control of Johnnie Westcott, a miner of long experience, including work in the California goldfields. The party reached Port Darwin in April 1872 and set out to prospect the ground previously covered by McLachlan. They failed to find reef gold at Pine Creek, but were successful at Yam Creek in July of the same year, naming the reef “Priscilla” after the daughter of Mr Chambers of Adelaide, who contributed largely to party finances. News of the find was telegraphed to Adelaide and from then on activity became intense. There were forty diggers at Yam Creek by September, when the Warden recorded that “the Priscilla Reef was two miles long and that gold visible to the naked eye could be seen in the reef for some 200 yards”. This information was transmitted to Adelaide on the Overland Telegraph and the shares of the Northern Territory Gold Prospecting Company immediately jumped from £1/6/0 to £3. The Northern Territory correspondent of the Adelaide “Advertiser” telegraphed: “All the discoveries are lasting and fresh discoveries are being made daily ...” A third prospecting party was formed in Adelaide, called the Northern Territory and Kapunda Prospecting Venture Limited. It sent up a party under William Brock. The entire party was afflicted with fever, but, after recovery, they found a gold-bearing reef on the John Bull line at Howley, which they named the “Royal”. On 9 September 1872 they telegraphed to Adelaide: “Discovered immense reef 40 miles north-west of Yam Creek, got gold 1200 yards on line of reef. Secured prospector’s and four ordinary claims.” The directors immediately sent up ten men and six months’ provisions, as well as tools and drays.

Meanwhile, John Lewis was travelling from Adelaide to take up a pastoral holding on Cobourg Peninsula. On the way, he contracted with the Government to operate a pony express between the two uncompleted ends of the Overland Telegraph, then some 300 miles between Tennant Creek and Daly Waters. John Lewis was a man of energy and foresight in an era when Australia’s mining development was largely based on gold. He was the father of Essington Lewis, who fifty years later led the Broken Hill Proprietary Co. Ltd onto the world industrial stage. Lewis’ contract was completed when the wires were joined on 22 August 1872. Continuing his journey north, he reached Yam Creek on 26 September, where he met some members of the Kapunda Prospecting Party whom he had known in Adelaide, and was quickly informed of mining developments in the area. His next call was the Warden’s camp, where he found McCallum, a trooper, and Captain Douglas, the Government Resident. During the next couple of days, Lewis met Westcott, who took him over the reefs. Before resuming his journey, Lewis gave the Warden a bag of flour and sold him a horse for £25. He then moved on to the Howley and the Finniss, meeting Cruickshanks and Elphick on their way to the goldfield with a one-horse dray and, at Tumbling Waters, a party of eighteen diggers hand-hauling a bullock dray with eighteen hundredweight of provisions. The party found it too heavy, so the dray was abandoned and they carried the loads on their backs. These were some of the original 150 diggers, mostly from Victoria, who had reached Palmerston on the “Condor” earlier in the month.4

At Port Darwin, Lewis received a telegram from Fred Driffield in Adelaide, asking him to equip a prospecting party for the Telegraph Prospecting and Gold Mining Company. This was one of the early companies interested in the Territory and
floated in September 1872 in a modest way with a capital of £4500. Another early company was the Kapunda Yam Creek Reefs Gold Mining Company Limited with 24,000 shares of £1 each. This company was floated to take over the claims of the Northern Territory and Kapunda Prospecting Venture, the original members of the venture receiving £2000 and 12,000 fully-paid shares for their interest. The Priscilla Reef Gold Mining Company Limited was registered in November 1872, as was the Yam Creek Gold Mining Company Limited. These companies were based on prospecting efforts which had found surface gold and the assumption was that the values would persist at depth.

Lewis bought a substantial interest in the Telegraph Prospecting and Gold Mining Company, which he financed by his dealings in horses, flour and other commodities, all of which commanded high prices. He accepted Driffield's offer and became manager of the Telegraph Company. Subsequent entries in Lewis' diaries indicate that he was a general overseer of this and other companies rather than a mine manager, and that much of his time was occupied with trading in horses and stores and operating a horse-and-wagon transport system. He started from Southport with forty pack-horses and two horses in the dray, the loading comprising one ton for the Telegraph Company and two tons for others at a charge of £60 a ton. Yam Creek was reached on 17 October 1872. There he established a main depot plus store and met Dillon Cox (after whom Cox's Peninsula is named) with thirty-five horses for Palmerston and 200 cattle following. A week later Lewis was back in Port Darwin, where he found 300 newly-arrived diggers. From these he selected several to work for the Telegraph Company and several others, including Paul McGrath and Harry Williams, to go prospecting for him on the basis of wages and a share in whatever they found. On the way back to the goldfields, one man died and several fell ill, and it took some time to replace them.

Conditions were exceedingly rough and few of the diggers had experienced the Territory "wet", which usually begins in November and carries through to March or later. Even today, surface travel in the country is very difficult or impossible away from the relatively few all-weather roads, and the hazards of the climate can and do seriously interfere with activities. The latest example is Cyclone Tracy, which in a few hours virtually flattened the city of Darwin. Comments in Lewis' diary on conditions are terse, examples being: "no rain, mosquitoes frightful, march flies also bad" and "horses bogged, took two hours to dig filly out, roads in a frightful state".

Of the mining population, he said: "This place is in a state of confusion, nearly all the men in the place are reefing mad and I might say there is two classes of men upon this goldfield. One lot are the real inventor who is trying to promote the welfare of the country - the other a set of low unscrupulous men trying to rob the real miner."  

Hugh May's diary, held by the South Australian Archives, gives a good description of a journey to the goldfields at the end of 1872. Little is known of May's background, other than that he was a South Australian miner who left Adelaide on 9 October 1872 under a six months' contract to the Palmerston Gold Mining Company, which had leases at Howley. The party was well-equipped with six months' provisions, machinery, stores and sixteen horses, but on the voyage the ship ran into a severe storm and narrowly escaped foundering. Twelve of the horses were so badly maimed that they had to be put overboard. They reached Port Darwin after nine
weeks at sea and then had to unload into small boats. Port Darwin Harbour was crowded with two steamers and four large vessels with some thousands of tons of goods and heavy machinery, each awaiting its turn to unload into the very few small boats and lighters that were available. Wilson, manager of May's company, joined with the manager of the Yam Creek Company and hired a boat to take their supplies to Southport, an arm of Darwin Harbour some twenty-five miles distant, but much further and more difficult of access by land. The boat was powered by oars and the men found the work most exhausting – and at times frightening, as the waters were infested with crocodiles and trips were made at night as well as day. The darkness was accompanied by the sound of crocodiles barking in close proximity to the boats. The total task took three weeks and during this time the manager tried to buy horses. Few were available and, of those that were, small ones in rather poor condition cost £20 each. At Southport the only accommodation was in tents. Sandflies and mosquitoes nearly drove the men and horses mad and hammocks had to be slung between trees because after a storm there was up to six inches of water on the ground.

Christmas Day was celebrated with fried bacon and damper and next day Warden Connor started for the goldfields, expecting to take seven days to cover the eighty miles or so involved. Meanwhile May and his fellow-workers were busy hewing timber to erect a log hut to protect the stores whilst their manager went on ahead to the Howley claims with pack-horses. Soon after, the party experienced the Northern Territory "wet" in earnest: a violent thunderstorm and two inches of rain in a little less than half an hour. The country became wet and soggy, and the tracks to the goldfields, rough at the best of times, were muddy nightmares crossed frequently by dangerously flooded creeks.

With the arrival of additional horses, the party set out and soon found that the horses could barely cope with the heavy loads and soft going. The first day the horses bogged badly twice and the men had to lighten the drays by carrying most of the supplies on their backs, reaching Tumbling Waters, only a few miles from Southport, at dusk. That night the horses wandered and were eventually located almost back at Southport. Next day the party covered a whole three miles, and on the way were menaced by a number of Aboriginals, who moved only when threatened with revolvers. Another two diggers, carrying their swags on their backs, caught up with the party and decided to travel with it, whilst two men with a handcart, returning to Southport, gave the party the depressing news that the road ahead was shocking, and impossible for drays. The party leader, knowing that the horses, let alone the men, were approaching exhaustion, looked critically at his loads. Whilst every item was essential in a situation where the nearest supplies were 2000 miles and three months away, he decided to bury such items as the anvil, iron and keg of lime juice, hoping that they would still be there when they returned for them. So they slogged on, with the drays often bogged to the axles and the horses so tired that many times the men had to drag the drays through bad patches several hundred yards long. Some days they only covered a mile and a half, it being not unusual to spend two hours digging a horse out of a bad bog.

At Adelaide River the party had to spend a lot of time repairing the stream crossing and on the plains on the other side of the river they found nothing but knee-deep
water. May did not give details of how they managed to camp for the night. Twenty-nine days out from Southport provisions were very low, so May decided to walk ahead to the Howley, where he hoped to get assistance, but, after going several miles, he came to a flooded creek and had to turn back. The party waited at the creek for several days until their manager arrived with three men and a hand-truck. The journey was resumed and another four days saw them at Bridge Creek, running high and swift in flood. This crossing was managed by hauling the horses over by ropes and then using the dray as a bridge to carry the loads over.

Eventually the party reached the Howley, forty-one days after leaving Southport, covered in boils and with one man badly stricken with fever. One had died of fever earlier on the journey and another was to live only a few days more. On arrival at the Howley in March 1873, May noted that fever, scurvy and rheumatism were present. His manager quickly found that his own ground did not look promising, so he went to Yam Creek, twenty miles away, to try to find better prospects for his company. By the time he returned to the Howley, the men’s rations were down to rice and flour, the roads were still bad and four sick men had to be sent back to Southport. Later in the month, May had to visit Yam Creek and, as no horses were available, he walked the round trip of forty miles. Whilst there, May had the best dinner he had eaten in the Territory: corned beef and Irish stew.

The manager left for Southport with the teams and this left only May and his mate in the lonely camp. The mate fell so ill that May walked into Yam Creek to organise pack-horses and a man to get the sick man to Southport. May was now alone at the isolated camp and his peace of mind was not helped by the arrival of a tribe of Aboriginals who, in a menacing way, demanded flour. He had all his firearms, four guns and a revolver, loaded and ready but, realising that they would not be much use against a hail of spears, gave them ten pounds of flour. They were soon back for more, so this time he gave them a little more and managed to get them to clear off by brandishing his rifle. There was no further sign of them during daylight but that night he did not sleep and kept a light burning. Next day, they appeared again in full war paint, armed with spears and waddies, demanding more flour. This time May refused and threatened to shoot, at the same time putting a rifle to his shoulder. The Aboriginals vanished into the scrub and were not seen again. However, next morning he found they had stolen stores from the other tent. His loneliness ended with the arrival of the new manager, Butters, with Griffiths as purser and Fotheringham as engineer. The former manager had been dismissed.

In June 1873 May pondered on the living conditions, rations (or lack of them), the Aboriginals, fever, lack of transport and indeed of any form of amenity, let alone female company. He decided that £3 a week and “all found” offered no future and concluded that he should strike out on his own with three others. He went to Southport for supplies. The roads were good and hard and within five days they returned with pack-horses and a small cart. However, after three months’ solid work, May had little to show and, as his resources were low, he went back to work for Butters. He cut timber, built sheds, sank shafts, costeamed, cooked and dressed logs up to twenty feet long and eighteen inches square. All this hard work in a hot, humid climate for little pay convinced him that the Territory was not for him, so he
sold his claims for £60 each and, in his own words “bade farewell to the land of heat, rain, mosquitoes and sandflies”. With experiences such as those of May, it is little wonder that most of the men departed as soon as their contracts expired.

The diary of S. W. Herbert discloses that he was a member of one of several prospecting parties organised by E. M. Bagot. He obtained his place because of previous experience in the country on the Overland Telegraph Line. The other members were Thomas Burgan, a private educationalist who had some early Victorian goldmining experience, Edward Hallock, Assistant Librarian at Adelaide Public Library, and George Cousins, a former publican from Strathalbyn. The party reached the Territory early in 1873 and noted that Southport had some substantial weatherboard buildings and log huts, and many tents and tin shanties, adding that business hours ceased in the early afternoon, after which gambling and drinking were the main occupations of most of the populace. This party discovered a goldbearing reef on a low ridge which was a continuation of the John Bull and they named it “Britannia”. Here they built a log cabin as a base camp for prospecting trips around the district.

In December 1872 the Telegraph Prospecting party found a rich gold reef south of Pine Creek, which Lewis named the “Eleanor” after his sister. He immediately registered the claims, applied for leases and informed Driffield of the discovery. From then on John Lewis was very busy. He left his brother Jim in charge at the reefs and travelled frequently between the goldfields, Southport and Port Darwin, always by horse and often riding all night. His diaries disclose that in the first half of 1873 he bought and sold mines or shares in mines, organised an extensive surface transport network and supervised prospecting parties. At Driffield’s invitation, Lewis became general manager of the newly-floated Telegraph Company. He leased land at Southport for a big bulk store, which was to be the centre of his transport and supply operation. At the goldfields, his main camp was not far from The Shackle, and here he went to send and receive telegrams, often meeting other friends there, including Westcott, Newman, Cruickshanks and Adam Johns. He often went prospecting with Westcott in the gullies around Yam Creek, but without much success, complaining at one stage that the eight-foot-high “kunai” grass made movement impossible. The two took up a number of joint claims in the district, and bought and sold others. Lewis also found time to plant sweet potatoes, sugar cane, turnips and melons close to his main camp.6

This was an era that had witnessed the benefits of the mid-century gold finds in places like California and Victoria. Twenty years later, when similar prospects arose from rich finds in the Northern Territory, South Australians responded with fervour. In May and June of 1873 companies were floated in Adelaide almost daily and promoters circulated glowing descriptions of the richness of the finds as telegraphed by their agents in the Territory. There was a rush of subscriptions and, in some cases, men, machinery and supplies were shipped to the Territory, while in others, promoters, well paid for their services with cash and free shares, quickly sold the latter at a large profit. In the heat of the moment, the hazards of the terrain and the climate, plus the high costs which they produced, were lost sight of by many of the companies.
An example of these flotations was the Eureka Gold Mining Company, registered in May 1873 with £8500 capital, of which the vendors were paid £8000 for the mine, leaving only £500 for working capital. Others were the Tumbling Waters Freehold Gold Mining Company Limited and Pine Creek Gold Mining Company Limited.

Researchers studying press and other financial comments made in the 1870’s, and indeed up until after the turn of the century, can easily be misled due to a change in terminology over the years. In those days the term “paid-up capital” in fact meant the difference between nominal and subscribed capital and corresponds with the modern accounting term “uncalled capital”. Without knowing of this change, it is very easy to conclude that a great deal more cash was put into companies than was actually the case. In many cases, vendors were paid for their interests largely in shares, but reports at the time simply said the vendors were paid, say £8000, leaving the impression that it was all in cash.

The Douglas Gold Mining Company Limited, floated in June 1873, was organised by Captain Douglas, who, as Government Resident, was the South Australian Government’s official representative and adviser on Northern Territory matters. Rumours had reached South Australia about the activities of the Government Resident and he was not to remain in office for long. In all, some sixty companies were floated, with a nominal capital somewhat in excess of £500 000. Whilst many may have been vehicles to enrich unscrupulous promoters, some were genuine and splendidly equipped. Examples of the exceptions were Westcott’s Company, The Telegraph, and North and South Eleanor.

The South Australian “Register” stated in May 1873 that some thirty companies had been floated and that their shares ought to have been worth £471 159, but only £89 250 had been subscribed in actual cash, much of which was paid to promoters, and only £150 000 remained as uncalled capital. The paper warned the public:

> It will be seen that there are persons sufficiently insane to pay a premium of 200 percent for an interest in companies which have not as yet even a mining lease; in fact, merely because a couple of men have been despatched in search of gold; while premiums ranging up to 1100 percent are being paid for properties which, under the most favourable circumstances, must demand further and very considerable expenditure before any proof of either their value or worthlessness can be determined.

The warning was largely ignored and the speculative hysteria was given added impetus by news of fresh discoveries, such as Union Reefs by Adam Johns and Phil Saunders in November 1873. Adelaide investors looked forward eagerly to dividends of unprecedented proportions.

Meanwhile John Lewis had been busy. He floated Lewis’ Mining Company Limited in June 1883, receiving £750 cash for his leases and 4000 fully-paid shares in any company formed to work the leases. The machinery for the Telegraph Company arrived in May 1873 by the “Coorong”, together with a mining captain and men but no horses, so a telegram was sent asking that a number be sent on the next ship. At this stage, an entry in Lewis’ diary was made: “One of the Telegraph Company’s men gave me a little cheek, so a clout to the head soon brought him
around”. By agreement, the original Telegraph Company was split into two, Lewis and his brother having a major interest in the second, called the South Telegraph Co. and floated in Adelaide with £10 000 capital in shares of £1, the vendors receiving £600 cash and 4000 fully-paid shares. This was floated on a prospectus which said little more than, “Recent telegrams state that there is a splendid show of gold a few yards from the boundary”.

During July, Lewis was laid up for ten days with fever, as were many of the residents of Southport and Port Darwin. The following month he managed to buy a number of horses cheaply and also a steam launch. In August his brother Jim started for Pine Creek with the Telegraph machinery, which was erected and operating by the end of the year, this being the first battery to crush ore in the Territory.

The second half of 1873 and 1874 seem to have seen the peak of Lewis’ activities in the Territory. In his own words in *Fought and Won*:

My time was now fully occupied. I was legal manager of about sixteen mining Companies, large and small, in the Northern Territory. I had teams on the road; I had the mail from Pine Creek to Southport; I had steam launches on the river taking stores and rations from Port Darwin to Southport; I had men out prospecting; and I had a big bulk store at Southport, from which I supplied the stores along the road with flour, tea, sugar, meat and horsefeed. All the stores came through with the southeast monsoon. The sailing vessels brought the bulk of them, and then stopped until the next season. We were short of rations on the reefs, and most of the miners made down to Port Darwin just as the wet season was terminating in March.7

Lewis noted that flour was “a drug on the market”, but foresaw that there would soon be a shortage. He then bought up all the flour in Port Darwin and most of Southport’s stock at low prices. In his own words:

I got a good rise on the flour and then bought all the tinned meat available and doubled my price on that. I bought twenty tons of jam from the late Hon. Thomas Reynolds at a very low price and I sold it readily afterwards at an advanced rate. I also bought 300 tons of oats and maize with the store they were in from Mr William Clarke at a reasonable price, and this was a very profitable speculation.8

Lewis made a substantial profit from an interest in Union Reefs. A party of six, including Phil Saunders and Adam Johns, both to be prominent in Northern Territory mining circles for many years, had travelled by horse from Queensland and at Union Hills, about ten miles north-east of Pine Creek, had struck alluvial gold and washed 600 ounces in a few days. They also discovered the shedding reef, carrying visible gold, and within days word reached John Lewis in Pine Creek. He hurried by horse to the Union and of the discovery said, “You could see the gold in the stone sixty or seventy yards from the reef. It was the most magnificent sight I ever saw.”9 Lewis bought a one-sixth share in the mine for £500. He carted ten tons of ore to the Telegraph Battery for a yield of 770 ounces of gold. The group then constructed a dam and erected a battery at the mine, the first fortnight’s crushing yielding a dividend of £700 a share with £2000 held over. Rich returns followed, but at the end of six months the rich leaders cut out and the mine ceased to pay.
According to Lewis, Driffield’s Telegraph Company did not send up enough money to keep the mine going, so he personally paid wages and cartage of about £1500 and, by arrangement with the directors, worked the mine himself. He was said to have “recouped his outlay and then washed his hands of the concern”, which wound up in July 1874, all its property being sold for £1040. One of his prospecting parties found the Cosmopolitan Howley, for which he refused £5000 offered by a speculator. Unfortunately, although his men worked the mine for the best part of a year, the venture ended up by costing him £500.

George Newman’s The Northern Territory and its Goldfields (1875) is a useful reference on the first-hand experience of an early Territory mine manager. The work records that Newman was engaged in January 1873 as engineer and mining manager of the Northern Territory Gold Prospecting Company Limited, better known as “Westcott’s”, and was forthwith sent to Victoria to buy good machinery. This he did and returned to Adelaide in April, where he secured mining captains, artisans and miners. (“Captain” was the title generally applied in those days to mine managers, this deriving from practices in the Cornwall mines in England). He departed on the “Gothenburg” in May 1873, reaching Port Darwin Harbour nineteen days later. A fellow-passenger was V.L.Solomon, twenty-two years of age, a member of a mining party styled the Adelaide Prospecting Venture, which subsequently found rich gold, beginning for Solomon a long record of mining, trade and politics in the Territory. A jetty was under construction at Port Darwin, but as yet no proper unloading facilities existed, so that ships were unloaded into lighters which then sailed twenty-five miles up an arm of the harbour to Southport, where the track to the mines began. Freight costs for this twenty-five-mile section proved to be greater than the charge from Adelaide. The unloading into lighters was hazardous as, in the case of Newman’s company, it resulted in the loss of three men’s lives and a valuable engine.

Newman said that “the Government had done nothing up to that time (and little since) to assist the new pioneers; a few of the leading companies paid for and constructed a landing jetty at Southport where the rise and fall of the tide is about twenty feet”. It seems that he was a little hard on the Government, because in almost the next breath he refers to the same group constructing a track to the mines, as well as stream crossings, which were subsidised by the Government. These works all added to the companies’ costs, as did sheds which had to be erected to protect stores from the rains and pilfering Aboriginals.

Spurred by telegrams from the directors, Newman’s men succeeded in carting nine tons of the most vital of their machinery over some of the worst roads in the world and erecting the battery of twenty stamps during the 1873-74 wet season. At the same time as the machinery was being erected, mining work was going on at the Yam Creek leases. The manager reported that he had found evidence of gold over a wide area and expressed the opinion that the claims could be easily worked and would prove highly profitable to the shareholder. Although the company had an excellent camp, horses, bullocks, wagons and drays, plus two ten-head batteries, stores and appliances, the surface indications of gold did not persist at depth and 700 tons of quartz yielded only 500 ounces of gold. Though such a yield would have been thought highly profitable by southern standards, it did not pay, with miners’ wages at
£3/10/- per week. Teamsters at £3, cooks at £3, and mechanics at £4, all with quarters and good rations, and even then only doing seventy-five percent of the work expected in southern regions. From a management viewpoint, however, Captain Newman said that, whilst commodious and comfortable camps had been established, many of the workmen who arrived had been badly selected and were quite unfitted for the work or the climate. He himself decided to cut his losses and promptly dismissed the men he regarded as useless.

Management of many of the companies was poor and Newman cites two examples at the old Howley where the managers of promising shows were continually drunk. In one case, one of them was chained to prevent access to his wine-cask, and of others he said, “Their duties in this new country were varied and in many instances extraordinary difficulties were to be overcome, but not by sauntering about in Palmerston dressed in pyjamas and drinking bottled beer.” Newman also criticised the Adelaide directorates for their poor staff selection, ill-judged interference with those captains who were competent and honest, and particularly the almost insane pattern of action by directors in buying and shipping costly machinery before their leases had been thoroughly examined and evaluated. Some of the prospecting parties never got further than Palmerston and others camped in a pleasant spot until the grog and provisions were gone, when they pronounced the Territory “a duffer”.

Given all the problems of the Territory, had the reefs been rich enough, many of the sounder companies could still have paid. Where returns of hundreds of ounces to the ton had been confidently expected by Adelaide investors on the strength of promoters’ expressed beliefs, many first crushings averaged one to three ounces only. This situation continued on into March and, for all except a few companies, the first crushing was the prelude to winding up.

The gold discoveries did have some very important effects. The population increased from 192 to 1500 during 1873 and, whilst most of the new arrivals left shortly afterwards, a number remained and formed the basis of a permanent settlement. The activities of a few men like John Lewis resulted in the development of transport and communication systems.

The history of earlier mining fields in Australia had proved that two certain ways to make profits on a new goldfield were to operate a hotel or a general store. As to the latter, in addition to Lewis’ activities, P.R. Allen and Co. commenced operations, which were later to develop into a network of country stores in remote places. Hotels were quickly established along the route to the goldfields and by 1879 were to be found “The Tumbling Waters”, “The Travellers’ Rest” at Collett’s Creek, “The Rum Jungle Hotel”, “Our House Hotel” at Stapleton, “The QCE” at Adelaide River, “The Bridge Creek Hotel”, “The Diggers Arms” at Sandy Creek and the “Miners’ Arms” at Yam Creek. The last mentioned was the first of the bush hotels, established at the end of 1873 and run by Mrs E. Ryan and her husband. From reports at the time, it seems that the price of grog rose proportionately to the distance from Southport.

A few ladies were now in the Territory. One was the barmaid at the Rum Jungle Hotel and was an attraction to the males for miles around, to the great profit of her employer. Six-gun discipline was the order of the day at these lonely places of
refreshment and Alonzo Brown (probably a nom-de-plume for V.L. Solomon) tells one story of the Sandy Creek Hotel where a man made an impertinent enquiry of a lady at the establishment. The answer from the said lady was a ball from a revolver, which grazed his Adam’s apple and lodged in the bed post.

Alonzo Brown describes Southport at the end of 1873 as a very busy little centre, with a number of large stores erected by mining companies and others, and with two steam launches conveying the captains, storemen, workmen and supplies to and from Port Darwin. The Telegraph Hotel was popular, and almost the sole topic of beer-sodden conversations was the reefs and the fortunes they would yield. At this time a whole shipload of bullocks arrived to be used by the teamsters. Some of the other supplies which arrived were 100 dozen boxes of paper collars for the men to wear on Sundays and 600 bottles of eye lotion. The other hotel was “Markers” and here it was that men came from the fields for refreshment or to locate a missing bolt, screw, wrench or other part of their machinery. Nothing now remains at Southport but, from the ruins and debris scattered over a very considerable area, it must have been quite a township.

The other growing centre was The Shackle, about 120 miles south of Palmerston and about three and a half miles north-west of Grove Hill. To prevent confusion later, an explanation is in order as to how one district centre came to have four names. In 1873 the line was broken and a telegraph office established, and the place was accordingly named “The Shackle”. Subsequently, a post office was built and called “Yam Creek”. Some years later the telegraph line was moved four miles to the east, and “Port Darwin Camp”, close to the present hamlet of Grove Hill, became the new district centre. In the 70’s The Shackle was quite a little township, with a public house, warden’s camp and court, telegraph station, two stores, a blacksmith’s shop and a police station with two mounted troopers.

In May 1873 South Australia passed the Northern Territory Gold Mining Regulations, which, amongst other things, empowered the Warden to issue Miner’s Rights, to register claims and to approve transfers, amalgamations, business licences, suspension of work and other matters of detail, thus getting away from the previous necessity to refer all these matters to Adelaide. Consequently, the Warden now became an important and powerful local official. Newman expressed the view that “their salaries were miserable for the arduous and responsible duties involved and insufficient to maintain dignity of office or to keep them from temptation”. He described one of the early warden’s quarters and offices as “the miserable habitation in the shape of a weatherbeaten tent ten feet by twelve feet containing about one dollar’s worth of books and stationery, a tin box, a hammock and a three-legged stool”.

He went on to say that wardens came and went every few months, none having had any real prior training, until a “real live chief” (the Chief Warden) arrived, complete with a voluminous but foggy Mining Act and, within a few days, by supporting claim-jumpers, plunged the Union miners into unnecessary and costly litigation which held up many claims for twelve months and prevented the raising of capital and the erection of machinery. Of this the Adelaide “Observer” said, in April 1873, that it seemed that everything done by wardens in the last few months had been illegal.
It is true that the job of Warden was a difficult one and the pay not high at £300 per annum, but changes in personnel were not as frequent as Newman's work suggests. Mr Melville occupied the post from September 1872 to mid-1873, when he resigned due to ill health and was replaced by Francis Buttfield. In September 1873 M.L. Connor was appointed to a new position of Chief Warden of Goldfields. The following month Buttfield resigned. Walter Frampton followed, being replaced by S.M. Plunkett. Of the duties of Warden, Melville said, in a letter to the Minister, "I found the position the most difficult and dangerous of any I have been required to fill during twenty-five years of service".13

In those days field staff such as wardens were expected to make their own arrangements for living quarters, as an exchange of correspondence between Warden Connor and Government Resident Scott in December 1873 shows. Connor wrote to Scott saying that the house being erected at The Shackle for office and dwelling had no fireplace, making it impossible to dry clothing properly. He offered to pay half the cost himself. Knight estimated the cost of a fireplace at £10 and supported its provision. Scott's reply is a fair indication of the official approach to such requests:

I regret I cannot comply with Mr Connor's request. I quite agree with him that fireplaces are an improvement in a dwelling here and wish I had such things in my own residence. I must remind Mr Connor that the building being erected is merely as an office and not a dwelling. He was informed in Adelaide that he would not be found any quarters, this being clearly explained to me by the Hon. the Commissioner.14

Meanwhile the Government of South Australia was finding that its Northern Territory was proving more troublesome to administer than it had thought, and most costly. Disturbing reports had reached Adelaide about the activities of some of its officials in the Territory, so the Government sent Mr T. Reynolds, Commissioner for Crown Lands, to Palmerston to investigate the situation. Because of earlier pressure by the mining companies to import Chinese coolies, Reynolds called at Ceylon on the way, reached Palmerston in May 1873 and then spent some sixty-six days in the top of the Northern Territory. During this period he thoroughly investigated the affairs of the colony and, whilst doing so, authorised some bridge work on the road to the reefs and the completion of the Palmerston jetty. He talked at length with John Lewis and found the Government Resident camped at Tumbling Waters.

Three weeks after his arrival in Palmerston, Reynolds sent a confidential telegram in code to Sir Henry Ayers, the Premier, referring to the resignation of Captain Douglas a few days before. From the telegram and associated documents it is quite clear that Reynolds had severely censured Douglas, who then tendered his resignation on the grounds of ill health. Reynolds said that dismissal would mean absolute ruin for Douglas and he would prefer to avoid that course. Reynolds reached Adelaide in July and at the end of the month completed his report, which read in part:

I have already reported confidentially on the shamefully disorganised state of things in the Territory, and on whom the responsibility should rest; on the character and condition of the public buildings, and my inability to trace the cost
of any of them, also, on the number and strength of the official staff required there at present, and prospective increase as the country progresses, so that I need not repeat those matters here. I may, however, add that nearly the whole of the official staff had been allowed to take up miner’s rights, and on the strength of those rights to take up claims, and in some instances allowed leave of absence, in order, no doubt, to look after reefs, etc. So loose were those things conducted, that persons had made claims for leases, when, at the time of application, they did not possess miner’s rights; and yet they were recommended for approval, and were approved.

Such has been the confusion in official affairs in the Territory, that it has been difficult to estimate the cost of anything, or to know how the staff has been employed. For instance, a remittance was sent by the ‘Springbok’. I enquired of the accountant for particulars. He knew nothing of the remittance; that remittance was managed by the clerk of the Land Office and the Resident. I required details of a particular transaction; I sought for the entries – they could not be furnished. I sincerely regret that the exigencies of my official position required my return to Adelaide so soon, as I had only got hold of the thread to unravel the intricacies of the offices, and to leave the object of my visit not half accomplished.

The changes effected during my stay at Palmerston, and the inability to supply the vacancies occasioned by retirements or removal, may occasion considerable difficulty if prompt action is not taken.

The onerous and unpleasant duties I was called upon to perform single-handed, took up a large portion of my time – the thorough state of disorganisation running through almost every department, and the confusion into which the mining claims were brought, confined me closely to Palmerston and prevented me from visiting other portions of the Territory. My observations extended to about 100 miles south of Palmerston. The whole track formed a good natural road in dry weather; we were able to cross every creek with our buggy, and no difficulty ought to be experienced by any ordinary vehicle. When the wet season sets in, the case will be altered, as the rich flats to be crossed would then be very boggy. I arranged with the managers of the various mining companies to assist them in throwing a rough timber bridge across several creeks, and in forming corduroy roads where necessary. I should, however, recommend, when the traffic justifies it, the construction of a railway or tramway, in the event of a transcontinental railway not being undertaken. There are no engineering difficulties on the line, and it should be constructed at a comparatively low average.

The difficulty of effectually controlling the Northern Territory from Adelaide has been so great that the time has arrived, or will soon arrive, when the Government must seriously consider the propriety of investing the entire control of the Territory under one experienced responsible head. Everything should pass though his office, directed by him, receive his sanction, and he should be held distinctly responsible for all proceedings in the Territory.

To enable him properly to discharge those functions he should have an experienced Secretary, not inferior to those gentlemen who are Secretaries to Responsible Ministers. By such centralisation the machinery of the Government will work smoothly. If any of existing Acts will not permit of such an arrangement, they ought to be so altered as to admit it, as it will not do to divide the responsibility. 15

15
The immediate result was the appointment of G.B. Scott as Government Resident, with a competent secretary to assist him. The Public Service was augmented by the appointment of a Chief Warden of Goldfields, a Warden, three surveyors, a Sub-Collector of Customs, a Harbormaster, several troopers and a gaoler. Scott reached Palmerston in November 1873 with instructions to restore order and public confidence. In his unpublished reminiscences in the South Australian State Archives, Scott said that he found "many of the Government employees were given to drink and considered their only mission in life was to eat, drink and be merry, do no work, and plunder the Government at every available opportunity", and went on to say that he had to weed these people out and soon had some very troublesome and discontented people around him. He found that nearly all the mining claims were in dispute, as the law was either obscure or unsatisfactory, so a special act had to be passed leaving disputed claims to be settled by the Mining Court, consisting of himself as President, Mr Price, the Stipendiary Magistrate, and Mr Connor, the Chief Warden. Scott advised Adelaide that the mining situation had been frightfully overestimated, that the reefs were not nearly as rich as had been represented and a great deal of swindling was going on. He estimated the Territory's European population at about 1700 and that wages from the companies were good, but a major activity was drinking and gambling, mainly at the expense of Adelaide shareholders.

Scott's administration appears to have been firm and sound, but, owing to the failure of his wife's health, he had to return to Adelaide in September 1876. During the period of his administration, however, there were some interesting developments. Following pressure by the mining companies in Adelaide, a Medical Officer of Goldfields was appointed some time in 1873. The first appointee did not stay long and was replaced by Dr John Houston in 1874, at a salary of £200 a year, for which he was expected to service the mining population of Yam Creek, Pine Creek and Howley, as well as alluvial diggings, and to give gratuitously all necessary medical advice to the Aboriginal population of that area. Then, in 1873, Mr J.G. Knight was appointed as Secretary, Accountant, Government Architect and Supervisor of Works, with instructions to prepare plans and estimates for buildings required in the Northern Territory, such as court-house, gaol, police station, hospital, and land and survey office. Knight had a distinguished background, having had a large engineering practice in England before he emigrated to Australia. He then won first prize for a design for the Melbourne ship canal and docks and, with Kerr, was co-designer of the Melbourne Houses of Parliament, lectured in engineering at Melbourne University and was the first secretary of the Melbourne Mining Exchange when it was established in 1872. Knight believed that the gold discoveries would generate a demand for his skills and went to Palmerston as Secretary and Accountant to the Government Resident. He designed many government buildings and other engineering works, and was later to become Mining Warden, Chief Warden and, ultimately, Government Resident. For many years to come Knight was to exert a profound influence on Northern Territory affairs in general and mining in particular.
The warden's quarters, Yam Creek.
CHAPTER 2

The End of the Boom; Pause and Review: 1874–1885

From early 1874 word began to drift back to Adelaide that the alleged richness of at least some of the claims was a myth. One of the early disappointments was the Golden Reef Co., formed by E.M. Bagot and others to take up claims at Pine Creek, which were later amalgamated with North and South Eleanor. The company was floated mainly on the strength of some rich specimens sent down by a man named Deacon. When the company’s man reached the claim, he telegraphed that he had walked all over it, but could find no evidence of any work having been done or anything to indicate that a reef existed. The directors then rescinded their contract with the promoters, refused to pay them and wound up the company.

On the surface, this company had everything going for it: the discoverers were men of experience, it had a wealthy and respected backer and good machinery. It is perhaps a good example of the then prevailing style of operating, as embodied in an Adelaide promoter’s telegram to a local agent at the time, “Peg out claim anywhere. We’ll float it.”\(^\text{17}\) The experience seriously eroded Bagot’s confidence in the Territory and, as he was well-known and influential in Adelaide, news of the lessening of his interest quickly spread.

This type of float was not confined to Adelaide. In September 1873 the Morning Star Co. was floated in Palmerston to take up claims at Pine Creek, two of the directors being W. McMinn and the Hon. T. Reynolds. The prospectus referred to samples in the Palmerston Bank which had been taken from the shaft at forty-five feet and invited local investors to go and inspect. According to a press report, Captain Paul did descend the shaft and expressed the view that the vein would yield twenty-five ounces to the ton. The same report said that Captain Newman said there was not the slightest doubt that, if a reasonable amount of capital was spent in judicious mining, other valuable reefs would be found. On the strength of these reports, the capital was quickly subscribed. When the company’s manager arrived, he found most of the leases to be under water and that the shaft from which the sample had been taken had fallen in. He sank another shaft and struck a reef, but it only carried a trace of gold, leading to the inescapable conclusion that either the initial reports were false or the reef had been “salted”. The company was wound up and in June 1874 the “Northern Territory Times” referred to the whole matter as a swindle.

Due to these and other reports that many of the claims did not measure up to early descriptions and that a number of managers had abused their positions of trust, the Adelaide Stock Market experienced a sudden depression in October 1874. In Newman’s opinion, this was inevitable, as so many companies had been floated for speculative purposes without any intention on the part of the promoters of engaging in serious mining operations. Newman attributed the beginning of the Stock Market depression\(^\text{18}\) to reports furnished to his Adelaide principals by J.H. Cossens, a man of high scientific attainments and practical mining experience and with whom he (Newman) had worked at the St Arnaud silver mines many years before. He went on
to say that Cossens visited the fields and, whilst he concluded that indications were promising, he found nothing even partially to justify the mining mania which was raging in Adelaide. His findings confirmed earlier reports and warnings which Newman had sent to his own company and friends in Adelaide. When this news spread in Adelaide there was an almost complete loss of confidence in Northern Territory mines.

Other companies were running into trouble and out of funds. Newman's work, cited earlier, gives some useful information about the situation on the fields at the end of 1874. Five miles from Southport was Tumbling Waters, where the Tumbling Waters Freehold Gold Mining Co. had leases and, although well equipped with captain and men, vehicles and stores, it failed and went into liquidation in July 1874. Forty miles further out was the village of Stapleton, with a good hotel complete with plunge bath. Here surface indications were good and several companies had applied for leases, including the Virginia Company and Deane's Prospecting Company. Another thirty-five miles down the track was the Howley, and here several Adelaide companies had been floated to work the leases, named Aguagilla, Palmerston, Nina, Cosmopolitan, John Bull, and Alexandria (Britannia Reef). Surface indications were present, but, again, machinery was bought before the leases were tested. The first crushing from Britannia yielded 245 ounces from thirty-three tons, but the shareholders refused to provide additional capital to follow up even this phenomenally rich result. Two other companies at the Howley had drunken managers and, not surprisingly, they failed. Promising alluvial gold had been found in several of the gullies around the Howley, but Newman thought it unlikely that further discoveries would be made whilst the whole district was held by ten Europeans, as the law allowed. A further ten miles to the south-east lay W. Stow's prospecting party's claims at Woolwonga, an unusually lonely spot with many gold-bearing quartz reefs. A trial crushing yielded three ounces to the ton, but no further work had been done due to its isolation and fear of the blacks. Six miles south of Woolwonga were the Fountainhead and Bismark Companies' leases, which also had gold indications but were idle pending the introduction of cheaper labour and better food.

Five miles south of Fountainhead was Yam Creek, the site of the original reef discovery and the main centre of mining activity. Companies at the north end of the field were the North Point, Pioneer, Winn's Kapunda Yam, Westcott's New, Princess Louise, Havilah, Larrakeyah, Yam Creek, Port Darwin, Priscilla, Radford's Kapunda and others. Four of these companies' leases, including those of the Yam Creek Co., were amalgamated and placed under a Cornish captain of limited Victorian experience, who started from Adelaide in May 1873, complete with new machinery, three mining bosses and thirty miners. This cost the company £20 000, but all they ever obtained for their investors was fourteen ounces of gold. Winn's Company was reasonably well equipped, except for a second-hand engine and ten-head battery, which was put into working order by the patience and skill of the old German manager, with his first crushing giving one ounce per ton. The directors had expected a much better return, so they sacked him and engaged a Scot, but he did no better. The Kapunda Yam Creek Co. had erected a powerful engine and crushing plant regardless of cost, but not sensibly sited. It was 200 yards from the Margaret River, which necessitated the construction of a costly water-race, and a mile from
the reef, causing unnecessarily high cartage costs. The Princess Louise claim was being worked by eight tributers, who were all large shareholders in the company. They did a great deal of work in sinking shafts and tunnelling. Two small crushings yielded ten and twelve ounces to the ton, whilst a few hand-picked specimens had been earlier shipped to Adelaide and crushed at the rate of 400 ounces to the ton. Close by were the notorious Havilah and Larrakeyah Companies’ leases. In Newman’s opinion, these leases were utterly worthless and yet the companies spent £3000 on machinery and stores and another £2000 on wages. They obtained no return for their investment. The Priscilla Co. sank two 40-foot shafts, one of which showed gold, but, although an engine and battery had been erected on the banks of the Margaret, no crushing took place and the company liquidated in October 1874. The Northern Territory Prospecting Co., renamed Westcott’s New Gold Mining Co., did a great deal of work, but without striking much over an ounce to the ton. The ore veins were slow and costly to mine, whilst the refractory nature of the ore caused treatment problems. This was a soundly-based and well-managed company with promising surface indications. It had a well-set-up camp, numerous horses, bullocks, wagons and drays, two 10-head batteries designed by Newman, and engines. It did not succeed, mainly because of severe under-estimation of the enormous costs of establishing the mine.

At Pine Creek the Telegraph battery was crushing, while the Eleanor companies had engines and machinery valued at £6000 and thirty men, but, according to Newman, “a manager of unknown reputation who dissipated the whole of the capital by useless extravagances and by putting shafts and tunnels in the wrong places”. The inevitable result was liquidation, as was the case with two other companies with a combined capital of £30 500. A little confidence remained in Adelaide, however, where a newly-formed company managed to acquire cheaply the Eleanor and several other leases, as well as the engines, stores and other machinery that went with them. This, however, was one spark in a dying fire, as by early 1875 most of the boom companies had either collapsed or were heading for liquidation. The Virginia Company at Stapleton, which employed fifteen Europeans and had a twelve-head battery, dismissed the men and suspended operations, the Palmerston Company’s battery had been idle for some time and likewise no work had been done at Cosmopolitan, Britannia or John Bull. In a last-ditch effort to avert disaster, Kapunda, Yam Creek and Westcott’s New Mining Company were now under one manager, whilst the Princess Louise claims were let on tribute.

Even the first rich and genuine crushings from Union Reefs of seventy ounces to the ton did not arrest the loss of confidence and by early 1875 operating companies were very few, with further capital almost impossible to secure. The gullies around Yam Creek had been found to carry alluvial gold and some eighty diggers were working there.

Even though the initial rush of miners and companies was short-lived, there were some lasting results. Small townships developed at Palmerston (Port Darwin) and Southport and, more importantly, there was an awakening of interest in Territory affairs in Adelaide. This was exemplified by Reynolds’ visit and the swift action which followed, resulting in the replacement of Douglas with Scott, the appointment of
additional officials, the establishment of a Circuit Court at Palmerston and the
development of that settlement as a centre of commerce. The South Australian
Government reacted to the companies' demands for labour by sanctioning the
importing of Chinese coolies. The Chinese, with their own culture and customs,
were to have a marked effect on the Territory.

Unfortunately, the local Public Service, and indeed the whole colony, suffered a
tragic loss with the sinking of the "Gothenburg". This ship, of 501 tons, with sails and
steam engine, had plied between southern ports and Palmerston since the early
rush days. She left Palmerston in February 1875 and, after making good time to
Cape York, ran into a gale, making it difficult to see the reefs. In fading light, the
"Gothenburg" struck a reef south-west of Flinders Passage. She stuck hard and all
may have been well except for an attempt to refloat her by reversing the engines
hard. The ship came half off the reef, but the bottom was ripped and she slewed
broadside on to the waves, which broke over the side. The sea water extinguished
the engine-room fires and the ship slowly settled into deep water with only the masts
exposed. Captain Pearce remained on the bridge to the last, when he was washed
overboard. Of ninety-nine passengers and thirty-eight crew, only twenty-two were
saved. According to reports at the time, scarcely a family in Palmerston did not suffer
the loss of one of its members. Amongst those who perished were the Hon. Thomas
Reynolds, formerly Commissioner for Crown Lands in South Australia and lately a
Commission agent on his own account in the Territory; Judge Wearing; Joseph
Whitby, Acting Crown Solicitor; and Dr Millner, a public servant who had served in
the Territory since 1870. Many of the other passengers were senior employees of
the Northern Territory Public Service with their families.20

By March 1875 many of the early companies had either liquidated or suspended
operations. A few months later Chief Warden Plunkett reported that on the whole of
the goldfields 128 Europeans and sixty-three Chinese were engaged in reef mining
or at batteries and fifty-two Europeans were on alluvial, mainly Union and Pine
Creek. At Pine Creek the owners of the Standard, Telegraph and Christmas leases
had united their interests. Five batteries were at work, two at Pine Creek, two at
Union and one at Howley, with an average result of a little over an ounce to the ton.
The tributers at Princess Louise were disappointed. They spent thirteen months
driving a tunnel 200 feet and sinking a shaft seventy feet, where they struck the reef.
Approximately twenty-four tons then yielded 135 ounces, but the reef suddenly
pinched out. There were a few other very rich crushings, one example of which was
that of W. Griffiths, who got 400 ounces from seventy-five tons at No. 1 North Union.
Westcott had moved to the Union.21

The general situation was such that commerce was stagnant, whilst the local
administration had overspent its budget. In an attempt to stimulate activity in mining
and commerce, the South Australian Government declared Port Darwin a free port
and abolished all customs duties on goods entering the Territory. The Minister
approved the supplying of rations and horses to a few practical miners to prospect
for alluvial, the men being prepared to work without wages. The Government
apparently saw great mining and agricultural potential, as, late in 1875, it authorised
the survey of a route for a railway from Port Darwin to Pine Creek. At the same time
the Government offered a reward of £5000 for the first 500 tons of sugar grown and manufactured in the Northern Territory before 30 September 1879 and published a notice to this effect in the “Northern Territory Times”.

Although the Government saw longer term possibilities of development, it decided, towards the end of 1875, that, with the increasing costs of administration of the Territory and little immediate prospect of a healthy mining (or indeed any) industry, economies would have to be effected. It accordingly abolished several positions in the small Northern Territory Public Service and reduced the salaries of others, including that of the Government Resident from £1000 to £800 per annum. Knight was relieved of the duties of Superintendent of Works and offered the post of Secretary and Accountant at a considerable reduction on his £500 per annum. He found this unacceptable and decided to leave the Territory in December 1875. A valedictory letter he wrote to the “Northern Territory Times” gives some insight into his feelings and character in a time when intercolonial rivalries and jealousies were pronounced.

Sir – On leaving Port Darwin I avail myself of your courtesy to allow me to say a few words at parting from the large circle of my very kind friends which it has been my good fortune to secure during my stay in the Northern Territory.

Notwithstanding that I arrived here under the stigma of being a ‘Victorian and a stranger’, I am of the opinion that I have made myself as much at home here as any real South Australian; and I must say, to the credit of the common sense of the latter, that the place from which I hailed has never been imputed to me as a crime.

So long as I am in the service of the province of South Australia I shall do my duty – as I trust I have done hitherto – honestly and loyally to the State that employs me.

For the last twenty-three years I have been in correspondence on industrial and scientific subjects with all the Australian colonies, and it has never entered into my thoughts to consider where a man lived as a bar to doing simple justice to his merits.

I observe with satisfaction that £100 000 is placed upon the South Australian estimates for immigration, but, Sir, surely a person who comes from Great Britain, Ireland, or Germany is a greater stranger than he who arrived in the province from Victoria, New South Wales, or any of the adjoining colonies, with a view to better his condition. What is the use of talking about intercolonial free trade, federation, and bands of Australian brotherhood, while at the same time we are cultivating and fomenting a spirit of intercolonial personal jealousy?

Sir, if I want a man to do any special work, I try to get the best man, irrespective of his home country, or the colour of his hair; and this, I take it, is the most honest policy to be adopted by individuals, or by corporatons, or by governments. The English people are not clannish, and why a colony should endeavour to foster a national feeling which is altogether incompatible with the cosmopolitan advancement of the present day, it is difficult to say. Anything approaching the vulgarity of ‘no Irish need apply’ is alike impolitic and uncharitable. Again thanking the public of the Northern Territory for the courtesy they have uniformly shown me, I bid them a regretful farewell.

I am, Sir, &.

J.G. KNIGHT 22
Whilst in Adelaide, Knight applied for the position of Warden of Goldfields at £310 a year, rendered vacant by the resignation of Plunkett. Possibly he was unsuccessful in finding a suitable post in the southern States; possibly he was still strongly attracted to the Territory. His appointment was approved and he took up his new duties with headquarters at The Shackle in February 1876. Within a few days he set out on horseback to do a complete tour of the fields to see at first hand what problems faced him. All the claims were in a tangle and there was not even a copy of the mining laws in his office. The latter fault was rectified and the Government also approved his request for some textbooks on mining and geology.

He saw as a priority the necessity to forfeit unworked claims, which were held for speculative purposes, but found that only the Chief Warden could initiate the action and this post had been abolished. The Government then designated Knight Chief Warden of Goldfields, but with no addition to his salary.

Initially Knight spent about three years at The Shackle under conditions as described by Newman, but he did have some assistance, namely a Chinese cook. During this period he acquired a knowledge and understanding of the problems which he was to apply later in successively higher positions up to the office of Government Resident. In his official dealings with the miners Mr Knight had a simple but effective style so that he could take from one and give to the other without either feeling he had lost or won very much and in this way quickly won the respect of the goldfields' populations. It is quite clear that it was Knight who restored order to mining administration and brought back respect for his office and the law.

The wet season again interrupted the operation of the now relatively few companies, partly because of the difficulty of keeping the mine workings free of water and partly because the roads from the mines to the batteries were almost impassable. According to Chief Warden Knight's report, by April 1876 there were only three companies left in the Territory with anything approaching adequate means – The New Telegraph Company at Pine Creek, Prospector's Company at Union and Albion Company at the Howley. Most of the other mines were being worked by small parties, mainly on tribute. A new company had been formed in Adelaide to take over the mines and plant of the late Kapunda Yam Creek Company, as well as a valuable claim at the Union, with W.K. Griffiths as manager, described by Knight as having three excellent qualifications: experience, energy and an objection to extravagance. The Albion Company at the Howley had been formed by a small party of working shareholders. They had the John Bull and a five-head battery, purchased from the old Palmerston Gold Mining Company.

With mining so depressed, Lewis left the Territory early in 1876 but retained some interests, the main one being his station on Cobourg Peninsula. After 1874, reports on his activities are scanty. He seems to have spent a good deal of his time at Port Essington, where he built a residence, and some time on the goldfields, mainly Union Reefs. At the end of 1875 a large quantity of material, including several tons of sheet iron, harness, shovels, spring carts, wagons and drays, was auctioned on his behalf. After leaving the Territory, Lewis corresponded with several people, including Paul Foelsche, with whom he had formed a lasting friendship. Foelsche appears to have been Lewis' local agent for the Port Essington interests, paying bills...
and furnishing reports. In one letter Foelsche said, in relation to a dispute, “I have handed the affair over to Solomon to settle as it will not do for me to appear in court for the company”.25

In his new position of Warden, with headquarters at The Shackle, Knight made positive suggestions to the Government Resident on ways to advance the industry. In 1876, during his term as Warden, the “Miners Arms” hotel at The Shackle became vacant and this he converted into what became fondly known as “The Miners’ Hospital”. Years later, men spoke with admiration of this man who gave them their first hospital and told of both the benefits and handicaps of necessary government control. There was no resident medical officer on the goldfields in 1876, the nearest doctor being at Palmerston, several days’ journey away. Knight, from a study of medical books, took upon himself the task of care of the sick and injured as far as he was able. Fever was prevalent and there are many references to Knight’s nursing of such patients in the Miners’ Hospital, as well as removal of bullets and spear-heads and the setting of broken limbs. He treated all alike, rich, poor, European and Chinese, seeking advice on treatment from the Government doctor in Port Darwin when a case was beyond his knowledge, but, communication being slow, sometimes seriously ill patients died before the reply came back. The general conclusion is that Knight was universally respected on the goldfields, almost to the point of reverence.

Whilst Knight was a very kindly man, he was determined that the goldfields should be developed. He had no sympathy for loafers and it was not long before he noticed that certain of the more indolent waited around until a genuine digger found a payable claim and then moved in to peg around it. He therefore issued the following notice, simple in style but effective:

To the Miners of Grieveson’s Gully, &c. – The Warden observes, with great regret, that the amount of actual work lately done on many of the claims is not at all in proportion to the number of men supposed to be engaged thereon. On his last visit, the Warden did not see more than one-half of the hands who ought to have been digging, so employed on their claim-ground. In the interest of bona fide miners, the Warden is determined, so far as it is in his power, to alter this state of things, and to support those who are disposed to work in an earnest and business-like manner.

He does not object to granting ‘suspension’ on any reasonable cause, but he will not encourage the shepherding of claims, nor leaving them from day to day for the purpose of drinking.

The Warden will not give facilities for men to squander away their money, or waste their time; and in future, when he finds them leaving their claims to ‘go on the spree’ or otherwise absenting themselves without good reasons, he will declare such ground forfeited, in accordance with By-law, Sections 61 and 62.

He cannot see the sense of two or three mates getting £10 worth of gold and spending £12/10/- to commemorate their luck.

The Warden deems it his duty to give the above warning, which is done solely for the welfare and advantage of the mining community.

Warden’s Office, Shackle, 31 March 1876.26
As Warden, Knight also recommended a Government reward of £1000 for the discovery of a viable alluvial field at least ten miles from any existing field. He said that the limited known alluvial would not support 160 or more diggers for long. Knight also reported that the want of provisions was severely felt throughout the mining districts, many of the camps having been out of preserved meat for weeks, with flour, tea and sugar being the main items of diet. Boulli (bully) beef and flour had recently been brought in on pack-horses, costing two shillings a pound for the former and one shilling a pound for the latter – it would need a rich claim indeed to support such prices. No doubt thinking that to include such matters in an official mining report might incur the wrath of the authorities, the Warden concluded his report with the sentence: "My simple desire is to enlarge and improve the mining interests of the Territory with which I am officially identified and, if I conceive any reasonable means of effecting that end, I deem it my duty to submit my ideas for what they are worth."27

In February 1877 the new Government Resident, Mr E.W. Price, announced that £500 would be paid to the first discoverer of a payable goldfield not less than five miles from an existing field, provided it first produced 5000 ounces of gold.

The Government continued to show its interest in improving conditions, as far as its limited budget would allow. In 1877 it approved a sick ward for the goldfields and purchased Ryan’s old hotel for the purpose. A medicine chest and medical books were supplied and the sick were to be cared for by the Chief Warden (Knight) on the express condition that they did not become a charge on Government funds. A gold escort was established, consisting of a trooper and horses at a charge of sixpence an ounce. These actions demonstrated that although the Government had little money it certainly had faith in the Territory and its mineral deposits.

On the spiritual side of things, the diary of the Rev. Archibald J. Bogle, a Methodist minister, reveals that he regularly preached at the mining centres, travelling partly by coach and partly by horse, during the years 1875 and 1876, when he returned to South Australia. His trips were not without hazard, as one entry in the diary indicates: "My horse fell down a 10 foot hole. Many men about and got him out - Sandy Creek."

The diary entries for a few days in October/November 1876 are revealing:


Travelling expenses 15/-. The men, though so godless are wonderfully kind – even the publicans. Though I am no friend of their miserable business they will as a rule charge nothing for my entertainment.

At the end of 1876 the mining population consisted of 259 Europeans and ninety-seven Chinese. By the following year all the mines and machinery were in the hands of local working proprietors and thus free of Adelaide office costs and other
overheads. The fine crushing plant at Pine Creek had been bought by Frank Duncan, who let it on tribute to Whitelaw and party at fifteen percent of gold won. The genuine miner and prospector was not influenced to any great extent by stock exchange booms and company promoters. As companies liquidated, the genuine locals took the opportunity to buy good plant cheaply, which in other circumstances they could not afford.

As Chief Warden, Knight prosecuted the forfeiture of unworked leases. One effect of this was to free most of the Union leases, which had been tied up for years by speculators. Genuine miners were thus given a better chance, particularly as the few leases which were not tied up by absentee owners had been worked with very good results. When taking this action, Knight said that he never initiated forfeiture until he was satisfied that the ground would not be worked. This having been done, he then detected a tendency for European claim-holders to tribute their leases to parties of Chinese, so obtaining profits without doing any work themselves. He then made two important suggestions. Firstly, recent yields from the Union and Pine Creek were such that a moderate number of experienced miners could make a useful living on some of the forfeited claims, provided each had an outlay of £20 to £30 for provisions to give them time to prospect the reefs. Secondly, he said that the Minister should be told that another 100 Chinese coolies could be profitably employed on the reefs.

The tail-end of the wet season in March 1877 included one fall of five inches in twenty-four hours and it was said that, the habitations on the goldfields not being substantial structures, the inmates preferred to stay outside in time of flood rather than risk becoming entangled with floating furniture, such as it was. Roads under these conditions were impossible for teamsters and those who had erred in their judgement of the weather and set out with loads were likely to have their wagons and drays hopelessly bogged in the black soil mud for weeks at a time. One such teamster was caught with a load of onions and, faced with a long delay, he planted them by the roadside and used the developing tops for salads. The flooding was very severe and the mailman’s packhorse was swept away and drowned. Had it not been for the courage of the local publican, the mailman and at least three others would have drowned as well as the horse. At the Bridge Creek Hotel the water rose as high as the bedsteads and the only way to sleep was in hammocks slung from the rafters.

The years 1878 to 1881 saw little increase in reefing, due mainly to lack of capital. Several of the batteries brought in by the early companies were now owned by local Europeans and they crushed intermittently, either because of lack of water or stone or while awaiting spare parts. The exception was the Union, where, at one stage, Johns’ battery was working day and night on stone mined by European and Chinese lessees or tributers. The same period, however, saw several more alluvial discoveries. The Fountainhead field and several of the gullies around Yam Creek gave good returns and in 1878 Manuel Gomez found a new area, later known as the “Chinaman’s Rush”, on the Margaret River. He did not work it at once, owing to his commitments as owner of the Granite Crossing Hotel, and it was for this reason mainly that his claim for the £500 reward was refused. He later set forty-three Chinese to work on the ground with good results and by early 1879 thirty Europeans
and 400 Chinese were on the field, all making fair returns. According to the Government Resident's report, quite a few of the Chinese made fortunes by their standards, sufficient to enable them to return to China and set themselves up in business. This set off a wave of Chinese migration to the Territory resulting in an 1880 goldfields population of 150 Europeans and 1500 Chinese, further increasing to 4108 Chinese in 1881, mainly on alluvial ground.

The gold escort derived not from bushrangers but from sporadic attacks by Aboriginals. The mining population was most distressed when James Ellis, a very popular teamster, was attacked, the jury at the inquest bringing the following verdict:

The jury respectfully desire to call the attention of the Government Resident to the fact that it would be futile to look for the actual perpetrators of this barbarous outrage, and that the only available retaliation is to give a lesson to the tribe. They therefore recommended that instructions be given to the police to track and disperse the natives, and that volunteers be allowed to accompany the troopers. The jury feel that if this outrage on the high road be allowed to go unpunished, the lives and property of those living in the country will be at the mercy of these savages.

Some of the friendly blacks said at the time that "Long Peter" had killed two whites and one Chinese and that he also murdered James May, not far from the spot where Ellis was butchered. There was a strong suggestion that these informants should be chased up and Long Peter be "interviewed". A search party of a dozen horsemen assembled at the Granite Crossing and started on the tracks of the tribe. Police Troopers Stretton, Rodda and Farrell were also out in pursuit with the intention of taking "salutary action". At the same time advice was given to the single men to give up their flirtations with the wives and daughters of the ebony race, indicating that perhaps some of the whites had trespassed too far. The search party caught up with members of the tribe, still in possession of stolen flour, sugar and wax matches, who turned out to be very well known at Union, Pine Creek and Yam Creek, where they were employed and paid with flour and tobacco. On returning to The Shackle, the troopers had to leave at once to investigate the murder of two Chinese at Pine Creek, again by blacks, whilst Mick Mallon, another teamster, had a very lucky escape on his last journey to Pine Creek.

A warrant was forthwith issued for the apprehension of Long Peter, dead or alive, with the arrest being made some months later. The sentence was eight years' hard labour, the first fourteen days of each year to be in solitary confinement.

In February 1878 the Aboriginals were attacked by a severe fever, but they received little sympathy from the diggers. The general feeling was that they had been treated with too much kindness, since there were few miners whose huts had not been pillaged. Wahib, the Afghan teamster, had his place robbed four times and on one occasion lost four ounces of gold and a lot of valuable Indian scarfs, turbans and other fine apparel he had bought so as to make a fitting appearance at Residency parties.

Partly because of the risks involved and partly because of the state of the roads and crossings, the teamsters' charges were high. In 1879 the ruling rate was £50 per ton from Southport to Yam Creek, with higher rates in the wet season and for longer
distances. There is one report of a Chinese storekeeper at Pine Creek having seven
and a half tons of goods delivered on New Year's Day at a cost for freight of £70 a
ton.

According to reports in the "Northern Territory Times", typical prices at the Union,
about midway between Yam Creek and Pine Creek, were: flour and rice, each one
shilling a pound; sugar, one shilling and sixpence; and meat, two shillings. The latter
was provided by cattle overlanded from Queensland and the price varied according
to the frequency of arrival of fresh supplies. In 1879, however, Mr Gordon McKean
was sent by stockowners Travers and Gibson to select a site for a cattle station close
to the goldfields, and "Glencoe", close to Fountainhead, was his choice. In a way
then, mining was the initiator of the Northern Territory cattle industry. "Glencoe" was
the forerunner of other stations, and the miners now sensed a change from the usual
diet of boiled tinned sheep or boiled bully beef. Alonzo Brown, the "Northern
Territory Times" correspondent, expressed the general view: "Give us cheap and
palatable food through the agency of the squatters; give us a railway and therefore
cheap appliances for working our reefs and alluvial goldfields; give us a good ship
jetty at Port Darwin and then the White Elephant will earn not only its own living but
earn some profit for the parent State". By the following year the price of beef at
Yam Creek had fallen to sixpence a pound. Improvements by the Government to
roads and bridges and increased competition resulted in reductions in teamsters' 
charges.

The Government had also improved conditions in other ways. A proper hospital had
been built in Palmerston, as well as one at Yam Creek, but for the latter the local
populace was now only required to meet one half of the maintenance costs. Police
stations existed at Palmerston, Southport, Adelaide River, Yam Creek and Pine
Creek, as well as police camps on each goldfield. There were post offices at most
of these centres. The South Australian Government, however, had concluded that
its hopes of a rapid increase in population and general progress had not been
realised. Gold was the Territory's only product, with most obtained by Chinese, and
the concept of Palmerston as a free port had failed. The European population had
actually diminished and the local administration was an increasing financial burden.
The Government therefore decided that the Territory's population should bear some
part of the administrative costs and accordingly imposed an export tax of two
shillings and sixpence an ounce on gold and customs duties of £1 a pound on opium,
as well as duties on rice, salt, fish, sugar, spirits, beer, tobacco and a range of other
items.

According to the "Northern Territory Times", there was a new rush to Bridge Creek
in 1881 and, within a few weeks of its discovery, 100 Europeans and 1500 Chinese
were there, mainly from the Chinaman's Rush field. Later in the year D. B. Tennant
was given the Government reward of £500 for his discovery of the Margaret Rush
field the year before. There had been some increase in reefing, with two batteries at
the Union and with the Yam Creek battery supplied with ore from several nearby
claims, some of which were very rich. The most promising claim, however, was the
old Telegraph and Kohinoor at Pine Creek, held by Olaf Jensen. Jensen first arrived
in the Territory in 1879, with a small capital, and bought mines from John Lewis. As
he thought, they showed promise, so he then took up the Kohinoor and Telegraph,
leased the old machinery and managed to acquire some substantial capital through his mining operations. In March 1881 he bought the plant and lease outright, paying £2000 for machinery which originally cost £14 000. Jensen now had capacity to crush 1000 tons a month and anything over half an ounce stone had proved to be payable. As some of his claims had much richer values, his future seemed assured. He paid his European miners £5 a week and Chinese £2 to £2/5/-.

At the same time there were signs of revival in other areas. The John Bull’s owners struck good ore and the proceeds enabled them to buy Newman’s old battery and move it from Yam Creek to their mine. Then the first of the English companies bought the Rosalie claim at the McKinlay and equipped it with a battery. The formal christening of the battery was quite a social occasion, visitors from mines and cattle stations in the surrounding district arriving in buggies and traps of all descriptions. A bottle of the best champagne was balanced on top of the battery’s bull-wheel and dashed into a thousand pieces when the machinery was set in motion. The guests were entertained with champagne and other refreshments until a late hour.

The year 1881 was significant because of the discovery of tin by D.B. Tennant and J. Quirk at Mt Wells, a large hill rising several hundred feet above the surrounding countryside not far from Burrundie. Solomon and Samper joined the discoverers in the Pioneer Tin Co., which set about eighty Chinese to work. Within a few months they had sixteen tons of alluvial and two of reef tin ready for despatch to Sydney. As soon as news of the find reached Adelaide, that city’s leading speculators quickly floated two companies, which pegged all around the original claim and then unsuccessfully attempted to take over the latter on the grounds that the description was too vague.

According to Ruth Kerr (John Moffat’s Empire), David and Isaac Daniels, with George Baker, owned the Monarch and Leviathan tin mines at Herberton, which were floated. Burns and Philp, two large shareholders, soon became dissatisfied with the Daniels’ management and it was then that the latter moved to the Territory, both to be prominent in mining circles for many years.

Sometime during 1883 the Daniels bought out Solomon’s and Samper’s share in the mine and carried on recovering tin in a primitive way with Chinese labour. This was followed by the purchase of a steam-engine and ten-head battery from the Howley. The following year they tried to interest John Moffat in the mine. He sent up his cousin, Peter Moffat, but turned the property down. Later in the year they succeeded in interesting Sydney capitalists, the result being the floating of the Port Darwin Tin Co. with capital of £120 000. W.H. Matthews was appointed as manager and George Baker as superintendent. The latter left for Melbourne to supervise the manufacture of machinery, which was to be the most up-to-date in Australia.

Following another rich find of tin by George Barrett, when he was out shooting kangaroos near Mt Shoobridge, financial circles showed renewed interest in the Northern Territory during 1882. The Grove Hill Company was floated in Adelaide with claims embracing the Princess Louise, Westcott’s bonus lease and three leases at the Union. Two more companies were floated to take up tin leases at Mt Wells, and the Spring Hill Goldmining Company was launched. An English concern,
Arnheim Goldmining Company, bought the Virginia mine near Stapleton and soon had a twelve-head battery and a shaft down to 152 feet. The United Goldmining Co. found a rich reef at the Twelve-Mile McKinlay. The owners of Extended Union floated it into a company, admittedly a small one, the float being notable because all the capital was subscribed by residents of the Northern Territory. These developments indicated an increasing interest in the mineral wealth of the Territory and interest was further stimulated when Houschildt and Roberts discovered rich copper ore not far from the banks of the Daly River.

Possibly due to this revival of interest in the region, a South Australian Parliamentary Delegation visited the Territory in 1882 and toured the mining fields. It was led by J.L. Parsons, the Minister for the Northern Territory, and set out with a cavalcade of twenty-two horses to cover the mining fields, being escorted by Mr Knight, who was also in charge of the commissariat. This visit received prominent coverage in the South Australian "Register", which included the following description of Southport:

It is pleasantly situated and boasts, in the way of public institutions, a telegraph office, a police station and a cemetery. There are two public houses and a couple of stores — branches of importing houses at Darwin. The only other English places are the smithy and the saddler's shop. Twelve stores are owned by Chinese, of which there are about a hundred in the township. There is neither a doctor nor a chemist. There are a few flourishing Chinese vegetable gardens and plenty of fish.

No schools, no religious services. The horse and bullock teams, which do no work from December to April, make it their terminus, and the mail contractor has his headquarters, getting the mail by steamer from Darwin — it runs down one day and back the next. By the coach in the dry season and by it and packhorse in the wet, the weekly mail is carried between Pine Creek and Southport once a week.

The Delegation also noted that the Miner's Hospital had caved in and that none of the wardens since Knight's departure had carried on his work with the sick. The Shackle was on its last legs and Mr Nash, the Deputy Warden, was also Resident Magistrate as well as several other "et ceteras". The Yam Creek Hotel was described as the best one in the Territory and it was graced by a young white lady — very rare in those parts. Port Darwin Camp was the principal township in the Yam Creek district, with a population of whites, Chinese and Aboriginals. Here were two of the largest stores in the country, one owned by James Johnstone, who also ran the post office, and the other, half a mile away, was owned by the Griffiths Brothers. What could not be bought at one store could be bought at the other, from a pair of gloves to a steam-engine, and at prices nobody could grumble at. At the Margaret Rush, O'Toole and Mathers had opened a butcher's shop and Maddocks a smithy, whilst the Rev. Moncrieff preached at the police camp and twenty-five Europeans attended.

The party also noted that there was a total of nine batteries in the Territory, nearly all defective in some way and most losing up to one third of the gold. They concluded that there had been no really systematic mining or indeed testing at depth. Only three batteries were working, the rest having been idle for some time. It estimated the total population of the goldfields at 230 Europeans and 2200 Chinese.
Ralph Tate, Professor of Natural Science in the University of Adelaide, accompanied the party and concluded his observations of the mining industry in the following terms:

To develop the gold resources of the Northern Territory it is necessary that more capital be introduced to be chiefly applied to improved machinery for the extraction of the gold, and to cope with water; more experienced and honest management be secured, and a reduction of working expenses be effected.

Of the batteries the Professor said:

The batteries which I examined are discreditable; they are all the same pattern and no attempt has been made to adapt them to particular requirements. There is a total absence of labour-saving appliances. All the batteries I saw at work are in the highest degree wasteful; the slimes in every case are highly charged with amalgam...I do not hesitate to estimate the loss of gold at fifty to seventy-five percent.34

He went on to say that a railway was essential to lower transport costs and to make the country accessible to mining and other speculators.

Activity on reefs and the extension of cattle holdings had its effects on Palmerston as the supply centre. E.W. Price, the Government Resident, reported early in 1883 that some fine buildings had been recently erected – P.R. Allen’s store, measuring eighty feet by thirty feet, with a stone front and a large bulk store adjoining; the E. S. & A. C. Bank, an iron building imported from England to replace the earlier one, which had been eaten by white ants; a row of three stores owned by Sun Wah Loong on the Esplanade; new Government buildings built of cypress pine; and a fine town hall built of stone and designed by Knight.

Whilst Palmerston and the other main centres were well established, the total population was still very small and the number of police was few in relation to the vast area over which the mining population was spread. The dangers of working in isolated areas were shortly to result in real tragedy at the Daly River. Houschildt’s and Robert’s copper show had proved very rich, but it was in wild, inhospitable country and several days’ journey from Rum Jungle, the nearest centre of habitation, apart from one small cattle holding. The two finders were joined by two mates, Noltenius and Landers, plus Schollert, a cook. The men worked away during 1884 amassing a pile of ore, which they intended shipping down the Daly River and thence to southern smelters. In September, however, Aboriginals attacked them without warning. Noltenius and Landers were drilling when Landers was speared from behind and Noltenius received a wound from a barbed spear which passed right through his body. Harry Roberts was felled with a hammer by a “friendly” Aboriginal who had worked with him for some time. Despite their wounds, Landers and Noltenius managed to reach the hut, where they found their cook, Schollert, speared to death. Roberts, whom they had assumed was dead, now appeared at the door with a bad head wound and it became his task to remove the spears from his friends. One had entered Landers’ body close to the spine and gone right through. It was an easy task to cut the spear at the back and pull it out, but the sufferer died very soon after its removal. To remove the barbed spear from Noltenius, Roberts had to cut, twist and probe, but when he extracted it, he found that the point had
broken off and the sufferer was in no condition to undergo more probing and cutting. All this time Roberts' head wound was bleeding profusely, so he paused, applied flour and tied it up with a handkerchief. This was effective in staunching the flow of blood.

Two of the party of four now remained, both of whom were badly wounded and with the nearest white people forty miles away at the old Daly River Cattle Station. They decided to go there for assistance and left that night, but only covered a short distance when Noltenius collapsed at a spot since named Noltenius Billabong. Roberts covered his friend with a mosquito net, left him a dog and a gun and continued alone.

After covering another fifteen miles, Roberts arrived at another billabong, believed to be Swamp Billabong, where he came upon some Aboriginals with horses. After coo-eeing for a while, Roberts managed to lure the Aboriginals to him and, when they were within close range, he forced them at gunpoint to give him one horse, which he mounted, and then made them ride in a straight line ahead of him to the cattle station. There he was kindly received and had his wound treated. Saxe, the station manager, set out at once to help Noltenius, whom he found alive but beyond hope as gangrene had set in. The man took a little nourishment, but died shortly afterwards.

Meantime Houschildt was prospecting alone some miles from the mine and within a day or so he too was attacked, dying in his lone camp from his spear wounds. Roberts survived his head injuries, living on for another twenty-one years till 1905, working his Extended Union gold mine and later managing other operations. His headstone can be found today in a tree near the site of the Extended Union.

When news of the murders reached the Government Resident, he sent out a party under Trooper Montague and obtained permission from South Australia for volunteers to join the hunt for the murderers. Whilst reports at the time were somewhat conflicting, it is fairly clear that many of the Aboriginals were shot and that the few who escaped did so by hiding in the billabongs. Four Aboriginals were arrested and, after the trial at Palmerston, executed close to the spot where the murders took place.

The Daly River murders and others at Argument Flat, near Rum Jungle, prompted the Government Resident to refer to the Aboriginal question in his quarterly report to Adelaide as follows:

I fear unquiet times may be expected in connection with native tribes. The blacks are beginning to realise that the white man, with his herds, and his fences, and his preservation of water, is interfering with what they, properly enough, from their point of view, regard as their natural rights. Their hunting grounds and game preserves are being disturbed, and their food supply both diminished and rendered uncertain. They can no longer, as they could a few years ago, travel from one lagoon to another, and be certain that on arrival there would be flocks of wild fowl to be snared. Nor can they, as of old, when they desired a repast of snakes, iguanas, or other reptiles, set fire to the first piece of well-grassed country they encounter. The stockholder uses the billabong for his cattle, and wild fowl are scared away; he wants the grass for his cattle and very vigorously
lets the blackfellows understand that it is at their peril they put the firestick to it. Naturally out of these conditions conflict arises and will continue. The natives will resist the intrusion of whites and regard themselves as robbed of their inheritance; they will set the grass alight when they are so minded, and, if hungry or by way of reprisal, they will spear cattle when they think they are out of range of the rifle. How to deal equitably with these Aboriginals — how, while facilitating the settlement and stocking of the country by Europeans, at the same time so atone for what is an undoubted loss of food supply in consequence to the natives, is a problem much easier to state than to solve. That settlement and stocking must and will go on is certain — that outrages will be committed by both sides is probable; but even those who do not claim to be philanthropists are not satisfied with the contemplation that the blacks are to be improved [sic] off the face of the earth.

It appears to me that reserves but imperfectly meet the case — though large reserves ought, I think, to be proclaimed — because native life is essentially nomadic, and because the imperious demands of hunger take him where the water-lily roots, yams, and game are to be found. Serious and unhappy conflicts can only be avoided by a strong sense of justice and consideration for the natives on the part of the Europeans, and probably not even then.

The subject has been forced upon public attention by the recent outrages on the Daly River and at Argument Flat. It is still more deeply impressed upon me by the intelligence which reached me from station managers and drovers. At the Katherine, Eisey, and Newcastle Waters, difficulties have arisen in connection with the blacks and cattle. Mr Lindsay Crawford states that on the Victoria the blacks are daring and defiant; Mr Creaghhee states that at the Limmen River they are spearing his cattle, and that he must take measures to prevent recurrence; Mr Hay states much the same condition of things as existing on the Roper, where one or two of the natives have firearms.

The arrival of the force of black trackers will give us a very valuable adjunct to the police force in bringing offenders to justice, but no number of trackers or of police that could be organised can prevent outrages over the immense area of country which is now being stocked.

At present I can but state the difficulty, and do the best as circumstances arise.35

The foregoing is clearly one of the most important statements that far made on Aboriginals.

In 1883 the South Australian Parliament passed an act authorising the construction of a railway from Palmerston to Pine Creek, to the delight of the mining population in the Territory, who saw an end to the exorbitant charges for freight and to the dangers of the road journey. This news came just as the Government Resident’s surveyors completed surveys of the new roads throughout the mining fields. The official view then was that prudent directors would await the coming of the railway rather than expend money unnecessarily on high freight. As it transpired, 1883 and 1884 were years of very low rainfall, making any form of mining difficult or impossible.

In 1883 the Daly show was floated in Sydney with £8000 nominal capital, of which the vendors received £1000 in cash and £4000 in fully-paid shares. The same year
Clyma and Love discovered galena with a high silver content. A Mr O'Connor bought it and soon after floated it in Sydney into the Eveleen Silver Mining Company. Cruickshanks and Barrett sold their claim at Mt Shoobridge to a Sydney company, which sent up an "expert", but, instead of sinking a shaft, he exhausted his budget on costeans and then condemned the property. Solomon then bought the property cheaply and within a few weeks obtained thirteen tons of seventy-percent tin ore. With Phil Saunders he found more rich tin lodes less than a mile away.

This was the V.L. Solomon who arrived as a twenty-two-year-old on the "Gothenburg" in 1873 and by 1884, after working hard at mining, construction and agencies, had become one of the leading citizens. He had his ups and downs, the most notable being when a bad season and the inability of his clients to pay resulted in the collapse of his store business. He built it up again and also bought the "Northern Territory Times", which had a reputation for objective and fair-minded reporting. A story was told of a man who went to Mr Solomon's store to buy a pith hat. On his complaining at the appalling price, Mr Solomon took him through his books to prove that not only was the price reasonable, but possibly too low to give him any profit. Tracing the path of the pith helmet through the books was not easy, as there were cash books, journals, ledgers, daybooks, books of single, double and treble entry, through all of which the hat was chased. The ruling price in Singapore was three shillings, but there were charges for freight, fire risks, insurance against white ants and mildew, for rust and Russian war risk, for lighterage, cartage and several other minor items, which eventually resulted in the price of £1/5/-.

At the end of 1884 the Government held an auction for townsites at Burrundie, which it had surveyed as a suitable site for the main township on the goldfields. It was then centrally situated, being within one or two hours' travel by horse of Yam Creek, Union and Pine Creek and only a few miles from Mt Wells. The allotments went for between £20 and £70, all to local residents, allaying the fears of J. Langdon Parsons, the new Government Resident, that speculators might move in. A hospital building was erected there by the Government. Transport to the mining fields was by Haines Royal Mail Coach, which left Southport at 6.00 am Sundays and returned from the Union at noon on Tuesdays, the fares being:

<table>
<thead>
<tr>
<th>Route</th>
<th>Fare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rum Jungle</td>
<td>£1/5/-</td>
</tr>
<tr>
<td>Adelaide River</td>
<td>£1/12/-</td>
</tr>
<tr>
<td>Bridge Creek</td>
<td>£2/10/-</td>
</tr>
<tr>
<td>Howley</td>
<td>£2/12/-</td>
</tr>
<tr>
<td>Port Darwin Camp</td>
<td>£3/0/-</td>
</tr>
<tr>
<td>Twelve-Mile McKinlay</td>
<td>£4/0/-</td>
</tr>
<tr>
<td>Union Reefs</td>
<td>£4/10/-</td>
</tr>
</tbody>
</table>

Parcels were carried at two shillings a pound, rising to four shillings a pound if the contents included glass bottles, and with each passenger being allowed twenty pounds of luggage.

Travelling in the wet season was considered dangerous for a lone horseman and there were many reports of drownings at flooded crossings. One such was James Devin, who not long before had bought the Extended Union cheaply when the Extended Union Company's funds were exhausted. Devin had gone to a farewell to
Mr Roberts, intending to return that night; but after he started the river rose. Next morning a Chinese man reported a riderless horse in the middle of the river and a search found Mr Devin's body high in a tree, some 300 yards downstream.

The year 1885 was one of mixed results. It began with unusually heavy floods which brought most work to a standstill. There were no new alluvial finds and most of the Chinese eked out a living by fossicking over the old diggings. Charles Nash, the Warden, reported that most of the reef mines had reached a depth which required pumping machinery and few owners had enough capital for this. Working expenses were high, average charges for carting and crushing being £1/10/- to £2/10/- a ton, and to this had to be added the cost of raising stone and living. His conclusion was that even one-ounce stone was barely profitable. The Spring Hill Company crushed 1535 tons for 2002 ounces of gold, but ran into financial trouble when the manager ordered a steam winding-engine to replace the horse whim. Due to an error, the engine that was delivered was totally unsuitable, as it was a vertical engine without reversing gear or winding drums. This purchase exhausted the company's funds and the directors decided to suspend operations until the railway was built, believing that capital would be more easily raised then. Warden Nash expressed the view that, if the plant was left idle for any lengthy time, the white ants would ruin anything made of wood and "other agents" would demolish the deserted buildings and machinery and even the mine itself. In the event, for whatever reason, the company never revived and years later some Chinese bought the battery and moved it to Woolwonga.

In 1884 a Sydney syndicate bought the Daly River copper mine for £1000, but instead of developing it in a workmanlike manner, let a contract to E. Marker to raise 2000 tons of ore and deliver it to Newcastle for £7/10/- a ton, the ore to yield at least twenty-eight percent copper. The syndicate made a good profit, but Marker lost on the deal. Transport costs were ten shillings a ton from the mine to the river, £1/5/- from the river to Port Darwin and £1/5/- from there to Newcastle. The syndicate then worked the mine as cheaply as they could for a period and then sold out for £1000 to a local group headed by Adcock and Brown. These then hand-dressed 635 tons, for which they received back their initial outlay and a dividend of £200 a man.

Solomon pegged leases at the Wheal Danks, adjoining the Daly company. Machinery for the Port Darwin Tin Mining Company reached Mt Wells, the company having decided to bear the high cartage costs and begin production rather than wait for the railway.

At Pine Creek, Jensen had expended some £20 000, all of which came from his Eleanor lease, and he now had a first-class battery with the latest gold-saving machinery. He had also constructed cottages for his workmen. Mining at the Eleanor had been cheap, with the mine being an open-cut some 140 feet long and forty deep, which exposed two quartz leaders carrying good values. Further mining, however, would have to be by underground methods and Jensen had begun to sink the necessary shafts.

Tenders were called in 1885 for construction of the railway and this probably contributed to the generally stagnant mining situation. Whilst there were a few exceptions, such as the Daniels at Mt Wells and Jensen at Pine Creek, who worked
on steadily, most of the companies and miners decided to hang on to their leases. They only did enough to retain the leases in the case of the former and to "make tucker" in the case of the latter, both groups looking forward to the substantial reductions in costs which the railway was expected to bring.
"The Miners' Hospital", Yarn Creek, 1879.
The "Gotenburg" in port.
CHAPTER 3

The Chinese in Northern Territory Mining: 1875–1925

As the rush mentality subsided, it came to be recognised that the high costs generated by climate and terrain would transfer to those of the labour force that would be needed to handle the known mines and others which might be found. Cheap Chinese labour had long been employed in Malayan tin mines and in California and, more recently, during the mining booms in Victoria and other States, so that there was a partial understanding of the problems involved in using such labour. Then, as now, problems were due to human frailty on both sides. The Chinese immigrants brought with them their own customs, which were not understood, and were handicapped by the language barrier. These two facets caused them to keep to themselves, so generating distrust and resentment in the minds of their European contacts, which culminated in serious riots at Young and Lambing Flats in New South Wales. Legislative action became necessary and the Victorian Government applied restrictions to Chinese immigration. This was countered by the Chinese disembarking at Adelaide and walking to the Victorian fields, which then led to similar restrictions by both the South Australian and New South Wales Governments.

Continued friction in the southern States caused the Chinese to migrate northwards as new finds were made. With further immigration, the numbers built up from 2000 in Victoria in the early 1850's to 25 000 in the Palmer River field of Northern Queensland, this being the greatest concentration on any Australian mining field. These figures proved that ethnic differences were far outweighed by the fact that the Chinese had continually shown themselves able to endure long hours of hard labour under the most adverse of conditions, which would not be accepted by the average European. The peak was reached in 1873, the year in which Northern Territory mining was taking stock of itself for the first time.

In the recruitment of Chinese labour the "credit ticket" system was extensively used, although there was still some "free" emigration. As the system developed, from the early 19th century on, a powerful class of Chinese merchants emerged. Of the system, H.A. Firth, an emigration officer at Calcutta, wrote in 1875:

A Chinese merchant in Australia, for instance, wants eight hundred or ten hundred coolies for the gold diggings: he sends the order to his merchant-friend in Hong Kong who procures the coolies, charters the steamer and despatches her with the people. The steamer is fitted and provisioned by him in strict accordance with the Act of Parliament and under the eye of the emigration officers in Hong Kong, and the emigrants are examined and passed by the health officer. There is no difficulty in getting the coolies; any well-reputed labourer is eligible, and the real trouble is to prevent too many getting on board. Security is furnished to the Hong Kong merchant before he issues the passage ticket; and, if the coolie fails to embark, the money is recovered from the sureties, generally relatives or fellow villagers. On arrival at Australia the coolie is received by the merchant who sent the order and is put to work under a Chinese foreman.
Deductions are made from his earnings until the cost of his introduction has been refunded. There is no written contract and no recourse to law courts. The whole transaction from beginning to end is arranged by the Chinese in their own peculiar fashion to the mutual profit, no doubt, of both merchant and labourer. Though there is no visible contract on paper, the employer does not hesitate to advance the costs, as he feels confident there will be no evasion or breach of the verbal engagement by the coolie.

No people other than Chinese could manage an extensive emigration on such a loose basis. Their excessive clannishness, the secret power of their guilds, and the wonderful social combinations with which they surround and secure on all sides the repayment of debts, enable them to do this.\footnote{36}

The system applied to many of the Chinese who emigrated to the eastern States of Australia and, later, to the Northern Territory.

As practical miners, Newman and Lewis came out in favour of importing Chinese labour into the Territory. Many years later, in a Royal Commission enquiry, Lewis said, "I came to Adelaide to induce the Government to send to Singapore for a shipload of coolies". Captain Douglas, Government Resident at the time, supported the idea, as did the Hon. T. Reynolds, Commissioner for Crown Lands and Immigration, who was instructed by the Government to make a full investigation. After visiting Java, Macassar and Singapore, Reynolds decided that Chinese coolies, rather than Indians or other races, would best serve the requirements of the Territory. According to his report, he was advised by various colonial officials to get them directly from Amoy and Swatow, if required for plantation work, and not from Singapore, as, from their habits, associations and secret societies, the last-mentioned was the worst class of Chinese, given to secret-society or "tong" wars between themselves, which often led to rioting and murder. He found, however, that there was a class in Singapore and Java whose members were good mechanics and who would be a valuable addition to the Territory's labour force. During discussions with merchants in Singapore, he found that they were hopeful that development of the Territory's mines would open up much trade and create a large demand for the employment of Chinese, who were looking for fields other than California to which they could go in large numbers.\footnote{37}

Following the presentation of Reynolds' report, the South Australian Government asked C.R. Coates, who was secretary to a large number of mining companies with interests in the Northern Territory, to ascertain whether the various companies would be willing to employ coolie labour for a fixed term (three years was suggested) and, if so, how many. Coates acknowledged this request, saying that at a large meeting a committee had been appointed to obtain the information requested by the Government. He added that, speaking individually, he did not think that any companies were in a financial position to guarantee the employment of coolie or any other labour for a specified time, but that if 150 coolies were available, they could be profitably employed by the companies and "probably avert the misfortunes that now appear pending over them". A further meeting, chaired by E.M. Bagot, reported that the various companies had applied for a total of 365 Chinese coolies, with individual mines requiring between ten and fifty each.\footnote{38} Coates also recommended, after consultation with Bagot and others, that Captain Douglas, the former Government Resident, be despatched by the next steamer to obtain the labour.
The result was that Douglas was sent to Singapore in May 1874 with instructions to recruit 200 Chinese for a term of two years, to make proper arrangements with them which could be enforced, to charter a vessel to take them to Port Darwin and there to hand them over to the Government Resident.

In advising Government Resident Scott of these arrangements, the Government added that, if unforeseen circumstances arose and the companies did not take the numbers agreed upon, it was considered desirable that the men should be fed and paid at the cost of the Government and employed upon some useful public works, such as the formation of a bush road from Southport to the goldfields.

On arrival in the city of Singapore, Douglas received every assistance from the Governor and the Colonial Secretary, who advised him to contact Chinese merchants known to be willing to undertake contracts to supply labourers. Tenders were invited and a contract rate of £14/7/- per head established, covering commission to the organising merchants, passage money, medical fees and Captain Douglas' overheads. The men were to be paid eight shillings per week, plus food and medical attention – a total of about £3 a month. Eleven gangers accompanied the men and the “headman” was paid £5 per month, while the others received from £2/10/- to £3/10/- per month. Each Chinese agreed to be a general servant for two years in town, country, field, mine, factory or house, with the Government Resident having the power to transfer a man to any company, person or persons. No man was to be required to work on Sundays, nor for more than ten hours on any one day, while at the conclusion of the contract he was to have the choice of return passage money to Singapore or £10. Each company was required to repay to the Government the cost of recruiting the coolies allotted to it.

187 coolies sailed from Singapore on the “Vidar”, which berthed at Port Darwin on 5 August 1874. Local people were quick to notice the authority of the headmen, who often emphasised their orders by kicks and the free use of sticks. The men were despatched to the various mining companies, all walking the 100 miles or so to the goldfields. Reports at the time indicate that they were good average labourers and miners, particularly good at open-cut work or battery-feed operations. The mine managers, however, soon realised that the selections were not as good as they might have been. As one example, Captain Newman promptly returned eight diseased men to the Government Resident, retaining thirty-one, of whom nine were sick. Later on, twenty-two of these deserted and went fossicking on their own account. By then it had become known that at least some of them had been forced to board the ship by Chinese agents and storekeepers to whom they were indebted, these creditors having taken the three months’ pay advance towards settlement of the debts.

The position was complicated by the fact that, by the time the first Chinese arrived, all except a few mining companies had collapsed or were facing liquidation. At least some of the companies were quite unscrupulous, as evidenced by a letter from Scott saying that nine coolies from the Aguagilla Company were now at Palmerston, “having received no pay at all for over three months' work, which I consider a disgrace to every shareholder in the company. These people clamoured for 'coolie labour' and when they get it they take the benefit of three or four months’ work and
six months’ rations and then cut the poor fellows adrift without a farthing and scarcely a rag to their backs. They also complain that they were not well fed”.

The Government replied to Scott, saying that, as the company was in liquidation, it would be a waste of time and money to prosecute, adding that when it had prosecuted Newman for neglecting to provide medical attention to his coolies, the magistrate awarded costs against the Government. Some coolies were prosecuted and gaoled for refusing to work, the Telegraph Company being one complainant. This company also put a harsh interpretation on a clause in the coolies’ contract of employment, which provided for the payment of a bonus each month during the two-year term of engagement. The precise meaning of the clause was obscure, but the Government’s and the Union companies’ practice was to pay each coolie the bonus at the end of the month, if his work had been well done and his behaviour had been satisfactory. The Telegraph Co., however, decided that it would not pay any bonus until the end of the contract, and this decision was upheld by a Special Magistrate. Of this the “Northern Territory Times” said in an editorial that such an interpretation gave companies an opportunity to declare at the expiration of two years that services had not been satisfactory and hence pay nothing. The “Times” concluded by saying, “It is well to put the most liberal construction upon any contract entered into with those who are at the disadvantage of understanding so indifferently our language, laws and customs”.

Correspondence between the Government and the companies shows that few honoured their agreements to repay the Government the cost of recruitment. Scott advised the Minister in March 1876 that the following coolies were employed by companies:

- Westcott’s – retained seventeen out of forty; twenty-three returned to Government
- Royal Standard & South Eleanor – retained forty, less two returned sick
- Telegraph – retained twelve
- Virginia – retained six.

Sixty-seven coolies were now employed on Government works, whilst six had been engaged and paid for by the Union Prospecting Co.

As a result of the depressed mining situation, many Chinese went mining on their own account. Some found alluvial gold, payable by their standards, at Sandy Creek, near Grove Hill, and at the Union. In August 1875 Trooper Montague distributed £200 to twenty Chinese who chose the £10 rather than the slightly higher amount of a return passage to Singapore, under the terms of their contracts. The records show that most of the labourers tended to stay in the Territory as gold prospectors. Some completed their contracts and returned to China, Singapore or Hong Kong, while some who came as headmen were of the merchant class, who, finding scope for profitable business ventures, tended to remain.

One of these early merchants was Ping Que. Whether he came out with the first group of Chinese on the “Vidar” as a headman or as an independent merchant is not clear. According to his application for naturalisation, made in June 1883, he had then
been in the Territory for nine years, so the conclusion is that he arrived about mid-1874. At that time he was thirty-seven years of age, by profession a storekeeper and a native of Canton. The application was declared before Adam Johns, J.P., at Union Reefs.

Chief Warden Plunkett's report of January 1875 stated that there were no Chinese at the Union in January 1875, but in August of that year he said that there were "half a dozen coolies engaged in working at quartz mining". In the same month the "Northern Territory Times" correspondent at Union Reefs noted that Ping Que had thirty tons crushed at Scott's battery, being mined from No. 5A South Union. Then Ping Que joined forces with Lambert Smith to work a tribute of No. 3 North Union with nine coolies. Of this partnership Knight said, "Lambert Smith and Ping Que are now the principal workers at the Union and are turning out a fair quantity of stone. They pay their coolies £1 a week and provisions. Ping Que manages his countrymen very well and works them to make his mining pay, which is more than can be said of other employers of coolies."

A few months later he was working on his own account and the Union correspondent said:

Ping Que's party deserve great credit for energy and perseverance and it is time that fortune smiled more favourably upon them. They have tried several claims on tribute and have not been successful, although the coolies employed took out large quantities of stone. They tried No. 3 North for two or three months at a loss of three or four hundred pounds. The stone raised on No. 5 South for the first two months did not pay more than carting and crushing, but they seem determined to stick to it and I understand they have taken on No. 1 South. I believe that if Ping Que could get any run of stone to turn out even a steady ounce, he would employ all the coolies in the Territory.

Ping Que's fortunes did improve early in 1877. Adam Johns crushed 106 tons for him from No. 5 Lady Alice for 135 ounces of gold and in the following months he consistently obtained returns of over an ounce to the ton. By mid-1877 Ping Que had his headquarters and store at the Union. Newspaper reports disclose that he was working five separate claims, and on one, No. 5 South Union, he had fifteen coolies working on three shifts, with a shaft 140 feet deep from which stone was raised by horse whim. Apart from this, no machinery seems to have been used. With pick and shovel 200 tons of ore were raised and delivered to Adam Johns' battery during a four-week period in July and August 1877. The yield was a little over an ounce to the ton. Some of his other claims he tributed to lesser Chinese merchants, such as Chew Fong.

In 1877 the companies and European leaseholders began to complain about the shortage of labour on the goldfields and by then the value of Chinese labour had been recognised and accepted, reflected in an increase of wages to between £9 and £11 a month. A newspaper report at the time said that, whilst the original shipment of coolies had been badly selected and included sailors, carpenters, house servants, and discontented hands from plantations, nevertheless they had adjusted to work on the mines and proved decidedly useful. In general, they were not accustomed to pick-and-shovel work and did not understand English, but they were very willing to work and, after a little practice, proved to be very useful on any work
around a mine and at feeding batteries. Knight observed that some were becoming wise enough to work ground on their own account.

Chief Warden Knight recommended in 1877 that another 100 coolies be imported and in his report at the time said, "In obtaining these men, I would avoid the gilt-edged paraphernalia that surrounded the previous shipment, and which cost about £30 per head. I simply proposed that Mr Ping Que, the most enterprising miner in the Territory, be engaged to go to Singapore to select, say, fifty suitable men, the cost of their passage to be deducted from the wages at £1 a month".41 Knight also recommended a contract period of one year, with wages not over £1/5/- a week, with rations, adding that he would not like to see a rush of Chinese to the Territory, but that a sufficient number should be imported to meet the companies' labour requirements. Prior to writing this proposal, Knight consulted Ping Que, who said that experienced Chinese miners from Victoria would be three times more valuable than raw coolies from Singapore. An interesting feature of Knight's report is the acceptance, by a responsible Government official, of the competence and integrity of Ping Que. It was also the first reference to a Chinese merchant in an official report in the Territory. As events proved, the Government did not act on the recommendations, nor was it necessary to do so. H.H. Adcock, a local entrepreneur, offered to pay the passage of a number of Chinese on each trip of the steamer from Cooktown and this resulted in a small but steady flow to the Territory. Ping Que solved his own labour problem by going to Singapore and bringing back coolies on his own account. In 1879 Forbes, the holder of No. 5 South, died and Ping Que bought the claim from the Curator of Deceased Estates for £175. This claim was then worked entirely with Chinese labour, without any European supervision.

Whilst Ping Que and, to a lesser extent, Adcock, were responsible for the initial increase in Chinese population, the main increases were the direct result of the discovery by Manuel Gomez of a rich alluvial field in 1877, which came to be known as the "Twelve-Mile" or "Chinaman's Rush". As Gomez was the owner of a small hotel, he left three Chinese at the discovery whilst he returned to make arrangements for the conduct of his business, and this action was to be the main reason for the refusal of the Government to grant him the reward for finding a new alluvial field. On his return, Gomez found that the three Chinese had obtained thirty ounces of gold in four weeks. He then set forty-three Chinese to work on tribute and some of them made enough money to make them rich by their standards and to return to Hong Kong or Macao, either to live a life of luxury or subsequently to return to the Northern Territory to run gambling houses, sell opium to their compatriots or set up as headmen in mining ventures. From Hong Kong the news spread far and wide of the richness of the Chinaman's Rush. The consequence was a rapid increase in the migration of Chinese to the Territory, beginning with ninety-three arrivals late in 1877, many with mining experience in California and Australia. Knight reported at the end of 1877 that he had heard that another ship with 500 Chinese was on its way with yet another to follow, which could result in the white population being swamped by Asiatics. He then made a perceptive, if not prophetic, statement:

"From a mining point of view, this probable incursion of foreigners may become a troublesome subject for the Government to deal with and, before any real evil happens, as in the case of Queensland, it may be prudent to sketch out a mode of
action to regulate the admission of the race in question so as not to be taken unawares.\(^42\) The total Chinese population in the Territory jumped from about 108 to 1176 in 1879; 2154 in 1880 and 4108 in 1881. Whilst nearly all were labourers, a number were of the merchant class, who set up stores in Palmerston and on the goldfields.

Although Ping Que was by far the leading merchant, not all of his ventures were successful. Late in 1878 he engaged between 100 and 200 of his countrymen to go to a new find at the Driffield, some forty miles from Pine Creek, providing equipment and an assurance that the men would be provided with rations until they found payable gold. On arrival at the Driffield, he erected a large store and set his men to work, stockpiling wash dirt until the rains arrived. The country was very dry, the nearest drinking water being at a waterhole over a mile away. Unfortunately, after waiting several weeks for rain, Ping Que found that, apart from a few small patches, the Driffield was too poor to pay, so he packed up and started on the return journey via Pine Creek to the Union. The trip was difficult, as all the creeks were in flood and the bush track was a quagmire. He had most of his remaining stores and several tons of rice stacked on the banks of the Cullen preparatory to crossing it, when the river rose suddenly and washed everything away.

The venture had turned out a disaster, with outgoings for stores, high cartage and wages, no gold of any consequence and a loss of profit on the stores which would have been sold to his men. It could have been worse, though. The Chinese built huts for themselves out of bark and grass – bamboo, if any was handy – and they were notoriously careless with fire. Before the rains came, a fire broke out at the Driffield and destroyed the entire camp except for Ping Que’s store.

Whilst the Driffield expedition resulted in heavy loss, Ping Que had good results in other places. He had claims, either alluvial or reef, at Pine Creek, Sauder’s Rush, the Margaret and several at the Union. His operations included what was, for those days, a fairly large open-cut, as well as shafts, and in all of his workings he had a considerable workforce of his countrymen. Of operations at the Union, Sowden said he had it “on unquestionable authority that Ping Que alone bought and sent home half a ton of gold from it and its surroundings”.

As one field’s richness diminished, others were found. Fountainhead, the Driffield, the Margaret, Sauder’s Rush, Little Hong Kong and others were worked until, eventually, practically the whole country from Stapleton to Pine Creek had been covered, providing a reasonable living to a very considerable number of Chinese. The increasing numbers, however, resulted in hardship towards the end of the dry seasons, when all water sources dried up and alluvial mining was no longer possible. Newspaper reports refer to it being not uncommon to find Chinese half-starved and begging for a crust of bread. As early as 1878 the Government accepted the need to provide some measure of relief and published the following notice:

PUBLIC NOTICE

The following is published for the information of Storekeepers, Publicans, or residents up-country, to whom any destitute Chinese may apply for relief. Arrangements have been made that when the water fails at the alluvial goldfields
where the Chinese are at work, any one destitute may apply after the 15th May next, to the officer in charge of police, Yam Creek, where the applicant will receive sufficient rice to enable him to reach Palmerston, where permanent relief and work will be given to him.

EDWARD W. PRICE
Government Resident
Palmerston, 23rd April 1878

The 1880 wet season did not arrive until February, instead of the preceding November, but, although this caused great hardship amongst the Chinese alluvial miners, it did not prevent the usual Chinese New Year celebrations. At Fountainhead, joss-houses were improvised and fireworks supplied by the merchants, but the coolies returned from the noise and spluttering of the crackers to gloomy huts and sick companions.

When the rains did start in 1880, the wet season was one of the driest experienced since mining began. The Government Resident’s fears that he might have a large number of destitute Chinese on his hands were allayed by two new discoveries of rich reefs and alluvial at the Margaret River. Ping Que had two of the reefs, on which he employed several of his countrymen. One was phenomenally rich, yielding £500 worth of gold from one bucket of stone alone. This claim he supervised himself and the other he let on tribute. At one stage Fountainhead had a sizeable township with over 1000 Chinese, but by the end of 1880 only about fifty remained, mainly sick people or those with good claims. The others had either gone to the Margaret or back to China. Even now, nearly 100 years later, there remains plenty of evidence of alluvial activity at Fountainhead. Practically the entire countryside over an area of one square mile has been turned over in alluvial diggings, whilst at the southern end of the field several open-cuts and deeper shafts may be found.

At the end of each wet season the Chinese alluvial miners who had been lucky were able to revisit their homeland, while the less favoured stayed behind to get through the dry season as best they could. Some relied on credit from storekeepers and others on the limited amount of Government relief work on roads and in the experimental gardens at Palmerston.

The Bridge Creek field was found early in 1881 and water was available there almost permanently. Most of the Margaret diggers moved there, resulting in a population of 100 Europeans and 1500 Chinese, with three hotels and several stores. The next discovery was Saunter’s Rush, on branches of the Fergusson River. Ping Que reported that 500 Chinese were working there and that in one week 150 of them each obtained nine to ten ounces of gold.

Ping Que took a long holiday in Hong Kong and on his return in 1882 was faced with a Warden’s Court appearance to defend an application for forfeiture on the grounds that the claim had not been worked in a bona fide manner. Ping Que was able to prove that he had hired labour to work on the claim under the supervision of Bon Chow, his partner, but, unknown to either, the men were working on their own account at another place. Warden Knight refused the forfeiture claim, but imposed a £5 fine. 1882 and 1883 were years in which Ping Que’s activities reached a peak.

52
He had claims of his own or tributed extending from the Margaret and the Union to Pine Creek and was managing a number of claims for W.G. Griffiths. Pine Creek included the old Telegraph claim, where one of his crushings gave 255 ounces from nine tons. As there was now no battery at the Union, Ping Que called tenders to cart 500 tons of two-ounce stone to Pine Creek. He had a number of joint ventures with men like Adam Johns, Tennant and Hans, while at his main claim at the Union he regularly employed sixty men. He made at least one trip to New South Wales in the early 80's and returned with more indentured labour.

The wet seasons at the end of both 1883 and 1884 were unusually dry. This caused curtailment or cessation of alluvial mining in most parts of the fields, again causing considerable hardship amongst the Chinese. During the short wet seasons they concentrated on the gorges around Sandy Creek and The Shackle, where the auriferous country extended for some seven and a half miles. In 1884 many Chinese returned to the old diggings and went over them once again, the only new find being at Burgan's Creek, which was rich but relatively small. According to the Government Resident, some very rich patches were found, but it was impossible to get any reliable estimate of the amount of gold won. He said that the fear of being robbed was so great that the fortunate men who struck it rich cleared out at once, either selling their interests or leaving the property in the hands of relatives. There was again a considerable population at Fountainhead, with a township built largely of bamboo and grass, and here miners were on reefs, with shafts fifteen to twenty feet deep.

Conditions on the fields were harsh, with long distances between water in the dry season, and flooded creeks and difficult roads in the wet season. There are many reports of Chinese becoming lost and perishing through lack of water, and travellers' tales of the sighting of their corpses by the wayside. From very early days it was usual for the Chinese miners to walk from Southport or Palmerston to the goldfields and, according to reports, Chinese on foot on the lonely tracks were good targets for the blacks. As one example, two Chinese were speared not far from Southport. One was struck in the eye with a slate-tipped spearhead which penetrated the socket. The eye, left hanging on the cheek, was cut off with a pair of scissors. The extraction of the spearhead was difficult, ordinary surgical instruments proving useless. It was finally removed with a pair of carpenter's pincers. The man endured all this stoically and, when it was over, asked for a pipe of opium.

Some had accidents and many were treated at The Miners' Hospital by Mr Knight. An example is given of one Chinese who was badly injured by a falling tree. Miners Cruikshanks, Morgan and Lucas assisted Knight to set the man's fractured thigh and broken leg. Few of the coolies could speak English so they used novel but effective ways to tell Knight of their illness. One held a lighted match to his stomach to signify that he had a burning pain there.

Solomon's company at Mt Wells employed some ninety Chinese and more were employed by Spring Hill and other companies during the revival of interest in the Territory in the early 80's. Some of the Chinese found it more profitable to grow rice and vegetables. Others set up in competition with the European teamsters, whose charges were very severe. A Chinese "teamster" charged £2 to cart 100 pounds of
rice 100 miles, and he carried it on his back. The net result was that the Chinese mining population supported a very considerable number of their countrymen who were engaged in anything from carting and agriculture to gambling houses. Mortality was high, many perishing when becoming lost and unable to find water, whilst they, as well as the Europeans, generally suffered from “the fever”, which seems to have been malaria.

The Chinese merchant or storekeeper was much more involved with his clients than his European counterpart. In many cases they were bound to work for him by contract. Whether they were or not, he bought their gold at something less than the official price and sold them rations, mining tools and other necessities such as rice-wine and opium. When they fell on hard times, the merchant loaned them money at a high rate of interest, which often had the effect of binding them to the storekeeper for a long time. These arrangements seem harsh by today’s standards but were normal in China itself at the time. Whilst conditions on the fields were hard, there was no oppressive taxation such as existed in China. There is little in the way of written records about these early Chinese merchants, but there is no doubt that they were powerful and influential. Some of the names of the early merchants appear on an address given to Knight in 1879 in recognition of his services to The Miners’ Hospital, and include Ah Fook & Co., Leong Ki, Ping Que and Kong Wing Chang. There are some references to the merchants in Sowden’s *The Northern Territory As It Is*, which was published in 1882, for example: “I had an interesting interview with a most intelligent merchant at the Margaret – Quong Wing Chong, second only in wealth and power to the almighty Ping Que.”

It seems clear that Ping Que was an extraordinarily competent and astute businessman, whose industry and integrity were well known. From odd references in newspapers and Government reports, it has been possible to get some idea of the scale of his operations, but, unfortunately, there are many gaps. Apart from his extensive mining operations, he had stores and butcher shops on the goldfields. He also constructed sheep and cattle pens and slaughtering places and at one time bought 600 head of cattle.

Ping Que engaged in other activities as well as mining and storekeeping. When the teamsters’ charges soared to £90 or so a ton from Palmerston to Pine Creek, he engaged 100 coolies to cart rice on their backs in opposition to the teamsters, thereby forcing some reduction in the latters’ charges. When a dispute arose between Cantonese and Macau factions over some leases, he advocated for the former before the Warden. He was highly regarded in all walks of life in the Territory. On returning from a year’s visit to China in 1885, he was consulted by J.L. Parsons, Government Resident, about likely future trends in Chinese immigration. Ping Que’s answer was later proved remarkably correct. Parsons also consulted other Chinese merchants about this matter, which would seem to indicate that by then they had been recognised by a high level of Government as reliable and responsible people.

Later on in 1885 Ping Que died suddenly, and in the obituary, the first of a Chinese merchant to be found in its pages, the “Northern Territory Times” said,
Union reefs. Many years of hard work and sterling pluck and enterprise earned for Ping Que the respect and goodwill of every Englishman with whom he was brought into contact. He was far and away the smartest mining man we have yet met in the Territory. Whether he was overseeing underground work or looking after a battery, the work was always done heartily and well. Ping Que will be missed by many who have profited by his experience and advice. For ourselves, we can only express sorrow at the unexpected death of one of the pluckiest and straightest men it has been our lot to meet in the Northern Territory.46

Apart from Ping Que, other names of merchants appear occasionally, but only as the briefest of references. Several apparently arrived in the mid-70's and set up, either mining on their own account or operating stores, or both. These early merchants were the forbears of many of the Australian Chinese living in Darwin today. Evidence of their mining operations exists in many parts of the mining fields in the form of carefully-laid stone-wall water-races and dams of stone across gorges, some up to twenty feet high and eighty to a hundred feet across. Much of the open-cut and shaft work was quite substantial, involving a high degree of organisational skill and command of capital.

A situation of mutual acceptance between the Chinese and European races existed on the goldfields. There, the main social event was the annual goldfields race meeting and sports, which was attended by the majority of the population, European, Chinese and Aboriginal. At the sports, Europeans and Chinese competed on equal terms in such events as “the greasy pole”, whilst the horse race program invariably included at least one race “for horses owned and ridden by Chinamen”.

It was not unusual for European and Chinese to join forces in mining ventures. The records show that in 1886 Tennant and Ah Mock worked a new reef in partnership at Pine Creek and the 1889 report of Warden Nash stated that four South Union leases and one South Lady Alice lease were at one time jointly owned by Adam Johns and Ping Que. The Chinese formed almost the entire workforce for company mines and were regarded as industrious and competent, although careless with explosives. European claim-holders were satisfied with the situation whereby they tributed to the Chinese and collected profits without doing much work themselves.

The “Northern Territory Times” and official reports suggest that until about 1884 there was little lawlessness on the mining fields, apart from an occasional riot or “tong war”. One such riot in 1880 went on for three days and the police were so few in relation to the number of participants that they were powerless. These conflicts were almost invariably settled within the Chinese community without interference or aid from the Europeans. The Chinese at times sought protection from the law and seem to have been given impartial treatment. In one case, a European tried to take over part of a rich claim at Union on the grounds that Quong Wing Hie had too much ground, but Warden Nash decided in favour of Quong. Ah Que and several乡men successfully sued J. Walden for wages due and not paid, whilst the name of Ping Que appeared on several occasions during his lifetime in connection with mining litigation of one kind or another.

One aspect of lawlessness, although hardly regarded as a true crime, was the reluctance of Chinese to take out Miner’s Rights. The Gold Mining Act of 1873 had
made no provision against coloured labour and there was nothing to prevent Chinese from taking up claims in the same manner as Europeans. The fees were low, as a Miner's Right cost £1 a year and entitled the holder to an alluvial claim twenty-five yards by twenty-five yards, whilst a quartz claim cost £1 per acre per year. Though these were generous terms, the Chinese labourers were very reluctant to take out Miner's Rights, although the merchants quickly saw the advantage of having a proper lease over a quartz claim. The South Australian Government decided in 1879 that the Chinese should contribute something towards the cost of Government in the Territory. It therefore imposed customs duties and, at the same time, instructed the Government Resident to take stringent action to collect fees for Miner's Rights from the Chinese. The Warden organised raiding parties, headed by himself, with four mounted troopers in full uniform, and timed the arrival at the selected centre shortly after dawn. One such raid took place at Fountainhead and not far from Grove Hill. Here the troopers rounded up as many Chinese as they could, but many escaped and hid in the bush. Some 152 were thereby induced to take out Miner's Rights and most paid in gold, which was carefully weighed by the Warden.

Possibly because of the very industry of the Chinese, there was an increasing resentment of their presence by an influential section of Palmerston's European business population, reflected in an article in the "Northern Territory Times" in 1885. This article began by describing the Chinese as skilful, sober, industrious and frugal, and said that they were slowly but surely ousting the higher-priced European from all descriptions of labour.

In the Territory, the article went on to say, no restrictions were placed upon the Chinese. They had, if not monopolised, at least secured for themselves a very large portion of nearly every branch of industry and, unless some measures were taken, the outlook for Europeans was bleak indeed. Reference was made to the goldmining industry being almost monopolised by the Chinese and to the facts that they successfully competed in storekeeping, were driving teamsters off the road and that the building trades were almost completely in their hands. This particular article had followed others reflecting a growing apprehension among the Europeans that, if things went on in this way, Chinese would end up controlling the Territory. In their agitation for restriction of Chinese immigration, they overlooked the fact that for years Europeans had employed Chinese to their own profit. They had tributed reef claims, leaving the Chinese to do the work whilst they collected the profits. Additionally, the exorbitant charges of teamsters invited competition and little reliable European labour was available anyway. It is perhaps significant that the Government itself employed Chinese and, in relation to complaints about this practice, the Government Resident said:

"Those who clamour loudest against the Government for employing Chinese, and are the loudest in their protests that 'Australia is a white man's country', when it is a question of personal saving, are the very first to employ Chinese themselves."

Then, in the twelve months to January 1886, the numbers of Chinese miners fell from 2000 to about 500. Warden Nash thought this was due to lower alluvial returns,
combined with high working and living expenses. During the wet season the Chinese scattered in small groups over the old workings from the Driffield to Bridge Creek, a distance of over 100 miles, with very poor results and with the storekeepers and butchers losing heavily in the process. There was a wave of petty theft and Parsons was prompted to recommend that special legislation be passed, observing that throughout the East every Chinese abroad after dark was compelled to carry a lantern and was liable to arrest after a certain hour if found without a written permit.

Although no special measures were passed along the lines of Parsons' proposal, later on in the year, and following more pressure from the Territory, South Australia passed an act restricting Chinese from any new alluvial goldfield for a period of two years. At the same time, the Legislative Assembly proposed a £10 poll-tax on the Chinese, but the bill was rejected by the Legislative Council. A tender for the Port Darwin-to-Pine Creek railway construction had just been accepted and the Government was faced with conflicting pressures about the Chinese. On the one hand, the Europeans in the Territory wanted restrictions of several kinds, including a cessation of immigration. On the other, cheap Asiatic labour on the railway would save the hard-pressed South Australian Government some £86,000. Under the terms of their railway contract, Millars, the successful main tenderers, were permitted to employ Chinese and other Asiatics at much lower rates than Europeans. They initially recruited some 300 Chinese themselves, but then found it simpler to obtain their labour through the Chinese merchants.

In 1887 Government Resident Parsons became alarmed at the number of Chinese immigrants and urged his Government to take restrictive measures. Queensland also feared that many of the Chinese would travel overland to its alluvial goldfields and made strong representations to South Australia to restrict Chinese immigration. This was the time when the movement for federation was under way and, in a situation of inter-colonial rivalries and jealousies, the only subject on which there was common agreement was the Chinese question. V.L. Solomon was the Territory's spokesman, although, in fact, it seems that he represented a small group of Palmerston traders.

An inter-colonial conference in Sydney in 1888 was held against a background of fear on the part of the three eastern States of a sudden influx of Chinese. Tougher restrictive legislation was passed. Later in the year, South Australia passed an act, but it was not as harsh, with the poll-tax only applying if a Chinese crossed an imaginary line 200 miles south of Palmerston. It did, however, introduce quarantine measures, with one provision requiring the shipping line to meet the costs. This had the effect of raising passage-money very considerably and was probably the most effective measure in restricting the entry of Chinese to the Territory. Then the Premier directed that, in future, the quarantine period of twenty-one days for smallpox was to be served by passengers and crew on the vessel on which they had travelled. This provision was particularly effective in restricting immigration and from 1888 the pattern was reversed. Whereas arrivals exceeded departures by 651 in 1886, 2660 in 1887 and 285 in 1888, from 1889 on the Chinese population began to fall – by 690 in 1889, 291 in 1890 and 483 in 1891.
V.L. Solomon was elected as one of the Territory’s first two representatives in the South Australian Legislative Assembly and he was quickly accepted in parliamentary circles. During a Royal Commission enquiry into mining legislation and mining in the Territory, Solomon gave evidence that the legislation with regard to preventing Chinese from entering a new goldfield was a dead letter. To quote the evidence:

The fact is you cannot keep Chinamen off the field anyhow. We have not enough police to prevent the Chinamen going on new fields. To hunt Chinamen about from one place to another is a difficult and useless work. It is equally useless to bring the Chinese up before Government because they have nothing whatever to lose. The feeling of the bulk of the people of the Northern Territory is that the Chinese should be given no mineral rights whatever. I would give the Chinese no standing in the Territory except as labourers. I might explain that although the Chinese go onto old fields they never find anything for themselves and they riddle the field in such a way that it is impossible for anyone else to work them. It would be better for capitalists, because at the moment they couldn’t get a Chinese to work even at rates which an Adelaide working man would consider very good.

He was asked if there would be any advantage if the Miner’s Rights were farmed out to Chinese merchants. Even in that case Mr Solomon doubted whether any would pay, saying that the present time would not be opportune, as the bosses of the Hongs were nearly as hard up as the others. The fact was that since completion of the railway the Chinese in the Northern Territory were impoverished and the average earnings of a Chinese there now amounted to one pennyweight of gold per day whilst the wet season was on. When the dry season was on, they managed to hang on somehow, shifting about from one place to another. Mr Solomon said there were 2000 to 2500 Chinese hanging about the goldfields and he thought there was nothing whatever to get out of them. Question: “Supposing the Chinamen were not allowed to take out a Miner’s Right. What would the Government have to do?” Answer: “They would have to do the same as they do now. The Government would have to find them employment.”

The “Northern Territory Times” reported that Knight, now Acting Government Resident, received a deputation from the Chinese merchants, who urged him to take measures to suppress the secret societies operating in the Territory. The report went on to say that it had long been accepted by the European population that the secret societies existed for purely unlawful purposes and were a refuge for criminals of all kinds. Through their influence, innocent men had gone to gaol in place of hardened criminals, the consenting substitutes receiving a salary during the term of imprisonment and, with plenty of funds available, prisoners were properly defended when, by a stroke of luck, the police happened to capture one of their members. An intelligent and reliable Chinese man said that in the Union riot trial the Tread (Triad) Society was prepared to spend £400 on each of its members who were on trial. The merchants went on to assert that the bulk of robberies were attributable to the Tread Society and revealed that it had at least 400 fee-paying members, who were sworn to assist each other in cases of need and to defend each other when necessary. Its three places of meeting were Palmerston, the Union and Yam Creek, but the meetings were not always held at the same house and the members were called
together by the sign of a certain flag. The Tread Society had its own peculiar methods of recognition to save the need for spoken assurances. By the arrangement of a pigtail or a certain type of salute they could distinguish each other as they passed in the street without uttering a word or exchanging a glance. Names of certain merchants involved with the societies were given to Knight, who instructed the police to exercise greater vigilance.

In his annual report for 1890 Knight did not mention Chinese secret societies and, as no further action was taken by the South Australian Parliament, it is not unreasonable to conclude that he did not consider their activities to require anything more than some additional surveillance by the police. Knight's fair-minded approach and objectivity is illustrated in the following two quotations from his 1890 report:

I have said in a recent report that the love of the Chinese for the Northern Territory is just about equal to that of the white man, and that if the anti-Chinese section of the community subscribe funds to pay their passage back to Hong Kong, three-fourths of those here will bless the donors and depart with alacrity and empty pockets. It is idle, therefore, to call this a Chinese paradise...

Here it may be placed on record, as showing the difference between preaching and practice, that, notwithstanding all that has been spoken and written against the Chinese, there is not a single mine on which hired labour is employed where Chinamen are not working.51

Knight proposed that the Government should appoint a Mining Board for the Territory, but Solomon said that the members should be elected by the miners in each district. The "Northern Territory Times" asked how many miners there were in each district and pointed out that, as there was no law which would prevent the Chinese from either voting or being elected, the Board could consist entirely of Chinese if Solomon's proposal were accepted!

As the gold to be won from surface alluvial deposits decreased, increasing numbers of railway workers turned to underground mining, backed by their merchant-class countrymen. Amongst the spectacular results was a yield of fifty ounces from one small piece of rock from Hang Gong’s Brock's Creek claim, while in 1891 a party of fifteen won 800 ounces from thirty-five tons of rock at Fountainhead, which started a rush back to that field. The railway finished, the Millars bought up from Chinese merchants practically all the leases at Union Reefs, as well as some at Fountainhead. After doing a considerable amount of work, they suddenly decided to abandon mining and put their claims and machinery up for sale. Yet Loong and Co. bought most of the Millars' Union Reefs machinery and leases for £1000 late in 1891. At that stage, except for claims held by Olaf Jensen and W.K. Griffiths at Extended Union and Eureka respectively, and those of two or three Europeans at Brock's Creek, the only claims producing gold were those held by or tributed to Chinese.

Solomon's opposition to the Chinese was extended to preventing them from holding either agricultural land in fee simple or leases of mining areas and also to their being employed in public works — even though he knew that some sixty Chinese were employed by the railway and admitted that it would be impossible to find Europeans to replace them. In 1892 he introduced amendments to prohibit the granting, transfer
or assignment of any mining lease to any Asiatic. Whilst the bill was being considered, a temporary embargo was placed on Chinese lease applications, but friendly Europeans took up leases in their own names and then let them on tribute to the Chinese.

The tribute system suited the European, even if he only got tribute of an ounce a month, because he did no work to get it. It was accepted that Chinese employees needed careful watching, but, in fairness, it should be said that in many other places European employees had to be watched just as closely when working on a gold recovery plant. One story at the time was of a Chinese employee who was required to pan off and put silver and amalgam into a bucket beside a tub. The European boss saw him scratch his knee as he poured the silver and thought he saw something drop into his boot. He told the man to remove the boot, but, quick as a flash, he took off his other boot. This did not fool the boss, who removed the right boot and found therein six ounces of amalgam, at least half of which would have been gold. As it was not worth the time and trouble to prosecute, the man was dismissed at once, and it is of interest to note that up to that time he had been regarded as an exceedingly honest Chinese.

In other cases, if the Chinese found a rich patch of ore, they took it home and put it through the mortar on the quiet. As an example, two Englishmen were following a rich leader at the Howley and a Chinese was working on the same claim. Knock-off time came and, as the Chinese man's billycan was looking rather heavy as he started for his hut, the Englishmen demanded the privilege of having a peep into it. They found it nearly full of rich, gold-bearing stone which, after crushing, yielded one pound of pure gold.

In December 1892 news reached Palmerston that Mr Solomon's Gold Mining Act Amendment Bill had been lost and the temporary embargo on the issuing of leases to Chinese and Asiatics by the Government Resident was lifted.

In 1892 Pine Creek was the base on which the Chinese mining population was largely centred. There were several substantial stores built by merchants, but which were surrounded by bark and grass huts occupied by their customers. Next to Yet Loong Chan's store a Chinese struck a match which accidentally set fire to his mosquito net. The flames spread quickly and in half an hour Chinatown was a heap of cinders, with the exception of only one store, which was an iron building belonging to Hang Gong and which was saved by water, wet blankets and bags, and a change of wind. The two principal stores, with their complete stocks, right down to fowls and private possessions, were completely burnt out, at a total loss of £2000. They were owned by Kwong Man Loong and Yet Loong Chan.

After the death of Ping Que several merchants emerged as powerful mining entrepreneurs, with quite a number of references to their activities appearing in South Australian Inspector of Mines J.V. Parkes' report of 1891. Chin Ah Din had several leases at Woolwonga, where he had his stone crushed by the Daniels' battery. He also controlled most of the Fountainhead leases in partnership with Jolly, tributing many to lesser Chinese merchants. He was killed in a buggy accident and, from then on, Hang Gong, Ah Loy, Chin Look and Quong Wing Hie seem to have dominated the industry.
Hang Gong owned a battery at Woolwonga, as well as leases at Fountainhead and, in partnership with Ah Loy, at Brock's Creek. Ah Loy had leases at Woolwonga and Brock's Creek, which included the Faded Lily and Britannia, and a considerable workforce. He bought the North Australian Tin Co.'s battery and moved it to Brock's Creek. Chin Look, described by the Government Resident as "a Chinese potentate", controlled almost the entire Howley line of reef and employed some hundreds of his countrymen on the tribute system. Of Quong Wing Hie at Fountainhead, Parkes said, "a word of praise is due to Quong Wing Hie, a merchant from Canton who has caused to be erected a joss house". Some years before, W.H. Corbould, who had worked as a jackaroo at the Flora Belle mine and in later years was the founder of Mt Isa Mines Ltd, knew Quong well as the mine's Chinese cook. Quong offered him a share in a silver-lead venture, but Corbould declined, being unimpressed with the cost structure and Territory mining in general. He said that Quong later made a great deal of money from that particular claim.53

Most of the Chinese seem to have worked as tributers, although a number still worked and re-worked the old alluvial fields. The wet season was again late in 1892 and affected reef and alluvial mining alike. The Chinese carted a portable joss house around Pine Creek, the Union and other centres "to fetch the gold along". They believed that the few showers of rain they had were due to this agency and for a fee of ten shillings they would "joss" a person for half an hour.

With the domination of reef mining by a few Chinese merchants, the few remaining European owners of batteries found themselves in a difficult position, as it was largely in the merchants' hands whether or not a battery was fed. They could boycott a machine and render an owner quite ready to come to an arrangement for its lease or purchase. By the end of 1892 company mining was virtually defunct and of nineteen batteries in the Territory, the Chinese owned or leased all except three. There was a feeling that, if the Chinese managed to get hold of Jensen's battery at Pine Creek and the other two, the white man's day would be done for at least a decade.

As the 1890's progressed, there was increasing criticism of the tribute system from several quarters. Chief Warden Nash reported that the Chinese were "simply dragging the rich leaders out of the ground by the hair of the head, leaving the ground in a dangerous state".54 In fairness to the Chinese, however, it must be said that most of the tributes were let by the Europeans at a fee of ten to fifteen percent of gold won, for a year or less, but terminable at any time on giving notice. With this short and uncertain tenure, the tributer had no incentive to spend a penny more than he had to in safe methods, development or machinery, but every reason to tear out as much rich ore as he could while the tribute lasted. The fact that this resulted in the loss of much ore which would have been payable with proper mining methods did not interest the tributer at all. Whilst the European community criticised the system, it was members of the same community who were content to collect their tribute fees without doing any work themselves.

The Chinese workmen themselves complained, not so much about the system, but about the practices of their countrymen bosses. Warden Nash said he thought a European proprietary with Chinese tributers would be more beneficial for Territory
mining than a Chinese proprietary under the same system. In saying this, Nash added, “In the latter case the workmen are entirely in the hands of the Chinese storekeeper leaseholder, who charges them enormous prices for their stores, and only a very few of them have any wages to receive at the end of the year”. Of Ah Loy in particular, Nash said, “Ah Loy is the leading storekeeper here [Brock’s Creek] and his men complain very much of the exorbitant price of his stores and their inability to save money or even to make a few pounds over their store account”. Yet in 1883 Ah Loy crushed 3000 tons for 2000 ounces of gold, including one crushing of 120 tons from Britannia which yielded 660 ounces.

At the end of 1894 the disposition of the mining population was as follows:

<table>
<thead>
<tr>
<th>Locality</th>
<th>Europeans</th>
<th>Chinese</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pine Creek</td>
<td>39</td>
<td>753</td>
<td>792</td>
</tr>
<tr>
<td>Union</td>
<td>3</td>
<td>167</td>
<td>170</td>
</tr>
<tr>
<td>Extended Union</td>
<td>2</td>
<td>40</td>
<td>42</td>
</tr>
<tr>
<td>Eureka</td>
<td>-</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Flora Belle</td>
<td>3</td>
<td>40</td>
<td>43</td>
</tr>
<tr>
<td>Burrundie</td>
<td>5</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Fountainhead</td>
<td>1</td>
<td>156</td>
<td>157</td>
</tr>
<tr>
<td>Port Darwin Camp and Yam Creek</td>
<td>1</td>
<td>144</td>
<td>145</td>
</tr>
<tr>
<td>Woolwonga</td>
<td>-</td>
<td>105</td>
<td>105</td>
</tr>
<tr>
<td>Brock’s Creek</td>
<td>6</td>
<td>245</td>
<td>251</td>
</tr>
<tr>
<td>Cosmopolitan and Howley</td>
<td>-</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Mount Ringwood</td>
<td>-</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>5</td>
<td>30</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>65</td>
<td>2015</td>
<td>2080</td>
</tr>
</tbody>
</table>

During 1895 the South Australian Government amended its legislation, making it easier to exclude the Chinese from a newly-proclaimed mining field and also making it illegal for a goldmining lease to be granted to any Chinese or Asiatic alien. Until then, there was nothing to prevent a Chinese alien taking up a lease on the same terms as anyone else. From then on, the immigration restrictions and quarantine provisions, combined with the prohibition of Chinese on new fields, caused a decline in the Chinese population as the old fields became worked out. Many set out to walk overland to Queensland, even though, in those days, Queensland imposed a poll-tax on all Chinese entering, whether by ship or overland.

At the end of 1898 about 160 Chinese, mostly old men, remained on the mining fields at Fountainhead, Sandy and Bridge Creeks, barely eking out an existence.
The remainder were concentrated at Pine Creek, Union, Howley, Spring Hill and Grove Hill. The following year saw the lifting of restrictions on Asiatics at Wandi, the first new field to which the *Chinese Exclusion Act* of 1885 had been applied. The Chinese flocked there in hundreds and within a short time Warden Copley-Playford reported that something like half of the Chinese mining population had moved into Wandi to work alluvial ground already passed over by the Europeans. They carried wash-dirt to water half a mile away for a return of one to one and a half pennyweights a day, a bare subsistence, even by their standards. There is evidence today of very extensive work by the Chinese at Wandi, which was a large field extending for several miles. Some of the shafts are sixty feet or so deep, with signs of former work on the underlay, but most seem to be much shallower. The field was isolated and some thirty miles from Pine Creek, this being a long way for the Chinese to walk, carrying what little they had.

In 1899 the main centres in the goldfields for the Chinese were Union Reefs and Pine Creek. The *Australian Handbook and Almanac* describes Union Reefs as possessing one hotel, five Chinese stores, one European store, blacksmith’s and wheelwright’s shops, two butchers and two tailors, and having a population of about 400, mostly Chinese.

Solomon was elected to the first Commonwealth Parliament in 1901 and supported the 1902 *Immigration Restriction Act*, which contained very stringent provisions, including the “dictation test”. There was some uncertainty as to whether the States could still close their borders to Chinese, but this was clarified and it was made clear that once a person entered Australia his movement within the Commonwealth could not be restricted in any way. The population figures do not indicate that this new provision had any substantial effect on Chinese migration to Queensland. That exodus continued and there is a report by Aeneas Gunn in 1902 that numbers were passing through his property, some well mounted and equipped, others on foot and carrying water bags. All averred that the Territory was “done”, work being scarce and wages low. The European population then began to have forebodings about the future labour supply.

From then on there was an increasing tendency for naturalised Chinese either to take out or to buy leases. In 1906 they held and worked the old Flora Belle and McKinlay mines for silver-lead. They tributed at several other places, including Mt Wells and Great Northern. A substantial rise in base metal prices in 1907 caused them to forsake gold for tin, which was mined mainly at Mt Todd, West Arm, Bynoe Harbour and Mt Shoobridge. Chinese mining methods had improved, as at Mt Shoobridge they mined at the 140-foot level and controlled the water with a steam-pump without any European assistance. Two of the leading Chinese entrepreneurs were Que Noy and Hang Gong, the latter having made most of his money some years before at Brock’s Creek and Woolwonga. He then moved to West Arm, where his Wheel O’Fortune mine was very rich, in one year producing 109 tons of tin concentrates worth £8250. Hang Gong had a large tribute workforce plus a store and provided dray transport from his boat landing to the tinfields two to four miles away. Que Noy was active mainly in the Pine Creek-Union area. He tributed Mt Wells from the Daniels and had there a sizeable workforce carting surface material in baskets up to a mile to the battery. When the tribute ended, he moved to Extended Union and
spent some £1500 cleaning out an old open-cut, hoping to find some rich leaders, but, for all his effort, only seventy-three ounces of gold were recovered. He then bought the old Spring Hill battery and moved it to the Thunderer claim.

As the years passed, the known alluvial grounds continued to be worked, but with diminishing returns. Falling base metal prices caused mines to close, so that the number of Chinese employed in mining steadily declined. Many migrated to Queensland to work in the sugar plantations and some were fostered by their merchant confreres in Queensland, who paid their Territory debts and passage expenses. The numbers remaining in Territory mining fell from 958 in 1907 to 674 a year later. By 1910 the Chinese owned or controlled practically all the gold mines of any value. About 120 were employed on wages or contract and the other 510 tributted or fossicked for gold and tin.

In 1905 Mr Mitchell, M.P., was highly critical of the Chinese in the Territory and this prompted the following letter to the Editor of the “Northern Territory Times” by a group of Chinese merchants:

Sir -- In your issue of August the 18 under the heading 'Throwing Mud' you quote from some recent utterances of Mr S.J. Mitchell, M.P., on the subject of Chinese mining in the Northern Territory, and, in referring to the dark picture which that gentleman drew of affairs here, you say that the picture has a reverse side, and continuing you say that '...it might easily be proved that even the Chinaman has not been wholly a curse'. We thank you for this comment, and will be greatly obliged if you will enable us to speak for our countrymen further on the matter. It will be evident to any person at all conversant with the past of the Territory that Mr Mitchell is very ignorant of its history, and in the remarks attached to him he has abundantly displayed his ignorance. His remark 'That he is not aware of a single piece of machinery in the Northern Territory erected by Chinese' shows such lack of knowledge that we wonder whether Mr Mitchell’s knowledge of affairs here generally is on a par with this. At the same time we are now not surprised at the ignorance, for which Mr Mitchell is in no sense a Territorian, has never resided here, and cannot be expected from two short visits to understand the problems which are met with in this Territory. To show how scant is Mr Mitchell’s knowledge on this question, it will be necessary here to say that at least twenty stamper head batteries have been at one time or another worked by Chinese here, and of this number at least half have been owned and erected by Chinese, while the balance have been rented from various Companies and owners. Shafts have been sunk, pumps and winding gear erected, on almost all the fields, by Chinese, and it will be found, if Mr Mitchell cares to enquire, that the Chinese have spent many thousands of pounds in erecting and working machinery. It has been bought from local Companies and individuals, and, it may be said in our defence, has not been bought where it was not wanted. If Mr Mitchell had better knowledge, he would find, probably, that our aim always has been to make mining profitable, and we can fairly claim that sometimes our methods have been successful.

Not always, however, particularly where we have resorted to machinery, for some of our losses have been very serious indeed. Take for example only one of many. Yet Sing, who was at one time worth £6000 and today has lost all in working for gold at Cosmopolitan (Howley) where in his prosperous day he erected a battery, sunk shafts, and provided pumping and winding gear.
Generally speaking, however, it should be said in defence of our methods that they have been more successful than the more elaborate operations of the Europeans.

Might we not more truly say that a much more serious menace to the Territory exists in the fact that the Territory is controlled for the most part by men like Mr Mitchell, who know little about it and do not understand its problems, and who, as you so appropriately put it, are ready to throw mud at it when it suits their purposes.

We are, Dear Sir,
Yours faithfully,

C. YAM YAN
WING SANG TONG
CHIN KIM KEE
YET LOONG
WING CHEONG SING
WING WAH LOONG
HOP WAH CHONG KEE

SUN KWONG SING
YOT SING
MAN FONG LAN
KUNG HING
SUN HING KEE
QUONG LEE CHONG
CHONG KEE

The letter presented sound evidence of the attachment of many Chinese to the Territory and their emergence as responsible citizens exercising their right to defend themselves against ill-informed criticism.

In succeeding years the Chinese population continued to fall until, in 1913, only 659 remained. When the mining industry enjoyed a brief boom during the World War I years, it was realised that the cessation of Chinese Immigration in the 90's was creating a serious labour problem. By 1914 only 462 remained in the industry, falling to 282 in 1918. In 1925 a Government report referred to complaints by Chinese entrepreneurs of the great dearth of Chinese miners for mines they held or tributed, with even the very old and feeble having their services retained for as long as they could work. In that year only seventy Chinese were engaged in mining and this was, to all intents and purposes, the virtual end of the Chinese mining era in the Territory.

Time has eroded the ethnic differences of more than a century. The Territory is home to many descendants of the early migrants and they play an important part in commerce and other walks of life. The seal of total acceptance was set when the late Harry Chan was elected, firstly, in 1962, as a member of the Legislative Council of the Northern Territory, of which he became President in 1965, and, secondly, as the Mayor of Darwin in 1966.
Mr. I. Lewis

Dr. & Mr. Magistrates Government
Northern Territory Department

To: Cost of importation of Coolie No. 123.

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passage. advance. rem.</td>
<td></td>
<td>14 15-6</td>
</tr>
<tr>
<td>Remainder for lane: as under</td>
<td></td>
<td></td>
</tr>
<tr>
<td>575 lbs Rice @ 4 ft. cut</td>
<td></td>
<td>3 10-9</td>
</tr>
<tr>
<td>190 lbs Salt fish. Scram 35 j.</td>
<td></td>
<td>2 19-8</td>
</tr>
<tr>
<td>15 lbs Salt - on. Depal 2 ft.</td>
<td></td>
<td>1 2-4</td>
</tr>
<tr>
<td>15 lbs. as Trompo 11 j.</td>
<td></td>
<td>8 6</td>
</tr>
<tr>
<td>24 lbs. as Vegetables 20 j.</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>12 lbs. Peas. 1 2 4</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>20 lbs. any Trompo 1 4</td>
<td></td>
<td>3 3-2</td>
</tr>
<tr>
<td>16 lbs. Salt 66 cart</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>14 lbs. Sugar 20 j.</td>
<td></td>
<td>3 3-2</td>
</tr>
<tr>
<td>1 qall tea oil</td>
<td></td>
<td>2 4</td>
</tr>
<tr>
<td>1 lb. arrack</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 lb. Tobacco</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunday Chops. English &amp; Parsley 4 lbs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 7 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25 17 6</td>
</tr>
</tbody>
</table>

Payment made by Cheque

S. L. Darmon
Assist. Sec. to Sec'y

2 Oct. 1844

Invoice for Coolie No. 123.
Chinese dam near Spring Hill.

Chinese water-race, Mt Wells.
Ping Que’s workings, Union Reefs.
Chinese temple
CHAPTER 4

Railway Construction and the Mines: 1886–1894

The 1880's and 1890's saw a worldwide growth of railways in countries with open spaces in which the development of newly-found resources needed speed and a level of costs not to be found in animal-powered transport. The South Australian Government saw the new age of steam as an aid to its pastoral and mining problems in the Top End of the Territory. As far back as 1873 Reynolds had recommended the construction of a railway to the goldfields and he was supported by Warden Knight and successive Government Residents. Surveys were made, estimates prepared and, finally, in October 1883, an act was passed authorising the construction of a line with a gauge of three feet six inches from Palmerston to Pine Creek at a cost of £959 300, with an extra £101 500 allocated for a jetty at Port Darwin. Detailed survey and design took place and, as part of this process, Mr James, a South Australian railway engineer, walked the whole route and looked at each suggested deviation to ensure that the best gradients were used and that costs were kept to an absolute minimum. There was at the time a widely-held belief that the work might eventually lead to a transcontinental railway, following the Overland Telegraph route to Adelaide, a course which was strongly urged by E.W. Price, the Government Resident.

Early in 1885 a start was made on the jetty by contractor Wishart, who brought workmen with him from the South. A hold-up occurred because the “Bittern”, carrying the first consignment of sleepers and other materials, was wrecked on Browse Island, about half-way between Timor and the present town of Derby. The second supply ship, the “Silver Stream”, had a long and difficult voyage and, whilst awaiting its arrival, the work-force built houses on a reserve previously occupied by Chinese. The Government published a notice in the local newspaper indicating that no further relief work would be provided for unemployed Europeans and advising any man in this position to report to the railway works for engagement in cleaning land and grubbing stumps, with pay at six shillings a day and tent accommodation.

The railway works aroused the interest of the southern press and a description of Pine Creek, the future southern terminus of the railway, appeared in the Melbourne “Argus” in May 1886.

Pine Creek is a small mining township; there are the usual hotel, store and blacksmith’s shop, also a police station and what was in the past a telegraph station. As no municipal by-laws existed and the best feed was next to the hotel, we disposed our horses by turning them out and depositing our packs and saddles on the verandah. We had an excellent Chinese meal and then inspected the battery, half a mile away. Battery had 20-head, only one European, the rest Chinamen at £3 a week. The Chinese storekeeper had brought a wife from China and it was a treat to see several Chinese children running around. There was a gambling house, almost entirely patronised by Chinese, which was crowded every night. This party travelled by coach; about four miles from Port Darwin Camp they changed horses; the changing-house was a bark hut and the
groomsman a Chinaman and he had four horses in the yard to which the harness
on the tired horses...(?)...had come off but the driver succeeded in pulling it up.
They had some trouble with the lead horse until they found that the Chinaman
had put the bit under his chin instead of in his mouth. Dinner was taken at the
Horse Reef Hotel, some 25 miles from the Howley. Another 25 miles brought the
coach to Adelaide River Hotel, where there was also a police and telegraph
station. Next stop, Rum Jungle for dinner, then Southport and thence four or five
hours by launch to Darwin. 57

The main railway contract was signed by E. and C. Millar on 11 May 1886 and they
set about organising supplies and building up a work-force. Initially 300 Chinese
were recruited from eastern Australia. News of the railway works travelled quickly
and generated large-scale immigration from the East without any further direct
action by the Millars. In June 1886 six ships arrived at Port Darwin loaded with
construction materials and work began in earnest.

The task ahead was formidable, involving 146 miles of construction through almost
virgin bush and some 310 stream crossings and floodways, including several major
bridges. The largest, the Adelaide River bridge, involved three 100-foot spans.
Water storages of sufficient size would be required at intervals along the route to
ensure that steam-locomotives could operate throughout the dry season. The wet
seasons were to play havoc with the work and often halted progress completely for
weeks on end. It was known that rivers could change very quickly from quite small
streams to raging torrents fifty feet or more in depth and hundreds of yards wide, but
precise engineering data on stream flows did not exist.

In Palmerston itself there was little in the way of heavy engineering resources
beyond a few blacksmiths. Consequently Millars had to establish, not only a sawmill
and joinery works, but a range of equipment to work iron, steel and alloys, including
a brass and iron foundry for castings, a bolt-cutting machine and a 500-pound
steam-hammer.

In December 1886 most of the heavy material arrived, including two stationary
steam-engines and a locomotive. Subcontracts were let to James Tennant (a former
surveyor and miner) and a Chinese to excavate cuttings near Palmerston and to
cart rails to the Fifteen-Mile. Problems arose through these subcontracts falling
behind schedule, mainly because of a general requirement that Europeans had to
be employed if they were offering. Most of these were diggers returning from the
Kimberleys and of them the Government Resident said that a few were genuine and
quite prepared to do a fair day’s work labouring or overseeing, but the majority were
not used to pick-and-shovel work and therefore generally useless.

During the construction of cuttings and yards at Palmerston, Chinese were
employed carting buckets of spoil from cuttings to embankments. J.W. James, the
Railway Engineer, noted at the time that a Chinese labourer averaged nearly one
cubic foot of earth each trip, that he moved over the ground much faster than a horse
and that the contractors employed Chinese to move loaded wagons of up to nine
and a half tons from the jetty to the stacking yard. He observed that it had been found
that five Chinese could do the work of one horse and they were more efficient than
horses in soft ground.
The wet season at the end of 1886 brought the usual slowdown in construction and little real progress was made until Charles Millar arrived unexpectedly in his private yacht, the "Red Gauntlet". He sent his officer-in-charge south on the next ship and took over personal direction of the contract. Over the next several months he built his work-force to a maximum of 2970 Chinese, Indians and Sinhalese, with 137 horses, 165 mules and donkeys, as well as four locomotives and four other steam-engines. The Indians and Sinhalese did most of the clearing and earth moving, whilst the Chinese laid the rails at a rate of about three-quarters of a mile a day.

According to the "North Australian", most of the work was done at piece rates, one advertisement for men offering nine to thirteen pence a cubic yard for railway side cutting, with rations delivered freight-free to the place of work. Millars brought their own engineers, overseers and tradesmen, such as blacksmiths, from the South, often accompanied by their families. The main work-force, however, was essentially Asiatic.

In July 1887 the first large locomotive was christened with the breaking of a bottle of champagne by Mrs Pater, the wife of the Judge, and named the "Port Darwin" in the presence of a crowd of nearly 500, the event being celebrated by a banquet in the Town Hall, where no expense was spared by the Millars.

Construction went on, but not without many difficulties, as recorded by the "North Australian". Fights between gangs of Chinese armed with shovels and sticks were frequent and at times they would attack the white overseer. The overseer would often be many miles from another European and for this reason most were armed with revolvers. Even at night they were not safe and there are several reports of gangs half smothering an overseer with sacks whilst his tent was rifled. Then the Millars decided to import rice directly to save expenses and so incurred the wrath of the merchants who lost profits. Periodic strikes took place along the line and the "North Australian" expressed the view that the merchants were probably behind much of this trouble, as they exercised a great influence over the men. Due to a misunderstanding about the conditions of engagement, there was trouble with the only group of Chinese which Millars directly sponsored. A conference with interpreters went on for a whole afternoon and then about a third refused to work for the railway and set out for the goldfields.

Other difficulties arose when horses proved unsatisfactory under the conditions being experienced, so Millars imported donkeys and mules from America. An eighteen-ton crane fell off the jetty and proved very difficult to recover. They tried lashing it to the mast of one of Millars' ships at low tide in the expectation that when the tide rose the problem would be solved, but the result was the breaking of the ship's mast at deck level. The crane eventually had to be taken to pieces and later reassembled.

Wherever a bridge or substantial stream crossing was needed, a diversion and temporary crossing were made so as to enable supplies to be carried to the gangs further south. By June 1887 gangs were working at the Fifty-six-Mile and in December the rails were only six miles short of Adelaide River, some seventy-four miles from Palmerston. Then the wet season caused so much damage to earthworks that up to 300 men had to be taken off construction and assigned to
repairs. This delayed completion of the line to Adelaide River until April 1888. The Adelaide River bridge was a major undertaking and was not finished until June the following year. In the meantime, a light temporary bridge enabled construction trains to proceed to points further south.

Millars were required by the contract to operate trains as successive stages of the line were completed, until such time as the whole project was finished and handed over to the Government. On 16 July 1888 Millars inaugurated a daily train service (except Sundays) to Adelaide River, passengers travelling at their own risk and goods carried at the owner’s risk. The fares were fivepence a mile for first-class passengers, fourpence for second-class and threepence for third-class, the last-mentioned being for coolies only in open trucks. Most of the goods, apart from construction materials, consisted of stores for the Chinese storekeepers. The timetable for this, the first train service in the Northern Territory, was:

<table>
<thead>
<tr>
<th>Leave Palmerston</th>
<th>12.45 pm</th>
<th>Leave Adelaide River</th>
<th>6.30 am</th>
</tr>
</thead>
<tbody>
<tr>
<td>McMinn’s Lagoon</td>
<td>2.10 pm</td>
<td>Stapleton Creek</td>
<td>6.55 am</td>
</tr>
<tr>
<td>Southport Road</td>
<td>3.20 pm</td>
<td>Rum Jungle</td>
<td>7.45 am</td>
</tr>
<tr>
<td>Rum Jungle</td>
<td>4.30 pm</td>
<td>Southport Road</td>
<td>8.55 am</td>
</tr>
<tr>
<td>Stapleton Creek</td>
<td>5.20 pm</td>
<td>McMinn’s Lagoon</td>
<td>10.50 am</td>
</tr>
<tr>
<td>Arrive Adelaide River</td>
<td>5.45 pm</td>
<td>Arrive Palmerston</td>
<td>11.30 am</td>
</tr>
</tbody>
</table>

This service hastened the demise of Southport, where the European stores had been closed for some time. All except two of the former twelve Chinese storekeepers had left for other fields and the only remaining European resident was the Postmaster, who was waiting for word to move to Burrundie with his buildings and papers. Much of the long and costly haul by the teamsters had now been eliminated and this is illustrated by the chartering of a special train in August to take a large amount of mining machinery to Fountainhead, whilst some ten tons of silver-lead bullion were railed from Grove Hill to Port Darwin.

Towards the end of 1888 the line reached Burrundie, with earthworks completed as far as the Union. Burrundie enjoyed its palmiest days, the hotel being crowded nightly with men from the construction camps. “Fever” was a problem and it affected Chinese and Europeans alike.

The coolies did not speak English and orders by supervisors had to be relayed through Chinese headmen. Despite this handicap, which involved large numbers of unskilled workers in many remote areas, accidents were surprisingly few. The first major mishap occurred during the 1888 wet season. A train was passing over an embankment some six miles south of the Howley when the bank collapsed and the whole train ended up in fifteen feet of water. The crew and passengers escaped with nothing worse than cuts and bruises.

Progress during the first few months of 1889 was slow, partly due to the wet season and to the necessity to construct five bridges between Burrundie and the Union, but also due to the decision of a large number of Chinese to desert the railway to go gold-seeking on their own account.
In September 1889 the railway was officially handed over by the Millars in the presence of a crowd of residents. The Government Resident expressed regret that the South Australian Government had not seen fit to have any special ceremonies for the occasion. The first Government train left Palmerston at 5.00 am and arrived at Pine Creek at 4.42 pm, with a twenty-minute break at the Adelaide River refreshment rooms. Millars ran a daily service under the terms of the contract, but on the formal handover the rate was immediately reduced to three trains a week.

By 1890 it was clear that early estimates of traffic on the line had been exceedingly optimistic and, as mining traffic had been very light, the service was reduced to two days a week. The South Australian Government decided that the full interest bill and operating deficit of the railway should be met from the Northern Territory budget without any overall increase in the appropriation. The result was that money for normal developmental works was greatly reduced and the Payne–Fletcher report shows that Government development was stagnant between 1889 and 1910.

The railway was extended to Katherine in 1917 and Birdum in 1929, but there were only two brief periods when anything like reasonable utilisation and profitability were achieved. The first was during World War II, when transporting military supplies, and the second during the 1960's and 1970's, following the establishment of iron ore mines at Frances Creek and Mt Bundey. To transport the iron ore, the track was upgraded and considerable expenditure was incurred on rolling stock and locomotives. The iron ore deposits at Mt Bundey were relatively small and, whilst by 1974 a small reserve still existed at Frances Creek, the damage done by Cyclone Tracy to the loading installations at the port of Darwin at the end of that year caused a cessation of operations and the mine was closed. Once again the hopes of the Government for the railway's successful operation were not realised and it ceased operations in 1975.

The years 1886 to 1887 witnessed a general decline in mining, partly because of two very dry seasons and partly because many of the European miners in the Territory went to try their luck at the recently discovered Kimberley alluvial goldfields. Of this event E.W. Price, the Government Resident, said:

Nearly all our old miners who could raise enough money to buy horses and stores have rushed off to the new diggings, either overland or by steamer, and some who were but slenderly provided have risked their little all to face the long overland journey of 170 miles from Cambridge Gulf, or the longer journey of 270 miles from King Sound. Alluvial claims here that had been returning £6 a week per man, and reefs with rich stone, were left for the uncertainties of a distant field, difficult to reach, and involving heavy preliminary expense.

The rush to Kimberley from the other Australasian colonies is the greatest since Port Curtis, and many skilled mining men fear equally disastrous results. Steamer after steamer had called at Port Darwin en route for Cambridge Gulf and King Sound, crowded with diggers and others who have resolved to try their luck at digging. The old seasoned miners are mostly fitted and equipped for the hazards and hardships of an unsettled country, but there are large numbers of farmers, labourers, clerks and townsmen who are unaccustomed to 'roughing it', who do not know where to prospect, and from want of skill will find it difficult to save the gold if they find it.
Two strong experienced bushmen, Messrs Biddle and McMillan, have arrived here from the Kimberley goldfields. They had made the trip overland from Roebourne to Derby, and thence to the Kimberley, arriving there on December 7th, 1885. They prospected over a large extent of country, making only bare wages, and they left on May 4th, 1886, having spent five months on the field. According to their account, between fifty and sixty had been at work, and the total quantity of gold known to be obtained was a little over 1100 ounces. They state the water was scarce, and that it is useless for diggers to be on the ground before next December, when the wet season has set in.

Government action to stimulate mining was taken by the appointment of Rev. J.E. Tenison-Woods to examine and report on the metalliferous areas of the Territory. Tenison-Woods, a Jesuit priest, was a geologist of standing. He set out with Warden Nash, a surveyor, two men and twelve horses and undertook a thorough examination of the known fields. He said in his report:

I confidently assert that the Northern Territory is exceptionally rich in minerals, only a small portion of which has been known to the public. I do not believe that the same quantity of lead will be found in any equal area of Australia. In fact I doubt if many provinces will be found in any country so singularly and exceptionally favoured as Arnhem Land is in respect to mineral riches...The Peninsula or Arnhem Land will become one of the great mining areas of Australia.

He observed later, “The whole of the geology of the Northern Territory is of a simple kind”.

Tenison-Wood’s report went into considerable detail, a summary being:

Gold exported from 1880 to 1885 was 121,779 ounces.
Now twenty-five percent of the auriferous reefs had been fairly tested.
The quartz reefs had never had justice done by first-class machinery.
The Union reefs had often been ruined by the battery, which let large quantities of amalgam go down the creek; wages were enormously high, as was cartage.
At the time, all the alluvial diggings, with the exception of Bridge Creek, were entirely in the hands of the Chinese and Bridge Creek was expected soon to be. A European expected £4/10/- to £5 a week and could not earn this on the alluvial fields.
Fountainhead was still worked by a few Chinese, who made good wages by turning over the old gravel. In the "wet" there were always plenty of Chinese, but in the dry season water was short.
Extended Union was rich, but bungled and mismanaged – the first owners sold out and their successors sank a shaft to intersect the lode; their money ran out before they hit the reef and Chinamen then had it on tribute.
At the Eleanor, in five years Mr Jensen got 9000 ounces of gold.
The Eveleen showed great promise and any failure would be very harmful to the mines.
Houschildt’s Rush, alluvial and reef, four miles south of the Eveleen, was entirely worked by Chinese, but water was only available in the wet season. The field was said to extend for seven miles.
In his general conclusions Tenison-Woods made three important points:

The high rates for labour inhibited development, but hopefully the railway would rectify this.

The great mass of mineral lands was held by persons who did not and could not work them. As soon as a mineral discovery was made, the Lands Office in Adelaide was besieged by speculators taking out thousands of acres of land, intending to hold them until the discoveries were tested. While prospectors should be liberally dealt with, the mere speculator should be excluded, and legislation should prevent people holding mineral land beyond a reasonable time without working it.

The Chinese should be entirely excluded from the goldfields except as hired servants. At present the whole of the gold mining industry of the Northern Territory was bound hand and foot to the Chinaman. They should not become proprietors of our treasure, for which the majority did not condescend to pay for a Miner's Right.60

The Territory in general, and its mineral potential in particular, received a great deal of favourable publicity during the Adelaide Jubilee Exhibition in 1887–1888. Knight designed a stand on which rich mineral specimens, including gold nuggets supplied by Jensen, were displayed and this was seen by a great many people, including distinguished visitors and men of influence from all over Australia. Soon after, the South Australian Minister for Education visited the Northern Territory and toured the mining fields extensively with horse and pack-horse. He was impressed with what he saw and reported very favourably on the country’s mineral potential.61 He also realised that existing mining laws were inadequate and recommended changes.

There had been criticism of the laws extending over some years, particularly in relation to the legal loop-holes which allowed large tracts of country to be tied up for years without any work being done, an example being when the McKinlay and Mt Wells Co shipped forty tons of ore to England, with assays indicating sixty percent lead and 200 ounces of silver to the ton. The “Northern Territory Times” thought it strange that this company had allowed ore of this richness to remain at grass for two years, knowing that the contained metal would be worth £22 a ton, and freight to Melbourne, Newcastle or London would be about £6 a ton. The paper further observed that possibly the shareholders were millionaires and could afford not to worry about a profit of £1200 and that maybe for that reason the several square miles of country on which the silver ore was found had been allowed to lie idle, without one man employed for over two years. The paper went on to say, “Such scandals as this lead to the rumours that men of influence are interested in the claims and that the Commissioner of Crown Lands thus prostitutes the discretionary power vested in him instead of insisting on the claims being worked before granting any renewal of the Mineral Licence”. It concluded that the main interest by South Australian politicians in the Territory was in its being a good field for speculative mining syndicates and land-sharking operations.61A

Towards the end of 1888 the mining laws were changed to require the expenditure of £5 per acre every two years or the employment of one man for each twenty acres. Mineral licence holdings were also restricted. Sale of leases forfeited for non-
working would in future be by public auction. This was introduced to stop undesirable practices whereby a company which had held ground for years and not worked it, allowed the lease to be forfeited and arranged for an associate to buy it at a nominal price. It also gave schemers who had inside knowledge the opportunity to buy properties at very low prices, to the detriment of the revenue. Whether the new provisions would be effective or not, however, would depend on the extent to which they would be policed and enforced.

In later years Solomon himself introduced two bills further to improve mining laws, but on each occasion they failed to get through, for whatever reasons. Nevertheless, the Adelaide Government's attitude to mining had undergone a significant change for the better and for this the Territory people gave most of the credit to Solomon.

A rush of speculation occurred during 1888, resulting in 564 applications for mineral licences covering some 38,000 acres, but reaction set in the following year when most of the ground was surrendered. A few companies continued, some of which did extensive work, but by the end of 1891 most had collapsed. Some local syndicates were also active, but few lasted more than a few years.

In 1890 the Northern Territory was granted parliamentary representation in the form of two seats in the South Australian Legislative Assembly. Parsons, the Government Resident, resigned to contest one of the seats, and was elected, together with V.L. Solomon. In 1890 Knight was appointed Acting Government Resident and later confirmed in the position. In his first report as Government Resident, Knight said that, with one or two exceptions, mining was in the doldrums and agricultural and pastoral development needed positive incentives. To stimulate mining he recommended:

government funds for sinking and driving in selected localities for gold, silver, tin and copper;

a standing reward of £500 for the discovery of payable minerals;

advances to bona fide working mines for development;

erection of two subsidised smelters near the railway and close to Palmerston, one for copper and one for silver; and

clearing of bush tracks through likely mining country to facilitate further prospecting.

In Adelaide, Solomon was quickly accepted in the Legislative Council and there is evidence that in most respects he pressed for the reforms advocated in his election policy. Shortly stated, these were to encourage mining by abolishing all duties of all descriptions on mining and boring machinery, tools and implements; by the carriage of mineral ores on the railway at nominal rates and the carriage of machinery at much lower rates than those prevailing at the time; by payment of bonuses for deep sinking; by opening of roads to new mining discoveries; by enforcing the working of leases and by the establishment of a local office to issue titles, register claims etc, in replacement of the existing cumbersome system of having them all dealt with in Adelaide. He also wanted a ban on any further Chinese immigration and extension of the railway line to Katherine. His policy did not differ in any really significant way from the views of Knight.
Probably through Solomon’s pressure in the Legislative Assembly against the background of Knight’s proposals, the Government began to react favourably. It was worried by the mounting debt of the Territory and by the low revenues of the railway. There had been a short-lived mining boom in 1888, but this was mainly of a speculative nature and what was needed was a means of encouraging genuine development. Initially, the Government provided funds for assistance to reef miners and prospectors, with applications to be assessed by D.D. Rosewarne, the South Australian Inspector of Mines, who was instructed to inspect and report on the Territory’s mineral fields. In the event, Rosewarne did not make the visit, as he resigned to accept an offer from a mining company. Then, in 1890, the Government abolished duty on mining and other machinery necessary for the Territory’s development. It created a position of Government Assayer for the Territory and announced that prospectors’ samples would be assayed free.

Following further complaints about the Territory’s mining laws, the Government appointed a commission to enquire into the conditions of the mining industry, including the laws and regulations and any other relevant matters. Solomon gave evidence, advocating a fee of two shillings and sixpence a quarter for a Miner’s Right or, alternatively, ten shillings for a full year, instead of the practice then existing whereby a person might pay ten shillings and find that his Right expired the following month. The next point he made was that present leases were for far too short a period and not renewable, which made the raising of capital difficult. He thought the Warden should have the power to grant a suspension of work on leased ground where bona fide work had been done and circumstances so warranted. Under existing law, even the Minister had no power to grant the suspension.

Following the commission’s enquiry, J.C.F. Johnson, the Minister for Education, again visited the Territory, early in 1891, and toured the mining fields. His report was optimistic on the outlook for the mining industry. At the same time, he recommended urgent changes in the mining laws. After Johnson’s return to Adelaide, J.V. Parkes, the Inspector of Mines for South Australia, was sent up to make a detailed examination of the mineral fields. Parkes spent some months on the fields and years later, in response to a question about conditions, he replied laconically, “I used to make my bed in the grass under a mosquito net”. This report gave considerable detail of the various mines and in most cases gave recommendations for future development or otherwise. The Union Reefs field received particular attention.

Of Jensen’s mine at Pine Creek, Parkes said, inter alia,

There is a twelve-horsepower engine on the ground, which it is intended to use for winding purposes at the mainshaft, with winding gear, trucks and cages. It is a good plant, but very often idle. The mine, if properly worked, could keep sixty head of stampers going all the year round...I am of the opinion that it is one of the best gold-mining properties in Australia.

In his summary at the end of his report Parkes said,

The Northern Territory of South Australia is phenomenally rich in minerals, but more especially in gold and tin. Hitherto mining has been carried on only in the most primitive fashion by fossicking or rooting along the surface, or, at most, to
only shallow depths, in following the rich leaders. At Union, Pine Creek, Fountainhead, Yam Creek, Woolwonga, Bridge and Maude Creeks, and the Howley, the reefs are all indicative of permanency, and give promise of large yields when systematically worked. Some of the mine properties — notably those at Mt Tolmer, Mt Shoobridge and Bynoe Harbour — promise a rich reward when properly developed and equipped with suitable machinery. The two best silver properties are the Evelyn and McKinlay and Mt Wells, and those should pay if properly worked.

Parkes concluded his report in the following terms:

Having now concluded my report on the individual properties ... I feel constrained to say, and I have no hesitation in saying it, that the Northern Territory of South Australia is phenomenally rich in minerals, but more especially in gold and tin, and I feel assured that in the course of time it will become one of the chief producers of these two metals. 

The Parkes Report was printed in full in the "Australian Mining Standard", extending over several issues and widely circulated in Australia and London. It undoubtedly assisted in the revival of mining in the Territory.

In 1889 a long-standing project of Knight's had come to fruition — a miners' hospital had been erected at Burrundie, superintended by Dr Bovill, with Mrs Johnson as Matron. The goldfields' population had pressed for years for the appointment of a Medical Officer of Goldfields, but with little result.

Dr P.M. Wood was appointed to such a position in 1883, covering the Pine Creek—Yam Creek—Howley area, but was transferred to Palmerston in the following year. The position then seems to have lapsed until 1888, with the appointment of Dr Bovill. It had taken a long time to persuade the South Australian Government to provide funds for the work, which cost much more than the estimate, and severe economies had to be made with equipment and furnishings. Dr Bovill resigned after ten months because shortages of essentials had prevented the Burrundie Hospital operating along the lines of even a moderately convenient hospital. The doctor said, amongst other things, there was no bathroom, there were no water tanks, no drains, the privy accommodation was in defiance of the sanitary regulations and there was no convenience whatever in the hospital for the use of patients. He had received repeated assurances from the Government Resident that these faults would be corrected, but no action took place. Apparently the Government was not entirely at fault, as there was a bathroom, which the good doctor had promptly turned into a storeroom. Money was allotted for a small mortuary, but the doctor must have known that little else was possible until the next Government budget estimates were passed.

It took some time to find a replacement doctor and during this time serious cases had to go to Palmerston. The difficulties are illustrated by the case of Colin, the son of J. McPherson, and an employee at the Alice Hills mines. He was oiling the bearings of the steam-driven pump, but misjudged, and the crank came down on his arm. The flesh of the arm was fearfully lacerated and the bone badly broken. Dr Ternau was immediately wired, proceeded to the Union by next day's train, attended to the injury and then sent the boy to the Darwin Hospital on the next train, which was the following day.
None of the doctors stayed long until Dr Lynch took up the post of Medical Officer, Burrundie, in 1890, where he remained in charge of the Government hospital until 1893, when the post again fell vacant.

The Port Darwin Tin Co. pressed on with its Mt Wells mine. Machinery and buildings of the defunct Delissaville Sugar Co. were acquired and moved to Mt Wells. Difficulty after difficulty then arose. According to Rev. Tenison-Woods: "There have been some hitches in the management of this mine which have led to much delay and expense." The new pumping gear ordered by manager Baker was a complete failure. The dam would not hold water because of the porous nature of the country. Baker departed and Captain Thomas arrived, who prescribed costly crushing rollers to be made by May Bros of Gawler. The directors took some time to commit the fairly heavy expenditure involved in the construction of a new pump and pipeline to McKinlay, one and a half miles away. Finally, the new machinery was formally declared open by Warden Nash at a ceremony in 1889, attended by all the mining identities in the district. The company's hopes for clearance of debt and payment of dividend were dashed ten days later when the new rollers were completely worn out by hard ore.

By the end of June 1889 the plant had been given a thorough trial, but its performance had fallen far short of expectations in several respects, particularly the crushing rollers, which had worn out so quickly. The latter were of a new design and just could not cope with the relatively hard ore. Fortunately for the company, a condition of their purchase was that they had to be proved satisfactory in service before they were paid for. Heavy expenditure had been incurred in setting up the mine and plant and without costly additions it would not pay. A few months later the company's funds were exhausted and it was wound up. A new company with £15 000 capital was formed, mainly from the members of the old company, Thomas was dismissed and a new ten-head stamper battery sent up. With this, one of the Daniels brothers, now appointed manager, managed to crush about 100 tons weekly for a yield of two tons of tin oxide. He warned, however, that production on this scale would not pay and suggested that with thirty or forty head it would be profitable. The company sent up three ten-head batteries, but then ran short of cash and the new machinery lay on the ground for months whilst additional finance was raised. Knight commented in 1890 that most of the company's problems had been caused by the directors accepting the advice of the original manager, who was an amateur, to erect a large and costly roller-mill and mill-house, whereas, although the Cornish stampers were antiquated, they were reliable and easily maintained. It was expected that when the new stampers were operating a large work-force would be employed, debt overtaken and steady dividends paid.

An unusually dry year then severely limited production, although a good deal of development work was done. Funds again ran short and, under its policy of assistance, the Government granted the company a small subsidy. More development was done, but when reviewing the subsidy in 1894 the Government Geologist reported that for several reasons, including poor plant layout and siting (resulting in excessive costs), thin veins of ore (resulting in expensive mining) and frequent changes of managers, the mine had no hope of paying. The subsidy was withdrawn, all work ceased and the battery was taken over by the Government.
The North Australian Mining Company also had leases at Mt Wells, originally held by an Adelaide syndicate, which did a small amount of work and then sold out to an English company for £70 000. The new company spent some £120 000 between 1888 and 1891 without any returns of consequence and then arranged for Phil Saunders, a respected Territory miner, to furnish an independent report on the property. Saunders said that, in his view, the claims were entirely worthless and on his advice the company discontinued operations. At auction, a European bought the entire plant for £850 and a few days later resold it to the Chinese for £1000.

V.L. Solomon owned a property at Mt Shoobridge where he had the mining and ore-dressing done by Chinese. In 1887 he shipped four tons of seventy-percent tin concentrates and later that year succeeded in floating the property in England into the Palmerston Copper Mining Company, which took over his Wheal Danks copper mine near the Daly River as well. Capital of the new company was £160 000 and for his interests Solomon received £40 000 in cash and fully-paid shares. At the time the South Australian "Register" said there was no reason why the Daly River copper mines should not rival those of Wallaroo and Moonta. Captain John Dunstan was placed in charge, arriving at the mine site in July 1888. In the following months machinery arrived for both mines and was erected under the supervision of Edwards, the engineer who designed and drew the plans for most of it. Crushing and concentrating plant was erected at Mt Shoobridge and hauling, pumping and winding gear at both mines. Expense was not spared with the machinery, all steam-driven.

At Mt Shoobridge the thirty-horsepower Cornish boiler was assembled and rivetted at the mine, which had its formal opening in April 1889. During the ceremony Mr Dunstan referred to his operational difficulties in bringing the mine to the point of production, the main problem being that wages, freight, contingencies and duty on machinery had been far higher than estimated. As most of the company's cash had now been expended, it was essential that the mine at once produce its tin and the manager was confident that he could produce ten tons of tin oxide a week. V.L. Solomon reminisced that not so very long ago he had camped in a grass shed where the new buildings now were and took horse to Howley to meet the train from Palmerston. Tin production at Mt Shoobridge, however, was low during 1889, mainly because of a poor wet season and shortage of water. During the following year sixty tons of tin oxide were recovered, which realised £68/10/- a ton, a trifling return for the capital employed. The company then suspended operations pending inspection of the mine by an expert. Of the manager of the mine, Knight said in his annual report, "The latest manager was a shocking example even for the Territory, and nothing short of solid tin would have paid for working under his auspices". 

At the Wheal Danks mine at Daly River some rich copper ore was shipped to Newcastle smelters during 1888, but then copper prices fell sharply and mining was suspended. Prices improved in 1890 and large quantities of rich ore were shipped. These returns were too late to save the company and in October of that year all operations were suspended and the men dismissed. Tenders were called for the leases and plant but none was received. An auction sale was advertised but, apart from offers for a few small items, there were no bidders.
The "Northern Territory Times" commented that several English companies had tried their hands at mining in the Territory, some wealthy and well-equipped, but all had failed. In an era of relatively slow communication, the problems of directing and controlling a mine in the Northern Territory from an overseas base were many. Much depended on the competence and integrity of the manager and there is a good deal of evidence that many Territory managers were lacking in at least one, if not both, of these qualities.

Of Territory tin-mining in general, Government Resident Dashwood said,

The inexplicable part of the history of tin mining in the Northern Territory is that experts of widely known reputation, who have carefully visited certain properties, have given reports which have induced English and colonial investors to form companies with large share lists, and to enter upon most extensive operations; and yet, after skilled men have been employed, and large sums spent in labour, only small and scattered surface shows or faulty lodes are the result.65

All that now remain at the Mt Shoobridge site are the ruins of a small crusher, a few foundations and a not large mound of tailings -- little enough evidence of a relatively large expenditure.

The Daly River Copper Company was floated in Sydney in 1889 and, under Captain Wills, Dunstan and Reynolds, exported some 2000 tons of twenty-five-percent hand-picked copper ore worth about £25 000. Equipment to produce copper matte was ordered and dumped at the mine by teamsters. The company ran out of money in 1889 and a local syndicate, the Daly River Proprietary Co., bought its assets for £1000. The syndicate continued to export hand-picked ore and in 1891 erected the machinery bought from the previous company. A fall in the price of copper reduced their profits to nothing and they tributed the mine to the Chinese.

The Eveleen Silver Mining Company was floated in Sydney to work what were believed to be rich silver–lead leases. As was the case with many of the earlier companies, the directors ordered machinery before the leases had been properly tested and had it carted in to the mine by teamsters. This time, the machinery included a water-jacket furnace and it was unusually difficult to get it to operate properly. The Eveleen’s troubles prompted J.L. Parsons, the Government Resident, to report: "The Eveleen Silver Mine has not escaped the difficulties and liabilities to breakdown which beset all enterprises connected with machinery erected far inland and under new conditions. It is a mystery why the directors of mining companies send complicated new-fangled patents to places where no engineer’s shops exist."66 Captain Dunstan made extensive alterations to the plant and, while this was going on, Chinese contractors cut and carted firewood for the boilers. Ah Gie’s tender was accepted and, for eight shillings and sixpence a ton, he would cut 200 tons into three-foot lengths and deliver and stack it at the mine. Chan Ah Din contracted to cart ore from the mine to the mill for two shillings and sixpence a ton.

After the alterations, the furnace was still unsatisfactory and new water jackets were sent up from the south. There were several staff changes, including a new smelter boss named Janitsky, whose first comment was about the hopelessness of expecting a furnace designed for copper to produce silver and lead without the most
extensive modifications. Ore was stockpiled while he worked on the changeover, from which he managed to smelt six tons of bullion. This was early in 1887 when, in the township at the mine, there were twenty Europeans, 200 Chinese and 150 Aboriginals.

More trouble then occurred because of wet charcoal. None of the succession of managers had experienced a “wet” in the Territory and consequently no sheds had been built for the charcoal. This difficulty was overcome and the furnace ran in fits and starts, ten tons of bullion being produced in May. The “Northern Territory Times” commented that “the bullion would need to be rich indeed to meet the salaries bill – to control thirty workmen there was Captain Dunstan at £1000, Assistant Captain £400, Smelter £500, Assayer £500. Workmen received ten shillings to twelve shillings a day, with £1/10/- a week deducted for board, while Chinese received four to six shillings a day without board”.

The Sydney board was bewildered by the staggering costs and the very small amount of production, so they sent up two directors in June 1887. They were told coke was needed for smelting but ordered the furnace to be fired using waste coal, and in nine days it produced thirty-four tons of bullion. They also found that, whereas Captain Dunstan used one ton of charcoal to one ton of ore, Drake, the new smelter-boss, managed one ton of ore with only six hundredweight of charcoal. Dunstan then left the company – whether he resigned or was sacked is not clear.

In the following months, Drake, who had Californian experience, was made manager. Smelting went on steadily and 200 tons of bullion was produced. One parcel of twenty-six tons yielded 4000 ounces of silver. The financial benefits of these metallurgical improvements were nullified by underground problems. The ore shoot pinched out and much water was encountered when the shaft was deepened. Then Drake left to take over the Eureka and operations were continued on a reduced scale until 1890. A story in the “Northern Territory Times” told of a European contractor, Mr T. O’Neill, who was getting firewood for the mine and going along a gully when some devil tempted a Chinese man to set fire to the grass on the hill above him. A strong wind was blowing and the fire roared down on top of him, one of the horses took fright, bolted into the gully and turned the dray over, the horses jumping, kicking and squealing. O’Neill happened to have a knife and cut the horses’ straps, but the shaft horse was roasted alive and one of the leaders nearly so. All these events occurred within fifteen minutes and no help was available for miles.

Later in 1890 the directors closed the mine and sold the entire plant and mine at a southern auction for £250. It was bought by an old Territory identity, P. McDonald, who floated the New Eveleen Silver Mining Company, a local concern in which Rundle Bros and Co., Palmerston storekeepers, had a large interest. McDonald took charge at the mine and the smelter ran steadily for some time, putting out two and a half tons of bullion daily, which assayed up to 200 ounces of silver to the ton. Part of the success was due to his discovery of ironstone flux only 100 yards from the furnace. However, for whatever reason, work did not continue and at the end of 1891 the Government Resident reported that operations had “practically collapsed”.

84
The Port Darwin Gold Mining Company was floated in London in 1886, a large shareholder being Hugh Watt, who was later to be connected with the Horatio Bottomley group of companies. The “Northern Territory Times” described it as a glaring attempt to impose upon the innocence of London investors. Two Darwin residents, R.D. Beresford and R.R. Cruickshanks, were named as local directors. The prospectus said the company had been formed to purchase and work the Howley mines, a rich and productive property and the centre of one of the most extensive and rich areas in South Australia. Results in the past were stated to average three ounces to the ton. The machinery was described in detail and the prospectus went on to say that for an expenditure of £3000 rich tailings could be treated and annual profit should be of the order of £20 000 or twenty percent of capital.

Purchase price of the property from the vendors, who were also the promoters, was fixed at £55 000 in shares plus £37 000 in cash. The “Northern Territory Times” went on to say, “It was an open secret that the promoters had, a few weeks before, bought Beetson Bros’ mine at the Howley for between £1500 and £2000 – exactly the same mine as now described in the prospectus and we have no hesitation in describing this business as a gigantic fraud and the prospectus as a tissue of falsehoods and misrepresentations. Particularly false was ‘the district has been entirely worked by private enterprise and the result in nearly every case has been most successful’.” In fact, in the entire district only four claims had been successfully worked for years – Jensen’s Pine Creek property, Mr Mullen’s Christmas claims, Kwong Wing Hie’s Union claim and Dugald McLean’s claim.

The company shipped some machinery, but part of it never left Southport. Very little work was done on the leases and they were eventually tributed to the Chinese. The company wound up in 1890.

In 1886 J.H. Robinson found rich silver-lead some two miles south of Spring Hill. One sample assayed 800 ounces to the ton. He floated the Flora Belle Silver Mining Company in Sydney late that year and Mr Sam Renfrey, a former Bendigo mine manager, was sent up to start operations. The directors intended to test the mine thoroughly before ordering machinery. A trial parcel of ore assayed almost fifty percent lead and 130 ounces of silver to the ton, whereupon the company’s shares at once rose from two shillings to six shillings and seven pence.

In June 1888 W.H. Corbould arrived at the mine as assayer and metallurgist. He was then a young man who, in later years, was to achieve lasting fame as the original organiser of the now mighty Mt Isa Mines. He was dubbed “Jimmy” by the Chinese cook at Flora Belle and later wrote memoirs of his experiences in the Territory and elsewhere under the title of Alias Jimmy. Ian Hore-Lacey’s From Broken Hill to Mt Isa is an edited version.

Corbould said that Sam Renfrey, the manager, was a first-class man, but his knowledge of ore deposits was limited to his experience on quartz reefs at Bendigo. He knew little about geology and the behaviour of underground water in the Territory baffled him. Jack Davey, also of Bendigo, was the underground manager and a Welshman, “Taff”, was the blacksmith. The staff consisted of a total of five Europeans, all of the other employees being Chinese. The company’s funds were
not dissipated in elaborate buildings. The mine residence was a long structure with a frame of local trees as posts with rough studs nailed along the sides. Bamboo strips were loosely interspaced so that air could circulate whilst the roof was of local grass thickly thatched to counteract the heat of the sun. The whole was divided into two bedrooms and a dining room. Ten feet away was the Chinese cook's quarters and cookhouse.

Corbould's duties covered everything from assayer to jackeroo or messenger and, whilst not so engaged, he carefully walked over the whole lease and found favourable signs some 200 yards from the existing main shaft. They sank and struck native silver at about sixty feet, so with all haste continued the new main shaft to 130 feet. At this stage, trouble developed and the small steam-pump which had been supplied turned out to be utterly inadequate, with the Chinese miners working in water up to their knees most of the time. So far, the mine had produced no cash returns despite a very considerable expenditure. The manager was replaced and, in September 1980, the new manager, Captain Bezart, shipped fifty tons of ore averaging fifty ounces of silver to the ton. He then asked the directors for permission to move the pump to the new main shaft. The directors received this request with consternation. They had engaged a good staff, spent much money, found a lode and, with funds running low, they were now asked to find another £1500 to move the pump.

The "Northern Territory Times" reported:

In January 1891, at a rowdy meeting of shareholders, the Chairman said that work had been suspended in view of reports by the former manager that there was not a payable ore-body. Mr E.V. Brown, the local director, told the meeting that, as he had been refused all means of investigating the company's affairs, he had reason to believe that the mine was valuable. He suggested that the directors had been involved in shady practices, had expended money recklessly and that the main object of the motion to wind up was to get a valuable property into unscrupulous hands and to float a new company. The Chairman ridiculed these suggestions and announced that he held enough proxies to swamp the meeting.

In the ensuing election all of the directors except Mr Brown were replaced.

It was then too late to resurrect the company and, in August 1891, tenders were invited for the Flora Belle mine and property. This included a sixteen-horsepower steam winding-engine, a steam-pump, cages, shaft headgear, rails, tanks, tools, assay apparatus, iron, steel, timber, charcoal, three grey draught horses, a buggy and horse, kitchen and domestic supplies, and office furniture. All this was knocked down to A.E. Jolly for the scandalously low price of £550, his main interest being the engine and winding gear, which he intended to move to Fountainhead.

The Union was only a few hours' ride from Flora Belle, and now and then "Jimmy" rode to see his friend McPherson, who ran a small mill and crushed for mines in proximity. From there "Jimmy" would ride to Pine Creek to see Mr and Mrs Jensen. Jensen owned the Pine Creek gold mine and "Jimmy" described Mrs Jensen as a most beautiful woman and kindness itself. The Eveleen, a day's ride from Flora Belle, was managed by Mr Francis Drake, a charming man and a clever metallurgist.
“Jimmy” was returning to Flora Belle one cloudless day and, when he came to the river crossing, found it running a banker. He decided to cross and rode his horse into the water. He soon felt the tremendous power of the fast-running flow. It carried him downstream, but the horse, using its own instincts, went with the current until it felt the force of the water slacken at a curve in the river and then swerved to make progress to the opposite bank. Not once did it try to return to the other bank. Parting company with the horse, he was swept downstream but managed to fight back with a steady breast stroke. He evaded a tree and, exhausted, reached the opposite bank. He collected himself and whistled, but the horse did not answer and he suspected that it might have perished. As he walked on, whistling, there was eventually an answering whinny from the horse, grazing at the water’s edge. Both returned to Flora Belle.

Corbould said that he knew the Territory as well as, and probably better than most and concluded that there was at that time no hope for profitable business for some 200 miles south of Palmerston for several reasons, including poor soil, three months of heavy rain annually, plus a long dry season. He observed that, whilst the Northern Territory had all the discomforts of the tropics, it had none of the comforts or facilities for reasonable living conditions back from the coast. He assessed the mineral areas as too scattered and small in extent and seemingly of no great depth, although there was a possibility of large areas of payable wolfram and tin.

At one stage, Corbould wrote notes on the outback for V.L. Solomon, with whom he stayed when visiting Palmerston, which were printed in the local newspaper. As a sideline, he extracted perfumes from native flowers.

Corbould described Burrundie, ten miles away, as consisting of a pub, a few stores run by Chinese and the police station, which was manned by one mounted trooper whose district extended for fifty miles in every direction. Routine inspections took many weeks, and the trooper, armed with revolver and carbine, was accompanied by an Aboriginal aide, who was also mounted. In the rugged country they travelled light, with mosquito nets and a few cooking utensils and sometimes a spare horse. He once accompanied the trooper on one of his trips.

One day at Flora Belle, Quong Le Chung called at Corbould’s assay office with three bags and asked the cost of assays. The reply was: “Quong, when I come to your store and sit in the little room at the back drinking tea and you sometimes pass me a root of sweet ginger, do I ask you the cost? Between friends there is no question of cost”. The assay showed high silver and lead, whereupon Quong asked him to take an interest in the mine. But he replied, “You would have to be a rich man to pay Chinese miners five shillings a day to develop the mines”. He did not take up the offer and later Quong made considerable money from that same mine. In all his dealings with Chinese in the Territory and elsewhere, Corbould found that their word was their bond and there was no need for written confirmation. When he was about to depart from the Territory, Quong presented “Jimmy” with a pair of chopsticks, ordered especially from China, which could detect and indicate by a change in colour whether food about to be eaten was poisoned.

Corbould subsequently went to U.S.A. and the U.K., where he studied mines and smelters, returned and managed a mine at Bathurst and reorganised the teamsters.
there, sat for and passed, at a few days' notice, an examination to qualify as a mine manager, managed several mines at Cloncurry and finally floated the original Mt Isa Mines Ltd.

The Millars became interested in mines in Northern Australia shortly after C.G.Millar's arrival at Palmerston. Newspaper reports indicate that as early as July 1887 he bought the Copperfield copper mine, four miles south-west of Pine Creek, for £40. He had interests in Hall's Creek and in November 1887 took up an eighty-acre block at Bynoe Harbour, following reports of rich discoveries of tin in the area. The Millars were friendly with Corbould, but apparently did not share his pessimistic views on mining in the Territory.

Men were set to work raising and hand-sorting rich copper ore at Copperfield and, as the railway progressed through the goldfields, the Millars bought claims at Fountainhead and during 1888 bought or secured control of all the claims at Union Reefs, from No. 4 South Union to No. 20 South Union, as well as Kwong Wing Hie's gold mine at Pine Creek and others adjoining Jensen's properties. With J.C. Hillson, the Millars attempted to float the Coronet silver mine, but without success.

Millars' Copperfield mine near Pine Creek produced several hundred tons of rich copper ore until the workings reached water level, when the mine was closed.

Government Resident Knight's annual report for 1890 contained a detailed statement by Armstrong, Millars' general manager, of work done at Union Reefs. This included 1500 feet of shaft sinking down to 240-foot depth, 1485 feet of tunnels and crosscuts, and 1240 feet of winzes. Two miles of tramways were laid to connect the mines with a ten-head battery. A crushing of 1100 tons averaged one quarter ounce and Armstrong assessed approximate costs of £0/11/5 a ton for mining and £0/5/9 for crushing, saying that to be profitable the operation would have to be large scale, requiring a much bigger battery and better hauling machinery. Work continued, and during August 1891 Millars sent up O'Driscoll, a southern expert, to assess the mines, chartering a special train to convey him to and around the mines.

In 1892 Armstrong reported to Warden Nash, inter alia:

> During the two years the battery was going we crushed about 12 000 tons, which gave an average of about seven pennyweight per ton...Mr Millar had an additional thirty head of stamps made in Melbourne to send up and connect to our present battery, making forty head of stamps in all. This plant with winding gear when erected would have cost not less that £10 000. However, just as the new plant was ready to leave Melbourne, I received instructions from Mr Millar to close the mine and sell the plant.\(^{70}\)

At the sale of the Union property, a syndicate of Chinese bought all Millars' machinery and five gold claims for £1000 cash.

Government Resident Dashwood said, "The experiences of Messrs Millar, it must be admitted, are not very cheering, for having spent a large sum of money in developing their claims and purchasing machinery, and with the advantage of working the mines with Chinese labour, they did not consider the prospects sufficiently good to induce them to go on..."\(^{71}\)
Olaf Jensen continued to obtain steady and good returns, and by 1891 his leases totalled 108 acres, all formerly held by old companies, named the North Star, Elsinore, Republic, Democrat, Rackarock, Kohinoor and the Eleanor. His crushings rarely averaged less than an ounce to the ton and often much more, one crushing from Eleanor in 1887 giving 1652 ounces from 783 tons, whilst he found an even better reef at Kohinoor. Jensen was generally regarded as the pre-eminent gold producer of the Territory, a place he had held ever since he bought the old Telegraph battery. Parkes, however, expressed the view that if Jensen's claims were worked much more extensively they could keep a sixty-head battery busy all the year round.

Jensen's health was starting to fail, so he decided to sell his mines. They were first offered to a Melbourne syndicate, but the deal fell through, and then he went on an extensive overseas trip, leaving the mines and plant in charge of a caretaker. On his return, he added another five head to the battery and engaged a manager to run the concern. At the end of 1892 he was successful in floating his mines into the Jensen Gold Mining Company, having a capital of £60,000, of which it was reported that Jensen received £30,000 in fully-paid shares and £7,300 in cash. Captain Bennett was the new manager and Jensen departed. The "Northern Territory Times" spoke very kindly of Jensen, saying that he was most good-natured and hospitable, he paid his men well and was a liked and respected master. He retired to Forest Lodge in Sydney, but was not to enjoy a lengthy retirement, as he died on 18 March 1895, aged 56 years.

The "Australian Mining Standard" gave some details of Captain Bennett's background. He began his mining career in Cornwall in 1866, emigrated to the Moonta mines in South Australia in 1875 and spent three years there before going to New Caledonia and then Queensland, where he was highly regarded by shareholders and employees alike. After his initial inspection of the Jensen Company's properties, he was rather shocked at the mining methods. In common with most other Territory gold mines, practice was to trench on the surface for reefs and leaders and then to follow them down. If no gold was found after two days' work, the hole was abandoned and trenching started again. At the Eleanor in Pine Creek, a rich leader had been followed down to thirty-eight feet and then mining had stopped because of water, which seemed to have frightened people unnecessarily.

Towards the end of 1892 English shareholders bought out the Australian shareholders "for a large sum", as reported in the "Australian Mining Standard", and immediately ordered a large quantity of machinery. They renamed the company the Cosmopolitan Gold Mining Company. In the following year, however, even with thirty stamps at work, it did not recover enough gold to cover operating expenses and operations were suspended. Some limited income was then obtained by tributing the leases to the Chinese. One of the first Chinese tribute crushings gave 632 ounces from 34 tons and seemed again to point out the difficulties of directing a mining operation from half-way around the world.

It is still possible to walk some 200 metres along a tunnel into the Eleanor mine, where extensive stoping and a winze may be seen.

The Eureka mine, two miles south-east of the Eveleen, was taken over in 1890 from Roberts and Webb by the same Sydney residents who controlled the Eveleen. They
seem to have had a succession of managers, A.H. Lampe being the first and, finally, Richards, who obtained some good returns, making a clear profit of £6000 in eighteen months. The owners attempted to sell it in 1892, hoping to secure a large profit, but the attempt failed. It was then tributed to the Chinese.

The Alice Hills Co. was a local syndicate with leases at Union Reefs. Under manager John McPherson, a fifteen-head battery was erected and formally started by Knight in September 1890, in the presence of almost the entire goldfields population. The following month it was floated into the Alice Hills Gold Mining Company, with £6250 capital, but all except £500 went to the vendors. Little money for development of the mine was therefore available, so the mining was tributed to the Chinese on condition that they install a steam-pump.

The plant worked well, but early in 1891 funds were again low, apparently due to insufficient stone being available to keep the battery busy, and a Government subsidy was sought to sink a shaft. This was refused, as Warden Nash reported at the end of the year that little work had been done apart from scratching around rich leaders. Nash added that here was another case of a group spending most of their money on machinery without bothering to ensure that there was enough payable stone in their mine to keep the battery going. Soon after, the machinery and mine were tributed to the Chinese.

The McKinlay and Mt Wells Co. was essentially an Adelaide-based stock-market company and floated in the early 80’s with leases only a few miles from Mt Wells. These lay idle for years, then some machinery was installed and a good deal of work was done in 1889 and 1890. One parcel or ore was shipped and yielded 200 ounces of silver to the ton. A very rich vein of ore was exposed at the 120-foot level, but could not be worked as the small steam-pump was unable to cope with the water. The directors refused to supply a bigger pump and suspended operations whilst they tried to float the property in London for £100 000. To this time the mine had paid its way, even though it had operated as a shoe-string concern. Heffernan, the manager, then resigned.

The float failed and the machinery was sold to the South Union Gold Co. and the leases to the North Australian Tin Mining Co. Another reconstruction resulted in the McKinlay and Mt Wells (N.T.) Co. in 1893. A new manager, Mr Lovely, arrived from Captain’s Flat, New South Wales, with an engineer and a shipload of machinery, including pumps and winding gear. This had become possible because of a South Australian subsidy of four figures on a pound-for-pound basis. The “Northern Territory Times” was very critical, saying that the subsidy was recommended by the present Minister, Mr Playford, who, when he toured the Northern Territory as Premier, pointed out that the mining vote was not intended to aid those who had speculated and lost all their money, but for the backing of companies with some funds in hand. Men who had put in ten to twenty years trying to make a success of mining could not get a penny, while the wealthy Adelaide absentee who fiddled with a silver show that paid its way for a few years could get money because they were wealthy and could put up pound for pound. It concluded by saying that Mr Playford did not hesitate to refuse the Northern Territory part of the mining vote when he knew intentions were sincere and help badly needed, yet he did not have the courage to
tell the wealthy principals of the McKinlay Co. that the vote was not intended for them.

The machinery was never erected, and six months later the company was in liquidation. Several other syndicates made attempts at mining, but none resulted in really worthwhile results or sustained operations.

High-grade tin ore was found at Bynoe Harbour in 1888 and floated in Melbourne into the Finnis River Tin Mining Association with nominal capital of £100 000. Although a newspaper report said that £80 000 went to the vendors, it seems that this was mostly in shares, without a great deal of cash being involved. Some machinery was bought and carted to the mine, but isolation, the wet season and labour problems very soon absorbed what limited cash was ever in the company. Indeed, some of the machinery never left Palmerston and was eventually bought cheaply by A.E. Jolly.

A local group, which included S.T. and V.V. Brown, Palmerston storekeepers and agents, found another tin deposit at Bynoe Harbour in 1888 and formed the Leviathan Syndicate in which C.G. Millar had a one-sixth interest. A little work was done and then an attempt to float the property failed, probably because, of the £10 000 proposed capital, half was to go to the vendors. Some ore was raised by Chinese contractors, but with the onset of the wet season work was suspended and not resumed.

At Mt Tolmer, thirty miles north-west of the Adelaide River railway station, tin was discovered by Adam Johns and D. Delroy in 1888, and Phil Saunders and J.B. Robinson joined them in taking out a lease. They installed a steam-engine, crusher, pump and rollers and in twelve months treated 800 tons of ore for forty-six tons of concentrates, which enabled the group to pay for the machinery and the Chinese labour employed. All supplies had to be taken by boat to the Daly River and then by dray to the mine, the track being trafficable for only a few months of the year. As Johns' group did not have the capital to finance several months' stores, they closed the mine and advertised the machinery for sale. It was bought by the Rev. D. McKillop for use at the Roman Catholic mission at Daly River.

George Barrett’s rich tin show near Mt Shoobridge was tributed to Beetson in 1888 and, with a few Chinese, he crushed twenty-five tons with ironbark stampers on a stone bed for £2000 worth of tin. The property then passed into the hands of the Palmerston Tin Co., a Sydney syndicate, but nothing of consequence was done and the company was liquidated. This particular property stood unworked until very recently, when Reg Weston, a well-known Territory miner and prospector, took it over.

The Ah Ching Phillips Co. was a South Australian float with a capital of £5000, and amongst those who held shares were Johnston, a former Minister of Education, W.A. Horn and other well-known mining men. It had some good crushings from its Pine Creek mine, but overall did not pay. Tenders were called in 1890 for its leases and machinery. W.K. Griffiths bought the battery with the intention of moving it to Yam Creek, where subsequently he obtained control of all the leases and then promptly tributed them to the Chinese.
A new group, Ffrench and Browne, a Melbourne firm, set up a battery at the junction of Maude Creek and Fourteen-Mile Creek in 1888, for public crushings at charges of £1 a ton for lots over fifty tons and £2 for lots of five to ten tons. The firm’s intention was to employ only Europeans, if they could be obtained at £3 per week, and not crush for the Chinese, provided the Europeans could keep the battery busy. Ffrench and Browne were practical engineers who hoped for success that would allow them to supply and erect mining machinery on the goldfields and to start a supporting foundry in Palmerston.

In the event, satisfactory European labour could not be found, and the owners were forced to use Chinese. For many months, both Europeans and Chinese miners refused to patronise the battery because of what they considered exorbitant charges and because much of the gold was being lost in the tailings. The operation was never successful and eventually, in 1891, the battery was auctioned at the Palmerston Mining Exchange and bought by A.E. Jolly. No more was heard of Ffrench and Browne in the Territory.

In the same year public crushings were offered by two new batteries on the John Bull line of reef. There the Brock’s Creek Company, which included Harry Roberts, erected a battery to crush for themselves and the public at the Zapopan mine, as did the Daniels brothers at the other end of the field, nine miles to the north-west, at the John Bull mine.

Jolly moved the Flora Belle battery to Fountainhead, but could not make it pay. He then leased it to Chinese for £30 a month and they did well, recovering 200 ounces of gold in one week alone.

Early in 1892 there was universal regret when Knight, the Government Resident, died of a heart attack, aged 72. In the words of the “Northern Territory Times”:

We cannot recall anything that created so universal a feeling of sadness as the decease of this honoured and honourable servant of the Crown and friend of the people, whose death marks the blotting out of a noble life and perhaps the grandest ‘landmark’ the Territory could point to.

Throughout his whole career he has been characterised as a man of sound commonsense, irreproachable integrity and phenomenal kindness of heart.

On Monday all flags were at half-mast, all public offices closed, all business houses closed their doors and suspended work and every-one who could possibly arrange it attended the funeral, the largest ever seen in the Territory. Europeans, Chinese and Malays all mingled together in vehicles, on horseback, or walking, and even the Aboriginals, realising no doubt the many kindnesses shown to them by the deceased, took this opportunity of testifying their gratitude.

Mr Knight had been in the Territory since 1873; for the ten years preceding his appointment as Government Resident he was Clerk of the Local and Police Courts, Palmerston, which position also encompassed the offices of Deputy Sheriff, Clerk of Licensing Bench, Curator of the Property of Convicts, Registrar, Accountant and Official for the District of Flinders. In that striking cosmopolitan character Mr Knight acted till the end of 1889 when he sent in his resignation, wishing to retire from public service; the Minister, however, instead of accepting the resignation, asked him to accept the appointment of Acting Government
Resident, which he did and the 'acting' was later deleted. According to the 'Northern Territory Times', Mr Knight was 'hail-fellow-well-met' all over the settlement, admired by those who knew him well and instinctively respected on first acquaintance. His happy face and jolly ways put the miners in good humour wherever or in whatever condition he met them, whether at the rude court deciding their troubles, in the camp during festivities or on the sick bed. In all things he was the apostle of common sense, good humour and kindness.

Mr Knight was married and his wife and a large family survived him. A few days after he died, by an odd coincidence, the Captain of the 'J. Spence' arrived, intending to call on his friend. Captain J.H. Gill recalled that Mr Knight was one of the last to come aboard in 1873 and there was no cabin for him, but he was so impressed with the elderly gentleman and his manners that the Captain gave Mr Knight his own cabin and during the voyage close friendship developed. It was reported that at his death Mr Knight was not wealthy but in moderate circumstances. He had always loved dabbling in stocks, which included Barrier silver stocks and other speculative issues, some good, some bad. He was very fond of cracking jokes with the Editor of the 'Northern Territory Times' about his fortunes.

The records show beyond doubt that Knight was a humanitarian and a devoted servant of the people. Indeed, it is not unreasonable to conclude that he was one of the Territory's finest public servants, but his stature and contribution seem to have been forgotten. Today, his only monuments are an obscure creek in the Grove Hill area and a tombstone in the historical cemetery at Parap.

C.J. Dashwood was appointed Government Resident, but found little in the way of developments in mining, apart from gold, as there had been a heavy fall in base metal prices. He enforced the new mining laws and during his term in the 90's many claims were forfeited for non-compliance with conditions or failures to pay rental. One so dealt with was the John Bull claim, which had lain idle for about nine years.

Elections for the South Australian Parliament were held in 1893 and Solomon toured the goldfields, alluding to the uphill fight members of the Territory had in the Legislative Assembly of South Australia and the utter want of sympathy in Territory questions shown by many members of both the public and the press of South Australia. He had found difficulty in arousing interest in the Territory because many people had lost money in Territory mining in 1872. He thought the sooner South Australia was relieved from administering the Territory and the accompanying financial burden the better.

Solomon also mentioned the abolition of duty on machinery and other measures which he and a colleague had succeeded in bringing into operation.

Solomon had been very popular with the Territory populace, except in one instance, when he proposed that the civil service of the Territory be left in the hands of business people. This met with a very cold reception and drew wholesale protests. It was pointed out that, of the money circulating in the Territory, Government salaries formed a large portion. In short, why should the Europeans cut their own throats by adopting Mr Solomon's suicidal proposal? So far from business people wishing to decrease Government expenditure, they should, in their own obvious interest, resist any moves to amalgamate offices or remove Government servants. Solomon had
worries of his own at the time, having been declared insolvent, mainly because of bad debts, and there was legal argument as to whether this would affect his candidature at the next election. He managed to clear his insolvency and set up in business in Adelaide as a mining, land and commission agent, including the floating of mining companies in his activities. By August 1891 he was a man of influence in Adelaide and had recently been appointed Government Whip.

For the 1893 elections, polling booths were set up at the main centres of population, one being at the Eveleen in the mine manager’s residence, and during the poll it was ignited by a bush fire. The building was of bamboo with thatched roof and burned to the ground within a few minutes. The ballot-box and papers were saved, but the Deputy Returning Officer lost his clothes and had to fly from the building in haste as dynamite was stored inside. Solomon was returned with an overwhelming majority. The second member returned was W.K. Griffiths, the Yam Creek battery owner, replacing Parsons.

In September 1894 the “Northern Territory Times” published a report that a diamond, or something like one, had been found not far from Pine Creek, but at that time no one could be found who could positively identify the stone. It was then in B. Murphy’s care and, in order to satisfy the owner as to its identity, he determined to send it to a southern lapidary. When J.M. Johnstone was leaving the Territory, the gem was given into his charge with instructions to have it tested by the best expert he could find. Accordingly, he took it to the leading lapidary in Melbourne, who pronounced it to be “a diamond of a very fair quality, but cannot be cut in the colonies”. It was then sent to England, where it was cut to three-carat size and mounted in a ring that was returned to Adelaide and sold to Mr W.K. Griffiths, M.P. for £45. The discovery was made in the bed of the Cullen River, about eight miles from Pine Creek where its course is through granite country. A miner named Robert Richardson found the stone, dubbed at the time the “Cullen Diamond”, when fossicking for gold.

With Jensen’s mine as the notable exception, none of the mines mentioned ever paid, except for a few brief periods which were not sustained. Even Jensen’s mine failed when a company took it over and thrust costly machinery and other overheads onto it. It seemed that, as far as mining men were concerned, the Territory was attractive mainly for speculative purposes. The few genuine miners, such as the Daniels brothers, Harry Roberts, Adam Johns and Phil Saunders, were limited by lack of capital to quite small-scale activities. The discovery of gold at Coolgardie in 1892 and Kalgoorlie in 1893 resulted in a further fall in the number of European miners, leaving the few European battery owners almost entirely dependent on the Chinese merchants and miners to supply them with stone. As indicated in a previous chapter, at the end of 1894 the Chinese owned or had tributes over all except three of the nineteen batteries in the Territory. By then, company mining was virtually defunct, and both reefing and alluvial were rapidly tending to become a Chinese monopoly.
CHAPTER 5

The English Companies: 1895–1906

Gold discoveries in the Kimberleys, followed by major strikes at Coogardie and Kalgoorlie, caused overseas mining financiers to invest increasing amounts in Australia from the mid-1890's. Some of this money went to the Northern Territory, with its new "Top End" railway offering reduced transport costs. The inflow was also influenced by the optimism of Parkes' report, which seems to have fostered in England a belief that large, untapped mineral riches existed in the Territory. Horatio Bottomley was the principal architect of English interests in the Territory.

According to Felstead's biography, Bottomley, before he became interested in the Territory, was charged with fraud in 1893, conducted his own defence and was acquitted. At the time, the judge who heard the case congratulated him and suggested that he go to the Bar. Free of bankruptcy, Bottomley borrowed £2000 and began reconstructing companies, the first being the West Australian Loan and General Finance Corporation.

The pattern was to obtain a company which had lost much money in recent years and then propose to shareholders that their holdings be doubled at half their original outlay. This once-only injection of additional capital would save the company and dividends could be expected. The meeting would be packed with Bottomley supporters and the motion invariably carried. The treatment accorded to people who refused to play Bottomley's game varied. If only small shareholders, their letters were not answered and, if they called at the company's office, they would be given vague promises, but if legal action were threatened, their money would be returned. Large shareholders were accorded a very different reception. They were admitted to Bottomley's office where they heard one side of a telephone conversation involving many millions of pounds. They were refreshed with the best of champagne and, on departing, felt that it was a privilege to have been permitted to buy the shares. The technique was very successful.

Felstead said of Bottomley, "Heaven only knows how many companies he foisted on the British public; one may doubt whether he knew himself", and went on to list the main ones:

<table>
<thead>
<tr>
<th>Company</th>
<th>Capital (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Australian Loan and General Finance</td>
<td>250 000</td>
</tr>
<tr>
<td>Corporation</td>
<td></td>
</tr>
<tr>
<td>Associated Gold Mines of West Australia</td>
<td>375 000</td>
</tr>
<tr>
<td>West Australian Joint Stock Trust and</td>
<td></td>
</tr>
<tr>
<td>Finance Corporation</td>
<td>250 000</td>
</tr>
<tr>
<td>Lake View South Gold Mines</td>
<td>150 000</td>
</tr>
<tr>
<td>Northern Territory Goldfields Company</td>
<td>300 000</td>
</tr>
<tr>
<td>North-Western Associated</td>
<td>375 000</td>
</tr>
<tr>
<td>West Australian and NZ Market Trust</td>
<td>2 500 000</td>
</tr>
<tr>
<td>Auxiliary Associated Gold Mines</td>
<td>500 000</td>
</tr>
</tbody>
</table>
As later events will show, he was a master of "reconstructions". According to H.J. Houston, Bottomley handled some £20 000 000 of the public's money during his career, whilst a check of the records of fifty of his undertakings disclosed that nineteen were liquidated, twenty-four reconstructed, five dissolved and one never went to allotment; the other is uncertain.

When Bottomley turned his attention to Australia, his initial holding company was the West Australian Market Trust, with Northern Territory Goldfields Company as its first subsidiary. In the following pages the names of many other companies appear, but all were controlled by Bottomley.

Other English companies had been formed in earlier years to take over mines in the Territory. The Cosmopolitan at Pine Creek, which bought out Jensen, was the most recent, but none had succeeded. The reasons were a combination of mismanagement, want of capital and untried or inadequate orebodies. They mostly lasted only a few years until the capital was exhausted. The new era of interest was ushered in by the arrival in the Territory of Hugh Watt, a mining enthusiast who was known to have invested heavily in many Australian mines, including the Howley. After touring the fields, he bought, on behalf of the London syndicate, several mines for a total outlay of £15 000, including the Howley, Brock's Creek, Alice Hills, Eureka and Yet Loong's mine at Pine Creek.

On returning to London, Watt gave a well-attended lecture at Exeter Hall, where he referred many times to the richness and extent of the reefs at the Howley and to the Daly as a region rich in copper. All that was needed was machinery, as cheap Chinese labour was already available.

Despite this, his syndicate had second thoughts and sent out an independent man to examine the properties. On receipt of his report, they refused to have anything more to do with Watt or his mines. A few months later, however, it was disclosed that Watt had disposed of all his mines to a powerful English company controlled by Bottomley and from then on activity became intense. A promotion statement was issued saying that the Zapopan (formerly Brock's Creek) was on an inexhaustible supply of good stone and expected to pay dividends at an early date. Water was stated to be available all year round, whilst labour costs were far below Western Australian rates. The cost of mining was given as fifteen shillings per ton and estimated profit was £4/10/- per ton on run-of-mine ore and rich pockets could be expected occasionally. Tempting indeed to English investors, most of whom would not have known where the Northern Territory was, let alone anything about its costs and problems.

Another company, the Anglo-French Goldfields of Australia Ltd, had been floated some little time before and held options in New Zealand, Western Australia and the

<table>
<thead>
<tr>
<th>Company</th>
<th>Capitalisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Australian Market Trust</td>
<td>2 500 000</td>
</tr>
<tr>
<td>Associated Financial Corporation No.1</td>
<td>3 000 000</td>
</tr>
<tr>
<td>Associated Financial Corporation No.2</td>
<td>3 000 000</td>
</tr>
<tr>
<td>Associated Financial Corporation No.3</td>
<td>1 000 000</td>
</tr>
<tr>
<td>Great Lucknow Consols</td>
<td>650 000</td>
</tr>
<tr>
<td>Lodden Deep Leeds</td>
<td>650 000</td>
</tr>
</tbody>
</table>
Northern Territory. A London paper observed somewhat acidly that the promoters would know as much about the properties optioned as they did about astronomy. In the prospectus, Rev. Tenison-Woods and J.V. Parkes were extensively misquoted, whilst another expert opinion in that document said, “The goldfield in the Northern Territory is extensive and vast. It stretches from Southport to Gladstone and Normanton going east, and to Kimberley and Western Australia going west. Discoveries within these points rival any in the world.” The prospectus went into raptures over Union Reefs and said that the company’s property, seventy miles east in Arnhem Land, had been especially mentioned by Tenison-Woods. (It was indeed mentioned, but barely.) At that location it was certain that a deposit of coal existed and a splendid deposit of mica was expected to be unearthed immediately. Mr Harry Harvey, who managed a Territory mine some years before, was quoted as saying that there would be no engineering problems in the construction of an eighty-mile railway to the property, which was certainly a continuation of the Pine Creek gold belt. Notwithstanding all this, the “London Trading World” slated the company as a purely speculative outfit whose capitalisation of £500 000 was ludicrous, as all they really needed was £500 to proceed to allotment. Nothing of significance was ever done by this group.

In June 1896 D.D. Rosewarne, formerly Inspector of Mines with the South Australian Government, completed his inspection of the mines acquired by the English syndicate, which now employed him. He said that, although work at all the leases had been suspended since the purchase, the syndicate intended to develop them as soon as possible, but the existing batteries were too defective. He was returning to England to order new plant and machinery and, in the meantime, the old plants would be leased to anyone who wanted them. His intentions were to have most of the actual mining work done by European miners, imported from southern colonies if necessary, whilst the surface work would be done mainly by Chinese. In Rosewarne’s opinion, local firewood was far too costly and his company would probably import coal or even oil, whilst for shaft timber they might have to look to Western Australia, where jarrah was cheap.

In July 1896 Northern Territory Goldfields of Australia Ltd was registered in London to take over from the Northern Territories Syndicate six groups of gold mines, with plant and machinery and upwards of 30 000 tons of tailings. The groups were the Howley, Brock’s Creek (Zapopan), Woolwonga, Eveleen (including Eureka), Yam Creek and the Lady Alice at Union Reefs. The purchase consideration was £225 000 in fully-paid shares of £1. In December most of these shares were offered to the public at £3 a share. The Government Resident’s report shows that of this huge sum only £75 000 was available as working capital. The “Financial News” reported about the prospectus of the new company: “I have read many prospectuses but I wonder whether I have not accidentally picked up a copy of the Arabian Nights.” The financial editor went on to say that the assays were not based on small samples but on immense crushings of thousands of tons. One group of mines was said to have yielded between six and seven ounces per ton from 5000 tons, whilst a ten-ton crushing from another mine gave the phenomenal result of 3000 ounces. There were official and expert certificates from Colonial Governors, Government Inspectors of Mines, Chief Wardens and engineers of great eminence as to the
phenomenal mineral wealth of the Territory. Altogether, the editor thought that the prospectus made wonderful reading. There was no question that eminent men in Australia and men of high repute in England were convinced of the richness of the Territory and that very powerful interests were behind the venture. The West Australian Goldfield Company, the Venture Syndicate, the Joint Trust, the West Australian Shares Corporation and at least six of the remaining most powerful groups in Western Australia were interested in the new company.

They sent out their own experts, expecting them to ridicule the reports on which they had been asked to join the syndicate, but the reports were confirmed. One company alone, of which Horatio Bottomley was chairman, made a profit of £100 000 on the flotation.

Of the changed outlook for mining, Government Resident Dashwood said,

The acquisition of so many mines by a powerful company, with the intention of properly developing them, marks an epoch in the history of the mining industry in the Northern Territory, and there is every reason to hope that the problem whether payable gold exists at the lower levels (upon which, in the opinion of many, the future of the industry depends) will be solved by the operations of the company.76

Rosewarne ordered machinery from England and engaged thirty miners from the South at £4 a week and all found. They were at once set to work, assisted by Chinese, sinking main shafts at each centre where the company had leases. At the Zapopan, a good crushing plant with a steam-driven, fifteen-head battery, was erected and Cornish lift pumps plus winding gear installed. The old Mt Shoobridge plant was purchased and moved to the Zapopan. All of this machinery having been set up, Brock's Creek Goldfields of the Northern Territories of Australia was registered in October 1896, being a reconstruction of Zapopan Mines Ltd. The latter company had been registered in 1889 with a capital of £250 000 to acquire a Mexican property. This fell through and in 1893 it bought the property at Brock's Creek. At a company meeting in 1896 the chairman of Zapopan Ltd said it now had a reef a mile long, all more or less gold-bearing. The mine had been proved and all that was now needed was sufficient capital to work it. A further statement shortly afterwards declared that the tailings of the company were "shamefully rich" and that machinery for the production of gold bars would soon be on the spot. These statements sounded rather curious to people in the Territory who knew that over recent months scores of miners had gone to Brock's Creek looking for work but had been turned away. Whilst machinery had been assembled, very little had been done underground.

Machinations of a financial nature were taking place in London. Early in 1897 Northern Territory Goldfields Company sold its Howley property in England for £200 000, of which only £40 000 was available as working capital. At the annual meeting of Brock's Creek Goldfields in London the chairman announced a crushing of 240 tons for 283 ounces and said that six shafts were all equipped with hauling engines and skids. The Warden's annual report said, however, that the manager spent the small amount of capital he had in judicious development only. The meeting was also told that the heap of tailings which went with the mine averaged between
one and three ounces to the ton and the manager had been instructed to investigate the best method of treatment.

Until large quantities of machinery began to arrive in May 1897, most of the company's properties were tributed to Chinese. The initial shipments of pumping and winding gear went to the Eureka, where Mr and Mrs Rosewarne were temporarily resident. There were delays, inevitable in the Territory, caused by consignments of machinery being incomplete. Within a few months some 600 tons of machinery were unloaded and Brock's Creek station was by far the busiest on the railway line. The company located its machinery in four main areas - Brock's Creek, Howley, Woolwonga and Eureka - but erection awaited further shipments from Singapore. In the meantime, the manager sank shafts and erected houses for the European staff. Sixteen houses were sent out from England, mostly of angle-iron frames. The best mining so far seen in the Territory was at Brock's Creek and Howley, where new shafts were steel-lined and separated into compartments. The intention was to revert to wood below 150 feet, where the dangers from white ants were thought to cease.

Telephone lines were erected to connect all of the company's mines and a staff assayer and a chemist were engaged. The cyanide process for the recovery of gold from tailings had been discovered in New Zealand in 1896 and, as the company now owned large quantities of tailings, the assayer and chemist were set to work on a cyanide plant at Eureka. The first gold produced from the cyanide process in the Territory was during November 1897, whether by Northern Territory Goldfields or by Finlayson (a private operator at Pine Creek) is not clear from available records.

Mr St Aubyn was the manager at Zapopan, pushing ahead with shaft sinking, and was described as a genial and popular boss. In October 1897 he struck extraordinarily rich stone at the bottom of the main shaft, but said he would not order more machinery until he had thoroughly tested the mines. Here was an unusual Territory mine manager, as, in the past, most managers spent the money on surface plant before testing the deposit.

Progress at the other mines of the Northern Territory Goldfields Company varied. At Alice Hills a costly residence of palatial dimensions had been erected, but the mine and plant had been let on tribute to Sue Lee, the local butcher. At Pine Creek the financial difficulties of the Cosmopolitan Co. were topics of conversation, but at the Faded Lily the main shaft was almost complete and equipped. At Eureka a deep shaft was being sunk and a cyanide plant had been erected. Towards the end of 1897 the total numbers employed in all the properties were forty Europeans and 159 Chinese, whilst about 190 Chinese tributers worked the company's mines at Woolwonga, Pine Creek and the Union. Of this, Dashwood, the Government Resident, said,

That this company should, at this early stage, resort to the system of working the mines by Chinese on tribute seems to me extraordinary, unless the capital necessary to develop these mines in a proper and systematic manner is not available.

In my opinion the great drawback in the past to the proper development of the mines in the Northern Territory acquired by English companies has been through
over-capitalisation, the working capital being out of all proportion to the share capital, and this is undoubtedly the case with the Northern Territory Goldfields Company. Dashwood went on to say that, in his opinion, the working capital of £75,000 was totally inadequate to develop the extensive properties the company had acquired and he warned investors accordingly.

By the end of 1897 the Bottomley companies controlled many of the main leases of promise. The Daniels brothers had the John Bull and V.V. Brown the Wandi battery. Some mines were controlled by Chinese merchants, who were responsible for most gold production.

The London “Economist” of 25 September 1897 contained an interesting report of several concerns which embraced Northern Territory Goldfields Company. Chairman Bottomley said that the company had plenty of money, splendid properties, any amount of gold, splendid machinery in the course of erection and before the next annual general meeting would establish itself as a phenomenally rich gold-producing company. He advised people to buy every share they could at the present ridiculous prices. A month or two later the shares rose to £2/10/-, mainly due to the circulation in London of a report that the unwatering of the mines had exposed large bodies of rich ore. In London, Northern Territory Goldfields Company was still being described as a Western Australian company and people probably neither knew of the difference nor cared, believing implicitly in the silver-tongued Bottomley’s promises of early dividends.

In May 1898 Bottomley addressed a meeting of the Northern Territory Goldfields Company, mentioning briefly that development of the mines had been a matter of considerable difficulty and went on to congratulate the board on its constancy of approach. He quickly left this topic and proceeded to extol the virtues of the company’s mines:

...the richest goldfield yet discovered in the world. In one of your properties alone – I refer to the Eureka group of mines – you have upwards of £3 million in value of ore in sight and ready to be crushed...in the Howley group you have over £2 million ore in sight...we have this vast group of properties with any number of mines – not prospects but mines well developed – more developed than any mine in Western Australia, with the exception of perhaps two or three at the outside...We have no climate difficulty, no difficulties of labour, no difficulties of water or any of those other bogies which interested parties are constantly setting up. The meeting concluded with sustained applause, the magic of the Bottomley tongue having dispelled any doubts the shareholders may have had. Bottomley also said that as soon as the various properties were proved, it was intended to transfer them to subsidiary companies.

Soon after the 1898 meeting Howley was sold off to a subsidiary company for £150,000, yet up to that time its total sales of gold had realised only £610. This was quickly followed by the floating of Eureka as a separate company. Local observers, however, were quick to notice that progress at the mines was by no means as described by Bottomley. Brock’s Creek battery was going day and night, but due to
a problem with the screens only managed to crush seventy or eighty tons a week. The pumping machinery proved inadequate to cope with water in the shafts, so it was decided to limit sinking to 150 feet, hardly an appropriate depth if the mine were to be properly proved. Considerable development work was done and an underground tramway installed, but the battery was only of fifteen head and lost much gold. In four months the entire plant only recovered £3329 worth of gold. Great difficulties were experienced in getting enough firewood for the boilers. Similar problems arose at the Howley, where the new company had taken over an elaborate steel-lined shaft, winding and pumping gear and a ten-head battery. However, no provision had been made for water storage, so the battery had to close down while a water storage was built. A timely storm filled the dam and the battery started up. It proved to be so slow and inefficient that one mining shift was enough to keep it going twenty-four hours a day.

At the close of 1898 the Northern Territory Goldfields group controlled eight mines, with wages staff and tributers as shown:

<table>
<thead>
<tr>
<th>Company</th>
<th>Locality</th>
<th>Europeans (wages)</th>
<th>Chinese (wages)</th>
<th>Tributers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eureka Gold Mines</td>
<td>Eureka</td>
<td>14</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>Cosmopolitan Gold Mining Co.</td>
<td>Pine Creek</td>
<td>9</td>
<td>16</td>
<td>50</td>
</tr>
<tr>
<td>Howley Gold Mines</td>
<td>Howley</td>
<td>9</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Brock's Creek Goldfields</td>
<td>Brock's Creek</td>
<td>9</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>Northern Territory Goldfields</td>
<td>Brock's Creek</td>
<td>11</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>do</td>
<td>Yam Creek</td>
<td>1</td>
<td>16</td>
<td>100</td>
</tr>
<tr>
<td>do</td>
<td>Woolwonga</td>
<td>5</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>do</td>
<td>Union</td>
<td>1</td>
<td>-</td>
<td>30</td>
</tr>
</tbody>
</table>

Government Resident Dashwood made special mention of the serious water problem and observed that ores from several of the mines were refractory, making treatment difficult.

At the annual meeting of Northern Territory Goldfields Company towards the end of 1898, Bottomley conveniently omitted to mention any problems facing the company, except for a shortage of cash. He again informed those present that the value of the mines they possessed would "reach beyond the dreams of avarice" and went on to say that when the real rush set in people would find Northern Territory Goldfields had already tied up all the rich ground in the Territory. The company had spent much money and shortly hoped to have more good properties to offer the public. However, although the company had an immense quantity of assets, it needed another £100 000 to bring things to fruition. Shareholders were invited to advance this sum at a
good rate of interest in the expectation that it would shortly be repaid at a substantial premium. The meeting closed with applause for Bottomley and the money was raised without difficulty.

At the meeting of Howley Gold Mines Ltd in June 1899 the chairman said that exploration had proved an enormous body of ore which should yield a profit of £2 a ton, that telluride ore had been discovered and it assayed thirteen to eighty-five ounces of gold to the ton, whilst the total amount of ore available could keep a mill of 100 stamps going. The manager’s report was then quoted to the meeting and, as if the lengthy descriptions of rich and extensive reefs were not sufficiently convincing, it said that the property contained acres of pay dirt and alluvial gravel from one to three feet thick, with three pennyweights to one ounce of gold per ton, and the best means of working these areas was being examined.

Yet, despite all these glowing reports and statements, three months later an extraordinary meeting of Northern Territory Goldfields was called to discuss a scheme of reconstruction and an issue at four shillings a share to raise an additional £60,000 for working capital. This followed an earlier unsuccessful attempt by the main company to place blocks of shares which it held in Eureka and Howley. Somehow, Bottomley managed to get an underwriter at three pence per share. During the meeting’s discussion of the proposal, one shareholder condemned the scheme, saying that shareholders had been given no time to digest it and, if only half the statements about subsidiary companies had been verified by subsequent events, there would have been no need to raise further capital. Another member asked what had happened to the £4 million of gold that Bottomley had said the company had in sight? At this point Bottomley entered the room and repeated that at the Howley there was indeed £4 million of gold in sight and, unless there had been a foul conspiracy to deceive everyone all round, the mines were of immense value. As in the past, the gullibility of shareholders was almost beyond belief – all the resolutions were passed and the money was raised.

Some, at least, of the extra money was applied to capital expenditure, not always wisely. For instance, why was an immense dam built at the Howley when there was plenty of water pouring from the underground workings? The Territory’s first steam traction-engine arrived in October 1899 and was the centre of a gaping crowd when it pulled up outside P.R. Allen’s store at Brock’s Creek to take on water for its journey to the Howley. More machinery arrived for Yam Creek, but the new manager found that previous work had to be done all over again, as poppet heads were not plumb over shafts and gin wheels were out of line with winding drums. New Wilfley concentrators arrived for the Faded Lily, but the Zapopan was still in trouble and had to be closed down for some months, as the pumps could not control the water.

Mr St Aubyn, the manager, went to London to address the Brock’s Creek Goldfields Company’s meeting in October and told the shareholders that his requests for more crushing and mining machinery had been approved and with it he expected to have £30,000 a year available for dividends. To pay for the machinery, the board called up the remaining two shillings a share. It was clear that the yield of gold would have to be dramatically increased – and quickly – or the company would fold, but once more the shareholders’ greed exceeded their judgment and the call monies were
paid. From all of their mines in 1899 only 1576 ounces of gold were recovered, mainly from the Zapopan and Howley – a trifling return in relation to the capital expenditure involved.

For the Territory in total, there were now twenty-four batteries, with a total of 245 stamps, twenty-eight winding-engines, all steam powered, twelve Cornish lift-pumps and twenty-four steam-pumps, plus various other machinery.

Early in 1900 eighteen truckloads of machinery arrived for the Howley and Brock’s Creek and electric lighting was installed. All mining stopped for a week or ten days at the end of January due to the celebrations and feasts for Chinese New Year. The almost inevitable fire broke out during the festivities at Cosmopolitan Howley, close to Con Moy’s battery. Once again the bamboo and grass buildings became an inferno, assisted by the detonation of explosives stored in some of the houses and, as in previous similar outbreaks, practically nothing was saved.

The “Australia Mining Standard” for April 1900 contained a very good description of the Bottomley group’s mines, gave a general assessment of promise, but cautioned that better pumping gear would be needed for operations below the water table. It said that the Zapopan was the best-equipped of all the mines, whilst Howley had large, low-grade reserves of ore above the water table with a forty-head battery to cope with large-scale milling. Little had been done at the Union, which was largely in the hands of the Chinese, either on their own leases or by tribute.

Yet, despite the heavy expenditure on machinery and what seemed to be a very favourable prognosis, work was discontinued some months later on the Faded Lily and Woolwonga, as the prospects had not come up to expectations. The expensive plant erected by Rosewarne failed to effect an adequate recovery of gold from the pyritic ore at Eureka, so it was closed. Much exploration was done, but no free milling ore could be found. Government Resident Dashwood reported: “I have been given to understand that pyritic smelters are to be erected at Eureka to treat the rich mundic ores there, in conjunction with copper ore from the Mt Gardiner mines and silver-lead ores from the Eveleen mine; still it is to be regretted that this, the correct method of treatment, was not decided on before”. In the event, nothing came of this proposal. The Howley did not come up to expectations and of this mine Dashwood said that, even with the forty-head mill, it was doubtful whether the lode they were working would more than pay expenses. Yet, whilst these mines were in difficulties, the Daniels’ battery at John Bull and Con Moy’s at Howley Cosmopolitan were busy and profitable. Both the latter were shoe-string affairs, whilst the former were supposed to be backed by wealthy and powerful interests.

J.C. Hillson, a former Palmerston bank manager and now representing the Basinghall Syndicate, arrived and bought the Union, Bergan, Great Northern, Mt Diamond and Stapleton mines. The “Northern Territory Times” said that the Syndicate was believed to represent interests with an abundance of capital, but Dashwood observed that they spent very little money and that the main object of the purchase seemed to be flotation. It later emerged that Hillson and the Syndicate were agents of Bottomley.

In consequence of a number of ugly rumours concerning Northern Territory Goldfields, the “Northern Territory Times” interviewed Mr McDonald, one of the
London directors who had recently arrived to make his own assessment of current problems. McDonald said that he had made a thorough inspection of every lease and his preliminary conclusion was that a different plan of operations was needed. He thought that indiscriminate work on many leases should be abandoned, efforts concentrated in an attempt to develop only one or two mines to a payable stage and that Yam Creek offered the best prospects to recoup a great deal of capital uselessly expended on other leases. At the same time, work would be continued at the Howley, Eureka and Woolwonga, whilst the Zapopan would be closed down. As to causes of the problems, McDonald conceded that a vast amount of money had been frittered away in importing a lot of expensive and, in the circumstances, practically useless machinery and that it could have been spent in much better fashion. However, he now proposed to make a systematic and genuine attempt to prove the value or otherwise of the company’s properties, the outcome of which would be crucial to the company and to the Northern Territory as a whole. To this end, he would report to his London board after examining properties in Kalgoorlie, New South Wales and Queensland.

During 1901 more machinery arrived for the Howley and it continued operating under Roberts, the new manager, who also was doing some work at Yam Creek. In yet another of Bottomley’s reconstructions, the Associated Financial Corporation acquired several properties, including Cosmopolitan at Pine Creek, the Stapleton and Great Northern, with Rosewarne being general manager. However, no work of significance was done during the year. Woolwonga machinery was moved to Ironstone Blow near Yam Creek. Another reconstruction resulted in Northern Territory Goldfields taking back the Howley, but the only stone treated was from an open-cut and that with only low values. Meanwhile, throughout the mining fields the Chinese still operated batteries and many were tributers.

There was little change otherwise, with twenty-four batteries now operating and four cyanide works. The firm of S.E.Jolly extended its mining activities, now owning and either operating itself or tributing five batteries and two cyanide works. The Daniels brothers worked their John Bull mine for six months, but, through lack of capital to sink to deeper levels, closed down. Here were two genuine hard-working mining men who could not obtain a cent of Government assistance, yet the South Australian Government subsidised the wealthy Northern Territory Goldfields £5 per foot for sinking over 100 feet. A small, rich copper mine at Mt Ellison was tributed to the Chinese, who sent away eighty-four tons of thirty-eight-percent copper ore carrying five ounces of silver to the ton.

The Zapopan became very slow in paying wages, although the battery was going day and night, as were those at the Howley and Yam Creek. It was rumoured that the companies were becoming desperate for cash. A short time later, reports published in London newspapers disclosed the existence of a somewhat chaotic state of affairs among Bottomley’s mining empire. He again proposed a reconstruction, this time of the Associated Financial Corporation, but the true, flimsy nature of the concern, which had acquired huge interests in Australia and elsewhere, became apparent. A balance sheet was presented containing various striking and magnificent totals, namely assets £4 million, nominal capital £3 million, profits from share deals £995 000 and so on, but Chairman Bottomley sardonically explained
that all these figures existed on paper only, as the only cash the Associated
Financial Corporation ever received was £150,000. He went on to say that there was
no question that the assets were worth £4 million, but if they were to be sold under
the hammer he would hesitate to name a figure.

Bottomley continued in reference to J.C. Hillson:

We appointed some time ago as our general manager a gentleman who for
twenty years had been manager of the Commercial Bank of Australia out in
Australia, and who had through his hands an immense quantity of gold from the
various mines. He knew every mine in the colony, every mine manager, and all
there was to know about the business.

Later in the meeting he said,

If, with the assistance of Mr Hillson, with his twenty years banking experiences in
London, and Mr Rosewarne, with his more than twenty years of mining
experience and high Government appointments on the other side in connection
with Australian mines – if we do not succeed in bringing some of our properties
into a different condition from which they are in today – I shall be the first to
suggest to you that it is not worth while going on much longer, and that we had
better wind up and divide whatever there is amongst us.

Rosewarne also addressed the meeting and began by saying that he was a miner
and knew nothing about finance, but if £140,000 or so was available he was sure that
in a year's time the state of affairs would be vastly different. He added that he had
joined the company only after he had received assurances from the chairman and
the board that they intended to develop the properties. Of these predictions, the
"Northern Territory Times" said,

If any faith is to be placed in the proposed programme, a short twelve months
should tell whether such 'tall talk' contains a substratum of truth or is merely
empty froth. It...depends entirely on the improbable supposition that the whole of
the capital ensuing from the reconstruction scheme is to be devoted to
developing the NTGM Co. properties in the Territory.

Shortly afterwards, Mr Rawden, of Brock's Creek, wrote to the "Northern Territory
Times":

How sad it is to see the silent and deserted appearances of the mines, with forty-
head battery lying idle, especially when one recalls those glowing managerial
reports which set forth the existence of tons of auriferous ore. Taking all the
company's mines into consideration, the general managers all seemed to be
imbued with one idea, i.e. to make a big show on the surface, no matter at what
cost or from whose pockets the money came, manager's residences and all the
other surface paraphernalia erected and then, when shareholders are getting
tired of paying calls and operations were hampered for lack of money to pay
wages, did the manager start looking for gold.

He went on to say that it was then not surprising to see applications for suspension
and for the mines to close down. In short, said Rawden, there were magnificent
manager's residences, store rooms, blacksmith's shops, winding and crushing
engines and even electric light, all installed at enormous cost, but no gold, because
no money was left to develop and mine the ore-bodies.
A new manager for Northern Territory Goldfields arrived, Henry Roberts, who had lengthy experience at Charters Towers and mining fields in other States. Rosewarne was transferred to duties of a mainly inspectorial and reporting nature.

In May 1901 a very stormy meeting of Northern Territory Goldfields was held in London. By this time Bottomley had quietly disposed of his entire holdings in Northern Territory properties, whilst at the same time exhorting everyone else to hang on to their shares like grim death until the untold wealth in the properties could be released. At this meeting another scheme was put forward to take the company back into the main group and raise £50,000 to develop Yam Creek and the best of their other properties. At this same meeting McDonald presented a detailed report of his inspection in the Territory the previous year. He said that Cann, their former manager, had failed to carry out instructions, used indiscriminate methods and had generally been so unsatisfactory that he had been sacked. McDonald’s main conclusions and findings were that

- it was too costly to mine the small veins of ore at the Faded Lily and the mine should be closed;
- expenditure on exploring sulphides at Woolwonga was useless, as the ore was so refractory as to make dressing uneconomical;
- Union Creek was too small to be viable;
- Yam Creek offered the best prospect, mined in connection with Iron Blow, and it could be equipped by moving machinery from other properties.

The manager at Yam Creek had been sacked when he could not explain to McDonald why a cyanide plant, asked for urgently, had been lying on the ground for months and not erected. Under questioning, the manager had provided no explanation nor any firm ideas of when or how he would erect it.

At the same meeting a resolution was put forward and carried overwhelmingly that a committee of shareholders be appointed to investigate the affairs of the company. It was lost on a poll by the chairman’s use of proxies. The scheme of reconstruction was eventually approved with McDonald’s recommendations accepted.

Within a few months, action flowed from McDonald’s visit. The offices, men’s quarters, store and fitting shop were moved from the Zapopan to Howley and development work concentrated on Iron Blow and Yam Creek. The Faded Lily battery was let on tribute and all pumps and winding plant rented. At Zapopan a new shaft was begun and a sixteen-inch Cornish lift-pump provided, electric light installed and a twenty-five-head battery ordered. All this would leave the company with a working capital of £11,000. By the end of 1901 good progress had been made at each of Union, Howley, Brock’s Creek and Great Northern, but sinking of the main shaft at Iron Blow was continuously beset by water problems.

Contracts were also let for shafts at Stapleton, whilst Cosmopolitan, under Chairman Bottomley, prepared to run the battery on stone from Eleanor. The rains caused some delays and two teams were held up for weeks with important parts of the plant, half-way between Brock’s Creek and the Great Northern. The reconstructed Northern Territory Goldfields group was still acquiring properties,
including Mt Bonnie and Mt Ellison, the latter a small but rich copper mine which had yielded good profits to Chinese tributers. The frequency of reconstructions of the controlling companies was now becoming bewildering.

In September 1902 the Brock's Creek (Zapopan) Company was reconstructed (for the fifth time) and henceforth would be known as Commonwealth Gold Fields Ltd. Out of all Bottomley’s machinations some capital must have found its way to the Territory, because in the previous twelve months Great Northern had been brought almost to the point of production and the Great Western, two miles away and owned by the same company, had four shafts connected by a 300-foot drive and fifty men employed in stoping. It had been decided to build a smelter at Yam Creek.

One at least of the group ran out of money, as in October 1902 bailiffs moved in and took possession of the Zapopan under warrants of execution. A special meeting of shareholders was hurriedly convened in London to try and raise funds to satisfy the creditors, but without success, and V.V. Brown, the local auctioneer, knocked down the whole of the plant, believed to have cost between £20,000 and £30,000, to a local syndicate headed by the Daniels for the trivial sum of £2205. This amount was sufficient to cover European creditors, but several Chinese missed out. Some months later the leases were sold for £1986 to the same people who bought the machinery, whilst the two heaps of tailings went for £130.

In November 1902 the London Board of Northern Territory Goldfields engaged another expert to examine its properties. E.H.T. Plant, of Charters Towers, inspected the mines and reported that he considered Henry Roberts’ management good. He endorsed the general plan of development, to cost an estimated £48,000 and which included:

- **Howley**: deepen the shafts 100 feet, erect machinery already there and supply three Wilfley concentrating tables,
- **Iron Blow**: additional pump already on the ground to be erected,
- **Yam Creek**: erect a forty-ton water jacket furnace and reverberatory furnace for roasting copper matte,
- **Mt Ellison**: connect it by a light railway to Yam Creek and Iron Blow, some twenty miles away.

Meanwhile the Associated Financial Corporation had sunk 130 feet at the Union, had the twenty-five-head battery at Cosmopolitan, Pine Creek, running two shifts, whilst its Great Northern mine crushed 550 tons for 575 ounces of gold – not phenomenally rich, but an indication of steady and profitable returns.

In 1902 the Associated Financial Corporation was registered to take over the Howley Gold Mining Company and the Northern Territory Goldfields Company. At its annual meeting a year later reconstruction was proposed. Bottomley’s appearance was greeted with a mingled roar of cheers, yells, hisses, groans and cries of “shame”. Bottomley was not in the least perturbed and went on to present the latest scheme which even he described as “startling”. He stated that the present
capital of the company was £3 million and, whilst the company’s properties were good, it could only pay a dividend on £1 million. Consequently, he recommended the writing down of the capital to £2 million, comprising one million fully-paid shares and three million as four-shillings-paid, with an immediate call of one shilling which would raise £150 000. Shareholders were advised to accept. The alternative was liquidation, in which case he and his friends would buy up all of the assets at low prices. By adroit answers to questions Bottomley carried the day.

Shortly afterwards, an extraordinary meeting of the Northern Territory Goldfields Company decided to wind up and to form a new company, the Northern Territory Mining and Smelting Company, which would carry on the properties of the former. In the process an additional £60 000 was raised from the shareholders.

Meanwhile, the local syndicate which bought the Zapopan floated the New Zapopan Co. N.L. with £30 000 capital in £1 shares, the vendors receiving £20 000 in fully-paid shares. The balance was expected to be enough to deepen the shaft, to prove the mine and make it a payable concern. The float failed, but a new one, on terms less favourable to the vendors and with provision for employees to buy shares by deductions from their pay, was successful.

In May 1903 the SS “Charan” left Liverpool loaded with rails and rolling stock for the Mt Ellison railway, a water jacket furnace of sixty to seventy tons capacity, ironwork and firebricks for two 5-ton reverberatory furnaces, blowers and other plant, as well as 1000 tons of Welsh coke. The Griffiths brothers, from a well-known Swansea works, accompanied the machinery, which they had been engaged to erect and commission.

In July 1903 special trains conveyed the new machinery for the Northern Territory Mining and Smelting Company’s furnaces and railways, and Grove Hill presented a very busy appearance, what with road-forming, charcoal-burning, the laying of train lines and erecting of smelting works. Further south, at Pine Creek, the Associated Financial Corporation had done considerable developmental work, including a new main shaft at Eleanor, and had also prepared plans for a smelter at Mt Diamond capable of handling 1000 tons of ore a month. This was a somewhat grandiose plan, as no one had yet proved enough ore in the mine to sustain such an operation, nor had the metallurgy of the ore been properly investigated. The idea was probably more window-dressing, as the London office of the company was again thinking about forming subsidiary companies to take over its various mines. This had a familiar twang about it. It is interesting to note that the boards of Northern Territory Mining and Smelting and Associated Financial Corporation were virtually identical.

During the remainder of 1903 work proceeded at Yam Creek on reverberatory and water jacket furnaces, which were operating smoothly by the end of the year. Heavy rains with widespread flooding in the Yam Creek area delayed construction of the railway to Mt Ellison. Part of the work was the building of an iron bridge bedded in concrete to take the Mt Ellison line across the Palmerston-Pine Creek railway. The bridge was completely fabricated in the company workshops at Yam Creek. At Iron Blow the shaft was complete and equipped with one 12-inch and one 9-inch Cornish lift-pump and a new winding plant. Contrary to local opinions, the new smelter had no trouble worth mentioning and managed twelve to fifteen tons of copper ore a day.
with perfectly clean slag. It did, however, consume enormous quantities of firewood, which was cut by tender, usually by Chinese, and delivered to any point on the Mt Ellison railway, where the busy little steam-train picked it up. The train also carted ore from Mt Ellison, which was phenomenally rich, sixty-two-percent copper, but from a narrow vein only six inches wide.

Warden Copley-Playford’s report for 1903 said,

The outlook for mining has a far more hopeful view than has been the case for some years, this being in a large measure due to the extensive undertakings carried on by the Northern Territories Company Limited, in connection with its Yam Creek and Mt Ellison mining properties. Should the contents of the Ironstone Blow mine be as publicly stated by those gentlemen (Messrs McDonald and Plant), who reported on this and other mines, there appears to be no reason why, with scientific, economical management, the undertaking of this company should not prove a very successful venture, and probably lead to the Eureka Gold Mine, with the copper, lead and silver mines in the neighbourhood, being worked on similar lines. Though no great expenditure was incurred or progress made by the Associated Financial Corporation Limited in the development of its mining properties here, still this company’s mines at Pine Creek and the Great Northern produced a large quantity of gold during the last six months, and from the appearance of these mines this [1904] year’s gold return will show a large increase in the output from this company’s crushing mills and cyanide plant. 82

In January 1904 the "Northern Territory Times" said in its leading article,

A new shuffle of cards has apparently taken place in London financial circles with the result that the fate of several well-known mining properties in the Territory is now in the hands of a new combination of speculators who have formed themselves into a company under the style of 'The Selected Gold Mines of Australia Ltd' for the purpose of acquiring all the Northern Territory mining properties previously held by the octopus-like association known as the Associated Financial Corporation Ltd. 83

The latter company was in liquidation. McDonald was also chairman of Northern Territory Mining and Smelting. In the new reconstruction, shareholders were asked to loan money for twelve months, with interest at six percent and a cash bonus of ten percent, with the right to apply the whole in satisfaction of any amount which might become payable under the terms of reconstruction. At the company meeting Bottomley said that it would depend entirely on the response of the shareholders to his latest scheme as to whether the company would have the benefit of his management talents in the future. He again mentioned the enormous potential of their mines and asserted that for years past he had worked day and night to put the company on a solid basis. As usual, Bottomley’s magic tongue won the day and the new company was floated with £1 million capital, in shares of five shillings, paid to three shillings and sixpence.

The revival of activity at Yam Creek was not without its difficulties. One consignment of machinery was on a steamer in the Red Sea when it was seized by the Russians, and then, for some inexplicable reason, released. Wet wood in the furnaces prevented optimum smelting temperature being realised and an accident in blasting
wrecked a winding drum at Iron Blow, causing extensive delays whilst a new one was obtained in England. Experience with the smelters had been so satisfactory that another furnace was ordered from England. All this activity had its effect on the township at Yam Creek, which now included six Chinese stores, several baker's shops and a "Chinese restaurant for Europeans".

In October 1904 McDonald arrived and Henry Roberts, his manager, immediately resigned. The "Northern Territory Times" reported that McDonald was far from satisfied with progress and decided to assume personal direction of the company's activities. He found that Roberts had gravely overestimated returns from the ore and underestimated his capital expenditure, so that another £40 000 was needed to put the mine onto a sound basis. When news of this reached London the shares plummeted from fifteen shillings to six shillings and sixpence in three weeks, then slid further to one shilling and seven pence and came back to three shillings and sixpence. At Pine Creek the new manager of Selected Gold Mines of Australia closed down the Great Northern, Union and all the Pine Creek mines, even the Eleanor, from which so much was expected. Only the Great Western and Mt Diamond continued working, whilst others were on tribute. Work was suspended on the Northern Territory Mining and Smelting Company's leases pending the raising of fresh capital and little work of significance took place during the next several months.

The big water-jacket furnace arrived at Yam Creek, was quickly put together and by April, when sufficient firewood became available, was working at full capacity.

In July 1906 Mr Dyson arrived, the new manager for Northern Territory Mining and Smelting, and his early views, as conveyed to the "Northern Territory Times" in an interview, were not encouraging. He said that the ore in the Iron Blow mine varied tremendously, making it nearly impossible to assess ore reserves. The plant had been poorly laid out, increasing working expenses, whilst fuel was very dear (about £5/4/- a ton for coke by the time it reached the mine) and firewood and charcoal were getting scarcer and dearer all the time. He had thought that, given a good rich deposit of copper at Mt Ellison, Yam Creek would pay, but on his examination realised it was hopeless to expect Mt Ellison to provide much ore, adding that in this situation the heavy expenditure incurred on the Mt Ellison railway line was an absurd example of ill-judged extravagance. His conclusions about Mt Ellison were confirmed and soon afterwards the mine was closed and the pump withdrawn. George Buttle, the Superintendent at Yam Creek, resigned when the high-grade ore ran out and the smelter was shut down. As a last and desperate measure, the Government diamond drill was moved to Iron Blow to try to locate ore of the necessary grade, but the results were unsatisfactory and the plant was put up for sale.

Buttle also said in a letter to the "Northern Territory Times" that the reason given for closing the smelter was the presence of zinc in the ore, and this was simply not true — he was not aware of any zinc in the mine.

At that stage, Buttle, who had lengthy mining experience and prior to his job with Northern Territory Mining and Smelting had been at the Cobar mines, wrote to the directors and asked for a tribute on the mine and plant, but this was refused. Buttle also said that some years earlier the London board allotted several thousand
pounds for deep sinking at the Howley, but the shaft-sinking machinery was never unpacked and the money was spent on the Mt Ellison tramway instead.

At the end of 1907 Bottomley was charged with conspiracy to defraud in connection with his company's Northern Territory mines. The case went on for months. One hundred witnesses were called, the original magistrate fell ill and was twice replaced and the case was repeatedly adjourned. Bottomley conducted his own defence and ultimately the case was dismissed. However, his credibility was now gone and this was the beginning of the end of the era of Bottomley's companies in the Northern Territory. In 1908 it was announced that the Northern Territory Mining and Smelting Co. had decided to withdraw from the Territory and that it had purchased a mine at Zeehan in Tasmania. The machinery on the various properties was advertised in the "Australian Mining Standard" but attracted little interest, mainly because of the heavy cost of dismantling and removal. Eventually, the whole of the Iron Blow plant was bought by an Australian firm for £2500, little more than scrap metal price. Towards the end of the year the "Australian Mining Standard" reported that the Iron Blow leases had been forfeited at the instance of a railway fettler and that most of the machinery and buildings had been removed.

Another of the empire's companies, Selected Gold Mines of Australia, also ran out of money and was reconstructed into Carter's Consolidated. It took over some of the properties but, except for Jensen's old mine at Pine Creek, did nothing of consequence and then sought an interest in a gold mine in Victoria.

Bankruptcy proceedings against Bottomley began in 1911 and, according to Houston, he was then in "terrible financial straits" and made one last desperate attempt to raise money. He started a company called The New Northern Territory Syndicate Ltd, the object being to re-explore the Northern Territory for gold. A mining expert was actually sent out to begin observations, but subscriptions fell far short of expectations and it was promptly reconstructed by eliminating "New" from the title. Bottomley and his manservant were the sole directors and shareholders and its main use was as a vehicle through which to channel large sums of money from other fund-raising activities.

Bottomley was declared bankrupt in 1912 with debts of about £250 000. Some years later he arranged for his Northern Territory Syndicate and two other companies under his control to buy the debts at a heavy discount. He was declared free of bankruptcy in 1918. In 1922, however, he again faced charges and was found guilty of offences which the presiding judge characterised as "a series of heartless frauds on poor people". The sentence was seven years in prison. As stated by Felstead, Horatio Bottomley died in 1933, "penniless and practically friendless".

Whether Bottomley ever intended genuine mining in the Territory is doubtful. If he did, the way his companies went about it increased the chances of failure in a high risk industry. Insufficient capital was available, given the number and locations of the mines. An excessive part of the capital was spent on costly residences and other appurtenances for managerial staff and the remainder on machinery, pumps and expensive steel-lined shafts before any real attempt was made to prove the size and characteristics of the orebodies. It was after the shafts had been sunk and equipped and the milling machinery set up ready for production that it was realised that the
pumps could not control heavy inflows of underground water; and much of the ore was refractory, leading to low gold recovery on the battery plates and, in some cases, no recovery at all by the cyanide process. The copper orebodies were too small to justify smelters. Possibly at least some of the mines would have paid with adequate capital and sound management, but when the main problems were realised it was too late. Confidence in Bottomley and his companies had been lost and there was no possibility of raising additional funds.

As mining ventures, Bottomley's companies failed totally, but they did attract mining men to the Territory, some of whom remained, and the overall activity resulted in some general improvement in conditions. Unfortunately, as far as the investing public was concerned, his operations left a stigma on the Territory which remained for many years.

Today, the ruins of buildings, dams and mining machinery may still be seen at places like Yam Creek, Iron Blow, Zapopan and the Howley, including Cornish lift-pumps, hoisting machinery and boilers. Until early in World War II, the smelter buildings at Yam Creek were virtually intact, but they were blown up by the Army because of fears that in some way they might have assisted a Japanese invasion.
Mineral deposits, Spring Hill—Union Reefs—Pine Creek area.
Two views of ruins at Iron Blow.
Main beam of Cornish lift pump, Yam Creek.

Steel-lined shaft, Big Howley Mine.
Main shaft, Howley Mine, about 1900.
The Government and the Mines: 1895-1910

In 1895 the South Australian Government set up a Commission of Enquiry to devise measures to reduce the annual deficit of nearly £60 000 and to secure the development of the natural resources of the Territory so that it would pay its way and become prosperous. On the mining side, notable witnesses were John Lewis, V.L. Solomon, J.L. Parsons and J.V. Parkes. The reasons put forward for the troubles of the mining industry were:

- mismanagement, inexperience, extravagance and the erection of obsolete and other unsuitable machinery;
- high wages demanded by European miners, which led to Government being induced to import Chinese labourers;
- insufficient capital to develop properties;
- lax administration of the law in relation to safe working conditions;
- distance from large centres of population;
- inaccessibility and consequent expense of transport;
- permitting the Chinese to engage in mining pursuits and to hold mining leases.

The Commission was told that, with the exception of Olaf Jensen, all the successful mine owners employed largely Chinese labour and that, at the time of the hearings, most of the mining leases were held by the Chinese. Some witnesses wanted the Chinese excluded, while others wanted laws to allow the introduction of coloured labour suitable to the climate and work.

The concluding recommendations of the Commission in relation to mining were:

We recommend that assistance be given to mining to enable deep sinking to be prosecuted, and so thoroughly to test the permanency of the lodes at the lower levels of some of the principal reefs, such assistance to be in the form of a subsidy pound for pound on the amount to be expended for such purposes by the owner of the leases; the amount so advanced by the Government to be repaid, in the event of success, by the owners of all properties directly benefited in proportion to such benefit.

We think it also desirable that the mining laws should be amended to prohibit the issue of mining licences and leases to Chinese and other Asiatics.

Amend the laws relating to the importation and control of Asiatics and all other alien labour, in the direction of limiting the time of their service and residence in the Northern Territory, and to the nature and character of their work similar to that provided for in the case of the employment of kanakas in another colony.
That offers be invited for the construction of the Transcontinental Railway on the land-grant system.

In conclusion, we see no reason why the Northern Territory under suitable laws and administration should not become a prosperous settlement.\textsuperscript{84}

The Government took some positive action on the report, mainly in relation to the Chinese. It also placed a small sum on the budget estimates for subsidising deep sinking, but, in the event, most of this went to Bottomley companies. Toward the end of 1895 the legislation was changed, mainly to make forfeiture of unworked claims easier. The forfeiture provisions were then enforced and by 1898 only fifty quartz claims were registered, apart from those of the Bottomley group, most being tributed to Chinese by Europeans. The Government recognised that the industry had to be given some stimulation and so started a very limited scheme of financial assistance to prospectors. Nothing of consequence resulted and even the Government Resident said that there was no practical way of ensuring that such monies were properly expended. The Government also agreed to the construction of a smelter in the Territory (1903) and provided two diamond drills and crews (1905) in pursuance of its stated policy of actively boring known gold reefs and prospecting for coal.

On the legislative side, the first comprehensive mining act, dealing with gold and minerals, the \textit{Northern Territory Mining Act}, was passed in 1903. Some years later, Dr Jensen, the first Commonwealth Director of Mines in the Territory, described it as a very good act which worked well, though lack of suitable staff resulted in lax administration of mine inspection. The South Australian Government's lack of enthusiasm to increase the Territory budget probably stemmed from its hope that the Commonwealth would take over the Northern Territory, negotiations with this end in view having commenced in 1901. Nevertheless, the South Australian Government encouraged exploration and either directed or allowed H.Y.L. Brown, the Government Geologist, to spend a fair proportion of his time in the Territory.

A private prospecting party, called the Central Australian Prospecting Syndicate and largely financed by Western Australian interests, persuaded the South Australian Government to pass a special act of Parliament giving it the sole right to prospect over a large area east and west of the Overland Telegraph Line between Barrow Creek and Tennant Creek, an area of some 11,000 square miles, on payment of a nominal rental and under certain conditions, mainly the furnishing of information to the Government. Under the leadership of Allan A. Davidson, the party consisted of five experienced prospectors and a camel driver, as well as three Aboriginals, nine camels, five horses and provisions for six months. The party left Adelaide in mid-1897 and spent over two years in its task, discovering quite a few gold-bearing reefs, mainly in the Murchison and Davenport Ranges. However, the conclusion was that, as the finds were in such remote and arid places, they were too small and not rich enough to warrant further work. One of the reefs discovered early in 1900 was three miles east of Tanami Rockhole.

Government Geologist Brown covered a great deal of the Territory during the period. Apart from visits to known fields such as Arltunga and Pine Creek, he undertook major trips of exploration. During 1907 the Government steamer "Federal" was placed at his disposal for the purpose of searching for signs of valuable minerals.
along the Territory's coastline to the east of Port Darwin and along the western shores of the Gulf of Carpentaria. He was accompanied by Dr Strangman, the Protector of Aborigines, and Dick and Bubs, two Aborigines who had accompanied Brown on many of his trips and who had proved to be very useful and reliable. Brown found his first indications of metallic minerals in the form of manganese ore at some small islands in Melville Bay and later at Groote Eylandt.

The party next went to the mouth of the McArthur River and proceeded upstream in the launch, as the steamer had too much draught to cross the bar. Brown noted in his journal that a steamer called the "Wai Hoi" regularly landed cargo and mails at Palmerston Landing, twelve miles up the river, and there took on mangrove wood as fuel. From there, the cargo was moved another thirty-nine miles to Borroloola by a punt worked up the river with the tide. Of Borroloola, Brown said that it consisted of a courthouse, police station, store and hotel, situated on an open, grassy plain from thirty to fifty feet above the river, with a large Chinese garden nearby, irrigated by water from springs, where vegetables of all kinds grew freely. Policeman Stott provided the party with horses and accompanied them some forty miles to McArthur River Station. Copper, lead and zinc ores were seen at several places on the property, the largest outcrop being over 200 yards in length and from fifty to sixty feet in width. Of these Brown said, "Surface indications are very favourable to the presence of a very large deposit of these minerals".65

Returning to the "Federal", the party made for the Roper River and steamed twenty-five miles up its course before going seventy-five miles further up to Leichhardt's Bar in the ship's boat, but without making any discoveries of significance. Earlier, at Cobourg Peninsula, Brown took some specimens of "pisolitic rock" which assay later proved to be bauxite. He also discovered some carbonaceous shale near Borroloola and suggested boring for coal.

In 1909 Brown went to Tanami from Pine Creek by camel, noting that since its discovery by Davidson a few miners had done a little prospecting, mainly Laurie, Brown and Lambert, but due to extreme water shortage they had used dry-blowing for some considerable time with good results. Brown did a geological reconnaissance of the field, traversing 150 miles to do so. He assessed the field as an important one and thought that, at depth, formations would be of considerable width and length and that auriferous reefs would be found in other parts of the district.

The concept of Government smelters was first advanced by Knight, but it was not until 1901 that Solomon introduced a motion in the House of Assembly that a Government smelter be constructed in the Northern Territory, designed to treat seventy-five tons weekly. The Government accepted the motion and in 1903 the furnace was erected in Palmerston at the Two-and-a-Half-Mile.

News of the smelter was heartening to the miners at the Daly, which had started up again in 1901. M.A. Maume was the manager of the main mine, the Daly River copper mine, where he had several Chinese shaft-sinking, whilst several Aboriginals bagged hand-picked ore for despatch down the river by lighter and steam launch. J.H. Niemann, a qualified chemist and dentist and formerly manager
of the Daly River cattle station, had a silver show on the opposite side of the river, whilst Warr and Crosby were raising ore from the old Wheal Danks mine, three miles from the Daly River copper mine.

In the event, only some 600 tons of copper ore was ever smelted in Palmerston. There was more ore at grass but, for whatever reason, it was not processed. Towards the end of 1903 the Daly mine owners offered to move the smelter to the Daly and the Government accepted the offer, but specified that the cost should be recovered in higher smelting charges. At the Daly a local syndicate was formed to develop certain shows held by Niemann, including the old Wheal Danks mine and the Daly Silver Mine, so named because the copper lode was overlain by a twenty-eight-foot cap containing silver, gold and lead. An arrangement to work the mine on fifty percent tribute for six months was made with Joe Ah Wah, who supplied three men and all tools and explosives for £22 a month.

The smelter was dismantled and taken by ship and lighter to the Daly, but its erection was delayed by an unusually late and heavy "wet". The country was so impassable that the manager, F.W. Bice, could not arrive there until May 1904. Then the masons fell ill with fever. They were engaged as furnace captains as well as masons, but decided to leave as soon as the brickwork was finished. Months elapsed whilst replacements were obtained from the south. When the furnace was lit, it was found that there were insufficient sulphides to produce copper matte. Then the unskilled men sent from Darwin refused to do the work expected of them. Two left without notice, one was sacked and the rest gave a month's notice. The manager, at his wits' end and completely isolated from all forms of communication, shut down the furnace and travelled by horse to Brock's Creek, a considerable distance on a lonely track, to telegraph the state of affairs to the Government Resident in Palmerston. More labour was obtained, but the next time the furnace was lit the bottom cracked and had to be replaced. At that stage, due to isolation, labour troubles and periodic attacks of fever, the manager sent in his resignation.

Niemann was appointed manager in mid-1905. Even at that time of the year, however, the roads were so soft that when his family reached the Daly they had to pack half their household goods on the heads of native carriers to get from the landing to the smelter. Niemann confessed that, although he was not experienced in smelting, he was a good chemist and assayer and, with an able smelting captain, he expected satisfactory results. Staff were engaged and the plant restarted. For a description of it, a useful source is an essay written by the Misses Alice Niemann and Alice Stretton, which won a prize in the Palmerston Show:

The smelter was described as a huge oven built of bricks with a fireplace at one end filled up every hour with about three dozen huge logs, and a low wall between the fireplace and the oven where the ore was smelted. A chimney sixty feet high drew the fire over the wall and around the oven. The oven was tapped every so often and a stream of golden copper would flow out. The plant had an enormous appetite for wood, two waggons being kept going continuously.66

Unfortunately, the smelter did not give good results, much of the copper escaping in the slag.
The price of copper had risen, the mines were almost on top of the smelter and the ore was rich, but there were no profits. Webster replaced Niemann as manager and the latter became the assayer. Both worked day and night on the problem of losing copper in the slag, but could not solve it, so the Government Resident instructed that the smelter be closed down until a new manager arrived from the south. Niemann opened a chemist's shop in Palmerston and also managed the "Northern Territory Times" whilst editor Kirkland took his holidays. Some months went by until Mr Erwin Basedow took the plant over. He started the furnace up again and managed to get full recovery, but ran out of charcoal and had to suspend operations for a month. Basedow said that most of the earlier problems had been caused by employing an assayer when it should have been obvious that a metallurgist was needed. Previous managers had tried to make copper matte but, as sufficient quantities of sulphides were unprocurable, they should have abandoned that idea and smelted metallic copper.

Reasonably satisfactory results were obtained during 1906 until the sides of the chimney stack bulged out, indicating that collapse was imminent. Basedow sent a messenger to Palmerston and the Government Resident himself immediately made a special visit of inspection. The stack subsequently did collapse, due to bad workmanship and materials. Permission to effect repairs was received from Adelaide and a new stack was erected some twenty-five feet from the old one. In the midst of all this, nearly all the employees took to drink and were dismissed. Basedow then went by horse to Brock's Creek to engage replacements, as none were available locally. He added in his annual report that "the furnace was built for running matte, but this is impossible with the class of ore available and mostly copper is run, for which the tap-hole is unsuitable". After a few tappings, the tap-hole became a mass of solid copper which had to be broken into with steel bars.

The smelter continued to have its ups and downs. Extensive repairs were required in 1907, during which time a new smelter was constructed not far from the old one. Then there was an extraordinary drop in copper prices when ore even as rich as fifteen-percent copper would not pay. Government Geologist Brown noted on a visit in 1908 that the mine was practically unworked, except by a few Chinese on tribute. The wet season that year brought exceedingly heavy rains right through to February. The mines and smelter were surrounded by water for weeks on end and all the workings were flooded. Malaria caused a great deal of sickness and the manager had to decree that his men either take their quinine regularly or face instant dismissal. At the end of 1909 Basedow resigned, the men were dismissed and the plant was closed. It had never been a success, yet before it closed tributers had been raising stone and sending it south for treatment, finding that, even with the heavy freight costs involved, a better profit was realised than by putting their material through the Government smelter.

The reasons for failure were several. It was at the instigation of the mine owners at the Daly that the smelter was moved there. They did not honour their agreement to develop the mines and supply sufficient ore to keep the smelter busy, the only ore being that mined by Chinese tributers without any mine development of consequence. Then, for proper fluxing the smelter needed sulphide ore, which had to be carted a considerable distance, as the local mine owners made no efforts to
sink down to the sulphide zones of their own mines. In short, whilst there were deficiencies in the machinery, and labour troubles and firewood shortages at certain times, the main reason for failure was the lack of interest and industry on the part of the mine owners in whose interests the project had been undertaken.

A series of reports of accidents at the mines resulted in an editorial in the "Northern Territory Times" during 1898, pointing out that the Territory was the only part of the colonies where mine accidents were not properly investigated. Frequent accidents at the Howley were mentioned. Solomon took the matter up and, in 1900, approached the South Australian Minister about inspection of mines, employment of competent engine-drivers and other related matters. The Minister said he had been informed by the Resident that the Warden had sufficient powers concerning inspection if he did his work properly. Regarding the old boilers and engines on some mines, which the Chief Warden considered unsafe, the Minister could not see why a competent railway employee could not be instructed to examine and report upon them. As to compelling engine-drivers and others to pass an examination, the law would have to be changed to enable this to be done and the Minister did not think any action was warranted at that particular time. There is evidence of action on safety, because the following year Chief Warden Copley-Playford held an enquiry when a fall of earth killed a Chinese at the Howley, and shortly afterwards directed that work be suspended at Yam Creek until dangerous conditions were rectified.

The 1903 Act required lease holders to notify the Warden of all serious accidents, but as the mines were spread over a large area and he had no assistance and many duties, it is fairly clear that few accidents were properly investigated. Accidents at the mines were not unusual. Many were due to carelessness, but of those involving crushed limbs or death many were due to rockfalls, often a direct result of working methods that today would not be tolerated. Most of the machinery was steam-driven and burns by scalding steam were not unusual.

Accidents were often reported in the newspapers. On one occasion a Chinese miner was holding a lighted candle in one hand and a stick of dynamite in the other when, by some means, ignition occurred and the man's hand was blown off at the wrist and he received severe injuries to the face. At Yam Creek, the battery was stopped at 12 o'clock to oil up and a man attempted to push the belting off the wheel with his foot. His foot was caught in the wheel and, in an instant, he was whirled off his feet and his left thigh and right ankle were broken. The leg was roughly set in splints by the manager and he was taken to Palmerston by the next day's train. A Chinese miner met with an accident at the Zapopan mine. He and another had each charged a hole in two different faces and retired after lighting fuses. There was only one explosion and, after a brief interval, he walked back and was in the act of stooping over the hole when the charge exploded full in his face, inflicting frightful injuries. He was taken on the next train to Palmerston (three days later) and treated by Dr Fulton at the Hospital. He lost the sight of both eyes and also had a severe gash on the forehead and right shoulder. In fact, the whole of the man's face, as well as his limbs and the front portion of his body as far as the waist, was a mass of cuts and bruises.

At the Howley, on a Tuesday evening, death of a most unusual kind occurred. Early in the evening a heavy storm of rain, accompanied by wind, thunder and lightning,
visited the district. During its progress, the Chinese cook employed by the Howley Gold Mines Ltd, was standing in the kitchen eating a banana when a flash of lightning entered the building and struck him dead. The man never moved after the stroke. The trace of the lightning was left on the side of his face and down his side.

Solomon persisted with his pressure about action on mine safety, the result being that the wardens were instructed to investigate all accidents and a system of examinations for engine-drivers was instituted.

The plight of an accident victim at a mine was very serious, with only two trains a week and, for most of the period, the nearest doctor being in Palmerston. For a few years the Bottomley companies employed Dr Collins, who had his headquarters at Brock's Creek. Many of the mines were a considerable distance from the railway, often necessitating a lengthy and painful journey from mine to station.

Following further pressure by the goldfields' populace, the Government decided to subsidise a chemist and appointed J.H. Niemann, formerly connected with the Daly smelter, as Government Chemist at Pine Creek. It was an arrangement under which the residents supplied £300 a year and the Government a similar amount. Niemann undertook to keep in stock all drugs, medicines, chemicals and surgical appliances in regular use. All medicines and drugs would be supplied at normal retail prices, and Aboriginals and destitute persons would be treated free of charge. The chemist was not to charge for describing the symptoms of a patient to the Government doctor in Palmerston.88

Niemann conducted a series of chemical experiments which convinced him that radioactive ores existed in the Territory, including several locations in the vicinity of Pine Creek. He published articles on his discoveries in the Australian Mining Standard in 1910 and 1911.89

Whilst the local residents had nothing personal against Niemann, they felt that the Government had let them down badly. At the end of August 1909, they presented a petition to Government Resident Herbert, with 211 signatures, praying for the appointment of an up-country doctor. Following strong support by Herbert, the South Australian Government advertised for an up-country doctor and Dr Abbott was appointed. He had emigrated to Australia after losing all his possessions in the great San Francisco earthquake.

With the exception of a few years in the early 1900's, metal prices were low and consequently there was little mining apart from gold. Some of the most experienced Territory miners took jobs with the Bottomley companies to tide them over. Isaac Daniels managed the Great Northern, whilst Adam Johns planned and erected machinery at the Zapopan.

Johns was killed in a buggy accident whilst on his way to Brock's Creek during 1896. In its obituary the "Northern Territory Times" recalled that he came to the Territory from Queensland with Phil Saunders in 1873, when they discovered the rich Union Reef. For many years Johns had his headquarters and battery at the Union. In later years he and Saunders did a great deal of prospecting, but, whilst they made some important discoveries, neither ever seemed to have much cash at the end of a year. He was well known and respected throughout the Territory.
Far to the south, alluvial gold had been discovered in 1887 at Paddy's Rockhole, later given its Aboriginal name of Arltunga. The find was about seventy miles north-east of the Alice Springs telegraph station, but ninety-nine miles by a track (with one stage of forty-six miles between waterholes) that had been made by some prospectors returning from the short-lived ruby rush to Ruby Gorge. (The “rubies” turned out to be garnets, which were virtually valueless.) Later in the same year reef gold was found in Arltunga, probably by P.I. Fitzgerald, as he was granted a reward claim. Due to the field’s isolation and the very limited amount of water available, it seems that little mining was done. H.Y.L Brown visited the field in 1890, travelling by camel from Oodnadatta to do so, and found two small, light batteries there – one at Arltunga and one at Claraville, some miles distant. The former had not worked up till then due to unavailability of water.

In 1896 J.V. Parkes visited the field and recommended that a Government battery and concentrating apparatus be provided. This was done and up to 1904 it crushed 6394 tons for some 9512 ounces of gold, all from Arltunga and the White Range reefs, the latter discovered by H.E. Luce in 1897.

Conditions on this field were harsh indeed, it being in spinifex country with very low rainfall and the nearest centre of supply being Oodnadatta. When rain did fall at infrequent intervals, flash floods resulted. During one such flood a man lost 200 sheep and another, 200 goats and three Aboriginal helpers.

Many of the miners were Cornishmen, formerly at the famed Wallaroo and Moonta mines, noted for their fine stonework. Several fine stone buildings, some now restored by the Conservation Commission, still remain at Arltunga. Mining activity continued there up to and beyond 1910. Government Geologist H.Y.L. Brown again visited the field in 1902 and found some forty men there, noting that the work was slow and laborious and that the teamsters charged eight shillings a ton to cart ore only a few miles to the battery. From a list of crushings, the conclusion is that the field was then a small man’s one and that the total production of gold was relatively small.

Back in Palmerston, a local syndicate, which included the Daniels and two Chinese merchants, bought the Zapopan Gold Mining Company N.L. in 1903. Tenders were immediately called for driving and development and 1000 cords of firewood. Over the next twelve months work was pushed ahead, but again water caused problems. A new shaft was sunk to 225 feet and the main drive intersected two reefs, one assaying one ounce and the other three ounces to the ton. A big, sixteen-inch Cornish lift-pump was installed, but took some time to become operational, as the rods kept breaking for some unaccountable reason. By then the company’s funds were low, so it let several tributes in the hope of getting some revenue until the mine was productive.

By March 1905 the fifteen-head battery was going day and night, but results were below expectations – 700 tons for 300 ounces of gold during the month. A cyanide plant had been commissioned, but during the same month only managed to recover twenty-three ounces from 100 tons of tailings, and much the same results were obtained in succeeding months. The poor recovery was largely due to the highly refractory nature of the ore, the battery recovering barely half the gold. Cash reserves were rapidly falling, so in August 1905 the company let the mine to Chinese
tributers on the condition that all mining work be carried out to the satisfaction of manager Daniels. Under this arrangement the tributers paid all expenses of mining and pumping, whilst the manager retained control of the battery, crushing ore at a fixed rate and taking a percentage of the gold recovered. Several of the best Chinese miners left Yam Creek for the Zapopan.

Once again, the local company had been forced into tribute because the Government refused a loan of a few thousand pounds to tide them over a temporary difficulty. In the ensuing months the Chinese made handsome profits, mainly because the company had used up its funds in developmental work, spending a total of £14 500. The company struggled on under a new manager, Tom Styles, who took over early in 1906, but he had difficulties when the brickwork of the boiler collapsed and the Chinese could not raise enough stone to keep the battery going, thereby raising overheads. By September they were stoping at the 300-foot level, where the reef was five feet wide and carrying good gold, but, with the primitive Chinese mining system, it was doubtful if the mine could carry on. The shareholders managed to raise enough money to rehabilitate the old main shaft and equip it with a winding-engine prior to putting a drive into the old workings. For the last six months of 1906 the mine made a profit of £610, all of which went to reduce the company’s overdraft.

By March 1907 the company had exhausted its capital and borrowed £1000. It now had a thirty-head battery, but, even by tributing the mining to Chinese, it was barely paying its way. Capital was badly needed for development, to sink the main shaft another 100 feet so that the reefs could be properly stoped from below, instead of being “white-anted”, using windlass and steam-pump without ventilation. Overall, the stone averaged ten pennyweights to the ton, which, with the low capital cost of the plant, should have paid. During the remainder of the year the directors made desperate efforts to sell the the company or obtain fresh capital, but without success. The following year they asked the Government to drill their reefs to 500 feet to obtain reliable data on which capital could be raised, offering to provide firewood and half the cost as far as they could. The request was approved, but, although the bore struck a body of galena two feet thick at 380 feet, the overall result was that Brown Bros, auctioneers, sold the mine and plant in July 1910. Bidding started at £800 and ran up to the reserve figure of just under £2000 when it was knocked down to Mr Justice Mitchell, as the representative of the South Australian Government. The amount bid was barely sufficient to pay out the mortgages and the shareholders consequently lost every penny of their capital.

The main mining problems were refractory ore, heavy pumping costs and hand labour with “hammer and tap”. A story still current in the Grove Hill district is that one of the Zapopan shafts was right on a creek bank, and when the creek overflowed, water poured down the shaft from the surface. In the wet season an Aboriginal was posted some distance up the creek on a horse and, at the first sign of its level rising, he would ride like the wind to the shaft head to warn the miners working below. The story goes that on one occasion a flash flood beat Aboriginal and horse to the shaft and several miners were drowned underground.

In 1908 Colin Cox erected a ten-head stamp battery at Yam Creek, close to the old mill and smelter, christened it the “Phoenix” and began to crush for Chinese
tributers. One party worked the old Princess Louise mine, Cox had ten windlasses at work on his own claim and the working population grew from twelve to 100 in a few months. Some rich crushings were obtained, including one of thirteen tons from Eureka which yielded seventy-six ounces. Needing more power, Cox went to the Howley in January 1909 to bring a boiler back to Yam Creek. This was a difficult task in the middle of the “wet”, with bogs and floods, and at one place he had to lay 150 yards of corduroy. He then bought a steam-pump and winding-engine, which were erected by his son and Tom Styles on the Bloomer mine. Styles was also manager of the Eureka and installed a steam-pump there. His men had a narrow escape when, during the lowering of the pump, lightning struck close to the shaft mouth and stunned the surface man and the three men below. However, all soon recovered. On another lease, Long Tunnel, owned by F.J.Cox and Sons, the 600-foot-long tunnel, put in by Captain Newman many years before, was cleaned out and a tram-line installed which ran from the centre of the hill to a storage bin and chute at the battery. This was sound, labour-saving, local engineering, but the mine did not pay and the Coxes reverted to putting Chinese tribute stone through their battery.

In 1900 a local syndicate called Bynoe Harbour Tin Mines was formed to take up the Leviathan and other tin claims at Bynoe Harbour. The old plant of Adam Johns and Phil Saunders from Mt Tolmer, sold to the Daly River Mission ten years previously, now changed hands again and was moved to the syndicate’s claims. Samples of the ore were sent to May Bros of Gawler for advice as to the correct method of treatment and, as a result, new jiggimg machinery was added to the plant. During 1901 thirty men were employed, about half of them cutting and hauling firewood for the boiler, but the mine closed the following year. According to Copley-Playford, the talc lodes were found to carry too Iowa percentage of tin to pay.

Tin had risen in price and continued to do so, reaching £210 a ton in 1906. Government Resident Dashwood said that this stimulated mining, particularly around Burrundie and at Bynoe Harbour. He added that many men had been induced to travel to the Territory by erroneous reports in southern newspapers about the richness of the Bynoe Harbour tinfields, but most left when they realised they had been misled.

Chinese merchant Hang Gong had a very promising tin show at West Arm, across the harbour from Port Darwin. By early 1904 he had won £4000 worth of tin by hand-mining methods. Two men dug the ore whilst eight carried it to twenty-six panners, who were served by a water-race and a dam seventy-five yards long by ten yards wide. A small township sprang up in which Hang Gong owned the store.

During 1904 Hang Gong engaged an experienced European manager who raised the daily yield of concentrates from fifteen to twenty-five hundredweight. By the end of 1904 this operation had produced 109 tons of seventy-percent tin concentrates worth £8309.

During the next few years several more Chinese and Europeans took up leases at West Arm and Bynoe Harbour. Transportation was provided by Sun Kwong Shing’s cutter, which made the trip to Hang Gong’s landing every two or three days, the latter’s horses meeting the cutter and conveying goods and passengers to the mines up to four miles away.
One of the new lessees was Stephen McGinness, an Irish fettler who had just lost his job on the railway. His wife, Lucy, was a full-blood woman of high rank in the Koongarakan tribe. Whilst on the way to Bynoe Harbour her goats went missing and she eventually found them near an uprooted tree. Lucy noticed a large rock among the tree's roots which turned out to be pegmatite rich in tin. They settled on the spot and McGinness spent the twelve remaining years of his life working the claim which he called the "Lucy". Over the years they recovered sixty tons of tin concentrate, hand-dressed up to seventy-four percent. The Bynoe Harbour Tin Company's leases were worked by Chinese tributers, but only alluvial, as the old company battery was badly rusted and the woodwork had been eaten by white ants.

Small plants were installed by various groups, none of which did very well and, in fact, the Leviathan mine had been abandoned by two companies. Senator Dobson visited West Arm in May 1907 and, as reported by the "Northern Territory Times", was somewhat appalled by the working conditions. Chinese and Aboriginals comprised the work-force and their clothing, as well as that of the Europeans, consisted of a brief loin-cloth only. Later on in the year more heavy machinery arrived for European leaseholders by steamer. It was transferred to a lugger, which was found to have too much draught to get up West Arm, so it was transferred again to a lighter. The only crane available was not strong enough, so the shipment was unloaded partly into the water and manhandled up the bank. The moving contractor used an eight-ton oil launch and into this the heaviest item, a six-ton boiler, was lowered and the journey around the harbour was made with the hatches only inches above water-level, the crew praying that a squall did not materialise.

The Government decided to assist the miners by providing a small crushing plant, to be driven by a big, eight-horsepower steam traction-engine weighing some twelve tons. The railway crane managed to get it off the steamer, but then the problem arose of how to get it to West Arm and the mines at the end of the wet season. The local private contractors refused to have anything to do with the job and the railways people had to be called in again. They partly disassembled the engine and loaded it onto a punt, which was towed to Hang Gong's wharf. There it was re-assembled and the boiler fired, but the roads were so soft that the traction-engine buried itself some feet deep and there it stayed for months until the ground dried out. The Government plant proved to be very slow, crushing only half a ton an hour. It seems that the engine served several claims. Val McGinness, who still works his father's Lucy claim, remembers it leaving the district about 1915, when he was a toddler, driven by Jack Johnson, on its way to the Pine Creek fields. It got as far as Darwin River when the pinion wheel stripped some teeth. Months later a replacement arrived. The procedure was then to use a small quantity of gelignite to blow the locking key loose. Unfortunately, the operator used four times the appropriate quantity, which blew the pinion wheel to pieces and bent the shaft to such a degree that the new wheel could not be fitted. The engine was abandoned and there it remains to this day.

By 1906 the rich surface deposits owned by Hang Gong had been worked out and the price of tin began to fall. During the next couple of years mining was desultory, except in a very few cases. According to Copley-Playford, Bell bought the Mona
claim and in seven months raised and treated 1000 tons of low-grade material at a
profit. He also said in 1908,

The output of the West Arm Bynoe Harbour Tinfield cannot be accepted as
satisfactory. Several disintegrators were placed on the mines there, and the
Government provided the miners with a portable crushing and concentrating
plant. The private appliances were fairly successful in dealing with the tin-bearing
material (greisen), only the cost of renewing the beaters was heavy, but the latter
was unsuitable. The impetus given to the field by the arrival of these plants soon
died out, due to a great extent by the material operated on not being as rich as
anticipated, a large percentage of the tin being lost in sluicing.94

A small but rich gold reef was found at West Arm by C.E. Walder, who formed the
“Golden Boulder”. They carted about five tons of ore to the Brock’s Creek battery,
which recovered twenty-eight ounces of gold. The syndicate then bought the old
Cosmopolitan battery from Kwong Tack Wing and moved it to West Arm. The first
crushing resulted in thirty ounces from five tons. The next was done in Victoria and
yielded sixty-two ounces from nine tons. The syndicate was short of capital for
development, when the first rich leaders pinched out and they tried to raise money
by auctioning a one-third share in the mine. The best bid was £35 and the mine
closed soon afterwards.

During 1909 two Government diamond drills were moved to West Arm to see if the
surface tin deposits extended to any depth, but the conclusion was that they did not.
The Golden Boulder claim was also tested by drilling, but with disappointing results.
By early 1910 both the West Arm and Bynoe Harbour fields were almost deserted.

During 1897 David and Isaac Daniels acquired the leases and some machinery of
the defunct Port Darwin Tin Company at Mt Wells, but, due to the low price of tin,
could not work the mine at a profit. Between 1897 and 1901 they worked the John
Bull mine and battery with some success, one crushing returning 520 ounces of gold
from 534 tons. While this operation enabled them to accumulate some capital, funds
were insufficient to deepen the shaft and the mine was closed down, the two
brothers then working for the Bottomley companies for a period.

In 1900 the Daniels entered into a tribute agreement with the Chinese at Mt Wells.
Pay ing a tribute fee of ten percent of tin concentrate recovered, the Chinese carted tin
ore down the mountain in baskets, one hundredweight at a time, stockpiled it and
then crushed it with a foot-dolly as water became available for treatment.

The price of tin rose substantially in 1905 and by then the Daniels brothers had
accumulated enough money to buy the buildings and machinery of the old Port
Darwin Tin Company, which the Government had taken over in settlement of a debt.
In that year Le Hunte, the Governor of South Australia, visited Mt Wells and noted
that the mill had been idle for several years and was tumbling to pieces. He also
noted that about 100 Chinese were working on tribute and this was how the Daniels
had managed to retain the leases. The Governor also observed that “there was a
large Chinese town, and store kept by Ah Kie, the ‘boss’ Chinaman, who appeared
to be a man of substance”.

It seems that it was David Daniels who managed Mt Wells, at least for a few years,
as from 1905 on Isaac Daniels was the manager of the New Zapopan Company, in
which they held shares. The old plant was rehabilitated and a new boiler, Wilfley tables and ten more stamp heads on the battery were installed, and 400 feet of tram lines were laid to connect the mine with the battery. Three tunnels were driven into the mountain and sixty Chinese tributers were employed, as well as Chinese miners on wages. The Mt Wells mine now had the most complete and up-to-date crushing and concentrating plant in the Territory and results were pleasing, 133 tons of tin concentrates being recovered in 1908, with similar or better results in subsequent years.

A series of wolfram, tin and copper discoveries was made in the Mt Todd–Hidden Valley–Wandi area during the early 1900's. One of these was a rich deposit of wolfram, not far from Wandi, which was taken up by Brock, Coggin and Burns in 1904 and named “Wolfram Camp”. With hand-mining methods and foot-dollies, it yielded sixty-one tons of copper ore and seventy-five tons of wolfram ore by the end of 1907, worth nearly £5000. Brock then sold out to his mates and went south. The remaining partners arranged with R. Webb to erect a plant to treat a large pile of tailings and to replace the foot-dollies. It took Webb the best part of a year to transport and erect the plant, but then the price of wolfram had fallen and ore was stockpiled. In 1909 it recovered eleven tons of wolfram concentrates, as well as treating small parcels of ore for parties at other small mines for miles around, including tin and wolfram from Hidden Valley and Crest of the Wave mines.

The Mt Todd field is also of interest because of another genuine miner, George Buttle. After severing his connection with Northern Territory Mining and Smelting in 1906, Buttle decided to do some mining on his own account and formed the Venture Syndicate. He bought Jolly's old ten-head battery at Wandi and arranged for Jack McCarthy to move it to Mt Todd, about six miles from the Edith River, during a heavy wet season when everyone else said it could not be done. At the field, Chinese outnumbered whites by twelve to one and plenty of stone was available for crushing. R. Webb was called in from Wolfram Camp and adjusted the plant to give a satisfactory recovery. It then crushed on, closing from time to time because of a shortage of water, and also treated wolfram ore with profit right through to 1910. At one stage the young Miss Maud Buttle (later Mrs Maud Close) persuaded her father to teach her how to run the vanners and dress tin. This was fortunate because Mr Buttle fell ill and had to be taken thirty miles by buggy to the Pine Creek Hospital, where he remained for six weeks. During that time Maud ran the whole plant, gave the Chinese labourers their orders and supervised the loading and despatch of concentrates by wagon to the railway.

In 1937 the Commonwealth Government appointed W.L. Payne and J.W. Fletcher to enquire into the land and land industries of the Northern Territory and to produce a plan of development for the next twenty-five years. The Commission travelled extensively and reported in October 1937. In respect of the period of control of the Northern Territory by South Australia, it said that gold to the value of £2 million and minerals to the value of £550 000 had been produced. In earlier years, considerable money was spent by companies, but, for a number of reasons, which included climate and fever, the impossibility of communication during the wet season, poor managers and miners, costly but unsuitable machinery, plus heavy transport expenses, all eventually failed. Whereas the railway was expected to attract
companies to the Territory, all that resulted was a short-lived speculative boom. Then “tragedy came to the mining industry in the late nineties, when doubtful English speculators gained possession of the best reefs which were being worked successfully by Chinese tributers”\(^8\). The Resident of the time alleged that, by disgraceful speculation and misrepresentation, the speculators had frightened money away from the country and had dealt the mines a fatal blow.

At the eve of transfer of the Territory to Commonwealth control, there were a number of small mining operations and a total of fourteen batteries and six cyanide plants, but the only production of any great significance came solely from two mines — Daniels’ tin mine at Mt Wells and Carter’s Consolidated at Pine Creek. Apart from the latter, there was no interest by companies and no indication of any early change in this attitude. Burundie, at one time envisaged as the busy town centre for the mining industry, was deserted, the Post Office having been closed in 1906 and the doctor and warden having moved to Pine Creek the following year.

The Commonwealth was about to inherit what could only be described as an ailing mining industry with a very poor reputation in southern and overseas financial circles.
Reg Weston and author with remains of the Daniels' gas engine.

Aritunga Government Battery, 1899.
CHAPTER 7

Commonwealth Control and the World War I Years: 1911–1918

Toward the end of the 19th century, the idea of transfer of the Territory to Commonwealth control received increasing support, with V.L. Solomon a vociferous advocate. In April 1901 the Premier of South Australia officially requested the Commonwealth to take over control of the Northern Territory. The reasons were several. The Payne–Fletcher Report (1937) said,

"Among the reasons which were advanced in favour of the transfer was the contention that, in taking control of customs and immigration, the Federal Parliament had virtually deprived the State of indispensable instruments of development and that, from the State's point of view, the authority which possessed the key of the buildings should be made responsible for the care of the premises. Supporters of the movement in favour of the transfer further pointed out that, after over 40 years of management by South Australia, the land remained practically uninhabited and undeveloped and that the debt of the Territory compared with the population was steadily increasing year by year. South Australia had her own troubles to face. It had loans to renew and liabilities to meet. Further, there was the likelihood that, if they were successful in developing the Northern Territory, secession would take place."

On 5 July 1901 V.L. Solomon, now a member of the Federal Parliament, moved the following motion:

"That in the opinion of this House it is advisable that the complete control and jurisdiction over the Northern Territory of South Australia be acquired by the Commonwealth and that the Federal Government should at once enter into negotiations for the purpose with the Government of the State of South Australia."

In speaking to this motion, Mr Solomon dealt in detail with the Territory's history from the time of its being handed over to South Australia in 1863 and explained the various blunders which had led up to the present position.

In 1902 the Commonwealth resolved that it was advisable for it to acquire the Northern Territory under just terms. Negotiations between State and Commonwealth continued for some years. In 1908 South Australia passed the Northern Territory Surrender Act, followed by the Commonwealth's Northern Territory Acceptance Act, but the Territory did not actually pass to Commonwealth control until 1 January 1911. Palmerston was renamed Darwin and appropriate ceremonies were held there on 6 January 1911. According to the Payne–Fletcher report, "The new era was ushered in with great enthusiasm and the despondency and depression which had prevailed amongst the population for some years gave way to fresh hopes and great expectations for a revival of business and enterprise under Federal control."

On the other hand, South Australia was relieved to be free of the Territory. That State recognised that development would be slow and, in the meantime, the costs of
administration and development incentives would be completely beyond its limited financial resources. Its annexation of the Territory years before had proved to be a costly gamble against unknown odds of conditions, climate and costs.

Turning again to the Payne–Fletcher report:

The early years of the Territory under Federal control were full of activity in almost every sphere. In 1911 a preliminary scientific expedition visited the Territory and this proved to be the forerunner of a number of experts on such matters as climate, health, anthropology, geology, exploration and agriculture.99

For one of the early scientific expeditions the Commonwealth secured the services of some eminent people, including Dr Gilruth, Professor of Veterinary Science, University of Melbourne, and Dr Woolnough, Assistant Professor of Geology in the University of Sydney. The latter made an overland traverse from Darwin to Camooweal and was impressed with the mineral potential of the area. He was quite critical of past mining methods where the tribute system had resulted in only the richer shoots being mined, making it difficult or impossible subsequently to recover lower grade material. The preliminary reports of the experts indicated that the only industry with immediate potential for development was mining and, accordingly, the Commonwealth arranged for Captain Matthews, Chief Inspector of the South Australian Department of Mines, to examine the Territory’s mineral belt.

Matthews toured the main fields with a parliamentary party and noted that very little work had been done at a depth greater than 200 feet. Part of his charter was to consider ways in which mining could be encouraged by Government and he recommended subsidies for deep sinking, prospecting and mining; prospecting parties fully equipped with mining material, horses and food for six months, with payment of half wages; freight concessions on the railway for ores, supplies and mining machinery for two years; the purchase of diamond drills and the institution of a programme of drilling by the Government.

There was little in these proposals that had not been recommended in earlier years by Copley-Playford as Chief Warden, and at least some of the ideas had been advanced by Knight many years before Copley-Playford’s time.

Of communications, the first of the expert reports said, “There were no roads at all. Here and there a track made by horses or vehicles marked the route from a township to a station. These tracks varied from time to time at the will of the traveller and generally were impassable during the wet season. The railway...was of service to only a portion of the mineral regions”.100

Swift action followed. The Commonwealth accepted a policy of encouragement of the mining industry and set up a Department of Mines to administer it. Dr H,i. Jensen, an eminent geologist recommended by Professor (later Sir) Edgeworth David, was appointed to the newly-created office of Director of Mines and took up his duties in Darwin during September 1912. Shortly afterwards he and Copley-Playford departed on horses owned by the Department of Mines and examined the known mining fields. On returning to Darwin, he was told to leave at once for Borroloola to select sites for oil-drilling as a follow-up to one of Woolnough’s suggestions, but, in the event, the bores were failures. (History repeats itself: an
international company has recently drilled for the same purpose in this very area.) Early in 1913 Jensen was summoned to Melbourne by Josiah Thomas, the Minister for Home and Territories, and asked to attend the International Geological Congress in Canada. He declined, saying that as yet he had not done enough work in the Territory and persuaded the Minister to send Copley-Playford instead.

During 1913 Jensen prepared a new Mining Ordinance, which prescribed conditions under which assistance would be given and made it much more difficult for companies and individuals to tie up ground for speculative purposes. The Commonwealth announced its intention to improve and construct roads, and freight charges on the railway were reduced by about twenty-five percent. The new department retained Copley-Playford and his wardens, and additional professional staff were appointed, including T.G. Oliver, as Inspector of Mines, and a geologist, as well as subsidiary staff. Jensen expressed the view that he now had an excellent staff. During the next few years this small group did an amazing amount of geological investigation and mapping, covering the majority of the then known mineral belts. Diamond-drill operations were stepped up and mines of promise given Government assistance, usually on a pound-for-pound basis. Up to 1917 some £33 795 was spent on subsidies to thirty-three mining propositions.

Of the field work, Jensen said:

The long journeys have been made on horseback with a string of pack-horses and the assistance of a blackfellow. When detailed observations were necessary a halt was made for a few days and the country was scoured on foot. I have followed the travelling methods usually indulged in by geologists and bushmen and frequently my path has lain through untrodden country, sometimes floods or other causes necessitating long detours for hundreds of miles, far off any road, track or path.\(^{101}\)

A Royal Commission had been set up in 1913 to report on the development of the Territory, with particular attention to railways and ports. The Commissioners were not unanimous in their findings, being unable to express any definite opinions on agriculture, and were of the view that, as a factor in attracting population to provide a local market for agricultural and pastoral products, mining offered the best prospects. The Commission suggested that without railway extension there would be no substantial progress or development in the Territory. The only definite action taken as a result of the Commission's report was to approve extension of the railway from Pine Creek to Katherine, construction beginning in 1914.

The consequence of these various initiatives was a gradual return of confidence to the mining industry during 1913. The outbreak of war in 1914, however, caused a period of uncertainty in metal prices. Consequently, for some months ore buyers ceased purchasing. As the war went on, demand for metals increased strongly, particularly for tin, wolfram and copper, and all three rose substantially in price. Most of the Territory's mining population then forsook gold and concentrated on those metals. Developmental work at mines such as Iron Blow, Crest of the Wave and Union Reefs absorbed most of the available labour, European and Chinese. Encouragement of prospecting resulted in the discovery of new fields, with the Maranboy tin deposits, some thirty miles from Katherine, tin at Hayes Creek and
Wolfram at Wauchope as the more important finds; added to which the previously-discovered wolfram at Hatches Creek was at last identified and its mining begun.

Full advantage of the higher prices was not realised due to a labour shortage, caused largely by the cessation of Chinese immigration. By 1914 only 462 Chinese were engaged in the industry and, from a report by Jensen in that year, "the majority were old and decrepit, and eking out a bare existence on the tribute system". Then the construction of the railway extension from Pine Creek to Katherine between 1914 and 1917 diverted some of the labour which would otherwise have been devoted to mining.

Throughout the war years the Department of Mines continued to encourage mining development. It diamond-drilled extensively, continued to subsidise developments at promising prospects and, in an attempt to attract capital, carried out a programme of shaft-sinking at Union Reefs and Pine Creek with a view to establishing that the mineralised zones at those places extended to a depth of at least 400 feet. Whilst some promising results were obtained, they did not succeed in attracting any sustained interest.

During the early years of Commonwealth administration, the Department of Mines worked under considerable pressure. As an example, during September 1913 instructions came from Melbourne that a geologist must go to Tanami to investigate a subsidy application and the re-timbering of a well. A report was also needed on the Alligator River district and the Administrator demanded an urgent report on the sinking of bores between Alice Springs and Newcastle Waters. Jensen said, "I took Tanami, the most difficult and hazardous".

An unfortunate situation in the Territory's administration developed from 1914 on with increasing hostility between Gilruth and Jensen, which culminated in a Royal Commission. Unfortunately, neither the Australian Archives nor the Tables Office at Parliament House have been able to locate the Minutes of Evidence given to the Royal Commission, and press reports at the time were scanty. The following account of the differences between Jensen and Gilruth, both learned and able men, has been based on the unpublished memoirs of Dr Jensen, the Royal Commission report, such reports as were in the "Northern Territory Times" and the findings of another Royal Commission in 1920.

During his first two years in the Territory, Jensen's relations with Gilruth were cordial and they often had a friendly chat or a game of chess. Then friction developed over Jensen's recommendation that a Government battery be erected at Maranboy, the recently-discovered tinfield. In Jensen's words, Gilruth said to him,

'I would sooner see a private battery. I have numerous friends with plenty of money to put into the field. You should withdraw that recommendation'. 'No', I said, 'personally I don't think the miners, who have suffered much to hang out there, will get fair play from a private battery. Several have died of beri-beri through semi-starvation already in the recent wet season. They have great heaps of ore already, and I am going to advance them half the value of the tin in them on sampling and assay to enable them to carry on until they get a battery, as tin ore cannot stand the cost of packhorse transport. My recommendation as it is must go through you to the Minister. You can make a counter-recommendation".

152
if you wish’. This he did, but the Minister said, ‘Gilruth is a horse doctor, Jensen
is a Geologist. On mining matters I take Jensen’s advice’; and the battery was
approved by Cabinet and was in progress of erection before the end of the year.
From that time Gilruth developed personal spite and antagonism towards me.102

Jensen said that, after war broke out in 1914, Gilruth managed to arm himself with
autocratic powers and, on the plea of wartime economy, dismissed three
departmental heads and vested their powers in H.E. Carey, the Government
Secretary and a close friend of Gilruth.

According to a report in the “Australian Mining Standard” in February 1915, Cabinet
discussed the future of the Northern Territory and decided that in the future Dr
Gilruth would be responsible for the whole of the administration of the Territory and
went on to say,

Before, his functions were confined merely to land administration, the control of
Aborigines inspectors, and matters like that. Now that he is the Administrator for
everything, every piece of paper relating to the Territory which comes before the
executive here must first of all pass through his hands, and, of course, he may
make whatever suggestions he sees fit. There is now no limit to his authority. He
is the Administrator for customs, defence, railways, quarantine, and every other
branch of Government activity.

At the same time the Government abolished the local District Council and
substituted another body of the same name, but with Government nominees having
a majority. The Darwin Board of Health had already been abolished and the latest
move meant that the citizens of the Territory had their domestic affairs brought
“under the autocratic rule of an Administrator, which they say is repugnant to them,
and false to the ideal of Government by the people and for the people”.103

There was other press criticism at the time. An examination of the
Northern Territory
Public Service Ordinance
of the time indicates that it was largely based on the then
Commonwealth Public Service Act, the main difference being that the Administrator
was given many of the powers which were held by the Commonwealth Public
Service Commissioner. A significant power held by the Administrator was that of
making regulations, which included the prescription of the departments. Wartime
censorship was applied to the press with severity, “Northern Territory Times” editor
Kirkland saying that until the end of 1915 he “could not publish a line in his paper or
send a press telegram south without the approval of the Official Censor”. The
findings of the Royal Commission in 1920 certainly add substance to Jensen’s
assessment of Gilruth’s administration becoming tyrannical and despotic. The
comment of the local press at the time was that “any public servant who dared to be
other than a puppet to Gilruth was looking for trouble”.

Then Gilruth had some large and costly residences built at Myilly Point, to be
occupied by senior staff. Jensen incurred further displeasure by building a house at
his own expense and refusing to move to Myilly Point.

The Daly River copper mine was the cause of the final break between the two men.
Jensen’s version of the affair from his memoirs is:

On his appointment in 1912, Dr Jensen had been given rigid instructions by the
Minister, in writing, not to lease the Daly River Copper Mine to anyone who

153
would not agree to work the mine with white labour, and spend the profits gained [from] picking the slag dump on mine development. There were several applicants in 1913 and 1914, but they were turned down because they would not sign the agreement. The old smelters of the South Australian Government had been very inefficient and a huge heap of smelter slag was rich in lumps of pure smelted copper. In 1915 the price of copper rose tremendously and the slag heap represented a fortune. Then a man named Palmer, a friend of the Administrator, applied for the lease. He was given a copy of the Minister's conditions to study and went away. A few days later Dr Jensen received a 'Private' letter from the Judge asking him to forego the conditions because he (the Judge) and the Administrator were equal partners with Palmer. Dr Jensen put a copy of the letter on the file and replied that he could not bypass the instructions of the Minister, and that, if those instructions were revoked, there were several earlier applicants who had priority over Palmer. This refusal to grant the lease to the Administrator's syndicate signalled the end of Dr Jensen as Director of Mines. He knew quite well that he too would be dispensed with as a bete noire of Dr Gilruth, but if he had ignored the Minister's letter of instructions he would have been made a scapegoat over that.

As the approval of the Director of Mines for any mining lease application was essential for its granting, Dr Gilruth took the course of appointing Oliver, the Inspector of Mines, Director of Mines in my place, leaving me as Chief Geologist. Oliver, who had previously at least pretended to be a white labour advocate, turned out to be merely a rubber stamp for Gilruth. He granted the lease to Palmer, who now set to work to extract the copper from the dump with black (Aboriginal) labour, for the benefit of himself, Gilruth and Bevan.

In some respects I was pleased to be relieved of the routine work as Director, but I was very annoyed at the utter dishonesty and injustice of the Daly River Mine affair. I therefore wrote to the Minister, charging Gilruth with tyranny, maladministration and graft, with abuse of justice to enrich himself, and I asked for a judicial enquiry into his conduct.104

In fact, Jensen lodged with the Minister some forty-three charges of maladministration against Gilruth and others. Cabinet decided to set up a Royal Commission to enquire into the charges and appointed A.N. Barnett, a Sydney magistrate, for the purpose. Barnett arrived in Darwin in May 1916 and commenced his enquiry without delay. Early in the hearing, he criticised Jensen's testimony and adjourned the enquiry for a week to give him the opportunity to go through his files and produce documentary evidence to substantiate his charges. In the event, Jensen elected not to give further oral evidence in view of a ruling by the Commissioner that much of the evidence tendered was irrelevant. On this aspect the Royal Commission report said:

The tendency of portion of the testimony given in support of Charge No.1 and others of a cognate character, lay in the direction of the questioning the wisdom or expediency of the various decisions arrived at from time to time by the administration...the enquiry in this direction being confined to whether the advice given and the recommendations made by Dr Jensen to the Administrator and others received that degree of consideration to which they were reasonably entitled.105
Barnett then criticised Dr Jensen’s attitude during the enquiry, saying that the latter had been allowed unusual latitude, but showed no regard for lucidity and coherence and finally expressed his desire to proceed no further unless he (Jensen) was allowed to follow his own methods.

On the other hand, Jensen said,

Barnett heard my charges and the witnesses whom I called, also the defence. Gilruth only handed in his letter of reappointment to his position. Barnett then turned to me and said, ‘Dr Jensen, have you ever seen the terms of Dr Gilruth’s appointment?’ I said, ‘No, your Honour’. Barnett then read them out, and after reading them he said, ‘Dr Gilruth has absolute power to do as he likes. He can dismiss any officer under him, appoint new officers, enter into and engage in any business he wishes, engage in mining pursuits as owner or part owner of mines, in fact, do anything he wishes. He therefore has committed no breach of the terms of his appointment in regard to the Daly River Mine, which is your main charge’.

The first of the main charges in the report said: “That most of his [Dr Jensen’s] advice has been pigeon-holed and ignored since his arrival in Darwin”. The finding of the Commissioner was:

Examination of numerous files disclosed that many of Dr Jensen’s proposals and recommendations were not approved or carried into effect by the Administrator. In each case, however, a decision was reached only after the Administrator had considered the matter, and often after consultation had occurred with Jensen himself as well as with other responsible officers and, at times, with the Department of External Affairs.

Charge No. 6 stated: “That the Administrator has been undermining Dr Jensen in the guise of friendship, knowing that Jensen’s work had been performed faithfully, because he [Jensen] was an obstacle in the way of the Administrator’s schemes”.

In support, Jensen said that since 1 April 1915 he had been deprived of the office of Director of Mines and had filled the office of Chief Geologist only. The Commissioner said that such rearrangements had received Ministerial approval and, though doubtless done at the instigation of the Administrator, there was nothing to be inferred in support of the charge.

Charge No. 23 stated: “That the Administrator rebuked Dr Jensen for not consulting Mr Evans before making a suggestion for a survey of a railway to Mt Bonnie”.

The facts were that Jensen recommended that the Department of External Affairs should be asked to have a survey made of a light branch-railway-line to Mt Bonnie in view of probable developments at Mt Bonnie and Iron Blow mines. The Government Secretary telegraphed the recommendation that Dr Jensen should consult with the Superintendent of Railways in the first place. Dr Jensen construed this as a rebuke; the Commissioner did not think it was.

Charge No. 37 stated: “That the Administrator is hostile to mining”. The Commissioner’s comment was:
The evidence in this case is oral only, Dr Jensen has not proved the existence of any facts or grounds from which it can be inferred that the Administrator is hostile to mining.

(It is of interest to note that in March 1916 Atlee Hunt, the responsible Minister, said, “The development of the Territory must depend, for some years to come at any rate, upon the mining industry”.)

Charge No. 43 stated: “That, contrary to their agreement with the Government and Regulations under Ordinance No. 4 of 1914, these lessees of the Daly River Copper Mine have been granted a subsidy for shaft sinking and permission to use Chinese labour in developmental work”. This charge was later altered to omit reference to the shaft sinking subsidy. The Commissioner stated:

Documentary evidence shows that on 26th June 1914, Hope agreed with the Crown to work two protected M.L. applications of 40 acres each at the Daly River with white labour. With Hope was associated Judge Bevan. Later on, owing to the amount of money already spent in developmental work, Mr Oliver, who was then Director of Mines, recommended that Chinese tributes would be allowed to work on the areas, provided that four white miners were employed at the same time and that the profits from the sale of the products were used solely for subsidising the work carried out by European labour. The Administrator approved of this on 29th May 1915. At this time, Jensen had ceased to be Director of Mines.

Except under these circumstances, there has been no granting of permission to use Chinese labour in developmental work.

The conclusion of the Royal Commissioner’s report was as follows:

The outcome of the enquiry is that Dr Jensen has failed to substantiate any of his charges and, in the light of the evidence, I am unable to find any justification for preferring them.

The final result was that Dr Jensen was dismissed by the Minister. Years later, his main charge was re-examined, this time by the Royal Commission of 1920. Of the matter, the Royal Commissioner, Mr Justice Ewing, said:

In answer to Your Excellency’s question as to the officers who have proprietary interests in mining properties in the Northern Territory, in respect of which financial assistance has been granted by the Government, I take it that this means at the time when such financial assistance was granted or in anticipation of such assistance. It has not been established before me that any other officers had any such interests other than Dr Gilruth and Judge Bevan. The first of the mining transactions between these gentlemen was a lease taken up in the name of Mr P.H.Hope, which was called the Arrino lease. With regard to this I find as follows:

1. That Hope was a partner of Dr Gilruth and Judge Bevan from the beginning to the end of the transactions in connection with this mine.
2. That Judge Bevan was perfectly open in his association as a partner with Hope, but that Dr Gilruth the Administrator was a secret partner.
3. That in his position as Administrator, after money had been voted by Parliament, and absolute control vested in him as to the mines and persons
to whom assistance out of the vote for that purpose should be given, Dr Gilruth, in exercise of that power, made advances and granted a subsidy nominally to Hope, but in reality to Hope, Judge Bevan and himself. No repayment has ever been made in respect of these transactions. Though the advances and subsidy in connection with this mine were small, the impropriety of the action is not thereby lessened.

In the case of the Daly River Mine, there is a conflict of testimony so far as the interests of Dr Gilruth are concerned and the date at which such interests arose, if at all. The transaction was not a direct advance of money but the handing over of certain Government property, which produced a financial result favourable to the parties interested with Hope of an amount between £600 and £700. Judge Bevan admits that he was a partner of Hope from the beginning. Dr Gilruth, on the contrary, denies that he was ever a partner or in any way interested in the mine. Judge Bevan has, in effect, sworn that Dr Gilruth, for all practical purposes, became a partner in the month of August or September, 1916. He could not, however, give the exact date. I feel compelled to accept his evidence on this point, and find therefore as a fact that Dr Gilruth was a partner from this time. Whether he was a partner from the beginning and at the time the first transaction was entered into, and Government assistance given, is, however, as far as the ex-Administrator is concerned, the material point. Upon this, evidence is not so satisfactory. Any conclusion I come to on this point is one founded on an inference to be drawn from facts. After careful consideration, I am reluctantly compelled to find that these three gentlemen were partners from the beginning—Hope and Judge Bevan openly, and Dr Gilruth secretly.

The facts and circumstances which influenced me in coming to this conclusion are as follows:

Mr Hope was the nominal applicant for the Arrino lease, and his partners were Dr Gilruth and Judge Bevan. Shortly after this transaction ended Mr Hope became the applicant for the Daly River Mine, with Judge Bevan admittedly his partner. Judge Bevan stated that, although it was not until August or September, 1916, that Dr Gilruth became a partner in the Daly River Mine, there was what he described as something like an inchoate understanding between them, and that he would come in at any time he was wanted, though there was no agreement to that effect.

Messrs Bevan and Hope opened a banking account in connection with the mine exclusively in the name of Bevan and Hope. It is admitted by Judge Bevan and Dr Gilruth that the first money paid into that account was supplied by Dr Gilruth, and it is not disputed that a little later two further sums of money were paid into the same account for the purpose of this mine. One of these sums was a cheque of Dr Gilruth, and the other a cheque of Judge Bevan, for equal amounts, and they were paid in within a few days of each other. After that the mine was run practically on proceeds from its workings, and the over-drawn banking account of ‘Bevan and Hope’, guaranteed by Judge Bevan. It is alleged that the sums paid in by Dr Gilruth were loans. This I am unable to believe, for an investigation of Judge Bevan’s account shows he had no necessity to borrow, being consistently in credit in his private banking account, and also at intervals placing money at fixed deposit.

The next step is that, at a later date, Dr Gilruth admits that he undertook the responsibility of half Judge Bevan’s overdraft, which finally ran to the figure of
£600. Dr Gilruth’s explanation is that he undertook to pay half of any losses on the mine in order to assist the development of the mining industry in the Northern Territory, and that he neither then nor at any time had any interests in the profits of the mine if there should have been any such profits. With this Judge Bevan does not agree, although he supports the allegation as to the loans. Later, when the mine was abandoned, sums of money belonging to Dr Gilruth were paid into Bevan and Hope’s Daly River Mine banking account, in reduction of the overdraft. It is too great a strain on my credulity to believe that Dr Gilruth, under all these conditions and circumstances, was not a partner in the Daly River Mine from the beginning. I find that he was a partner, and that while a partner he advanced as Administrator, in the manner I have already indicated, substantial sums of money out of the proceeds of the realisation of Government property over which he had the sole control, nominally to Mr Hope, but in reality to Messrs Bevan, Hope and himself.

Before passing from these mining transactions, I would say that the Administrator’s connection with either of them was not publicly known, although it was strongly suspected, and had the worst possible effect on the public mind. The result of these findings, if sound, means that the information supplied to Ministers and Parliament by these gentlemen was misleading, and in some material particulars, untrue. I may mention that my investigations have been exhaustive enough to enable me to say that I do not believe that any further transactions took place between these gentlemen other than those enumerated.

I also inquired into the land transactions of Dr Gilruth, and found that a Mr Palmer, in conjunction with him, bought a piece of freehold land on the Daly River. Later on, Palmer applied for a lease of 3000 acres, which I understand adjoins the freehold. This and the freehold is the land referred to in Mr Carey’s letter of 8 July 1919, where he gives Dr Gilruth particulars of their sale. Dr Gilruth admits he had interests in the freehold, but asserts he had no interest in the leasehold. The leasehold was granted by Dr Gilruth as Administrator to Mr Palmer, but he received no better consideration than would have been given any other applicant. Ultimately, on the sale of the property by Mr Carey, the proceeds, after deducting certain moneys which Mr Palmer paid out of his pocket, were equally divided, Dr Gilruth’s share being paid into the banking account of Bevan and Hope, before referred to, in reduction of overdraft. It was urged that the lease was of little or no value, but this I am unable to believe. I am of the opinion that Dr Gilruth and Mr Palmer were equally interested in the leasehold as well as the freehold.

Dealing with the question of shipping, an instance was brought under my notice of an occasion on which a boat was promised about a certain time. This vessel went to the settlement, but later than was expected, and then left behind a large portion of the produce which had been brought to the river bank, and which was ultimately lost or destroyed, although she was only half loaded, of which I am satisfied from the vessel’s tonnage and a perusal of her manifest. The cargo consisted chiefly of the ore belonging to Messrs Gilruth, Bevan and Hope from the Daly River Mine. This incident created a very bad impression, although, in my opinion, it was not the fault of the Administration. The public, however, felt that all the authorities cared about was the Daly River Mine, in which they strongly and justifiably suspected that the Administrator, as well as Judge Bevan, was interested.
On review of the foregoing facts, it is difficult to escape the conclusion that Dr Jensen was treated most unjustly, both by the Administrator and Royal Commissioner Barnett.

There was no change in the policy of assistance to the mining industry after the departure of Dr Jensen in 1916 and, with Government assistance in one form or another, some old mines were re-opened and new ones established.

George Buttle had always maintained his faith in the Iron Blow mine, where he had been employed by the Bottomley companies. His activities with the Venture Syndicate and battery at Mt Todd enabled him to accumulate enough capital to return to Iron Blow. In 1913 he persuaded C.H. Richards, another former employee at Yam Creek, to leave the Ballarat Pyritic Works and join him in taking up the Iron Blow leases. The two men convinced the Commonwealth Government that Iron Blow was a potentially viable operation and were given a substantial subsidy. The Department of Mines also loaned them machinery from the Zapopan, now Government-owned but idle for years. Winding machinery was ordered from the south and work began to dewater and open up the mine. At the same time, construction of a thirty-ton reverberatory furnace commenced, mainly from parts scavenged from the old furnaces at Yam Creek. When complete, "it would be the largest furnace of its kind in Australia", according to the "Northern Territory Times" correspondent. The Margaret Mining and Smelting Works, as it would be known, would employ about fifty men, including wood-cutters, miners and furnace men. All hauling would be done by steam traction-engine. Contracts were let for ore bins, crushers and a furnace stack sixty-five feet high. Unfortunately, just at the time Buttle completed the furnace and was about to begin smelting operations, the metal market was so disorganised as to make this impractical. By then Buttle's capital was exhausted, as was the Government's subsidy. The latter had been secured by bill of sale, so the whole of the works passed into the hands of the Government, which then employed Buttle as manager. The mine was pumped out to the ninety-foot level, when falls of ore prevented access to the working faces. Little more was done, apart from erecting a building to protect the machinery, and once more Iron Blow and Yam Creek were deserted.

Buttle had other interests apart from Iron Blow. In 1913 he formed the Rising Tide Prospecting Company, which bought from him a three-fourths interest in a big iron blow formation about a mile from Brock's Creek. Shafts were sunk to the water level at 120 feet, but no payable deposits were found. He also had Pickford's silver-lead mine, half-way between Mt Bonnie and Burrundie, but this also proved unpayable.

The Daniels' successful operation at Mt Wells, which began in the early 1900's, continued right through the World War I years. For most of the time the mining was done by Chinese tributers, the number varying between about twenty-five and seventy. The owners had their difficulties, firstly when a landslide filled in the lower workings, causing much unproductive work and ore dilution, and secondly when the price of tin fell in the early years of the war and operations had to be suspended, during which time the plant was given a thorough overhaul. Toward the end of 1916 the Daniels let the entire plant and mine on tribute and it was an important producer during the war years.
An interesting feature of this mine is that it was the first in the Territory to be powered by a suction gas engine. The Daniels had always improved their plant to the extent their funds would allow, and they installed this 100-horsepower engine in about 1911, as well as electric lighting to replace the old oil lamps. The gas engine, in a good state of preservation, may be seen at the rear of the former Government Battery at Mt Wells.

Of the Mt Wells operation, Jensen said:

> The system on which the mine is being worked is far from perfect, Messrs Daniels Brothers not having the requisite capital to develop this mine on proper lines. The ore is handled too often - the mining all being done by tributers whose parcels have to be separate. Possibly, if Mt Wells were systematically worked by a strong company on up-to-date lines, it would become profitable enough to pay white men good wages while to-day it can only keep a horde of Chinese miners in conditions of abject poverty, and I have reason to think that not even the owners are making out of it what they should.\(^{108}\)

At least the Daniels brothers succeeded in keeping the mine operating at a profit for many years, where previous company operations had been failures.

Mt Bonnie was a silver-lead prospect, not far from Grove Hill. An Adelaide syndicate did some developmental work, assisted by a Government subsidy. In 1914 one of the directors told the Adelaide "Daily Herald" that the mine had been tested to a depth of 260 feet and there were large reserves of ore which could be easily mined and that, in fact, there was sufficient ore already mined to justify the immediate erection of a furnace. The mine was floated into the Mt Bonnie Mining Company in 1916, winding and head gear were erected and then heavy water was encountered. The Government loaned a Cornish lift-pump from the Zapopan, but, shortly after, the directors suspended operations pending diamond-drilling at deeper levels. Buttle then came over as caretaker. The drill results were disappointing and the company abandoned the claim.

Wolfram was discovered by D. Pedlar in arid, inhospitable country at Hatches Creek, about 110 miles south-east of Tennant Creek in 1899. At the time, Pedlar did not know what the mineral was, but at Barrow Creek in 1913 he met Director of Mines Oliver, who identified it and arranged Government assistance so that Pedlar could go back and locate his find.

As the war went on, wolfram became increasingly important, and Oliver, accompanied by Warden Worgan, was sent to Hatches Creek to acquire information on conditions at the field and on the size and value of the deposits. To get there from Darwin they travelled 186 miles by train, 484 miles by car (which broke down at Daly Waters and took a day and a half to repair) and 132 miles by camel buggy, which was hired at Tennant Creek. Oliver had intended spending a fortnight at Hatches Creek, but, due to the appearance of heavy clouds, he only stayed four days. In his own words: "The thought of 800 miles of creeks, sand patches and black soil plains between us and Darwin, and their probable boggy conditions after heavy rains, caused us considerable anxiety."\(^{109}\)

Oliver reported that the main access to the field was by about 700 miles of camel pad from Oodnadatta, inwards stores cost £25 per ton for freight, with backloading at £15
per ton, all by camel team. He found sixteen men at work and noted that some sixty-
two tons of high-grade wolfram had been produced in the preceding eighteen
months. His assessment of the field was that, with capital and machinery, it was
destined to become an important producer, but, with the primitive gouging methods
of production, was likely to diminish as the rich surface ore was mined out. Following
Oliver's visit and as an active encouragement to the mining of wolfram, the
Commonwealth agreed to pay all freight charges from the mines to the seaboard.

Another small but rich field was found at Wauchope, about eighty miles west of
Hatches Creek and at the height of activity about fifty men were working on the two
fields. Conditions were exceedingly harsh, which probably explains the then
phenomenally high wages of £6 to £10 a week.

A six-weekly mail service to Barrow Creek was instituted. Even this caused
difficulties, particularly with the income tax authorities, who seemed to be unaware
of the large distance involved and the infrequency of the mails. One letter was
despatched from Melbourne on 3 May, advising that, if certain returns were not
received by 28 August, a heavy penalty would probably be incurred. This letter
actually reached the unfortunate taxpayer in Hatches Creek on 27 July, and the next
mail south was not due to leave for several weeks. The Administrator asked the
Government to grant leniency to people in these isolated areas.

In the event, only high-grade ore was mined, and hand-concentrated. Machinery
would have had to be carted by camel and horse teams from Oodnadatta or
Katherine, a slow and costly process. Even with hand mining, the two fields' pro-
duction was substantial and of great value to the war effort. The Administrator
himself visited the two fields in 1918, with Oliver and Chief Warden Copley-Playford.
One result was that commonages were declared for the miners' stock, bores were
sunk and placed in charge of a miners' committee and arrangements were made to
sink bores along the route to Queensland.

The Maranboy tinfield, about thirty miles almost due east of Katherine, was
discovered in 1913 by Scharber and Richardson, two prospectors who had been
working in the Territory for some years. Dr Jensen visited the field and was so
impressed with the size and quality of the lodes that he at once recommended that
a public battery be erected. The Minister agreed and design of the plant was set in
train. The first consignment of machinery, about 230 tons, arrived in Darwin late in
1913, too late for the teamsters, as the wet season had already begun. The quantity
was also too great for the limited number of available teamsters. Months went by and
then the Department of Mines obtained a Pedrial tractor, which did some of the
carting, a load of seven tons taking forty hours to cover about sixty miles. It was
found, however, that this vehicle, whilst good in sand, was quite unsatisfactory in
mud and stones. Consequently, horse teams had to be called into service. Mr
Studdert, the newly-appointed Battery Manager and formerly at Mt Bischoff, lost no
time in travelling to the Territory so that he could help in the construction of the
battery he was to manage. The boilers were too heavy for the horse teams and it was
necessary to wait until the road dried out after the 1913 wet season. During this time
upwards of fifty men were on the field, most of whom were hopeful of success,
although they were often short of food supplies and cut off by flooded rivers and

161
creeks for months on end. The only way the miners could turn their efforts into cash was to bag ore and, when the tracks were passable, to take it by pack-horse or wagon seventy miles to the battery at Horseshoe Creek. This meant that, after allowing for carting and crushing charges, only the richest ore would pay. Hence, for most of the time the miners lived on hope and credit.

Toward the end of 1915 the battery was completed and crushing commenced. The price of tin was high, money began to flow to the miners, the field gave every sign of permanency and families started to move in. Then disaster struck, early in 1916, in the form of malarial fever. Health on the field had been good until then and the early local symptoms of fever were not taken seriously. Within a fortnight half of the population was attacked and deaths occurred within a month. Ted O'Hare was the first to go, followed by Mrs Studdert's youngest child, while Mrs Dave Clayson lost her little daughter at Pine Creek, where she had been moved by car. Another death was that of Tom Dunn. Men stricken with the germ headed for Katherine and medical assistance by every outgoing coach. Not a person escaped contact and some of the circumstances were particularly sad. Studdert himself was completely unconscious with fever when his little daughter died. At this stage ninety percent of the residents were incapacitated and the others were just recovering. In the early stages the only medicine available was the stereotyped stuff sold in local stores and that supplied by Warden Studdert from his medicine chest. 111

Apothecary Alfred Haste arrived with instructions from Dr Jones, plus a supply of medicine, relieving the strain and staying the rush from the field. Haste established himself in an iron building near the battery and the place was quickly filled with local sick. Outside men, including Neil McMillan, also came in for treatment. Neil and his young brothers, Willie and Max, were on the road with horses, which they had travelled from Victoria through New South Wales and Queensland, when Neil contracted malaria. He was treated by Haste and rejoined Willie and Max after a few weeks' rest. On the return of the young drovers to Maranboy, they met their father, who, with the rest of the family, had travelled from Melbourne to Darwin by boat. McMillan senior, who came to the Territory to settle on the land, died from malaria a few weeks later on the banks of the McArthur River.

The Government Resident's report said at the time that malaria-carrying mosquitoes were common in the Territory, but they did not transmit the disease unless first infected by biting a human sufferer. It was believed that the outbreak in 1916 was caused by the arrival of two Queensland men who had contracted the disease in New Guinea.

During the outbreak the Rev. J.C. Gibson called at the field on his way back from Borroloola and, at a meeting, the men agreed to build a rough hospital if the Australian Inland Mission would provide a nurse. When news of this reached Dr Gilruth, he wrote to the Rev. John Flynn, offering to erect a cottage hospital and to provide rations, fittings and drugs if the Inland Mission would supply staff. All agreed and Sister Hepburn and Miss May Gillespie left Sydney in June 1917 on the long journey to Maranboy. Malaria struck again shortly after their arrival. To quote briefly from *Apostle to the Inland*, by Dr W. Scott McPheat:
The hostel, like its prototype at Oodnadatta, did more than raise the level of physical welfare; it lifted the community's moral tone. The women represented something indubitably wholesome, and they were treated with courtesy, and indeed gallantry. Before a visit to ‘The Sisters’, clothes were washed, beards trimmed and boots polished. The hostel carried a good library and everyone was welcome for a ‘cuppa’. There were no prejudices, religious or otherwise, and the sight of the building on the hill with its cool wards gave not only a sense of security, but a feeling that civilisation was not so remote after all.\textsuperscript{112}

Flynn received a letter from Mrs Aeneas Gunn (the author of \textit{We of the Never-Never}, who lost her “Maluka” only fifty miles from Maranboy in a fever outbreak in 1903):

\begin{quote}
"This is the best – perhaps the only true advance the poor old Territory has made in the last five or six years. What a hospital and a nurse will mean out there, only those who have known the utter helplessness when a beloved life is at stake, can ever quite realise."
\end{quote}

Even with the hospital, attention to a serious injury was a worrying matter, as the following example from 1918 shows:

Owing to a winch accident at the Government battery, Mr George Fisher sustained a fracture of the thigh on a Tuesday. He was taken to the hospital at Maranboy and Nurse Moritz rendered such attention as was possible to lessen the sufferer’s pain. By the Friday it had been arranged that the injured man should be taken to Darwin by the special train then conveying Mr N.C. Bell, Commissioner of Commonwealth Railways, up the line. As there was no suitable vehicle at Maranboy, Mr C.S.M. Rowand got together a little band of stretcher bearers. Some were miners and some were Aboriginals and they made a start on Friday to carry the sufferer to Katherine. Chief Warden Playford, who happened to be at Maranboy, drove Nurse Moritz, who accompanied the party, in his conveyance. A spring dray, carrying swags and tucker was also taken and on the very smooth patches of the road the stretcher with the patient was lifted onto the spring dray. For the greater part of the forty-five miles to Katherine, the bearers took turns to carry the stretcher. The party camped out two nights on the road and reached Katherine about midday on the Sunday. As the river was in flood, the patient was put into the boat and floated downstream and across to the railway station. At the station the special train had been kept waiting and it was shunted as near as possible to the river to ease the task of the stretcher bearers. As there were no regulation stops along the line, a very quick run was made to Darwin, which was reached about 11.30 p.m. Sunday, some five days after the accident occurred.

Life for families in the early days of the field was harsh and the story of Bill Pearce in \textit{Two at Daly Waters} was probably fairly typical. Pearce was a prospector who secured the lease of the Star of the East mine in the early days of the field. Whilst waiting for the battery to be completed, he survived by hauling wood for the battery construction, took carpentry contracts for some of the stations and ran a small wayside store. Then, some time towards the end of 1916, his wife arrived. Mrs Pearce had apparently come from a reasonably affluent family in England and was due for some fairly rude shocks on her journey to Maranboy and in her life there. For a start, the buggy trip from Katherine to Maranboy took three days, involving camping on the ground at night. Some furniture and possessions were following on
a dray and, until that arrived, she stayed with the Inland Mission sisters, who, she said, were kindness itself. Her new home was a simple, timber-frame dwelling made of cypress logs covered with wire netting and partitioned into four rooms with rough pine. She found that bread was unknown on the field, so she learned to bake her own. They had a herd of goats for milk and meat, which was supplemented by beef delivered by Bill the butcher, who had a very lengthy delivery circuit. A person's location on the circuit determined the degree of choice in the way of cuts. During the wet season, due to flooded rivers and creeks, which were untraversable, the community was isolated for between two and three months. There were also droves of ants, and intruding snakes were common, including pythons up to ten feet in length. When vegetables were to be had, they were kept in the locally-made Coolgardie safe. There were some compensations: Mrs Pearce found that the Aboriginals could be quite helpful with the goats and fowls, and they scrubbed floors, did the washing and prepared vegetables. They were also taught to make a frying pan from discarded kerosene tins.

Life went on this way fairly happily for about twelve months or so and then Mrs Pearce was taken ill with malaria, which was very serious as she was expecting her first child. Dr Jones, the only doctor in the Territory, with a practice covering half a million square miles, was contacted and proceeded to Maranboy. He took Mrs Pearce to Darwin hospital on the next train of the fortnightly service. She recovered and a daughter was born, named Rita. The return trip to Maranboy was a nightmare. They went by train to Katherine, where the river was in flood, half a mile wide, and the only means of crossing it was a small rowing boat which had to be bailed continuously. Mrs Pearce's nerves were not helped by a statement from the oarsman that he thought the boat was about to make its last journey. They did manage to cross, scrambled up the bank in mud up to their knees and then travelled by buggy for the remaining sixty miles to Maranboy through bogs and mud, sleeping on the ground each night. On one of these nights, Mrs Pearce had her hand out of the stretcher and was bitten by a large centipede. A royal welcome awaited her at Maranboy, where she stayed with the Inland Mission sisters for a week, during which time the entire population, black and white, came in to see Maranboy's first white baby. The final part of the story is that, on returning to her home, she encountered some delay whilst her husband removed a python ten feet in length which he discovered curled up on the bed. The python was presented to the Aboriginals, who baked and ate it.

The battery building at Maranboy was itself a major undertaking, the roof being thirty feet above the floor in some sections. Apart from laying out the plant, supervising construction and organising parties to get timber, Studdert, as Warden, was expected to resolve disputes and, as the senior representative of Government, to act as head of the mining community. Mrs Studdert made a comfortable home for her family, and people for miles around spoke of the kindness and hospitality of the Studderts.

With the battery completed and operating, all was well for a time, the miners having a regular income after a long wait. Then they started to grumble. The battery had been poorly laid out, the crusher could not take stone larger than six inches, the percentage recovery of tin was far below expectations and they did not like the
attitude of Battery Manager Studdert. They petitioned the Administrator, lodging a series of complaints about Studdert and his attitude, plus what they considered to be deficiencies in his operation of the plant.

At the same time, some articles appeared in the southern press criticising the administration of the Department of Mines. Of these, Director of Mines Oliver said in his annual report:

In concluding this report, I desire to refer to those distorted, misleading, and, in some instances, deliberately false statements occasionally published in Southern newspapers on the administration of this Department of which I have the honour to be Director. All those brought under my notice, with the exception of one over the name of Dr Jensen, presumably my predecessor in Office, are anonymous, and although I at all time welcome fair criticism, I distinctly object to such cowardly and unwarranted attacks.

The latest article appeared in the ‘Brisbane Worker’, of 19th September 1918, and referred to the recent inquiry into complaints raised by the miners against the management of the Government Battery at Maranboy. The article stated that ‘It was bitterly complained that when in 1916 the miners agitated for tram lines from the main claims to the battery, Director of Mines turned down their requests, and installed a costly motor tractor and trailers to suit...The miners pointed out in their petition that the tractor plant had cost the Department £1500 to date, had not carried a ton of ore, having broken down on every trip it attempted, and was now lying rusting in the bush, merely a mass of old iron. Gilruth ordered the Director of Mines and Chief Warden Copely-Playford to conduct an inquiry.

‘Considering that one of the principal complaints was about Oliver’s White Elephant, it would seem to people accustomed to some honesty in public life a queer inquiry. Gilruth has a mania for motor cars and motor traction. Dr Jensen had, in his reports on the matter, advocated the tram line, and Oliver’s predilection for the motor engine was probably inspired by the desire to please the great Rajah. Oliver had to be screened and a scapegoat to be found...Studdert, the Battery Manager, was accordingly chosen for the billet scapegoat, and an inquiry into his alleged misconduct was held by the two satellites of the Administrator’.

In reply to the above series of deliberately misleading statements, I may state that the Government advanced £450 to Messrs Pearce and party for the purchase of a mile of tram lines, sleepers, trucks and locomotive from Carter’s Consolidated Gold Mining Company, Pine Creek. The purchase was made, the tram line lifted and stacked in heaps along the route, but never removed to Maranboy, practically the whole of the material still being at Pine Creek. This demonstrates the importance attached by mine-owners to tram line transport.

On 6th June 1915, a petition was received by the Administrator from a number of mine-owners at Maranboy asking for assistance to purchase a motor tractor. On 24th August a steam tractor and two trailers belonging to the Mines Department were offered and accepted on lease, with a right of purchase by the petitioners. The lessees hauled ore for about twelve months. The lease of the tractor was transferred to Messrs Clifford and Larson on 7th June 1916 and the machine continued to haul ore and firewood for a few months. They found a difficulty in getting sufficient ore to haul to make the undertaking payable. A pinion wheel broke about this time and, because the mill was dependent, to a large extent, on
the ore supplied by the tractor, and to difficulty in obtaining spare parts owing to the war, it was thought advisable to purchase a second tractor in order to ensure a regular supply for the battery. Both these tractors have always been in good working order, and are well looked after, and when not at work are stationed near the battery.

The tram line scheme was not turned down, but it was thought advisable to defer the installation until sufficient ore had been developed to warrant the laying down of a tram line. No proof has been furnished that the moment for this has yet arrived. For the present the tractors are more suitable; they can be used for hauling ore from the mine, as the roads are hard and almost level, and they can be utilised in hauling concentrates to the rail-head or firewood to the battery, or, if not required, can be easily removed to any other place where they could be of service.

Regarding the mine-owners' complaints about the battery management, there was not a word about tram line or tractors contained therein. In the evidence taken at the inquiry, motor haulage was compared with team haulage, and the comparison was favourable to the former method.

Owing to my having always been on friendly terms with the Battery Manager, Mr Studdert, I requested Mr Playford to preside at the inquiry, in order that any suspicion of bias (however unfounded) on my part might be allayed. Mr Playford is Chief Warden and a Special Magistrate of many years' standing in the Territory, and the equity of his verdicts, either as Warden or Special Magistrate, had never been questioned. The parties in any case brought before him for decision, go there with a feeling that justice will be given without fear or favour. No-one resents the imputation that he would be influenced in his decisions more than the miners concerned at the inquiry. The writer of the article referred to further states that 'the miners had had no animus against Studdert, whose ability is generously admitted.'

The whole trouble can be traced to bitter, and in some cases, unreasoning, personal animosity against Mr Studdert. This feeling is aggravated by their being unable to bring conclusive proof against his ability as engineer and manager.

It will thus be seen that the article in question, which has been taken as a sample, is a deliberate misrepresentation of facts.

It may be of interest to know a few of the ways in which the Government has assisted the miners at Maranboy.

1. A battery was erected at a cost of £10 000.

2. Crushing charges were fixed at a low rate, the result being a net loss to the Government.

3. A subsidy of £500 was granted to Dunn and party.

4. A sum of £150 was lent to the miners on the North Field to purchase a dray and horses to cart their ore, from the North Field, as the tractor was too busy hauling ore from the mines on the South and Middle Field to allow of it hauling from the Northern mines.

5. A sum of £300 was spent in making a new road to avoid the heavy sand patch near the King River.
6. A sum of £400 was spent in erecting and furnishing a Hospital.

7. A telephone line from the field to the Katherine was erected at a cost of £116.

8. The Department subsidises the mail contract to the extent of £62 per annum.

9. The Department pays an official for receiving and despatching telegrams and letters.

All other miners in the Territory are treated with corresponding liberality, and no reasonable request for any kind of assistance has ever been refused.\footnote{113}

Tin was (and still is) a difficult metal to recover from its ores. In a stamp battery, with the plant and techniques then available, it produced a very high proportion of slimes. Its specific gravity is also very close to that of iron, with which it is often associated.

At the time, the "Northern Territory Times" interviewed Mr Pearce, who was regarded as the father of the field and who said that Manager Studdert had been indefatigable in completing the plant and ensuring that it gave the best results. Pearce added that miners were notorious complainers about Government batteries but, in general, they had spoken well of the Maranboy plant, except for the crushing charges.

The Administrator set up a Board of Enquiry comprising Director of Mines Oliver and Chief Warden Copley-Playford. None of the complaints against Studdert were substantiated and it was concluded that, whilst there were deficiencies in the plant, Studdert had done all that could be reasonably expected of him to keep the plant running under wartime conditions. He did his own maintenance and manufactured spare parts when he had to.

By the end of 1918 Maranboy had well eclipsed Mt Wells as the premier tin producer in the Territory.

The main leases at Pine Creek were held by E.B. Carter of Dorset, England, and which, together with the Mt Davis and Mt Diamond copper prospects, were known as Carter's Consolidated. The principal mine, the Cosmopolitan, formerly Olaf Jensen's, continued to produce some gold throughout the war years. In 1913 there were shades of the past when all three mines were offered to an influential group of English financiers who had ideas of developing them, including connecting a thirty-mile railway. In the event, nothing came of the proposal.

Some thirty-five miles east of Pine Creek, a Darwin syndicate took up the old Coronet Hill silver-lead-copper mine, last worked by Millars, and deepened the shaft with Government assistance during 1912. In the same year A.Kelly spent four months in the Territory inspecting mines on behalf of a Victorian syndicate and selected the Coronet Hill property. Huts for manager and men, store, blacksmith's shop, headgear, pump and engines were erected, all with Government subsidy, and development proceeded until 1914, when the mine closed due to a heavy flow of water. The following year some funds were accumulated by shipping high-grade ore to Port Kembla. In 1918 a pump was installed and mining resumed, about sixty tons of rich copper ore being shipped south each month. The syndicate also took over Mt Davis and Mt Diamond, sending a trial parcel of twenty-seven tons from the former to Port Kembla. Assay, however, showed that the ore was very refractory, carrying
21.7 percent of arsenic, and the smelters consequently refused to purchase the material. The men were then moved to Mt Diamond and 148 tons of twenty-six-percent copper ore were shipped. At that stage, the owners decided to test values below 100 feet with a view to installing a smelter if results were favourable. A new shaft was sunk to 100 feet, but labour then became very hard to get, there were problems in getting enough teamsters to cart the rich ore to the railway, funds became exhausted and the mines closed.

In the Wolfram Hill—Mt Todd area east and south-east of Pine Creek a number of small mines, some very rich, were worked. Some deserve particular mention. Burn's mine at Wolfram Camp produced wolfram during the last three of the war years with good profits and, when copper was high in price, shipped thirty-five tons of rich copper ore. Not far away was the Crest of the Wave mine, owned by Mrs Bert Brown. This had rich tin and copper lodes, which extended well below water-level. It produced tin right through the war years, run-of-mine ore averaging ten percent tin, which was upgraded at the Wolfram Camp battery. One crushing yielded eleven tons of concentrates from thirty-five tons of ore. Windlass and bucket were sufficient to control the water to the 130-foot level, but below that a boiler and steam-pump had to be installed. A little wolfram was mined at Yenberrie during 1912 and, when the price of molybdenite rose, this mineral was recovered. In earlier days it had been discarded as worthless. Of this mineral, Dr Gilruth's report for 1917 said:

Only two and a half hundredweights of molybdenite have been obtained during the period 1916–17 from Yenberrie, the only field in the Northern Territory where this mineral is obtained. As the workings became deeper, a large percentage of molybdenite is contained in the ore, and with deeper sinking there is every prospect of the production increasing to a substantial figure.¹¹⁴

During the war years Castles and Mee Wah re-opened the old Copperfield mine near Pine Creek and employed eighty Chinese to sink a shaft and mine the rich copper orebody. This mine was entirely managed and worked by Chinese and had a good plant and acetylene lighting underground. It shipped £1500 worth of twenty-five-percent copper ore to Port Kembla and then finally closed in 1918.

In 1912 Dr Jensen had recommended that the Government itself undertake 300 feet of sinking and then 200 feet of driving north and south at Union Reefs, to be followed by similar action at Faded Lily and Zapopan. Funds did not become available for Government work of this kind until 1914, when men were engaged to start a shaft at Union Reefs.

Soon after, these men approached the Government and offered to take over the work on a pound-for-pound subsidy basis and, as this seemed to be a good arrangement, the Government leased pumps, winding gear and a boiler to the Union Reefs Gold Mining Syndicate. A shaft was cleaned out to 211 feet, but then the party quarrelled and broke up. In 1917 a new party took over the claims and did a good deal of work, encountering reefs with gold varying from colours to three ounces to the ton. They pressed the Government to provide a ten-head battery immediately. The Government refused to be rushed and insisted on full, independent sampling and assaying. At that stage, the syndicate's funds were exhausted, as was the subsidy, and no further work was done.
Some attempts were made to re-open old mines. Alf Pain took up the Spring Hill mine and, with Government assistance, cleaned out the tunnel. Gold-bearing veins were encountered but were not payable and the mine was again abandoned early in 1915. Davis and Stokes started up the Golden Dyke mine at The Shackle in 1917 with machinery loaned by the Government from Zapopan. The first crushing gave seven pennyweights to the ton, but nearly as much gold also escaped in the tailings. An attempt to float the mine in 1918 failed.

Peter Bell and some Chinese discovered the Hayes Creek tinfield, only about eight miles from Brock’s Creek, early in 1914. It is of interest mainly because the Government allowed the Chinese who assisted in finding the field to remain, notwithstanding that the field was proclaimed under the *Chinese Exclusion Act*, thus debarring other Chinese for a period of years. The early discoverers crushed ore by foot-dolly until the Government erected a small battery in furtherance of its policy of encouragement to the industry. The field, however, was small and not enough ore was produced to keep the battery running even one shift. One of the rules governing crushing at this battery was that “the owner of parcels shall provide the necessary labour required for feeding ore to the stamps and look after the concentrating tables and bag concentrates”. Even under these conditions, the Government found the mill very costly and was relieved when Bell’s Tin Mines, a local syndicate, offered to take the battery over under reasonable conditions.

In 1910 and 1911 there was some interest in discoveries of silver-lead at Bulman in Arnhem Land and at Cooks, near the McArthur River. Stuart Love, a geologist, made the latter discovery and, according to the “Northern Territory Times”, a company was floated called the N.T.Mines and Exploration Co. It bought a schooner, which left Sydney, fully equipped with stores, assay plant and provisions, for the McArthur River. Mr Nelson, the manager, went overland to Normanton via Croydon to engage a party of miners. In June they telegraphed: “Have traced big lead lode, Cooks, fully mile, costeaming three places not less than fifty feet wide any place; consider largest continuous lead deposit in the world”. The same message went on to say that eighty acres of rich copper deposits had been pegged in the Limmen Valley. Mining and loading were held up because no explosives were available at Normanton.

As to the Bulman find, Lionel, Robinson and Clarke, a powerful London firm of stockbrokers, expressed interest in the discovery and sent Frank Powell out to assess it. During 1911 the shares in the company fluctuated from below £7 to £20 and back to £14. Powell found the outcrops to be heavily leached and recommended a programme of drilling to see if the lodes persisted in depth. Then J.W. King sent a telegram saying that a shaft was at thirty feet in decomposed galena and they “expected at any moment to strike native silver or chlorides”. After Powell’s report the shares dropped to £3 and then went back to £5, reviving to £6 and then to £16. Towards the end of 1911 London offered to float a new company with capital of £50 000, the net effect being that an additional £10 000 pounds working capital would be available. For whatever reason, the offer was not taken up and nothing further was done.

In September 1912, and following an earlier suggestion by Dr Woollnough, the Government contracted with Goldfields Diamond Drilling Co. to bore for coal and oil
shale near Borroloola. The company found that it could save two months by sending
the drilling engineer, J. Berry, and his team by ship to Townsville and thence by a
“White” steam-driven motor car from Cloncurry to the site, about 600 miles through
unsettled country. However, the bores were not successful.

Minerals had been known in the Borroloola district since 1887, when Tom Lynott, the
manager of the McArthur River cattle station, reported the existence of copper and
silver-lead. A decade later copper was found at Settlement Creek on the
Queensland border, as well as scheelite nearby. Then one of the Amos brothers,
who owned McArthur River station, found copper at Yah Yah, an outstation 130
miles south-west of Borroloola. Forty tons of ore were sent away, but freight costs
proved prohibitive and the workings closed. Another party, with twenty-five Chinese
under a mine manager, went by steamer to Borroloola and spent £3000 testing the
orebody at Settlement Creek, but then abandoned the claim. During all this time the
South Australian Government had maintained a mining warden in the person of the
Resident Magistrate, Borroloola, in furtherance of its policy of encouraging mining.

There was no further recorded activity in the area until 1911, when a company called
the McArthur River Syndicate was floated with a capital of £10 000 to take up claims
in the district. The company spent a considerable sum in diamond-drilling with a
view to proving a payable ore deposit and then building a forty-mile tramway to the
McArthur River deep-water. The drills proved that extensive orebodies existed but
that they would not be payable. English interests sent an agent of the Northern
Territory Option Company to the area in 1912 with a charter to secure any options
over mining and pastoral properties which seemed to be a sound investment, but no
options were taken up. The McArthur River Syndicate was wound up late in 1912.

Copley-Playford visited both the Bulman and the McArthur River leases in 1912,
travelling 800 miles by horse to do so. In general, he agreed with Powell’s
assessment, but went on to say, “I am convinced that until this country is opened up
by means of a railway line to the fine harbour that exists in the Pellew Islands, no
company can make a profitable venture of these mines”.

In 1913 William Masterton arrived at Woollogorang Station to take up a job as the
station cook and, according to reports, he excelled at the culinary art. In 1917 he
commenced working a copper show at Redbank Creek, some twenty miles south­
west of Woollogorang Station. The ore was unusually rich, at times ninety percent
copper, but transport costs consumed up to ninety percent of the returns and, after
paying smelting charges, the enterprising Masterton incurred substantial losses.
However, he cared little about money and persevered with his mine on and off for the
next forty years.

The actual mining at Masterton’s mine was done by a few Aboriginals whose tribe
he had befriended. He had several different partners over the years, one of whom
helped him to cut a rough track to Massacre Inlet on the Queensland side of the
border. Previously the ore had been carried by horse teams and dray to Burketown
at a charge of £16 a ton. Camels were used on the new track, resulting in a drop to
£6 a ton to Massacre Inlet. From there it went by lugger to Burketown for £2/10/- a
ton, thence by steamer to Port Kembla. A further cost was incurred when twelve of
the twenty-two camels died after eating ironwood leaves.
A mile away from the mine was a thirty-foot-by-eighteen-foot double cave about eight feet high with a small entrance. Here Masterton established his home and offered dignified hospitality to all who came his way. He came to be known as "The Hermit of Redbank" and there he remained until his accidental death in 1960 at the age of ninety-one.  

During 1908 Laurie, Brown and Lambert obtained thirty-six ounces of gold at Tanami. As water was short, they asked the Minister for assistance to sink a well and for the loan of Government camels. Both were approved and then H.Y.L. Brown visited the field. He pronounced it an important one and news of this and of Laurie's find of 180 ounces of gold in twenty-one pounds of stone resulted in a rush. By the end of 1909 there were 100 men on the field with another fifty on the way from Hall's Creek. Lionel Gee was appointed Warden and Magistrate and reached the field in 1910.

Not all the prospectors were lucky. One, W.J. Nimmo, spent five months on the field without profit and then rode 514 miles from Tanami to Katherine on a bicycle in two weeks. By 1911 the alluvial fields were worked out and, as the water supply had become precarious, Warden Gee ordered all stock off the field except for two camels and two horses which were used for carting water. Most of the men left and then the rains came, making the field inaccessible for many weeks because of bogs. By the end of the year, the field was deserted, apart from Laurie, who worked on his reef, employing Aboriginals to dolly the quartz and to sort the reef stone from jasper and other rock.

In 1914 Laurie applied for Government assistance and Dr Jensen went out to examine the field. Using Pine Creek as a base, he loaded up the Department of Mines' horses with three months' provisions and departed on 18 October 1914. The trip to Wave Hill was difficult, comprising alternate long, dry stages and blacksoil plains made boggy by early storms. On the way, he secured a team of mules at Victoria River Downs station and sent the tired Department horses back. He was met by Warden Johns at Wave Hill and escorted to Tanami, which was reached on 28 November.

Jensen then made a thorough examination of the field. He found only twelve men there and noted that Bill Laurie had obtained £15 000 worth of gold between 1907 and 1913, working only a few hours a day and only then when he felt so inclined. Jensen returned to Wave Hill on 27 December. He rested there until 7 January and then had to make a detour via Katherine, as the Katherine and Fergusson Rivers were in flood. In all, he covered 1300 miles on horseback during his visit of inspection.

Soon afterwards, W.S. Robinson, of international fame in the mining industry, took an option over Laurie's interests and sent a reliable associate up to report. The assessment of the lode was favourable, namely 1000 feet long, ten feet wide, carrying an ounce to the ton. The report also said there was no water, timber, labour or transport. Robinson recalled one of his first assessments: "Remember, a pennyweight of gold in Threadneedle Street, London, is worth more than an ounce of gold in a far-away desert."

He did not take up the option. Jensen recommended a subsidy to sink a shaft and this was done. Then, in 1917, Laurie asked the
Government to put a battery on the field. He died shortly afterwards, not knowing that the request had been refused.

Despite schemes of Government assistance and high metal prices for most of the time since the Commonwealth assumed control of the Territory, mining at the end of 1918 was confined to a few small syndicates. Even the Cosmopolitan at Pine Creek was barely sustaining its operation. Apart from one of two speculative shows at Bulman, in Arnhem Land, and McArthur River, companies had shown little interest. At the end of the year there were only 194 Europeans and 282 Chinese engaged in mining pursuits, whilst gold production had fallen from 6282 ounces in 1911 to 524. The Department of Mines advocated prospecting by Government parties, closely supervised by geologists, but Dr Gilruth was very sceptical, having come to the conclusion that mining would not be likely to solve the vexed question of early settlement of the Territory. In discussing the production of molybdenite, he summed up the prospects of the industry as a whole, saying:

This mineral, in common with all others produced, only awaits the introduction of sufficient capital and the skilled labour necessary to systematically open up the undeveloped value contained in the incalculable number of lodes occurring in various parts of the Territory. If this is done, this portion of Australia should rank as one of the principal metal and mineral producers in the Commonwealth. At the present time the majority of the mines are owned and worked by individual miners who have not the capital to sufficiently develop their mines so that they can be worked economically and extensively. As a matter of fact, only four syndicates are now operating here that have shareholders outside the Territory. Of this number, two have to obtain their working expenses from the products of the mine, and two are being financed by the Government.
Teamsters carting ore, 1918.

Daniels' battery, Mt. Wells Tin Mine, about 1918.
CHAPTER 8

A Declining Industry: 1919 to the Depression

In the first few years after the end of World War I, the Government tried to keep the ailing mining industry alive by continuing its policy of assistance and subsidy to likely prospects. In 1919 a scheme of subsidised prospecting by returned soldiers was begun and men were recruited from Sydney. The conditions of the scheme were that the Government would provide horses and equipment and pay the men a weekly amount. If they found good claims, then they were to repay the amounts advanced. These men at once went bush with pack-horses into the remote hinterland of the Katherine and Alligator Rivers, spending the wet season at the Daly and beyond Fletcher's Gully. They found several minor shows but nothing of significance.

Then two other events occurred which, whilst not directly connected with mining, were to have profound overall effects on the Territory's economy.

In 1913 Vestey Brothers of England decided to buy cattle stations in the Territory and to erect a meatworks at Darwin. Construction proceeded during the war years, when costs of labour and materials rose considerably. The meatworks was completed in 1917 but was plagued with troublesome and inefficient labour, strikes and a shortage of shipping. The works closed at the end of the 1919 season and, except for a brief period in 1925, never re-opened. Of the effects of the closure the Government Resident said:

The effect on Darwin was extraordinary. For some months numbers of people from various parts of the Territory – prospectors, miners, drovers, carters, and station hands – had been congregating in Darwin in anticipation of the high wages to be paid during the meat season. A considerable number had dribbled in from other States; most of these men were penniless and in debt to the storekeepers. To these were added Darwin residents who carried on with odd jobs during the slack period between the meat seasons.

As it was impossible to find work locally for the large number of unemployed, many of whom were without any means, the Government was forced to the alternative of either granting to these free rations or free steerage fares to some other part of Australia. The latter was the lesser of two evils, both from the point of view of the men and the Government. In all, 216 passages were granted, principally to Greek, Patagonian, and Spanish emigrants who had been attracted to Darwin in previous years. Included in the number were 22 old and indigent Chinese who desired to return to Hong Kong.

By getting away these coloured and other aliens, whatever work was available was conserved for the British and Australians. A number of these, with Government assistance in rations, were found employment in prospecting.

The Payne-Fletcher Report (1937) said of the Vesteys' Works:

There is no mystery about the Darwin works. The enterprise was just an ordinary and orthodox business venture which failed, and nothing more.
The failure and closing of the works, however, have done great damage to the Territory. Intending investors shudder when they hear of Vestey's experience and proceed to find avenues for their energy and capital elsewhere. In our opinion it would now be extremely difficult to again interest capital in the Territory unless sweeping changes in policy were made as advocated throughout this report.118

Due mainly to the onset of what were to be several years of world-wide industrial stagnation and the forced realisation of accumulated war stocks, base metal prices fell substantially in 1920, after which the fortunes of the Territory's mining industry roughly followed the pattern of tin and copper prices, which moved as follows:

![TIN AND COPPER PRICES](chart)

Gold remained unattractive until 1930–31, when Britain went off the gold standard and the Australian currency was devalued, the net effect being a twenty-five-percent increase in the price that the miner received for his gold.

Whether or not partly due to the Royal Commission's findings or the failure of the meatworks, the Commonwealth decided to curtail expenditure in the Territory severely. The funds available for assistance to the mining industry were drastically reduced after 1920, as was the staffing level in the Department of Mines, which was merged with the Lands Department. By 1922, Norman Bell, formerly a full-time assayer and ore-buyer, found himself as Warden of Goldfields and Secretary to the Tender Board as well. The following year, E.Copley-Playford, for many years Warden and Chief Warden of Goldfields, became Director of Lands and Mines. Not only was the staff connected with mining reduced to five, including a typist and a messenger, but mining subsidies were almost eliminated and by 1926 had fallen to £343. For several years governmental assistance was limited to subsidising the Maranboy battery and supplying ninety chains of tram-line to that field, on condition that the miners laid it themselves. Pressure to relieve unemployment in 1925 caused the Government again to give some assistance to miners and prospectors, although at least part of the reason was to try and induce enough miners to keep the Maranboy battery busy and thus reduce its losses on operations.
The combination of all the above factors resulted in a rapid fall in the Territory’s mining population from 155 Europeans and 180 Chinese to eighty Europeans and 100 Chinese in the following year.

During the early 1920’s Carter’s Consolidated, the last of the English companies, with interests at Cosmopolitan (Pine Creek), Eureka and Mt Diamond, severed its connection with the Territory and sold all of its machinery. The long-established firm of P.R. Allen and Co. also closed down. It had been established in 1873 and in its heyday in the 1890’s had branches at Fountainhead, Brock’s Creek and The Shackles, as well as operating hotels at Darwin, Pine Creek and Katherine.

As a result of earlier subsidies secured by bills of sale, the Government had acquired over the years a number of mining leases and a large quantity of mining machinery of all descriptions. This machinery it sold at give-away prices, beginning in 1923. In this way the Government disposed of its holdings in mines such as Iron Blow, Yam Creek, Mt Bonnie and Zapopan. Whilst good machinery could be bought cheaply, capital was not available to move or indeed to operate it.

Developments at the main centres of mining were essentially small-scale and largely limited to miners with very little capital. The drastic fall in metal prices closed some fields completely.

After the war the price of wolfram halved overnight when the British Government reduced buying and at the same time imposed purity standards which effectively excluded most of the Territory’s ores. During the war China had emerged as a major source of supply and by 1918 she was satisfying almost one-third of the world’s requirements. As it cost £67 a ton to cart the ore from Hatches Creek or Wauchope to the railhead at Oodnadatta and as the miners were not infrequently faced with starvation because of the inability of camel teams to keep up supplies, the fall in price of wolfram quickly resulted in these fields becoming deserted. Just before the price fell, a company bought the wolfram lease at Wauchope and sent a complete plant to Oodnadatta, where it then remained.

After Laurie’s death in 1917, his brother George spent some years trying to interest southern capitalists in the Tanami field and in 1926 Tanami Gold Mines N.L. was formed. It secured several leases on the field and then bought a second-hand battery and two motor lorries to transport the plant 600 miles from Derby to Tanami. Very heavy rains fell during March and the machinery could not be transported until after the middle of the year. Little work was done, either because of high costs and difficult conditions or because the main purpose of the group was to interest a London group calling itself the Great Tanami Gold Mining Syndicate, which took an option on the property. They sent Mr Watt out to inspect the field. He was impressed and assessed it as payable if worked on a large scale, requiring expenditure of probably £250,000. Money, however, was very hard to raise during the Depression, and the option was not exercised.

Some sixty-three miles south-east of Tanami, gold had been discovered at The Granites by Davidson and later worked for a short time by Stewart, until he was murdered by Aborigina. The field was then abandoned until J. Escreet discovered rich alluvial gold there during 1932. He then found the shedding reef and, when news...
of this reached the southern States, a rush set in. A large number of men went there and companies took options on much of the ground. Payable gold was not found anywhere away from the original claims and this, coupled with hard living and a serious shortage of water, resulted in all except a very few men leaving the field within a few weeks of their arrival. One company installed two 2-head batteries and for a short period crushed for a return of two ounces to the ton.119

At Mt Wells tin mine a party of Europeans took a working option over the mine and plant from the Daniels in 1920, but a sharp fall in the price of tin forced them into liquidation. The mine was then tributed to Mee Wah, who had up to forty of his countrymen employed. Early in 1926 S.H.Hardy found good tin ore in very rough country about eighteen miles north-north-east of Mt Wells at Mt George. He handpicked the ore and employed Chinese to carry it in baskets half a mile down the hillside to the nearest vehicle track. Crushings at Mt Wells gave ten and a half hundredweights of concentrates, but the owner then tributed his small mine. At Mt Wells the number of Chinese miners and battery hands, all of whom were aged, dropped steadily until by 1929 none were available and the mine was forced to close for the last time after a long history of profitable production.

At Maranboy the production of tin ore continued, but at a reduced rate due to the erratic behaviour of tin prices and the reluctance of claim holders to engage wages men when the market was uncertain. In 1920 the field reached the stage where lower-grade ore (about one and a half percent) became the main source of supply for the battery and it became clear that, for this class of ore to be worked at a profit, transport charges would have to be reduced. Again the Government came to the rescue, surveying a tram-line to the main producing mines and supplying rails and trucks, the miners having agreed to lay the line at their own expense. Due to low tin prices and limited production, the line was not constructed until 1924. It was not altogether successful, having grades of up to one in ten.

The Government tried to induce more miners to move to the field by offering assistance, which included transport from Darwin to Maranboy, with swags, meals on the journey and one night’s accommodation at Pine Creek, then, on arrival, placement by Mr Studdert on various abandoned mine holdings, the loan of a ten-by-eight-foot calico tent plus cooking utensils, and monthly provision of free rations for up to three months, on condition that they could be discontinued if, in the opinion of Mr Studdert, the recipient had not done a reasonable amount of work on the mine where he had been placed, but that the handout would continue beyond three months if, in Mr Studdert’s opinion, a case warranted a further supply. The assistance package went beyond this, including the loan of necessary mining tools, an axe and explosives, cartage of ore to the battery and deduction of the cost from the proceeds, application of normal battery charges and an advance of up to seventy-five percent of the value of the first parcel of concentrates.120

Fifteen men took advantage of the Government’s offer of assistance, but only four stayed for more than a few months.

Prior to this scheme, according to the “Northern Territory Times”, Maranboy had a woebegone appearance. All the pretty paperbark huts, once the homes of
enthusiastic miners, had been burnt and all that was left were the frames. Mr Pearce, the “father” of the field, was still there, with his shaft down to 100 feet and on rich tin. He had a cool and spacious cottage at the mine, was a good host and had a graceful and pretty daughter.

Early in 1925 revival occurred on the field and most of the old claims were producing again, with new huts being built. Aboriginals had become keen tin-chasers, selling it to the white man for hop-beer money and groceries. Aboriginal men and women were employed raising stone, some very productively. A Prospectors and Leaseholders Association was formed. Dan Dillon and Duncan Sargent supplied the groceries, a butcher supplied meat at sixpence a pound, but vegetables were scarce. The springs which supplied drinking water were located two miles from the battery, water in a nearby creek being bad. In March 1925 things looked bright at Maranboy, probably due to the high price of tin. The battery crushed 223 tons in three weeks for eight tons of concentrates. The following month, Mr Ross, a mining expert, inspected Maranboy for a Melbourne syndicate. He assessed the field as capable of carrying a large population if a company with adequate capital would take it up and a branch line to the railway were built.

The result of his visit was the forming of the Maranboy Mining Co. N.L., which took an option over Pearce’s property. Mr Walter Cooley, the general manager, spent six months developing the mine and installing a steam tractor. This straddled the tram-line and reduced haulage costs from about seven shillings to one shilling and sixpence a ton. At that stage eighty-five tons of machinery arrived at the mine, some of which came from Pine Creek and the remainder from Cairns, including a twenty-head battery and five Wilfley tables. The company was short of funds and a long time elapsed before the machinery was erected. It began crushing in May 1930. Toward the end of 1931 the treatment plant was closed and never restarted due to exhaustion of the company’s funds. It is stated in Two at Daly Waters that Pearce was never paid by the company for his mine. Disillusioned, he and his family left the field, almost penniless, and started a store at Daly Waters.

The population of the Maranboy field in 1930 consisted of twenty-two males, ten females and twenty-four children, all sustained by tin mining. The number of miners, however, was insufficient to keep the battery at anything like full production; in that year it only ran for five months on one shift.

Burns’ wolfram mine and the Crest of the Wave mine were important wartime producers, but closed in the early 1920’s, the former because of the drop in prices, the latter because the Chinese tributers were unable to cope with the heavy water inflow. Most of the Chinese then moved to Mt Todd and Horseshoe Creek, where they found small but rich shoots of tin. There was another movement to erect a copper furnace at Mt Diamond, but it came to nothing. In 1905 tin had been discovered at Hidden Valley, about half-way between Wolfram Camp and The Driffield, and in 1920 several miners moved there. They then asked the Government to supply a battery, which they were prepared to erect, as the nearest batteries at Wolfram Creek and Horseshoe Creek were too far away for any but the richest ore to be payable. The Administrator agreed to supply a battery and, accordingly, some twenty men set to work to break ore on the field. Then, apparently without the
knowledge of the Administrator, the Minister asked Chief Warden Copley-Playford to make a report on the proposed battery. This he did, recommended against it and the Minister refused to approve the expenditure. The Administrator observed in his annual report that the Chief Warden had not been near the field for four years. The men were naturally disappointed. They had been promised a battery, had worked hard raising ore, were heavily in debt to the storekeepers and now there was to be no battery. They protested and Warden Norman Bell was sent out to make a fresh examination in 1922.

An account of Bell’s trip disclosed that bush travel was still very difficult. He took with him an old prospector, Tom Brown, for company, and an Aboriginal, proceeding by buggy and pair from Pine Creek through swamps and floodwaters and camping at the Wandi–Fergusson battery site. Next morning, Bell and his Aboriginal helper swam the flooded creek to figure some way to ferry their supplies and equipment across. They found a solitary old Chinese fossicking at the Wandi field and he loaned them a washing tub and some rope. Bell swam back and in seven trips they ferried the stuff over, each time Bell accompanying the tub to steady it. The water was twelve feet deep with a five-knot current. The horses were then swum over and the buggy was hauled across by means of a rope. They reached the Crest of the Wave mine late in the afternoon and two Chinese, who were tributing Mrs May Brown’s mine, let them camp in the old store for the night. Next morning Bell went another five miles to Mrs Brown’s wolfram mine and a further eight miles to Hidden Valley, where he spent two and a half days. The return journey was much the same, except that one of the other creeks came up. Whilst pulling the buggy over, one of the horses decided to go downstream. Bell jumped into the water to steady the buggy, whilst Brown managed to get the unruly horse to the bank, where the buggy stuck fast in two feet of mud. They manoeuvred it up the bank slantwise rather than head-on, although it almost capsized. As the water was up to five feet deep, they sent the gear over with the Aboriginal carrying it on his head.

Bell’s examination confirmed the earlier assessment by Copley-Playford and the battery was not supplied. Some of the men formed the Hidden Valley Syndicate, which bought and erected an old battery, and the Government loaned them some concentrating tables and other machinery, which began to operate in 1924. Several hundred tons were crushed, but, with low tin prices and heavy expenditure on cartage and supplies, the operation could not be sustained. The results of the crushings were barely sufficient to clear the indebtedness of the syndicate’s members. By the late 1920’s the field was deserted.

In 1922 another attempt was made to start up the Union Reefs field. Alf Pain, an old Territory prospector, promoted the Union Mines Flotation Syndicate with the object of raising sufficient money to meet the costs of placing the Union on the American market and to retain an interest in the company to be floated. The amount of £500 was quickly raised, mostly subscribed by Chinese merchants, but with Kirkland, the proprietor of the “Northern Territory Times”, also having an interest. Pain then went to America, but was not successful. On his return, he said that he was well received wherever he went, but each American company said that it did not like the Territory’s labour conditions and thought of it generally as a high-cost area. Whilst Pain was
away in America, a bushfire swept through the Union and destroyed nearly
everything of use, including timbering in the shafts.

The year 1931 marked the depth of the Depression in Australia, with very low metal
prices and the virtual end of the early mining era in the Northern Territory. The
battery at Maranboy worked for only one month, there were no company mines, few
prospectors and only a bare handful of Chinese miners, all of whom were old men.

A young mining engineer named Colin Francis Adams arrived at The Shackle in
February 1931 in his first job--for an Adelaide syndicate called Gold Options Pty Ltd,
which had acquired The Shackle leases and purchased the machinery lying there
for the sum of £6/10/- . The Shackle gave Adams his introduction to the Territory and
a love for it that he never lost. He returned to the Territory in 1955 as Director of
Mines. His recollections, which follow, suggest that the few survivors of the early era
retained the spirit which made the early development of the Territory possible. (It
seems that a similar spirit has survived the bombing of Darwin and Cyclone Tracy.)

In those days (1931) the ‘Malabar’ and ‘Marella’ (the latter said to have once
been the Kaiser’s yacht) plied between Melbourne and Singapore via East Coast
ports, Thursday Island, Darwin and the then Dutch East Indies ports. One of
these two ships would appear in Darwin at regular intervals and they were the
most reliable contact with the outside world. There were no regular air services,
no bitumen highways and no causeway at Newcastle Waters. In the ‘wet’, entry
to or exit from the Territory by motor vehicles was virtually impossible on a track
which had been laid down for animal traction sixty years before and which
followed the telegraph line pole by pole.

The ‘Top End’ would have ceased to function in the ‘wet’ without the two ships
and the railway. Comings and goings of the ships and trains were events of social
significance in the Territory, which had a white population of 5400, of which about
3000 lived in the Darwin area. The trip from Melbourne to Darwin, via Sydney,
Brisbane, Townsville and Thursday Island, took three weeks and could often be
enlivened by the tail end of a cyclone off the Queensland coast. A few months later
(in 1931) the ‘Malabar’ went aground just south of the Sydney Heads and
became a total loss, giving its name to a suburb now overlooking the site of the
wreck.

The town of Darwin was then contained within the precincts of the waterfront, The
Esplanade, Daly Street and Woods Street. Smith Street was the main street, as
it is now, and was notable for the Victoria Hotel, the Star Picture Theatre and the
Commercial Bank. These three buildings have changed very little in outward
appearance, except for Cyclone Tracy. Cavenagh Street was more or less
exclusively a miniature Chinatown, with its own atmosphere and customs. The
Chinese community represented a greater proportion of the population than it
now does. Chinese immigration waned many years ago, whereas European
immigration from countries such as Greece and Italy have waxed, so that today
Darwin is one of Australia’s most cosmopolitan and orderly communities, based
on foundations which were laid in the last century. In the ‘Top End’ the next town
in importance was Pine Creek, with its faded mining industry, followed by
Katherine, with a few peanut growers and some cattle. Further south, the mining
potential of Tennant Creek had not yet been recognised and the only buildings
were those of the Telegraph Station. The Alice Springs that is known now was
little more than two separate camps, two miles apart, known as Stuart and Alice Springs, but beginning to find its feet as the terminus of the railway from Adelaide, extended only a few years earlier from Oodnadatta.

In 1931 the Director of Mines was Thomas Worgan and the Government Assayer, Norman Bell. Bell subsequently became Director and later returned to live in Alice Springs, where he died. The Mines Branch office in Darwin was in an area now bounded by Cavenagh, Woods and McLachlan Streets, in an old wood-and-iron building, which, in January 1955, was still recognisable, despite the bombing of Darwin. The office was occupied by the Administrator, The Hon. F.J.S. Wise, and the Government Secretary, J.G. Huthnance, together with their respective staffs. The office had acquired roads and footpaths to service it, whereas, in the earlier years, it was well on the outskirts of the town and could be reached by walking more or less directly through vacant blocks of scrub. The 'Two Mile' was then the end of Darwin, but the beginning of all points south.

Mining, like most other industries, was then in the very early stages of transition from hand to mechanical methods. This transition had been affected by World War I, followed by the world-wide depression, which was then at its depth. The general effect, so far as the Territory was concerned, was that there were no operating mines as regular employers of labour, even on a small scale of, say, twenty men. The South Australian Government Geologist, H.Y.L. Brown, had reported in 1907, when the Territory was still part of South Australia, the occurrence of bauxite at Cobourg Peninsula, manganese at Groote Eylandt and lead at McArthur River. Such projects had to wait for some sixty years on world-wide demand, automation and Australia's own capacity to meet both. In the meantime, the Northern Territory's mining hopes were confined to prospecting for further profitable occurrences of gold and tin, the two minerals which had brought about its small but labour-intensive mining industry of earlier years. Gold was the real hope, since base metals like tin and copper then involved high freight charges on concentrates, as they still do. Uranium was unheard of in the Territory.

The two centres on which prospecting was based were Pine Creek and Brock's Creek. Both towns were on the railway line, the telegraph line, and what then passed for the main road. Each also had a police station, a store, a post office and a hotel. Brock's Creek also had a Chinese josshouse, but Grove Hill, between Brock's Creek and Pine Creek, had few amenities. Its hotel was built by Bill Lucy a year or two later. Pine Creek was the largest of the small settlements in that general area, including Katherine, which did not have the well-developed cattle industry of today. The store at Pine Creek was run by a Mrs Shunke and the hotel by the Dowlings.

The josshouse, which was a short distance to the rear of the Brock's Creek Hotel, gave to the township a special colour of its own. It was built of galvanised iron and had an altar with sand trays and the remains of burnt-out tapers. The walls were covered in Chinese characters painted in gold and they represented the names mostly of long-departed individuals who had paid £25 for the privilege of nominal enshrinement. One or two ancient remaining Chinese lived nearby and seemed pleased to explain to visitors the significance of the house and its contents. Throughout the district a few Chinese, too old for mining pursuits, maintained themselves by gardening and selling their produce to passers-by. By 1958 these rural Chinese and most of their major symbols had vanished from areas outside
of Darwin, bringing to an end what might be called the ‘Coolie Era’. Their descendants in Darwin today are as Australian in thought as most of us.

There was no mining at Brock’s Creek, but James Gitsham was trying to cyanide sands from the old Zapopan mine. These sands had a soluble, oxidised-copper content, which made the ordinary cyanide process uneconomic. Gitsham, who had received some metallurgical recognition in London, claimed to have a secret process which would solve this problem, but it still exists today and a small fortune awaits anyone who can solve it.

In the Grove Hill district, the old Golden Dyke, or The Shackle mine, was the centre of attention for Gold Options, a small Adelaide syndicate. The leader of the field party was J. Smith-Roberts, who had made money out of prospecting in the early years of the century when gold prospects near Menzies, some 120 miles north of Kalgoorlie, were first found and developed. There were three other members of the syndicate and the only article of mechanical equipment owned was a 1927 four-cylinder Morris car, which stood idle in the ‘wet’ until the roads finally dried out.

The purpose of the syndicate was that sufficient work to comply with labour covenants should be done on the Golden Dyke lease by two of its field men while the other two looked around for new possibilities. Broadly, this purpose was carried out by starting a prospector’s shaft on the Golden Dyke, since the old shafts were inaccessible because, over the years, white ants followed by heavy rains had collapsed their timbering. There was no mechanical equipment of any kind except the Morris car and the shaft was sunk by the time-honoured double-handed-hammer-and-tap methods. The work was slow and painstaking, as were all forms of physical endeavour under the isolated conditions of those times.

After six months there was no tangible reward as far as the syndicate was concerned. The lesson learned, and always remembered, was a respect for the guts of the men and women who long before, under much worse conditions, had produced the metals which helped to keep the Territory afloat.

Over the other side of a ridge near the Golden Dyke was a camp occupied by Jim Escreet and his mate Alf Weinkup. The latter was a skilled horseman from whom a horse could be hired when the ‘wet’ made the use of a motor vehicle impossible. Escreet was a born prospector who, only a few years later, went to Western Australia and, with a mate named Cox, found a small but rich gold mine in the Laverton area. The mine was named Cox’s Find. In 1955 Escreet was back in his old stamping ground, the Grove Hill district. Though he was then an old man, he had not lost his prospecting touch and took in younger partners to do the rough pick-and-shovel work necessary to open up a new prospect. One of the last of these was a small but rich vein of ore just off the track between the Burrundie Siding and the Stuart Highway, from which crushings were taken to the Mt Wells Battery.

The other notable prospector of the day was Bill Lucy, who, with his wife and family, was camped at the Margaret River, a few miles from both the Golden Dyke Mine and the Grove Hill Siding. In a cut in the side of a hill he had found a lode which showed low-grade gold in the dish. However, the main trouble, as far as any prospector was concerned, was that there was no operating battery, either private or Government, anywhere in the district. The year 1931 was probably the worst year of the Depression and it is not surprising that there was little money to
be spent on mining or on any other pursuit in the Northern Territory, which had been a financial burden on the rest of Australia even in the best of times. These circumstances, combined with the needs of a young family, caused Bill Lucy to abandon his Margaret River prospect and build at the Grove Hill siding a hotel made of discarded railway rails and galvanised iron. This rugged structure became part of the restored prosperity of the area some thirty years later, when the Mt Wells battery was rejuvenated and served by a greatly improved road system.

In 1931 the Aboriginal population of the Territory was not concentrated in Government-sponsored welfare settlements and it was common to see them in the Pine Creek–Grove Hill–Brock's Creek area. Some attached themselves more or less permanently (except at walkabout times) to stations, where the men helped with mustering and branding and the women with housework. Others lived in tribal fashion in the bush and often came into prospectors' camps, seeking odd jobs.

Given a shotgun and one cartridge, the Aboriginal never failed to bring back a kangaroo and, to Europeans from the south, this one-shot marksmanship was a source of jealousy until it was realised that what the Aboriginal did was to use his bushcraft to track the kangaroo until he could put the gun within a few yards of its head before pulling the trigger. When the kangaroo was brought back it was shared with the Aboriginal, who handed back the gun and spent cartridge case. In these small groups, the women played a part by washing a prospector's clothes in the nearby creek, in which the children also cooled off. Clothes were limited to shorts, shirts and socks, which were dried by being draped over the nearest bush. During the 'wet' the women and children fossicked for alluvial gold, particularly on previously worked alluvial fields such as Afghan Gully. Each year's heavy rain washed down the old alluvial dumps and Escreet said that a woman had brought in two ounces after one such rain. This process is still going on, but with decreasing success.

Though payment to the Aboriginals for these services was by agreement and could include tobacco and all kinds of food, there also had to be a money content. The shilling was then an important currency unit in the bush, both to the Aboriginals and Europeans. It was said that, with their 'tchilluns', the Aboriginals went eventually to Brock's Creek and bought much-adulterated opium from the Chinese, while the Europeans went to the Brock's Creek Hotel, where a 'JDK' or 'Z Square' gin, a glass of beer, a glass of lemonade or any other similar drink each cost a shilling. There was no massive alcohol problem amongst the Aboriginals, such as that which exists today, and there was no recognisable drug problem. Cohabitation between Aboriginal women and European men existed, as it still does. The Aboriginals seemed to be a happy lot, who fitted into the communities, not as political pawns, but as individuals, accepted as Territorians by Territorians, at a time when the rest of Australia was too sick to care about the Territory or any of its people, black, white or brindle.

To the modern, motorised Territorian, the North Australia Railway, until it closed, was something of a joke. To anyone who lived in the 'Top End' nearly half a century ago, it was the key to existence, particularly in the 'wet'. Weather permitting, railway working hours were from eight o'clock in the morning, when the train left Darwin, to five in the afternoon, when it stopped for the night at Pine Creek, to the joy of the passengers, the local inhabitants and the publican.
Between the two centres it serviced sidings such as Adelaide River, Howley, Brock’s Creek, Grove Hill and Burrundie. Stops were perhaps a little longer than usual at Adelaide River, which had a refreshment room, and at Brock’s Creek with its hotel. The same eight-to-five drill was applied between Pine Creek and Birdum, which was then the southern terminus, and again on the way back to Darwin. There was one train a week each way, and it brought in food, tobacco, mail and gossip, and took out gossip and mail. As there were no refrigerators or iceboxes, food had to be limited to those lines which would keep until the next train. For weeks on end the diet would be salted meat, potatoes, onions, tea, sugar and flour, supplemented at times with Chinese garden products and fresh kangaroo. The flour was to make damper, and a good damper cook was highly looked up to. In the camps these foods were stored for aeration in a fine-mesh wire safe, which had to be hung from the roof and kept closed against hungry bandicoots.

Gossip carried by the train crew and passengers from siding to siding took the place of today’s radio and daily newspaper. There was also a party-line telephone connecting the sidings with Darwin and it was a surprise to pick up the receiver and not hear women’s voices.

The up-train passed through Grove Hill at about ten o’clock on Saturday morning. It was met by people on foot and on horseback, with an odd buggy or two and a car, if the tracks permitted. The gathering of about a dozen people would first scan the windows of the passenger coaches to see if they knew any of the framed faces. If they did, messages would be passed to mutual friends in other places up the line. The verbal cross-fire was rapid, as it was limited to the time it took the guard to unload the siding’s share of his van. If no known faces appeared at the windows, the engine-driver, fireman and guard received the messages, as they knew everyone and were known to everyone. The process took no longer than ten to fifteen minutes, when the train would be on its way to another expectant gathering at the next siding. No one took the chance of missing this bi-weekly contact with others who lived similarly, so that, if the weather looked bad, the trek to the siding would be made on the previous evening and the swag laid out with the mosquito net rigged. With the help of a few rums or squares (gin) and a camp fire, the locals got their own talking done before the train came in. When it left, they left, with their goods, according to their customs. The Chinese would politely refuse to ride in a car into the siding or out of it with their goods, or even to have the load set down at their door. They preferred to walk a distance of some four or five miles in and out, with the load equally divided and suspended on each side from a shoulder pole. Aboriginals also took part in train-day meetings, apparently mostly from curiosity. They did not collect goods from the train; probably they had no established credit outside of their own areas, as did Europeans and Chinese. They saw, however, what goods were available for any work that they might do for the other groups. In those days the North Australia Railway and its staff regularly brought people closer together. Food for body and mind came and passed on, with a whistle from clouds of steam and smoke.

The attitudes of the various racial groups towards one another were similar to those written into Mrs Aeneas Gunn’s never-to-be-forgotten record, We of the Never-Never. Togetherness in isolation, with little chance of outside help, was the underlying philosophy, which was either accepted cheerfully or rejected totally by departure. There was no half-way house. One outstanding difference from the days of Mrs Gunn was the treatment of Aboriginals. In the very early
days, Aboriginals speared the white invader and in return received summary retribution. By 1931 the fear of the Aboriginal had been allayed. No one hands to a feared opponent a shotgun and cartridge.123

During the Depression years the mining industry and development generally were in a trough of stagnation which was to remain for a number of years.
Derelict battery, Spring Hill.

Gas engine, Spring Hill.
Old oil engine, Maranboy.

Ruins of Maranboy Mining Company's battery.
CHAPTER 9

The Depression to World War II: 1931–1946

As the Depression deepened, unemployment in Australia became widespread, with one in every four wage-earners out of work. Overseas reserves shrank rapidly. The first move to correct the trend in overseas reserves was made by the Bank of New South Wales in early 1931. The other banks followed suit, with the result that the exchange rate with the pound sterling moved from parity to 130. The consequence was that the Australian price of gold rose by about twenty-five percent and an increasing number of unemployed men turned to gold fossicking.

From the mid-30's on, risk capital became more freely available, with promoters and speculators again taking an interest in the Territory. The Administrator’s report for 1933–34 said that by mid-1934 some of the areas taken up included Stapleton, Zapopan, Brock’s Creek, Howley, Yam Creek, Wandi and Pine Creek, whilst the Hon. T.G. Murray, of Sydney, sent an engineer up to test the McKinlay, Cullen and Fergusson Rivers for dredging purposes, unfortunately with a negative result. With the general improvement in economic conditions in Australia, the Government could afford to make some money available for developmental purposes. It resumed, or increased, its operations in traditional areas of support to the mining industry, such as Government batteries, subsidies to companies and to individual prospectors, as well as on a wider basis, such as improved medical services, including a flying doctor, provision of services in mining townships and in other ways. One important developmental project was the setting up of the Aerial Geological and Geophysical Survey of North Australia in 1934. For some time the Commonwealth had been concerned about the lack of oil resources in Australia and this was at least part of the reason for setting up the Survey, jointly funded by the Commonwealth and by the States of Queensland and Western Australia.

Most of the work was carried out in an age when surface travel in the Territory was very difficult and the Survey made considerable use of the aeroplane. At that stage the aeroplane was not altogether reliable and the fairly flimsy De Havilland Dragon was generally regarded as a first-class plane. It carried a notice in the cockpit: "Speed on one engine: 85 knots", which sounded comforting. Many years later, however, the late Frank Collopy, who flew this particular aircraft for many years, told me that the notice neglected to state that this speed only applied during descent, not in level flight. The staff members of the Survey had their anxious moments. Once, a party including the Director was flying from Tennant Creek to The Granites, but because the countryside was covered with heavy smoke they missed their destination. As fuel was low, they were forced to land on a lake-bed not far from Lake McKay. Here they remained for ten days before rescue, short of food and water. Some water was collected in an apparatus devised by the party with a two-gallon petrol tin as a boiler.

During its existence the Survey produced, with a very small staff, over one hundred useful maps and reports. At the time the geological adviser to the Commonwealth,
Dr W.G. Woolnough, had much to do with the Survey. At one stage he had to go to the Territory at short notice to report on a subsidy application, and a condensed account of his trip is a useful record of conditions in the Territory in March 1935.

Dr Woolnough joined the Empire Air Mail service at Cootamundra, which was then its southern terminal, and arrived at Darwin two days later. He then went by another plane, with Messrs Studdert and Clark, to Yemelba and thence to Pine Creek. The party then travelled to Grove Hill by railway quadricycle. Dr Woolnough added in his report, "As the weather was most inclement, and there was no shelter on the quadricycle, I deemed it inadvisable for Mr Clark, who was suffering from a very severe cold, contracted at Yemelba, to risk the journey to the Golden Dyke mine. He therefore waited till next day when he rejoined us by train".¹²⁵

The management of Golden Dyke sent a truck to collect the party from Grove Hill, but heavy rain made the road impassable and the journey was completed on foot. After the party inspected the mine, a buggy took them to Grove Hill whence a quadricycle returned them to Pine Creek. As McDonald, the manager of the North Australia Railway, had room for only one on his quadricycle, he arranged, with reluctance, owing to the risks involved, for Dr Woolnough and Mr Studdert to be passed along the line back to Darwin from gang to gang by another quadricycle – about 160 miles in all. Dr Woolnough concluded his report with the following paragraphs:

I desire to point out that our operations were greatly hampered by the phenomenal rains which fell during March. Road transport practically came to an end. Air transport was dislocated by the withdrawal of one of Mr Cropley's planes owing to mechanical trouble and the immobilization of the other at Burnside by adverse weather conditions. Only the railway was left. A serious quadricycle accident on 21st March interfered greatly with the use of this emergency service.

Everywhere ground was wet and boggy and there was a dense mantle of grass, mostly over eight feet high, seeding prolifically and effectively hiding most geological features, even those directly underfoot. I respectfully request that these conditions, as well as the fact that we were wet through most of the time, may be taken into consideration in allowing for the absence of detail in some portions of the report.¹²⁵

Under the leadership of such men as P. Hossfeld, T. Thyer and P.B. Nye, the Survey's parties did a great deal of geological and geophysical work at a number of centres, which included Tennant Creek, Mt Todd, The Granites, Tanami, Fountainhead and Yam Creek. The Survey was disbanded in 1942.

During the 30's there were substantial improvements in communications in the Territory. The use of the aeroplane to carry passengers and mail became a regular feature rather than an adventure and in 1933 Guinea Airways Ltd began a weekly service from Adelaide to Darwin, with an overnight stop at Tennant Creek. Until 1936 the surface route from Alice Springs to Darwin was little more than a track alongside the Overland Telegraph Line, with its inherent hazards of sand and bogs, plus difficult and often impassable stream crossings during the wet season. In 1936 the Commonwealth Government allotted some money to convert the track into a reasonable road, mainly due to the requirements of the new and promising Tennant Creek field.
The Commonwealth's increasing interest in the Territory was reflected by the setting up of a Royal Commission in 1937. The Commission's role was to inquire into and advise the Government on various matters relating to land settlement and the potential for land-related industries of the Territory and, additionally, to lay down a plan of development for the next twenty-five years. The two Commissioners, W.L. Payne and J.W. Fletcher, heard and examined 150 witnesses, travelled extensively in the Territory and presented their report in October 1937, only seven months after their appointment. The document came to be known as the Payne-Fletcher Report and to be highly regarded as an authoritative document.

Of Government and officials in the Territory, the report said:

It has become the custom to deprecate the efforts of those who have been responsible for handling Territory affairs. All Governments and officials and workers in the Territory have, however, not been so short-sighted and inept as the uninformed might suppose. Many were capable, courageous, energetic, and high-minded men. But the difficulties facing them were enormous. Originally made by nature, they were added to artificially by man and often capped by instability of Government policy. Nevertheless, some of the achievements, against tremendous odds, were remarkable. In particular, the construction of the Overland Telegraph by South Australia in 1870-72 across the inhospitable interior and in the face of countless hazards and difficulties must always rank as an epic pioneering achievement.

And of past attempts at development, and a widespread lack of knowledge among Australians about the Territory in general:

Amazing as it may seem, the Northern Territory still remains, to most Australians, a nebulous kind of place, a veritable unknown land. This is due to the many conflicting reports which have been circulated from time to time and which still continue in circulation, crediting the Territory with wonderful possibilities of settlement on the one hand, and with being mostly a barren desert waste on the other. The truth is that it comprises all types of country from waste land to land with considerable possibilities, and the purpose of this report is to lay the position bare so that development, where possible, may proceed in a practical and certain manner, and the confusion which has hitherto existed may be ended.

South Australia administered the Northern Territory for forty-eight years, and incurred an expenditure exceeding £6 000 000 without achieving any material success. The Commonwealth has now administered it for twenty-six years with an expenditure of £15 000 000, again without material success. An average annual deficit of about £577 900 has been incurred over the last five years, while the average gross annual production is about £360 000. Nearly all enterprises in the Territory - both governmental and private - railways, pastoral and mining, are not making profits, but are merely breaking even or, more frequently, accumulating losses. The old methods have been tremendously costly for the results achieved. If the expenditure is measured by the increase in European population, it will be found that each adult European by which the population has been increased during the period of Commonwealth management has cost Australia about £5230. The area of good country is limited and the best of it is still without transport facilities. Generally, a state bordering on stagnation exists in regard to pastoral development and nothing big in mining has yet been attempted.
The report contained a number of recommendations, the most controversial being that tariffs be lifted and income tax waived for twenty years. The Commissioners believed that the effect of such action on the mining industry would arouse interest in exploration and would probably support some thousands of people within a few years. Payne and Fletcher did not make specific recommendations about the mining industry as, concurrent with their inquiry, Mr A.H.Telfer of the Western Australian Department of Mines was making a separate enquiry into matters associated with the Territory’s mining law and administration. His findings eventually resulted in substantial amendments to the Northern Territory Mining Ordinance and mining administration.

By the time the Payne–Fletcher Report had been received and studied, the Commonwealth Government was experiencing pressures for action in a number of areas, particularly defence, which it adjudged as warranting greater priority than the Northern Territory’s development – pastoral, agricultural and other. It did, however, press on with the Stuart Highway, and by early 1939 the stretch between Alice Springs and Tennant Creek was in fair condition, with most of the remaining route to Darwin located and cleared. With the outbreak of war, the necessity for a good, all-weather road to Darwin became vital. Special task forces, military and civilian, were sent up and the job was completed during 1944, as was the Barkly Highway connecting Tennant Creek with the rail-head at Mt Isa. These sealed highways, as well as the many aerodromes constructed under the pressure of war, effected a radical transformation in the facilities for communication and travel within the Territory.

Following its bombing by the Japanese early in 1942, Darwin was placed under military control and all mining suspended in the forward operational zone, which extended as far south as Larrimah. The Mines Branch, with its records, had been moved to Tennant Creek a week before the bombing and some months later it was moved again to Alice Springs. The Director of Mines was summoned to Melbourne to discuss with the Controller of Strategic Minerals the conduct of mining operations at the Wauchope and Hatches Creek wolfram fields, which had been taken over by the Government under the National Security Regulations. Under the same Regulations, a number of people were directed to work at those locations.

The Granites was the first of the Territory’s fields to experience a rush during Depression times. It was a lonely place, about 300 miles north-west of Alice Springs and 260 miles west-south-west of the isolated Tennant Creek telegraphy station. Gold had been discovered there many years before by Davidson and later briefly worked by Stewart, until he was murdered by Aboriginals. The field then lay idle until Jim Escreet discovered rich alluvial gold, which he and two mates began to work during the year 1932.

C.H.Chapman had formed a gold expedition, which set out from Brisbane and passed through The Granites on the way to Tanami, where he took out an option. After examining the field, however, he concluded that water was very short whilst transport and other costs were appallingly high. With resources falling low, he decided to return to The Granites and bought Escreet’s mine for £5000. Escreet and his mates immediately adjourned to the pub at Alice Springs and then decided to buy
an aeroplane to assist in their prospecting activities. It was an unfortunate decision as the machine crashed shortly afterwards.

Chapman's party carried its own wireless transmitter and the reports sent out on the airwaves resulted in a rush of mining promoters to the field, as well as a number of alluvial miners from southern States. Promoters pegged the field for a distance of five miles and several companies were floated, including Granites Development N.L. and Granites West N.L. Chapman arranged to convert his leases into Chapman's Gold Mining Co. N.L. with £125 000 in capital. He received 67 700 fully-paid shares of ten shillings and 290 000-odd ten-shilling contributing shares were issued, paid to four shillings.

Little reliable information was available in southern financial circles, and C.T. Madigan and F.E. Baume were commissioned to visit the field and report upon it. The former's book, Central Australia, gives a good description of the journey and conditions on the field. Travel was by trucks driven by G. Underdown and J. Kilgariff, through sand and mud bogs, following the rough track through the dense spinifex and low mallee scrub, in day temperatures consistently over 100 degrees Fahrenheit and without a sign of surface water. Small native soaks were encountered about every fifty miles, but each would yield only a few gallons at a time. At The Granites, Madigan found a few shallow shafts and Kilgariff's corrugated iron store, with tents and bough shelters scattered nearby. The only water on the field came from a Government well two miles away. The water was highly mineralised and affected all but hardened prospectors.

It soon became apparent to people on the field that Chapman held the only payable ground. Some of the men, possibly broke and desperate, poached on Chapman's leases and went off with some gold. Chapman wirelessed for the Warden and shortly afterwards Chief Warden Bell and Warden Muldoon arrived, in poor humour after being marooned for two days in the desert when their car broke down. They quickly restored order on the field, as well as seizing and returning to Chapman a quantity of gold which had been taken from his leases. In the absence of payable ground and with the hard living conditions and a serious shortage of water, all except a very few men left the field. Largely due to the unfavourable reports sent back by Madigan and Baume, company interest collapsed, and Chapman himself relinquished his association with Chapman Gold Mines N.L. and remained at The Granites. Some of his early crushings were very rich, one yielding 106 ounces from sixteen tons. He imported three water-drillers from Queensland and managed in this way to find what the Administrator said was a reasonable water supply. The water-drillers themselves, however, said when they were leaving that the water was forty-seven percent salt and had to be distilled before it was fit to drink. One of the party, Fowler, said that living conditions at The Granites were a nightmare. There were three women on the field and a boarding house, but all food came out of a tin and there were millions of flies. At one meal he counted fifty-five flies drowned in his soup.

Some of the first-formed companies had rushed batteries to the field before it was realised that their leases were worthless. Chapman's group was then able to acquire two of their small batteries cheaply. Good fortune then came their way when they
struck a rich reef ten feet below the surface, the first crushing from which yielded 397 ounces from eighteen tons, quickly followed by another result of 309 ounces. Chapman had a good supply of water and then invested in a wind-powered generator which supplied sufficient electricity for a small prospecting battery, for pumping and for electric light, according to the Administrator’s Report. With a Government subsidy, he then installed a larger and heavier five-head plant. A further 735 ounces of gold was recovered during 1935 and in that year Chapman began using an aeroplane to improve communications with his lonely mine.

The following year a group called Central Australia Gold Mines N.L. was formed to take over Chapman’s leases and C.Brack, the Chairman, announced that the company would have 400 men employed within six months, that it would build houses for them and supply three meals daily for £1 a week, with free water and firewood. The option was not exercised and the field fell into Chapman’s hands once more. He resumed work and, with his batteries and cyanide plant, obtained reasonable returns. Then, in 1939, Anglo-Queensland Mining Pty Ltd, a subsidiary of Mt Isa Mines Ltd, took an option over Chapman’s leases and, according to the Administrator’s Report, had plans for operations on a very large scale indeed. It was unfortunate that the outbreak of war put a stop to those plans. Chapman carried on and was still there with the cessation of hostilities in 1945. He seems to have obtained consistently good results for a total of 1777 ounces from 655 tons, with occasional rich patches, such as one in 1945 which returned 138 ounces from half a ton of ore.

Further out, at Tanami, a few miners worked intermittently. Companies took up ground, but did little of consequence. In 1938, Scientific Gold Explorations, a Sydney company, had interests there, as did Mr K.V. Harris, who was assisted by his wife in running a five-head battery under tribute from Tanami Gold Mines N.L., recovering £300 to £400 worth of gold each quarter. The Harrises left the field in 1945 and it was then completely deserted.

Signs of gold had been found at Tennant Creek during the 20’s, but, due to the extreme isolation, the inhospitable nature of the spinifex country and the very limited availability of water, no real work had been done until 1933, when a prospector discovered rich ore about six miles to the south-west which he named the Great Northern. He had very little capital but managed to put together a small battery, powered by an old car engine, with which he crushed for a return of six ounces to the ton. He then formed a syndicate by selling shares in the mine and sent nine tons of ore 300 miles by road and 830 miles by railway to the nearest Government battery at Peterborough in South Australia. The ore was rich, yielding twenty-three ounces from nine tons. It had to be, to bear the relatively enormous costs of transport.

News of this find reached The Granites at about the time the early rush of now-disappointed miners was starting to leave. Quite a few of their number went to Tennant Creek. Over the next few months, many others arrived from other parts of Australia. Exact population figures were not kept, but, from the figures for Miner’s Rights sales, it seems that some hundreds of men joined the rush. Many discoveries followed, particularly when it was realised that haematite often carried gold on the Tennant Creek field. Some of the Peterborough crushings in 1933 were very rich,
the best being: Pinnacles, sixty-two ounces from six and a half tons; Rising Sun, 315 ounces from fifty-five tons; Wheal Doria, forty-eight ounces from 27.75 hundredweight. Other discoveries in 1933 and early in 1934 were Peko, named by Joe Kaczensky, the Russian discoverer, after an upturned "Peko" tea chest, Lone Star, Northern Star, Queen of Sheba, Burnt Shirt, Peter Pan and Golden Forty, to name a few.130

Some of the early prospectors did very well. The one-eyed Jack Noble ("Malachi Jack") was on the field early and sent a message to his mate, William Weaber, who had been blinded in a cattle accident in the Kimberleys. Weaber sold his 12 000 head of cattle, packed up and moved his family to Tennant Creek, and the Noble-Weaber partnership, with only one good eye between them, set about prospecting. Their first find was rich gold at Rising Sun, quickly followed by Noble's Nob and Weaber's Find. Rudolph Schmidt of Alroy Downs Station took an interest in the show. He had interests in several mines, including Peko, Lone Star, Golden Forty and Northern Star. One of his bores found adequate water for mining purposes and his group, the Tennant Creek Development Syndicate, did considerable development work, as well as erecting a battery worked with a suction gas-engine. Of Schmidt, Noble said, "He was a reasonable man who paid a fair price."131

During 1933 and 1934 investors, engineers and mining promoters arrived at the field and options for most of the mines were taken for very high figures. According to the Administrator's Report, the amount paid for the options varied a good deal, but, in at least one case, the total consideration was the equivalent of £60 000 in cash and shares. At that stage all the important options were held by one individual.132

The option-holders were expected, as was the general practice, to employ the leaseholders who had sold them the options to do the initial development of the prospects. Work was begun on several mines that were under option, but after a few weeks the leaseholders employed had the greatest difficulty in getting their pay from the option-holders. Quite reasonably, they refused to do any more work and the mines were not then manned. Under mining law they became liable to forfeiture, but the leaseholders cancelled the options and went back to work for themselves. The cancellation of the options was a bad advertisement for the field and it then reverted largely to the small man with little capital.

On completion of its bore, the Government arranged for Mr Fazal Deen, an Afghan camel teamster, to pump the water for the public. Deen then decided to buy and erect a small battery, consisting of two 1500-pound stamps driven by an oil engine, and with this he proceeded to crush for the public. This was a new activity for Deen, who had his problems. The foundations were too weak for the heavy stamps, difficulties then arose in washing the exceptionally heavy, crushed ironstone clear of the amalgamating tables and the engine was too small for its task.

Of Deen and Schmidt, the Administrator said in his Annual Report:

It seems fitting to place on record here an appreciation of the courage and the enterprise which led both Mr Rudolph Schmidt and Mr Fazil Deen to risk their capital in providing the first two crushing plants to treat Tennant Creek ores, as they were not trained mining men and, prior to going to Tennant Creek, had had no experience of mining.133
Some of the crushings were very rich, the more important yields during 1934–35 being:

<table>
<thead>
<tr>
<th>Mine</th>
<th>Tons</th>
<th>Ounces of Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mt Samuel</td>
<td>195</td>
<td>907</td>
</tr>
<tr>
<td>Rising Sun</td>
<td>402</td>
<td>522</td>
</tr>
<tr>
<td>Burnt Shirt</td>
<td>192</td>
<td>371</td>
</tr>
<tr>
<td>Eldorado</td>
<td>305</td>
<td>230</td>
</tr>
<tr>
<td>Caroline’s</td>
<td>210</td>
<td>163</td>
</tr>
<tr>
<td>Lone Star</td>
<td>100</td>
<td>114</td>
</tr>
<tr>
<td>South Star</td>
<td>27</td>
<td>75</td>
</tr>
</tbody>
</table>

The population of the field was then between 500 and 600 people, including forty-five women and twenty children. The proclamation of the field had been deferred several times owing to frequent discoveries of gold further out, but it was eventually proclaimed in 1935, covering an area of 2146 square miles.

The growing importance of the field resulted in a visit by the Minister for the Interior, the Hon. T. Paterson, who directed that a proper townsite be surveyed and that a number of steel-framed, galvanised-iron buildings be erected for offices and residences of officials. A police station and school were commenced and an area was set aside as an aerodrome to serve a regular weekly service to Mt Isa. A hospital was built and a Government doctor appointed.

Adelaide interests turned their attention to the field in 1935 with the flotation of Tennant Creek Batteries N.L. to construct and operate crushing facilities. The Government noted at the time that the absence of adequate treatment facilities, technical guidance and water was hampering the development of the field. Accordingly, the Government then assisted Tennant Creek Batteries N.L. by giving it a subsidy of £2500 on condition that the crushing charges not exceed £1/15/- a ton and that five shillings per ton crushed be applied to reduction of the advance.

Eldorado (Tennant Creek) Ltd was floated as a result of a rich find by R.J.Shaw on the Mt Samuel line of hills, his first crushing yielding four ounces by dollying forty pounds of ore. Shafts were then sunk and equipped and a treatment plant was installed. By 1937 there were about 700 people on the field, including ninety-two women, with crushing plants at Eldorado, Mammoth and Rising Sun, as well as Deen’s battery and the Central Milling Company’s plant, which crushed for the public. Government assistance was given in the form of loans, with the plant as security, and included £5000 to Eldorado, £2100 to Rising Sun and £2500 to Mammoth. Work at Peko was suspended, owing to heavy water being encountered at the 220-foot level, until funds could be raised for adequate pumping gear. The Mammoth company had been floated on the strength of a rich surface shoot of ore, but this did not persist at depth. The first crushing yielded only seventy-six ounces from 490 tons and the company decided to cease operations. As the Government had advanced money by way of subsidy, it enforced its bill of sale, took over the plant and crushed for the public. The Government also set up another ten-head battery and cyanide plant about twenty miles north-west of Tennant Creek township.

In 1937 the Government sent Dr Woolnough to report on the field. According to reports at the time, the doctor was always up and dressed before dawn, complete
with beads attached to his hat to ward off the flies, and then spent the day traversing the country at a brisk pace. This activity continued until sunset, when he would camp and spend the evening chatting to miners in the vicinity. The essential conclusions he reached were that:

much more exposure of orebodies was needed before a proper estimate of the field could be made;

an immense area existed within which ironstone outcrops occurred, many carrying gold;

considerable leaching had taken place from levels long ago eroded away;

as workings had not yet reached the water table, it was impossible to say what lay at depth.¹³⁵

Up to 1938 the Australian Mining and Chemical Review had hardly mentioned Tennant Creek. In that year it ran a full-page article. The report was hardly encouraging, particular points made being:

Suffering such serious disabilities from isolation that twelve to fifteen pennyweights gold per ton is required to show a profit, the Tennant Creek goldfield cannot be rapidly developed.

Water supply has been a serious difficulty at Tennant Creek. Of the forty bores put down ninety percent have yielded salt water, unfit for drinking but quite suitable for ore treatment operations. At present, water has to be carried seven and a half miles from the old Government well and the cost is fifteen shillings per 100 gal. (Until recently the cost was eleven shillings per 100 gal.) On the new alluvial a good supply of water has been located.

There are five stamp batteries in operation as under:

No. 1 Government Battery, ten head of 1200-pound stamps, located twenty-five miles north-west of the township;

No. 2 Government Battery (formerly Mammoth), ten head of 1200-pound stamps, eleven miles easterly of township;

No. 3 Weber Battery, six miles east;

No. 4 Eldorado Battery, ten head, four miles south;

No. 5 Fazal Deen Battery, four Nissen stamps, four miles south.

All these batteries are operated by crude oil engines. The cost of the crude oil is thirteen pence per gallon. Motor trucks are used to transport the ore from the outlying properties to the treatment plants; the present cost of petrol is fourpence three farthings per gallon.

The present yield from these plants is 1500 ounces monthly and 1400 to 1700 tons averaging one ounce per ton is being milled. Battery capacity is low because of the high specific gravity of the pulp product through the screen. Very rich crushings are reported from time to time – recently from the Wheal Doria mine twenty-four tons yielded 305 ounces over the plates.¹³⁶

By 1938 gold had been found at well over one hundred localities and production for the 1937-38 year was 10 958 ounces from 22 521 tons. Warden Studdert’s report
for the year listed over fifty producing mines, ranging from small gouger’s holes to Eldorado (Tennant Creek) Gold Mines Ltd, with a three-compartment shaft and complete gold recovery plant, including a cyanide process.

Morgan Tennant Ltd was formed by Mt Morgan Developments Ltd to engage in mining at Tennant Creek. With a nominal capital of £75 000, it secured some sixteen options and initially began prospecting the Hammerjack leases. This company gave the late “Tiger” Brennan his first job in Tennant Creek.

As Tiger told the author the story, he had arrived at the Wauchope field a year before but had no luck, so went to Tennant Creek. He was broke and all he had with him was a mosquito net and ground sheet. Having been bitten by a scorpion the night before, Tiger was sitting under a tree in an evil humour when a man from the Mt Morgan Company arrived and said that the local priest had suggested that Tiger might be a useful employee. So Tiger became secretary, contract man, bookkeeper and other etceteras at £8 a week, but this only lasted for a month or two, when the company decided to pull out from the field. Tiger then battled on, returned to Wauchope for a while and then went back to Tennant Creek, where he chased a two-and-a-half ounce leader down at the Havelock, but lost it. That mine is now the Gecko. He was then broke, so worked on the road gang with pick and shovel, did a little mining and then went off to the war.

According to Tiger, Joe Kaczensky sold Peko for £2500, most of which found its way across the counter of the Tennant Creek pub, while Snowy Richards and his mate sold Eldorado to the previously-mentioned company for £15 000.137

A third Government battery was erected and the outlook for the field was good. Life for the small prospector was generally hard, with water quite costly and amenities of life few. Reg Carter, who went to the field with his family in 1939, once took the author out of town some miles and showed him the remains of a bough shelter at The Trump, which was his family’s accommodation at the time. He observed of those days, “When times were good, we had sugar in the tea”.

Early in 1940 another phenomenally rich deposit was found at Blue Moon, in the north-east corner of the field, with a crushing of 440 tons yielding 2400 ounces, for an average of a little over five ounces to the ton. Central Australia Options N.L. was formed with £2500 capital to work the mine and by February 860 tons had been crushed for 4700 ounces. For whatever reason, the company then decided to liquidate and P.Ward, the original owner, then had another 560 tons crushed for 4000 ounces.

Later in 1940 Clutha Development, a subsidiary of Placer Development Ltd, which was a large, Canadian-based mining group, took up an option on the Joker mine and did a good deal of developmental work. Its first crushing gave only 7.63 pennyweights to the ton, but it persisted until the early months of 1942, when it decided to discontinue operations owing to indifferent results and wartime conditions. The latter factor was to affect the whole field, as practically all the able-bodied leaseholders and miners were called up for military service. Fuel and other mining supplies became very difficult or impossible to procure and most of the men who were ineligible for the call-up for military service because of age or physical
infirmity went to Wauchope and Hatches Creek. The Government batteries closed in 1942 and did not re-open until after the war's end. Eldorado, however, continued to operate and to pay substantial dividends right through the war years, including one of twenty-five percent for 1943–44.

Some prospectors returned to White Range–Arltunga in 1932 and 1933 and were encouraged by the Government, which installed a small “Hi-speed” battery for public crushings. Two other batteries were also erected by private operators. Tongkah Compound N.L. took up the White Range leases, but did no work on them. As the Administrator observed, “This is the only way [the payment of rent] in which these leases have been revenue producers for a number of years past”. In 1935 a mild rush occurred at Arltunga when H.N. Jenkins found gold in small, rich leaders. He erected a small battery which crushed intermittently for himself and the public.

In the Harts Range area, mica had been mined in a small way for many years, but total production had never been of great significance. Two companies operated at one stage and then the field reverted to a few Italians, mainly at the Mica King and Spotted Tiger mines. No machinery was used, and under the conditions of great heat, with very few shade trees and the nearest water several miles away, this was a very hard life. During the war years mica became a strategic mineral. In 1942 an extreme shortage of mica developed and Dr Jensen was called out of retirement to make a geological survey of the mica mines and mica-bearing regions of Harts Range and Plenty River. This he did, observing that single mica crystals up to ten tons in weight had been found which had to be cut up with a cross-cut saw before they could be loaded onto camels.

According to Dr Jensen, the Commonwealth did some mining itself, but with unsatisfactory results, mainly because of inappropriate mining methods. By long practice, the Italian miners used small charges and a particular pattern of drilling with great success. The Commonwealth managers used deep holes and heavy charges, which blew the mica into very small pieces. Consequently, production was poor and waste was great. The Commonwealth also hired machinery and compressors to private groups and provided stores and a weekly transport service. At war's end about a hundred men were working on the field, but before long Central Australian production became unable to compete with cheap imports from India and the field soon became deserted.

A few men, including the late Tiger Brennan, worked at Hatches Creek and Wauchope in 1933, but in a very primitive way. In the absence of machinery, they first burned the ore to make it brittle and then hand-crushed it in a spring-dolly. The ore contained small amounts of gold and bismuth, but both were lost in this primitive treatment. Most of the men joined the early rush to Tennant Creek, but a number returned in 1936 when the price of wolfram rose substantially.

The Administrator, C.L. Abbott, visited the field in 1937 and found sixty men at work, getting good returns. J.W. Walsh erected a plant and began to treat 3000 tons of ore previously rejected as not rich enough for hand-crushing. H.J. Turner had all the best leases at Wauchope, some of them being very rich, and had them worked by tribute. Following the visit the Government put down a bore at Wauchope, equipped with windmill and tanks. The following year Turner sold a half interest in his lease to
Walsh on condition that the latter erect a treatment plant. Unfortunately, the Government bore gave out and mining was suspended until another one could be drilled and brought in.¹⁴⁰

At Hatches Creek, where some 200 men were working in 1938, the scarcity of water proved a great drawback, as almost all the water for ore treatment, domestic and stock supplies had to be drawn from the Kangaroo Waterhole. It almost dried up towards the end of December, when dysentery and stomach disorders afflicted almost the entire population. The miners were on the point of leaving the field to the flies and ants when good rains fell. The field’s extreme isolation was eased to some extent by the installation of a pedal wireless by the Australian Inland Mission, used extensively by the populace for sending telegrams and for calling up the doctor from Tennant Creek.¹⁴¹

Most of the mining at Hatches Creek was done by “battlers” with limited capital. One strong financial syndicate, Wolfram Industries Ltd, had several leases, but, apart from erecting a manager’s residence, did little itself beyond arranging some tributes.

Both fields were taken over by the Commonwealth in 1942, as wolfram was an important metal in the manufacture of armaments and Australia was virtually cut off from overseas supplies. Those few leaseholders who did not enlist were employed raising ore, while the workforce was augmented by 587 Chinese quarrymen who had been evacuated from Nauru and Ocean Island. According to Arthur Scott, a Mines Branch official, they arrived at Wauchope on the back of trucks, one bitterly cold morning amid drizzling rain. Initial accommodation was in tents, although building materials were later sent up and huts erected. The water supply was one bore and all miners succumbed to dysentery. Early promises of movies and tennis courts were not honoured.¹⁴² According to Dr Jensen, who was at that stage working for the Commonwealth Controller of Strategic Minerals, the foremen and superintendents had been recruited from unemployed mine managers, most of whom were used to large-scale production, and their mining method was totally unsuited to the two fields involved. Large adits were driven, which frightened the Chinese, who were used to open-cut work, while what little wolfram was present crushed so finely that it was reduced to irrecoverable slimes.

According to Scott, the whole effort was a dismal failure. In the event, by late 1944 all requirements for wolfram had been met, the Commonwealth withdrew from the fields and the Chinese were sent to other jobs in Queensland. At the end of the war, wolfram prices collapsed and the fields were deserted.

Prospectors scratched around the old fields in the “Top End”, many making wages but not much more. Hayes Creek and Bridge Creek were worked until the mid-30’s, the former by some very elderly Chinese tributers who rented the Government battery. Cyaniding by James Gitsham continued at the Zapopan, but with unsatisfactory results and was discontinued in 1934. Some people who were working near the old Mt Ellison tramway, just north of the railway line near Grove Hill, found some small leaders carrying two ounces to the ton, but they soon cut out.

Following pressure by residents, the Government erected a second-hand five-head battery at Pine Creek during 1934, but, partly due to the inefficiency of the plant and
unskilled operators, it was found that most of the parcels of ore simply did not pay. Companies then began to take an interest in the area and those who had agitated for the battery found it more profitable to sell or give options over their leases and the battery ran out of ore to crush. It operated for only a brief period the following year and was finally closed down in 1939.

During 1934 and 1935 options of purchase were given over a number of leases and some of the old gold mines were applied for by companies as leases or exclusive prospecting areas, covering Stapleton, Zapopan, Brock's Creek, Howley, Yam Creek, Wandi and various areas at Pine Creek.

In 1933, on returning from the United States of America, where he had approached American capitalists to invest in northern Australia, the Hon. T.G.Murray (with Mr J.W.Murray) bought the Golden Dyke mine and floated it into the Golden Dyke Mine N.L. Several shafts were sunk and a treatment plant was erected under manager T.R.Naylor. According to the Sydney "Bulletin", 100 000 tons of ore had been exposed, going nine to thirteen pennyweights to the ton. A serious fall of earth held up stoping, but by 1935 some 2810 tons had been milled for 863 ounces of gold. Sulphides in the ore inhibited treatment, certain appliances proved inadequate and the large quantities of payable ore previously stated to exist did not materialise. Shortly after, the company's funds were exhausted and, as £7450 had been advanced by the Government, operations ceased. Once more, refractory ore, inadequate capital and insufficient work to prove the mine had proved fatal. Some diamond-drilling was done by the Mines Branch, but with poor results.

In 1933 the old Enterprise Mine at Pine Creek was sold by tender to J. Smith-Roberts for £49. Then, in 1934, Harkness and Co. floated the Maid of Erin into Northern Area Mines, with Miss Mayse Dowling as secretary.

A rush of speculation took place and by mid-1934 the country had been pegged for miles around Pine Creek. The only work done, however, was on the Maid of Erin, Enterprise and Eleanor Mines.

Enterprise was sold to a T.G.Murray company, which managed to secure £30 000 from a London group that included Commonwealth Mining and Finance (a de Bernales company). With these funds and a Government subsidy of £5000 considerable work was done, but as soon as the subsidy cut out work stopped. Then, according to Bell, the property was inspected by mining engineers of standing, plus eminent geologists and other company people representing Australian and English interests. Although some good values were obtained during sampling, they all turned it down and the leases were abandoned. A sister company took up the Kohinoor, Elsinore, Chin Phillip, Thunderer and Christmas leases. The old main shaft at the Eleanor mine had been burnt out by a bushfire years before and the surrounding ground collapsed. The new company cleared and rehabilitated the old shaft, but then abandoned the leases for the same reason as applied to the Enterprise.

Another interest of the Murray brothers was the old show known as “Jones Brothers” about a mile north-west of Mt Todd. The old shaft was deepened, another sunk and the property floated as the Mount Todd Gold Mine Ltd. Shortly afterwards
work was suspended while the mine was under option to an English group. Following an inspection by their engineer, the Government did some diamond-drilling on the shaft at the company's expense. The results did not come up to expectations, the machinery was removed and the leases abandoned.

During 1933 John Bailey and others floated a small company, Arnheim Land Gold Development N.L. After a visit to Yemelba, some eighty miles north-east of Pine Creek and across the South Alligator River in high ridge country, Bailey returned to Sydney talking about assays of gold ranging from four to twenty ounces to the ton. The company bought an aeroplane to make communication and supply easier and did further prospecting. Machinery was ordered. Then, in 1934, according to the Sydney "Bulletin", capital was increased by 100,000 shares of two shillings, two-thirds of which went to Bailey and the promoters. The prospectus stressed that the reef could be easily worked, while at a company meeting Chairman Bailey referred to "1000 tons of ore at grass and many more waiting for the battery" and to the receipt of many "option applications from England and America".

Speculative interest in the company's shares became intense, with sales of the two shilling shares up to eighteen shillings and twopence. The promoters then issued a prospectus for a new company, Arnheim Extended N.L., to take up options held over five square miles at Yemelba. Again the vendors and the promoters seemed to do well, for out of 200,000 four-shilling shares the former were to get 30,000 and the latter 20,000. By early 1935 machinery had been installed and was operating at Yemelba, but no crushing reports had been furnished. The Sydney "Bulletin" commented about this, in relation to the company's earlier prospectus and reports of rich assays, and suggested that an enquiry by the Stock Exchange would do no harm.

Public figures began to take an interest in the affairs of Arnheim Land Gold Development. Senator Dunn asked several questions in Parliament. A.M. Blain, the Federal Member for the Territory, telegraphed the "Northern Standard" in the following terms:

Serious reaction in Sydney against Territory mining view recent revelations speculation Arnheim Land Gold. Have taken steps secure co-operation Stock Exchange and have to-day published demand for Government policy which will protect Territory mines from gambling exploitation.

Answers to some of the parliamentary questions revealed that the Warden's assays were much less than the prospectus had stated, and he also reported, following an inspection, that "no large quantities of ore seem to have been raised".

The Commonwealth sent Dr Woolnough up to investigate. He proceeded to the mine at Yemelba, had a shaft dewatered, descended with Studdert and made a thorough examination. Their conclusions were that some very highly coloured statements had been made in the company's prospectus. The shaft had never been as deep as stated and their sampling of the ore dump gave results completely inadequate to explain a reported recovery of forty-three ounces or so from 102 tons of ore. The report went on to say:
We are unable to accept as conclusive the results obtained either from the present series of samples or from the crushing of ore recently milled at Yemelba, as the possibility of contamination with gold at various points cannot be eliminated. We are strongly of opinion that the amount of gold 'recovered' during milling operations is greatly in excess of the amount likely to have been contained in the ore even under the most generous assumptions.

We find definitely that at least some of the published statements of the company are misleading and are of opinion that the failure to produce ore from the neighbourhood of the shafts can be interpreted only as a further proof in the same direction.\(^{143}\)

The company’s shares had slid steadily from their peak of eighteen shillings or so down to two shillings, but when Woolnough’s report was released the Stock Exchange suspended quotation and they became almost valueless. The sister company collapsed when mining engineer L. Louatt assessed the areas held under option and declared that they contained nothing of value so further exploration would be a waste of money.

The directors then gave Morgan Developments Ltd an option over Yemelba and that company sent their own man up to examine the leases. In the meantime, according to the “Northern Standard”, the mine was a mystery, with men coming and going and a crushing supposed to have yielded 250 ounces from sixty tons. The mine manager, F.C. Pollard, declared that, despite Woolnough’s criticism, the mine was still valuable. The company issued another statement that “a report by Mr Rutherford of Alluvial Gold would be accepted by the Stock Exchange and by Morgan Developments as representing the true position”. The Stock Exchange declared the statement to be “absolutely unauthorised” and Morgan Developments likewise dissociated itself. This was the last straw for whatever credibility existed in the company and its directors, and liquidation occurred in 1936, some of the machinery being taken to Pine Creek in part-settlement of debts.

A. Roberts formed a syndicate, Yemelba Holdings Ltd, which borrowed £700 from the Commonwealth Department of the Interior to buy the plant from the liquidator of the original company. Roberts and his brother had a stroke of luck when they found a small patch of rich alluvial ground less than 250 yards from the battery which yielded 128 ounces of gold. Little more was done when this patch was exhausted and the field was left to the wallabies and white ants.

According to press reports, the Yemelba affair had done nothing to improve the confidence of Australian capitalists in Territory mining, while London now had grave doubts also. The good result was the passing of a new ordinance requiring any mining prospectus to be approved by the Minister before issue and empowering him to publish a specific warning to the public in the Gazette if he considered such action desirable.

The first genuine and sustained exploration attempt in the Territory by a major Australian mining group was by Anglo—Queensland Mining Pty Ltd. In the mid-30’s Mt Isa Mines Ltd was getting close to a profit after many years of struggle. It set up an exploration subsidiary in 1935 called Anglo—Queensland Mining Pty Ltd and, possibly from a suggestion by its founder, W. Corbould, decided to search far
beyond its own lease boundaries. Chief Geologist Roland Blanchard went to the Territory, where he took up options over much of the Howley line of lode, as well as over Zapopan, The Shackle and Barrett’s old tin mine at Mt Shoobridge. The company’s workforce of some thirty-five men cleaned out the shafts, deepened them and undertook a very extensive programme of sinking, driving and sampling over eighteen months in the hope that a large, low-grade gold mine might be proven. Blanchard’s concluding report, however, confirmed his earlier view that the country was too weak, the lodes too small and of too low a grade for profitable mining. The miners were paid off and the company’s officers returned to Mt Isa.

During Blanchard’s first visit in 1936, his party happened to see the ruins of the Yam Creek smelter and mines. On returning to Mt Isa, he followed up the history of the field and decided that further investigation was warranted into possibilities of low-grade bulk mining. The London office of the company was asked to get information on activities after 1902 but could not do so, so a preliminary assessment was made from published Administrator’s Reports and from public statements made by J. McDonald on behalf of the Bottomley companies in 1901. Blanchard doubted some of the previously published average assay results of 2.99 pennyweights of gold per ton and concluded that such a figure was the best that could be hoped for, certainly not an average value, and, in the circumstances, of no interest to his company.

In 1934 N. Nudl, representing Fletcher’s Gold Mine N.L., took up leases at Fletcher’s Gully. The company gave every indication of being a genuine miner. In contrast with some of the other mines, where conditions for the men were far below acceptable standards, the company built paperbark huts, which were cooler and more comfortable than the traditional iron, kept and killed their own cattle, ran a herd of goats for milk and planted vegetables. A long tunnel was driven into Pan Que’s (not to be confused with Ping Que’s) workings and a light battery installed. According to a press report, the first crushing yielded two ounces to the ton, with three ounces in the tailings.

Then, for what seemed inexplicable reasons, the mine was closed down and all hands were dismissed. The directors arrived and announced that the manager had closed the mine without authority. They added that they had asked Director of Mines Bell to furnish an independent report on the mine and, in the meantime, they would transfer operations to a lease at the Daly River, with the intention of floating another company to work it. Bell said that, in his opinion, the expenditure at Fletcher’s Gully had been “reckless in the extreme.” In answer, the directors said they had relied on regular reports from their manager as to the existence of several formations carrying highly payable values, but, as time went on and little or no production occurred, they had sought Mr Bell’s advice. In turn, the manager wrote to the “Northern Standard” alleging that the directors had made incorrect statements, including a false report to the Stock Exchange.

The shares fell to a penny, nothing came of the Daly prospect and the company gave up the ghost in 1936. Tenders were called for the plant, which resulted in a repeat of many previous situations in the Territory where a few “battlers” with little capital managed to secure machinery from derelict companies at bargain prices.
A. and N. Potter went to Fountainhead about 1932 and, by working steadily, built up enough capital to buy and remove the remains of the old Zapopan battery. It began crushing in 1935, the first fifty tons returning seventy ounces of gold, but the second, from a deeper level in the mine, returned only twenty-six ounces from fifty-two tons.

During 1937 Potter bought the Fletcher’s Gully company’s machinery cheaply and, as opportunity offered, moved it the 125 miles to his mine. He then asked the Government for permission to remove and use the two Wilfley tables from the Government’s plant at Hayes Creek and, as they were not in use and in danger from white ants and bushfires, permission was given, provided that they were kept in good condition and returned if required. At the end of June 1938 Potter had a complete plant ready to operate, as well as 100 tons of quartz, showing free gold, ready for crushing. His workforce consisted mainly of Aboriginals, who worked energetically, and he obtained good results for some years.

A new group took over the old Spring Hill mine during 1935 and managed to float it into the Spring Hill Gold Mining Company with £120 000 in two-shilling shares, of which 100 000 were allotted as fully-paid to the vendors, together with £2000 cash and the first £2000 profit from the mine. In the prospectus it was stated: “In Spring Hill it is believed the company possesses a property of enormous possibilities”. It went on to refer to Parkes’ 1894 report and said that the lodes had been proven to extend for three-quarters of a mile and to a depth of 375 feet.

The company was beset by troubles almost from the beginning. The manager became ill and went back to Sydney, where he died. The suction gas-engine failed due to lack of ventilation and there was trouble between union officials and the management, mainly about sanitary conditions and the poor quality of food. Nevertheless, over three or four years they succeeded in driving a tunnel several hundred feet into the old Chinese workings, some of which had been very rich. The Government, believing that the mine was promising, gave the company a pound-for-pound subsidy in 1936, raised the following year to £2 for each £1 spent. In accordance with past practice, the Government took a charge over the mine and plant as security. In 1937 labour was scarce and work was suspended. Two or three contractors were given the job of extending the tunnel, but each was sacked after a visit by the chairman. The lode was eventually intersected when the tunnel was about 1200 feet in length, but samples gave the disappointing result of only ten pennyweights to the ton. By 1939 there were more labour difficulties and by then the Government’s subsidy was exhausted. The directors tried to raise more money with an issue of preference shares so that they could tunnel further to the old Chinese workings, but the issue failed. The company was removed from the official list in Sydney in 1941 for failing to supply an annual report and balance sheet and soon after became defunct.

Sino Development, a Sydney group, bought some of the old Union and Lady Alice leases in 1934 for a very low price and sent three mining engineers from Sydney by lorry with supplies via Bourke, Duchess and Mt Isa, machinery having gone ahead by sea. At that stage the group floated North Australian Mines N.L. with a capital of £50 000, but only £5000 cash was raised by public subscription.
There was a delay of several weeks in the arrival of machinery, because in June the Union had the heaviest rain known for twenty-one years and all the rivers were flooded. With a Government subsidy, the old shaft was pumped out and a little driving done. Then, for whatever reason, it was decided that another boiler and better machinery were needed. The items arrived and then the company's till was empty. A Sydney solicitor approached the directors seeking an option which, if exercised, would involve a payment of £22,000 cash. Negotiations went on for some time, but nothing was finalised, no more work was done at the mine and the company disappeared from the lists.

The old Eureka mine was taken up by Hercules Gold Mines Ltd, a de Bernales company. Extensive diamond-drilling was undertaken, the old shaft cleaned out and rehabilitated and a bulk sample of ore taken and sent to Perth for metallurgical testing. Heavy sulphides were proved to be present, requiring special treatment. The company was considering the design of the necessary plant when war broke out and operations were suspended.

A little work was done by Jones and O'Shea at Maude Creek with a one-head battery and Lucy and Manners operated their small Huntingdon mill at their East Margaret mine with occasional very rich patches of ore. They sold options on at least two occasions, but such were not exercised. Mrs Davis, a lady "battler" known locally as the "Queen of Wandi", went bush in a lorry and found a small gold show. She fossicked up a one-head battery, engaged men to work it and put five tons through in five days for six ounces. She crushed on with good results and, when the price of wolfram rose, switched to that metal.

In 1934 Golden Junction (Cracow) Ltd obtained an option on the Zapopan for £7000 cash and £6500 shares. They planned to treat the 20,000 tons of tailings on the site, but found the process too difficult. In 1938 Anglo-Malayan Development Ltd tested the tidal waters at West Arm and Bynoe Harbour for alluvial tin and tantalite with a view to dredging. Values were negligible and the company relinquished its options. Clutha Development took an option on three alluvial leases on the Margaret River during 1940, but the property did not meet the company's requirements.

The Government Battery at Maranboy crushed intermittently during most of the period under review, either for longer or shorter periods as the price of tin moved up and down. Mr Studdert was absent for lengthy periods, as the Mines Branch had a very small staff and he was required for other duties, either in Darwin, assisting Dr Woolnough, or officiating as Warden at Tennant Creek. In 1938 the battery was modified to treat gold and wolfram ores as well as tin. Partly to obtain sufficient ore to keep the plant busy and partly to encourage gold production, the Government decided to allow free railage of ores to Maranboy siding and also to pay other cartage subsidies. As the Administrator commented, by the end of the war the plant was very old and frequent stoppages were necessary for repairs, which kept it idle for about half the time.

With the end of the war, the only field in the Territory showing promise was Tennant Creek. Some years were to elapse before mining supplies, men and capital became available for development, but there had been a general dramatic improvement in communications, services and conditions. Over the horizon lay huge developments,
namely, the chain of small mines which were to flow directly from the discovery of rich copper at Peko, in Tennant Creek, along with the phenomenally rich gold mine at Noble’s Nob, the short-lived, initial uranium boom in the “Top End”, manganese at Groote Eylandt and bauxite at Gove. The style of the Territory’s mining industry was to undergo a rapid transition from the small, labour-intensive show to the large mine equipped with the best machinery.

As this is being written, some of the world’s richest uranium is being mined in the Alligator Rivers region by the Peko group, that major Australian mining company that (it is well to remember) got its initial wealth in the 1950’s from a small gouger’s hole in Tennant Creek. The old mining areas from the Howley to Pine Creek and beyond are being re-evaluated by mining groups large and small. Already five highly-mechanised mines are under development at Pine Creek, Tennant Creek, Batchelor and that harsh and remote field, The Granites. Pipelines are making their appearance, one of them Australia’s longest to convey gas from the Amadeus Basin to Darwin. Oil has begun to flow from the offshore field at Jabiru.

Mt Isa Mines Limited has an enormous deposit of silver–lead–zinc at McArthur River, but the metals are so finely divided in the matrix that their economic separation has so far defied the laboratories of the world. There is no doubt that the deposit will eventually become a major mine, the only question being, When? Of the several possible future developments, this one offers the best prospect for a large, permanent settlement. The hinterland is a 1000-millimetre-rainfall area, and good communications and a port would open up a very promising pastoral region.

The Territory’s mining industry has had its ups and downs since 1873, but, with the relatively recent arrival on the scene of large and respected mining groups, it has forged ahead into a new era which has brought a transformation, not only in mineral production itself, but also in the development of infrastructure and of those other industries which grow from the initial impetus given by mining.
Lone Star Mine, Tennant Creek.

Mammoth (later Government) battery, Tennant Creek.
Harts Range mica mines and camp.
### APPENDIX I

#### MINERAL PRODUCTION OF THE NORTHERN TERRITORY, 1873 TO 1946

<table>
<thead>
<tr>
<th>Year</th>
<th>Gold Ounces</th>
<th>Tin Concentrates Tons</th>
<th>Copper Metal Content of Ores</th>
<th>Wolfram Concentrates Tons</th>
<th>Mica Commercial Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1880</td>
<td>18604²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1881</td>
<td>26354</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1882</td>
<td>19003</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1883</td>
<td>18173</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1884</td>
<td>18348</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1885</td>
<td>16577</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1886</td>
<td>14864</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1887</td>
<td>16191</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1888</td>
<td>8193</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1889</td>
<td>11218</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1890</td>
<td>19016</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1891</td>
<td>23236</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1892</td>
<td>25706</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1893</td>
<td>25456</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1894</td>
<td>25807</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1895</td>
<td>23197</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1896</td>
<td>19116</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1897</td>
<td>19099</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1898</td>
<td>19951</td>
<td></td>
<td>882²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1899</td>
<td>14964</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1900</td>
<td>15909</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1901</td>
<td>20815</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1902</td>
<td>16556</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1903</td>
<td>16433</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1904</td>
<td>9900</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1905</td>
<td>12161</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1906</td>
<td>11563</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1907</td>
<td>5104</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1908</td>
<td>5695</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1909</td>
<td>7323</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1910</td>
<td>6008</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1911</td>
<td>7277</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1912</td>
<td>5337</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1913</td>
<td>3119</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1914</td>
<td>2532</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1915</td>
<td>890</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1916</td>
<td>909</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1917</td>
<td>866</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1918</td>
<td>525</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1919</td>
<td>829</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1920</td>
<td>939</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1921</td>
<td>245</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1922</td>
<td>115</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1923</td>
<td>168</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1924</td>
<td>703</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1925</td>
<td>456</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1926</td>
<td>140</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1927</td>
<td>110</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1928</td>
<td>101</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1929</td>
<td>131</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

² Note: Data for 1880 and 1899 is approximate.
<table>
<thead>
<tr>
<th>Year</th>
<th>Gold Ounces</th>
<th>Tin Concentrates Tons</th>
<th>Copper Metal Content of Ores</th>
<th>Wolfram Concentrates Tons</th>
<th>Mica Commercial Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1930</td>
<td>13</td>
<td>31</td>
<td>15</td>
<td>13.75</td>
<td>38.94</td>
</tr>
<tr>
<td>1931</td>
<td>552</td>
<td>33</td>
<td>34</td>
<td>34.0</td>
<td>23.94</td>
</tr>
<tr>
<td>1932</td>
<td>674</td>
<td>26</td>
<td>4</td>
<td>20.84</td>
<td>20.84</td>
</tr>
<tr>
<td>1933</td>
<td>594</td>
<td>25</td>
<td>23</td>
<td>41.15</td>
<td>41.15</td>
</tr>
<tr>
<td>1934</td>
<td>989</td>
<td>66</td>
<td>92.30</td>
<td>30.00</td>
<td>30.00</td>
</tr>
<tr>
<td>1935</td>
<td>5066</td>
<td>38</td>
<td>86.04</td>
<td>59.65</td>
<td>59.65</td>
</tr>
<tr>
<td>1936</td>
<td>6753</td>
<td>30</td>
<td>49</td>
<td>137.08</td>
<td>27.72</td>
</tr>
<tr>
<td>1937</td>
<td>15808</td>
<td>46</td>
<td>2</td>
<td>210.90</td>
<td>30.70</td>
</tr>
<tr>
<td>1938</td>
<td>12378</td>
<td>18</td>
<td>47</td>
<td>436.72</td>
<td>50.75</td>
</tr>
<tr>
<td>1939</td>
<td>16586</td>
<td>28</td>
<td>24</td>
<td>310.74</td>
<td>31.71</td>
</tr>
<tr>
<td>1940</td>
<td>22423</td>
<td>46</td>
<td>31</td>
<td>265.53</td>
<td>34.77</td>
</tr>
<tr>
<td>1941</td>
<td>18869</td>
<td>22</td>
<td>3</td>
<td>285.53</td>
<td>34.77</td>
</tr>
<tr>
<td>1942</td>
<td>12058</td>
<td>32</td>
<td>2</td>
<td>310.74</td>
<td>31.71</td>
</tr>
<tr>
<td>1943</td>
<td>3912</td>
<td>26</td>
<td>3</td>
<td>144.47</td>
<td>36.32</td>
</tr>
<tr>
<td>1944</td>
<td>5491</td>
<td>4</td>
<td>19</td>
<td>174.73</td>
<td>17.30</td>
</tr>
<tr>
<td>1945</td>
<td>7193</td>
<td>20</td>
<td>23</td>
<td>117.33</td>
<td>31.44</td>
</tr>
<tr>
<td>1946</td>
<td>9791</td>
<td>24</td>
<td>63</td>
<td>67.15</td>
<td>22.77</td>
</tr>
</tbody>
</table>

1 Includes estimates for previous years
2 Total for period 1882 to 1909
3 Total to end of 1998

Note: Although rich silver recoveries were made in the latter part of the 19th century, figures are not available.

## APPENDIX 2

### EUROPEAN AND CHINESE POPULATION, NORTHERN TERRITORY, 1874 TO 1931

<table>
<thead>
<tr>
<th>Year</th>
<th>Population engaged in mining</th>
<th>Total Territory Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Europeans</td>
<td>Chinese</td>
</tr>
<tr>
<td>1874</td>
<td>722</td>
<td>63</td>
</tr>
<tr>
<td>1875</td>
<td>128</td>
<td>63</td>
</tr>
<tr>
<td>1876</td>
<td>259</td>
<td>97</td>
</tr>
<tr>
<td>1877</td>
<td>115</td>
<td>208</td>
</tr>
<tr>
<td>1878</td>
<td>208</td>
<td>1028</td>
</tr>
<tr>
<td>1879</td>
<td>1028</td>
<td>208</td>
</tr>
<tr>
<td>1880</td>
<td>105</td>
<td>1500</td>
</tr>
<tr>
<td>1881</td>
<td>40</td>
<td>1500</td>
</tr>
<tr>
<td>1882</td>
<td>60</td>
<td>1550</td>
</tr>
<tr>
<td>1883</td>
<td>42</td>
<td>1250</td>
</tr>
<tr>
<td>1884</td>
<td>40</td>
<td>1100</td>
</tr>
<tr>
<td>1885</td>
<td>50</td>
<td>1000</td>
</tr>
<tr>
<td>1886</td>
<td>50</td>
<td>1120</td>
</tr>
<tr>
<td>1887</td>
<td>65</td>
<td>900</td>
</tr>
<tr>
<td>1888</td>
<td>50</td>
<td>800</td>
</tr>
<tr>
<td>1889</td>
<td>80</td>
<td>1350</td>
</tr>
<tr>
<td>1890</td>
<td>85</td>
<td>1300</td>
</tr>
<tr>
<td>1891</td>
<td>90</td>
<td>1300</td>
</tr>
<tr>
<td>1892</td>
<td>95</td>
<td>1520</td>
</tr>
<tr>
<td>1893</td>
<td>90</td>
<td>1600</td>
</tr>
<tr>
<td>1894</td>
<td>65</td>
<td>2015</td>
</tr>
<tr>
<td>1895</td>
<td>111</td>
<td>1985</td>
</tr>
<tr>
<td>1896</td>
<td>193</td>
<td>1638</td>
</tr>
<tr>
<td>1897</td>
<td>153</td>
<td>1600</td>
</tr>
<tr>
<td>1898</td>
<td>107</td>
<td>1426</td>
</tr>
<tr>
<td>1899</td>
<td>114</td>
<td>1372</td>
</tr>
<tr>
<td>1900</td>
<td>72</td>
<td>1232</td>
</tr>
<tr>
<td>1901</td>
<td>58</td>
<td>1199</td>
</tr>
<tr>
<td>1902</td>
<td>47</td>
<td>1043</td>
</tr>
<tr>
<td>1903</td>
<td>91</td>
<td>1190</td>
</tr>
<tr>
<td>1904</td>
<td>189</td>
<td>1158</td>
</tr>
<tr>
<td>1905</td>
<td>161</td>
<td>1077</td>
</tr>
<tr>
<td>1906</td>
<td>179</td>
<td>1018</td>
</tr>
<tr>
<td>1907</td>
<td>208</td>
<td>958</td>
</tr>
<tr>
<td>1908</td>
<td>150</td>
<td>674</td>
</tr>
<tr>
<td>1909</td>
<td>190</td>
<td>630</td>
</tr>
<tr>
<td>1910</td>
<td>140</td>
<td>602</td>
</tr>
<tr>
<td>1911</td>
<td>101</td>
<td>575</td>
</tr>
<tr>
<td>1912</td>
<td>84</td>
<td>542</td>
</tr>
<tr>
<td>1913</td>
<td>90</td>
<td>530</td>
</tr>
<tr>
<td>1914</td>
<td>136</td>
<td>482</td>
</tr>
<tr>
<td>1915</td>
<td>112</td>
<td>389</td>
</tr>
<tr>
<td>1916</td>
<td>137</td>
<td>371</td>
</tr>
<tr>
<td>1917</td>
<td>141</td>
<td>350</td>
</tr>
<tr>
<td>1918</td>
<td>194</td>
<td>282</td>
</tr>
<tr>
<td>1919</td>
<td>194</td>
<td>282</td>
</tr>
<tr>
<td>1920</td>
<td>195</td>
<td>250</td>
</tr>
<tr>
<td>1921</td>
<td>155</td>
<td>180</td>
</tr>
</tbody>
</table>
Year | Population engaged in mining | Total Territory Population |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Europeans</td>
<td>Chinese</td>
</tr>
<tr>
<td>1922</td>
<td>89</td>
<td>100</td>
</tr>
<tr>
<td>1923</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>1924</td>
<td>90</td>
<td>70</td>
</tr>
<tr>
<td>1925</td>
<td>120</td>
<td>70</td>
</tr>
<tr>
<td>1926</td>
<td>110</td>
<td>60</td>
</tr>
<tr>
<td>1927</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1928</td>
<td>69</td>
<td>34</td>
</tr>
<tr>
<td>1929</td>
<td>60</td>
<td>18</td>
</tr>
<tr>
<td>1930</td>
<td>68</td>
<td>13</td>
</tr>
<tr>
<td>1931</td>
<td>52</td>
<td></td>
</tr>
</tbody>
</table>

Source: Government Residents’, Wardens’ and Administrators’ Reports.

Notes: The figures in most cases are approximations, made by various officials in the Northern Territory. Many of the reports assess population on the basis of the difference between arrival and departure figures for the port of Darwin; arrivals and departures overland were either not kept at all or estimated by officials at the time. In some years no population figures at all appear in the reports. A table of the Territory’s population from 1881 to 1910 appears in the Government Resident’s report for 1910. The figures given therein differ from those in earlier Government Resident’s reports, particularly in relation to the Chinese. The table gives 6122 as the maximum Chinese population, attained in 1888; there is reference to a figure of 7048 in the Customs returns for 1888 with a note that that figure made no allowance for deaths, surprisingly few. The conclusion is that the maximum Chinese population was between 6122 and 7000 and probably closer to the latter. For many years Chinese deaths were not recorded. As to definitions, there seems to be a fair degree of inconsistency over the years. At times separate figures were given for Chinese, at other times a few Japanese, Malays and Indians were counted under the heading. My conclusion, however, is that the figures shown do give a reasonable picture of the Territory’s population trends. The term “European” refers to persons of European descent.

I could locate few figures prior to 1880 and those mainly for 1875 and 1876. There is one newspaper reference to 3,000 Europeans in the 1873 rush but the available evidence suggests that this is an exaggeration.

As a comparison, the Commonwealth Bureau of Census and Statistics furnished the following census figures for Northern Territory:

<table>
<thead>
<tr>
<th>Year of Census</th>
<th>Europeans</th>
<th>Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>1911</td>
<td>1698</td>
<td>1612</td>
</tr>
<tr>
<td>1921</td>
<td>2458</td>
<td>927</td>
</tr>
<tr>
<td>1933</td>
<td>3306</td>
<td>744</td>
</tr>
</tbody>
</table>
GOVERNMENT RESIDENTS AND ADMINISTRATORS OF THE NORTHERN TERRITORY, 1869-1946

South Australian Administration — Government Residents

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1869-70</td>
<td>G. W. Goyder</td>
</tr>
<tr>
<td>1870</td>
<td>Dr. J. S. Millner (acting to July 1870)</td>
</tr>
<tr>
<td>1870-73</td>
<td>Captain B. Douglas</td>
</tr>
<tr>
<td>1873</td>
<td>Dr. J. Millner (acting to October 1873)</td>
</tr>
<tr>
<td>1873-76</td>
<td>G. B. Scott</td>
</tr>
<tr>
<td>1876-83</td>
<td>E. W. Price</td>
</tr>
<tr>
<td>1883-84</td>
<td>G. R. McMinn (acting)</td>
</tr>
<tr>
<td>1884-90</td>
<td>J. L. Parsons</td>
</tr>
<tr>
<td>1890</td>
<td>J. G. Knight (acting to July 1890)</td>
</tr>
<tr>
<td>1890-92</td>
<td>J. G. Knight</td>
</tr>
<tr>
<td>1892-1905</td>
<td>C. J. Dashwood</td>
</tr>
<tr>
<td>1905-1910</td>
<td>C. E. Herbert</td>
</tr>
<tr>
<td>1910</td>
<td>S. J. Mitchell</td>
</tr>
</tbody>
</table>

Commonwealth Administration — Administrators

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1911-12</td>
<td>S. J. Mitchell</td>
</tr>
<tr>
<td>1912-19</td>
<td>Dr. J. A. Gilruth</td>
</tr>
<tr>
<td>1919</td>
<td>H. E. Carey (Director)</td>
</tr>
<tr>
<td>1919-21</td>
<td>M. S. C. Smith (acting)</td>
</tr>
<tr>
<td>1921</td>
<td>Col. E. T. Leane (acting)</td>
</tr>
<tr>
<td>1921-27</td>
<td>F. E. Urquhart</td>
</tr>
<tr>
<td>1929-31</td>
<td>Lt. Col. R. H. Weddell (North Australia)</td>
</tr>
<tr>
<td>1927-31</td>
<td>V. G. Carrington (Central Australia)</td>
</tr>
<tr>
<td>1931-37</td>
<td>Lt. Col. R. H. Weddell</td>
</tr>
<tr>
<td>1937-46</td>
<td>C. L. A. Abbott</td>
</tr>
</tbody>
</table>
APPENDIX 4

WEIGHTS AND MEASURES

Weights and measures and the monetary system of the time have been used throughout. Inflation defies proper comparisons over time and results in the pound of 1966, the year of conversion of our currency to dollars, bearing no relation whatever to the pound of 1873 and subsequent years.

The system of weights as applied to gold was Troy weight, which, with its metric equivalent, is:

- 24 grains = 1 pennyweight (dwt) = 1.415 grams
- 20 pennyweights = 1 ounce (oz) = 28.3 grams
- 12 ounces = 1 pound (lb) = 0.3396 kilograms

Distances were measured in inches, feet and miles:

- 12 inches = 1 foot = 30.5 centimetres
- 3 feet = 1 yard = 0.914 metres
- 1760 yards = 1 mile = 1.61 kilometres

The currency in use was pounds, shillings and pence:

- 12 pence (d) = 1 shilling (s) = 10 cents
- 20 shillings = 1 pound (£) = 2 dollars

As a very rough basis of comparison, typical wage-rates in the mid-1870’s were:

- Fitters 8s 8d to 10s 4d a day
- Boilermakers 10s 4d a day
- Labourers 4s 8d to 5s 4d a day

Staple foods at the same time were:

- Bread (4-pound loaf) 6d
- Butter (pound) 1s
- Beef (pound) 4½d
- Mutton (pound) 3½d

Whilst prices varied somewhat between 1875 and 1900, due to drought and other factors, inflation as such did not really begin until 1912. According to the Australian Bureau of Statistics, retail price index numbers increased by about 25 times between 1901 and 1983.

Information on prices and wages of the times may be found in Labour and Industry in Australia by T. A. Coghlan (1918).
REFERENCES

The following abbreviations have been used.

CH Commonwealthe Hunsard
CPP Commonwealth Parliamentary Paper
ICM Inwards Correspondence to the Minister Controlling the Northern Territory
JLD John Lewis' Diaries
NTS The Northern Territory As It Its — W.J. Sowden
NTT "Northern Territory Times"
NTG The Northern Territory And Its Goldfields — G. Newman
SAPP South Australian Parliamentary Paper
SASA South Australian State Archives file
SAR South Australian "Register"
NTOH Northern Territory Oral History
WGR Warden of Goldfields Report

Chapter 1
1. SAPP 25/1870
2. SAPP 126/1871
3. ICM 1872
4. J. Lewis — Fought & Won
5. JLD
6. JLD
7. J. Lewis — Fought & Won
8. J. Lewis — Fought & Won
9. J. Lewis — Fought & Won
10. NTG
11. NTG
12. NTG
13. ICM 1873
14. ICM 1873
15. SAPP 55/1873
16. ICM 1875

Chapter 2
17. NTS
18. NTG
19. NTG
20. NTT 6/3/1875
21. WGR 16/6/1875
Chapter 3

36. The Chinese Abroad — H.F. McNair (Harley Farnsworth) Ph.D. page 69
37. SAPP 65/1874
38. ICM 1875
38A. NTT 14/8/1875
39. NTT 27/5/1876
40. NTT 27/4/1878
41. SAPP 72/1877
42. ICM 76/1878
43. NTT 27/4/1878
44. SAPP 55/1885
45. NTS
46. NTT 15/5/1886
47. NTT 11/4/1885
48. SAPP 53/1884
49. SAPP 63/1887
50. SAPP 19/1895
51. SAPP 28/1890
52. SAPP 32/1891
53. “Alias Jimmy” — W.J. Corbould
54. SAPP 24/1894
55. SAPP 24/1894
56. NTT 22/9/05

Chapter 4

57. Melbourne “Argus” 28/5/1886
58. NTT 28/9/1889
59. SAPP 53/1886
60. SAPP 122/1886
61. SAPP 176/1891
61A. NTT 24/7/1886
62. SAPP 28/1890
63. SAPP 32/1891
64. SAPP 28/1890
65. SAPP 69/1890
66. SAPP 53/1886
67. SAPP 28/1890
68. NTT 22/1/1887
69. "Alias Jimmy" — W.J. Corbould
70. SAPP 181/1892 & NTT 7/9/1889
71. SAPP 181/1892
72. NTT 15/1/1892

Chapter 5
73. Horatio Bottomley — S.T. Felstead. Page 40
75. NTT 18/9/1896
76. SAPP 45/1896
77. SAPP 45/1897
78. NTT 13/5/1898
79. SAPP 45/1900
80. NTT 19/4/01
81. NTT 26/4/01
82. SAPP 45/1904
83. NTT 15/1/04 & Australian Mining Standard 23/6/04

Chapter 6
84. SAPP 19/1895
85. SAPP 25/1908
86. NTT 18/8/05
87. SAPP 45/1906
88. NTT 17/4/08
89. Australian Mining Standard 21/9/10 and 15.6.11
90. SAPP 76/1902
91. NTT 5/10/06
92. SAPP 45/1908
93. SAPP 45/1905
94. SAPP 45/1908
95. CPP 4/1937-40

Chapter 7
96. CPP 4/1937-40
97. CH 5/7/1901
98. CPP 4/1937-40
99. CPP 4/1937-40
100. Report by Atlee Hunt on visit to N.T. 1915
101. Bulletins of N.T. No. 14 and NTT 16/4/14
102. Reminiscences of a Geologist — H.I. Jensen
103. Australian Mining Standard February 1915
104. Reminiscences of a Geologist — H.I. Jensen
105. Royal Commission Report (not printed) (Charges against Administrator)
106. CPP 28/1920-21
107. CPP 240/1914-15 & NTT 11/9/13
108. CPP 45/1913
109. CPP 129/1917-19 & NTT 14/9/18
110. Bulletins of N.T. No. 11
111. NTT 2/10/13
112. Apostle to the Inland — W. Scott McPheat
113. CPP 129/1917-19
114. CPP 31/1917-19
115. Bulletins of N.T. No. 10
116. If I Remember Rightly — Ed. G. Blainey. Page 151
117. CPP 129 1917-19

Chapter 8
118. CPP 4/1938
119. CPP 203/1932-34
120. NTT 24/10/24
121. NTT 5/3/26 and 19/1/28
122. NTT 14/3/22
123. C.F. Adams — Personal Correspondence

Chapter 9
124. CPP 138/1934-7
125. CPP 139/1935
126. CPP 4/1937-40
127. Administrator’s Report for 1941 (not printed)
128. CPP 203/1932-4
129. CPP 24/1940-41
130. CPP 203/1932-4
131. CPP 139/1934-5
132. CPP 138/1934-5
133. CPP 237/1934-6
134. CPP 58/1937-8
135. Report by Dr. W.G. Woolnough on Tennant Creek — not published, held by B.M.R.
136. Australian Mining Standard 1938
137. H. Brennan — Interview
138. CPP 138/1934-37
139. Reminiscences of a Geologist — H.I. Jensen
140. CPP 38/1937-38
141. CPP 13/1940
142. NTOH — A. Scott
143. CPP 139/1935
144. CPP 58/1937-8
145. CPP 150/1937-39
146. CPP 24/1940-41
BIBLIOGRAPHY

In respect of the period up to 1920, the South Australian Archives has much useful material in the form of correspondence, diaries and reports. The 'Northern Territory Times' is a useful reference source and its issues were examined for the entire period covered. Particular Government Reports and other works consulted are listed below.

South Australian Parliamentary Papers

<table>
<thead>
<tr>
<th>No.</th>
<th>Instructions to Government Resident, N.T.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1870</td>
<td>Despatches from Northern Territory. B. Douglas, Government Resident. J. Stokes, Millner, Medical Officer, N.T., S.A.</td>
</tr>
<tr>
<td>1870</td>
<td>McLachlan, George G., Northern Territory Goldfields.</td>
</tr>
<tr>
<td>1873</td>
<td>Northern Territory Gold Mining Regulations, 1873.</td>
</tr>
<tr>
<td>1873</td>
<td>Everard, William, Instructions to Government Resident, Northern Territory.</td>
</tr>
<tr>
<td>1874</td>
<td>Correspondence re Coolie Labor.</td>
</tr>
<tr>
<td>1876</td>
<td>Knight, John George, Report on Northern Territory Goldfields.</td>
</tr>
<tr>
<td>1879</td>
<td>Port Darwin and Pine Creek Railway Estimate.</td>
</tr>
<tr>
<td>1882</td>
<td>Fergusson, Major John Adam, Coolie labor for Northern Territory; Major Fergusson's Report on Mission to Negotiate with the Government of India for Coolie Emigration to the Northern Territory to which is added a Letter referring to Tropical Products likely to succeed in the Northern Territory.</td>
</tr>
<tr>
<td>1891</td>
<td>Report of the Minister of Education (Hon. J. C. F. Johnson) on the Northern Territory.</td>
</tr>
<tr>
<td>1895</td>
<td>Report of the Northern Territory Commission; together with minutes of Proceedings, evidence and appendices.</td>
</tr>
</tbody>
</table>

1908 25 Brown, Henry Yorke Lyell, Report; Geological Reconnaissance from Van Dieman Gulf to the McArthur River, etc., made by the Government Geologist in 1907.

1908 55 Brown, Henry Yorke Lyell, Recent Mineral Discoveries in Northern Territory.

1911 31 Gee, Lionel Carley Egremont, General Report on Tanami Goldfield and District (North-Western Central Australia).

South Australian Parliamentary Debates

Particularly 1873, 1879, 1880, 1885, 1886, 1887, 1888, 1895, 1902 and 1903.

South Australian Archives

Correspondence to and from Government Resident, Wardens, Mining Companies, from 1872-1911.
Government Residents' and Wardens' reports.
Diaries of Hugh C. May and S. H. Herbert, covering the year 1873.
Diaries and personal papers of John Lewis.
G. B. Scott's unpublished reminiscences of 1873 to 1876.
COMMONWEALTH OFFICIAL PAPERS

Bulletins of the Northern Territory

No.

1914 10  JENSEN, HAROLD INGEMANN, Geological report on the Darwin Mining District; McArthur River District and the Barkly Tableland.


1916 16  JENSEN, HAROLD INGEMANN, GRAY, GEORGE J. and WINTERS, R. J., The Geology of the Woggaman Province, Northern Territory of Australia.


Commonwealth Parliamentary Papers


Report of the Royal Commission Appointed to Inquire into a Report upon Certain Charges against the Administrator and other Officers. Tabled in Session 1914-17. (Not printed and held by the Tables Office, Parliament House, Canberra).

Annual Administrator's reports on the Northern Territory

Northern Territory of Australia. Report on Operations since the Transfer to the Commonwealth. Published under the authority of the Honourable Josiah Thomas,
M.D., Minister for External Affairs. Melbourne, Department of External Affairs, 1913.


Visit of the Secretary, Department of External Affairs, to the Northern Territory, 1915. Memorandum for the Minister. In the Northern Territory of Australia. Memorandum by the Secretary, Department of External Affairs (Mr. Atlee Hunt, CMG). With an Introduction by the Honourable Hugh Mahon, MP, Minister of State for External Affairs; And an Addendum by Dr. J. A. Gilruth, Administrator of the Northern Territory. Melbourne, Department of External Affairs, 1915. p. 5-57.

WALPOLE, B. P., CROHN, P. W., DUNN, P. R., and RANDAL, M. A., Geology of the Katherine-Darwin Region, Northern Territory. Canberra, Bureau of Mineral Resources, Geology and Geophysics. Bulletin No. 82. 1968. (This document contains location maps of all the mines referred to in my text).

Australian Archives, Canberra

Relevant departmental files, 1903-1931.
Naturalisation Certificates issued to Chinese by South Australia.

Newspapers and Periodicals

‘Australian Mining Standard’ (prior to 1908).
‘Chemical Engineering and Mining Review’ (1917-45).
Melbourne ‘Argus’ May and June 1886.
‘Mining and Engineering Review’ (1911-17).
‘North Australian’
‘Northern Territory Times’ 1873-1931.
Southern Australian ‘Advertiser’ 1873.
South Australian ‘Chronicle’ 1874-1875.

Other Material

ABBOTT, CHARLES LYDIARD AUBREY, Australia’s Frontier Province. Sydney, Angus and Robertson, 1950.
Australian Handbook and Almanac and Shippers’ and Importers’ Directory, 1875, 1879, 1899.

DALKY, HARRIET W., Digging Squatting and Pioneering life in the Northern Territory of South Australia. London, Sampson Low, Marston, Searle and Rivington, 1887.


GEORGE, ELIZABETH, Two at Daly Waters. Melbourne, Georgian, 1945.

HODDER EDWIN, The History of South Australia, from its Foundation to the Year of its Jubilee, with a Chronological Summary... London, Sampson Low Marston, 1893. 2 Vols.


LITCHFIELD, JESSIE SINCLAIR, Far-north Memories: being the account of ten years spent on the diamond drills and of things that happened in those days. Sydney, Angus and Robertson, 1930.


MADIGAN, CECIL THOMAS, Central Australia. Melbourne, O.U.P., 1944.


SOWDEN, SIR WILLIAM JOHN, The Northern Territory as it is: A Narrative of the S.A. Parliamentary Party's Trip and full descriptions of the Northern Territory; its Settlements and Industries. Adelaide, W. K. Thomas, 1882.


WHITE, REVEREND GILBERT, Thirty years in Tropical Australia. London, Society for Promoting Christian Knowledge, 1924.

WILDEY, WILLIAM BRACKLEY, Australasia and the Oceanic Region with some notice of New Guinea, from Adelaide via Torres Straits, to Port Darwin, thence around West Australia. Melbourne, George Robertson, 1876.
INDEX

Abbott, Dr. C.T. 137.
Abbott, C.L. 203.
Aboriginals 7, 11.
   attacks by 28, 32, 33, 53.
   employment 132, 133.
   report by Government Resident 33, 34.
Accidents 80, 136, 137, 163.
Adams, C.F. 183–188.
Adcock, H.H. 36, 50.
Adelaide River 3, 6.
Administrator
   charges against 152–156.
   interests in mines 156–158.
   powers of 153.
Aguagilla Co. 20.
Ah Ching Philips Co. 91.
Ah Fook 54.
Ah Loy 60, 61, 62.
Ah Mock 55.
Ah Que 55.
Alston Co. 24.
Alice Hills Co. 90.
Alice Hills Mines 103, 209.
Allen, P.R. & Co. 32, 179.
Anglo-French Goldfields of Australia Ltd. 106.
Anglo-Queensland Mining Pty. Ltd. 198, 207.
Arltunga 132, 138, 203.
Arnhem Gold Mining Co. 31.
Arnhem Land Gold Development Co. 206
Associated Financial Corp. 108, 111.
Australian Inland Mission 162, 204.
Ayers, Sir Henry 14.

Bagot, E.M. 3, 8, 19, 46.
Bailey, J. 206.
Bailiffs 111.
Baker, G. 30, 81.
Barrett, G. 30, 91.
Basedow, E. 135.
Baume, F.E. 197.
Bauxite, discovery of 133.
Bell, N. 178, 182, 197, 208.
Bell, P. 169.
Beetson, D.L. 91.
Bevan, Judge D.J. 156, 157.
Bice, F.W. 134.
Blanchard, R. 208.
Blue Moon Mine 202.
Borroloola 133, 150, 170.
Bovill, Dr. H.H. 80.
Brennan, H. ("Tiger") 201.
Bridge Creek 29, 52, 204.
Britannia Mine 8, 20.
Brock, W. 4.
Brock's Creek 61, 110, 186.
Brock's Creek Co. 92.
Brown, Mrs. May 169, 182.
Brown, T. 182.
Brown, V.V. 91, 111.
Bulman 169.
Burgan, T. 8.
Burgan's Creek 53.
Burnt Shirt Mine 199.
Burrundie 35, 74, 80.
Buttfield, F. 14.
Buttle, G. 114, 143, 159.
Buttle, M. 143.
Bynoe Harbour Tin Mines 140, 141.
Carey, H.E. 153, 158.
Carter's Consolidated 115, 167, 179.
Central Australian Gold Mines N.L. 198.
Central Australian Prospecting Syndicate 132.
Central Milling Co. 200.
Chan, Harry 65.
Chapman, C.H. 196, 197.
Chapman's Gold Mine Co. 197.
Chinamans Rush 27, 50.
Chin Ah Din 60.
Chin Look 60, 61.
Chinese
behavior 55.
credit ticket system 45, 46.
destitute 51.
exclusion from new fields 57.
first arrivals 47.
immigration 28.
joint ventures with Europeans 49, 53, 55.
law, and the 54, 55.
labour contracts 46, 47.
merchants 48, 54, 55, 61, 73.
migration to Queensland 62, 63, 64.
quarantine 57.
recruitment 22, 47.
reports by Government Resident 56, 57, 59.
restriction 50, 57, 62, 63.
secret societies 58, 59.
teamsters 53, 54.
wages 47, 49.
Climate 5, 24, 52.
Coates, C.R. 46.
Cobourg Peninsula 133.
Collins, Dr. 137.
Collopy, F. 193.
Commonwealth takes control 149.
Commonwealth Mining and Finance Ltd. 205.
Communications 8, 35, 150, 194, 196.
Companies, management of 83.
Con Moy 107.
Connor, M.L. 6, 14.
Cooley, W. 181.
Copley-Playford, E. 63, 140, 151, 161, 170, 178, 182.
Copperfield Mine 88.
Corbould, W.H. 61, 85, 86, 87, 207.
Coronet Hill 88, 167.
Cosmopolitan Howley Mine 11.
Cosmopolitan Gold Mining Co. 89, 103.
Cossens, J.H. 19.
Costs, exceed estimates 8, 21.
Cousins, G. 8.
Cox, C. 139.
Cox, D. 5.
Cox, F.J. 140.
Crest of the Wave Mine 169, 181.
Cruickshanks, R.R. 4, 85.
Customs Duty 22, 29, 79.
Cyanide process 103.

Daly, D. 3.
Daly River Copper Co. 83.
Daly River Mines 32, 36, 153.
Daly River Proprietary Co. 83.
Dashwood, C.J. 83, 93.
Davidson, A.A. 132, 196.
Davenport Ranges 132.
Davis, Mrs. 210.
Deane’s Prospecting Co. 20.
Deen, F. 199.
Devin, J. 35.
Diamond, discovery of 94.
Diamond drills 114, 132, 142, 151, 205, 206.
Douglas, B. 2, 4, 14, 46.
Douglas Gold Mining Co. 9.
Drake, F.M. 84, 86.
Dredging 210.
Driffield, F. 4, 8.
Driffield Diggings 51.
Dunstan, J. 82, 83.

Eldorado (Tennant Creek) Ltd. 200, 203.
Eleanor Mine 8, 9, 21, 36, 89, 205.
Elphick 4.
Elsinore Mine 89.
Enterprise Mine 205.
Escape Cliffs 1.
Escreet, J. 177, 185, 196.
Eveleen Mine 83, 84.
Eveleen Silver Mining Co. 35, 83.
Extended Union Mine 31.

Faded Lily Mine 106, 110.
Fever 7, 28, 54, 134, 135, 162.
Ffrench & Browne 92.
Finniss, B.T. 1.
Finniss River Tin Mining Association 91.
Fitzgerald, P.I. 138.
Fletchers Gold N.L. 208.
Flora Belle Silver Mining Co. 85.
Flora Belle Mine 63.
Flynn, Rev. J. 162, 163.
Foelsche, P. 24.
Fountainhead 20, 52, 53, 59, 61, 88, 209.
Frampton, W. 14.
Freight charges 5, 11, 28, 138.
Furnaces
Daly River 134, 135.
Eveleen 83, 84.
Palmerston 133.
Yarn Creek 112, 114, 159.

Gas engine, first 160.
Gee, L. 171.
Gillespie, M. 162.
Gilruth, Dr. J. 150, 152-158, 172.
Gitzham, J. 185, 204.
Glencoe Station 29.
Gold, first discovery of 2.
Gold escort 26, 28.
Golden Boulder Mine 142.
Golden Dyke Mine 169, 185, 194, 205.
Golden Reef Co. 19.
Gomez, M. 27, 50.
Gothenburg, S.S. 22.
Government
assayer 79.
chemist 137.
diamond drills 114, 132, 142, 151, 205, 206.
investigates public service 14.
prospecting parties 3, 22, 172, 177.
rewards 26, 29, 50.
sells mines and machinery 179.
shaft-sinking 152, 168.
smelter 132, 133, 135.
traction engines 161, 165, 181.
Government batteries
Arltunga 138, 203.
Hayes Creek 169.
Hidden Valley 181-182.
Maranboy 161, 162, 164-167, 180.
Pine Creek 204, 205.
Tennant Creek 200, 201, 202.
Government Resident, instructions to 2.
Goyder, G.W. 1.
Granites, The 179, 196, 197, 198.
Great Northern Mine 63, 107, 110.
Great Western Mine 111.
Griffiths, W.G. 53.
Griffiths, W.K.  22, 24, 91, 94.
Groote Eylandt  133.
Grove Hill  13.
Grove Hill Co.  30.
Gunn, Aeneas and Mrs.  63, 163.

Haines Royal Mail Coach  35.
Hallock, E.  8.
Hang Gong  59, 60, 61, 63, 140.
Harris, K.V.  198.
Harts Range  203.
Haste, A.  162.
Hatches Creek  151, 160, 179, 203, 204.
Havillah Co.  21.
Hayes Creek  151, 204.
Hepburn, Sister  162.
Herbert, S.W.  2, 8.
Hidden Valley  143, 181.
Hilson, J.C.  88, 107, 109.
Hossfeld, P.  194.
Hospital, Miners'  25, 31, 53, 80.
Hotels, bush  12.
Houschildt, H.  32.
Houston, Dr. J.H.  16.
Howley  7, 20, 61, 108.
Howley Gold Mines Ltd.  102, 106.

Immigration Restriction Act, 1902  63.

James, J.W.  71, 72.
Jenkins, H.N.  203.
Jensen Gold Mining Co.  89.
Jensen, Dr. H.I.  150, 151, 152, 161, 171, 203, 204.
Jensen, O.  29, 30, 36, 86, 89, 131.
Johns, A.  8, 9, 10, 27, 49, 53, 55, 91, 137.
Johnstone J.C.F.  79, 91.
Jolly, A.E.  60, 86, 92, 108.
Jones Bros. Mine  205.

Kaczinsky, J.  201.
Kapunda Yam Creek Goldmining Co.  5, 20.
Kilgariff, J.  197.
Kimberley Rush  75.

236
Kirkland, C.J. 135.
Knight, J.G. 14, 16, 23, 24, 25, 27, 32, 49, 50, 53, 77, 78, 81, 82, 92, 93.
Kohinoor Mine 29, 89, 205.
Kong Wing Chong 54.
Kwong Wing Hie 61.

Lampe, A.H. 90.
Land Sales 1.
Larrakeyah Co. 21.
Laurie, G. 179.
Laurie, W. 133, 171.
Leong Ki 54.
Leviathan Syndicate 91, 141.
Lewis, John 4, 5, 8, 9, 10, 24, 29, 46, 131.
Lewis, Jim 8, 10.
Lewis Gold Mining Co. 9.
Litchfield, F.H. 2.
Lionel Robinson & Clarke 169.
Little Hong Kong Mine 51.
Lone Star Mine 199.
Louatt, L. 207.
Love, S. 169.
Luce, H.E. 138.
Lynott, T. 170.

Madigan, C.T. 197.
Mammoth Mine 200.
Manager, criticism of 12, 19.
Manganese, discovery of 133.
Maranboy Mining Co. 181.
Margaret Rush 29.
Masterton, W. 170, 171.
Maude Creek 92, 210.
Maume, M.A. 133.
May Bros. 81, 140.
May, H. 5–8.
Medical Officer of Goldfields 16.
Mee Wah 168, 180.
Melville, Warden 14.
Mine inspection 136.
Miners’ Arms Hotel 25.
Miners’ Hospital 25, 31, 53, 80.
Miners’ Rights 3, 55.
Mining Court 16.  
Mining Law 3, 13, 77, 78, 132, 196.  
Millar, E. & C.  57, 59, 72, 73, 88, 91.  
Millner, Dr.  22.  
Mitchell, S.J.  64.  
Moffat, J.  30.  
Moncrieff, Rev.  31.  
Morgan Tennant Ltd.  201.  
Moritz, Nurse  163.  
Morning Star Co.  19.  
Mt. Isa Mines Ltd.  198, 207.  
Mt. Shoobridge  30, 35, 63, 82, 91.  
Mt. Todd  63, 143, 168.  
Mt. Todd Goldmining Co.  205.  
Mt. Tolmer  91, 140.  
Mt. Wells  30, 63, 142, 143, 159, 180.  
Muldoon, Warden  197.  
Murchison Ranges  132.  
Murray, T.G.  205.  
McArthur River  133.  
McArthur River Syndicate  170.  
McDonald, J.  107, 108, 110.  
McDonald, P.  84.  
McGinness S.  141.  
McGrath, P.  5.  
McKean, G.  29.  
McKinlay & Mt. Wells Co.  77, 90.  
McMinn, W.J.  19.  
McPherson, J.  80, 86, 90.  

Nash, C.  31, 36, 55, 62.  
Naylor, T.R.  205.  
Newman, G.  8, 11, 12, 13, 19, 20, 21, 46, 48, 140.  
New Telegraph Co.  24.  
New Zapopan Co.  112, 138, 139, 142.  
Niemann, A.  134.  
Niemann, J.H.  133, 137.  
Nimmo, W.J.  171.  
Noble, J.  199.  
Noble's Nob Mine  199.  
Noltenius, J.L.  32, 33.  
North Australian Co.  1.  
North Australian Tin Mining Co.  61, 90.  

238
Priscilla reef 4.
Priscilla Reef Goldmining Co. 5, 21.
Promoters, Company 8, 19.
Prospecting expeditions 3, 22, 132.
Prospectors Co. 24.
Public Service
  first 2.
  increase in 16.
  investigation of 14, 15.
  reduction of 23.

Quarantine 57.
Que Noy 63.
Quirk, J. 30.
Quong Wing Chong 54.
Quong Wing Hie 55, 60, 61.
Quong Lee Chung 87.

Radioactive ores 137.
Railway
  proposals for 15, 22, 71.
  construction of 71–74.
  first timetable 74.
  extension 75.
Redbank Creek 170.
Renfrey, S. 85.
Reynolds, Hon. T. 10, 14, 15, 19, 22, 46.
Richards, C.H. 159.
Richardson, R. 94.
Rising Sun Mine 199.
Rising Tide Prospecting Co. 159.
Roads 6, 7, 150, 194, 196.
Roberts, A. 207.
Roberts, Harry 32, 33, 92, 108.
Roberts, Henry 110.
Robinson, J.B. 91.
Robinson, J.H. 85.
Robinson, W.S. 171.
Roper River 133.
Rosalie Mine 30.
Royal Commissions
  N.T. Mining industry (1889) 58, 79.
  settlement & development of N.T. (1895) 131.
  charges by Jensen against Administrator (1916) 152–156
  state of affairs in N.T. and departure of Administrator and others (1919–20)
  156–158.
land and land industries of N.T. (1937) 143, 149, 150, 195, 196.
Ruby Rush 138.
Ryan, Mrs. E. 12.

Salting of claims 19.
Saunders, P. 9, 10, 35, 82, 91.
Saunders Rush 51, 52.
Scharber 161.
Scientific Gold Explorations 198.
Scientific Expeditions 150.
Schmidt, R. 199.
Scott, A. 204.
Scott, G.B. 14, 16, 47.
Secret societies 58, 59.
Selected Gold Mines of Australia Ltd. 113, 115.
Settlement Creek 170.
Shackleton, The 13, 24, 31.
Shaw, R.J. 200.
Sino Development 209.
Smelters
   Daly river 134, 135.
   Eveleen 83, 84.
   Palmerston 133.
   Yarn Creek 112, 114, 159.
Smith-Roberts, J. 205.
Solomon, V.L. 11, 30, 35, 36, 53, 57, 58, 59, 63, 78, 82, 93, 131, 137, 149.
Southport 6, 8, 13, 31, 74.
South Telegraph Co. 10.
Speculation 78.
Speculative hysteria 9, 19.
Sports meetings 55.
Spring Hill Goldmining Co. 30, 36, 209.
Stock Market 19.
Stores, country 31.
Stow, W. 20.
Stuart, J. McD. 1.
Styles, T. 139.
Sun Wah Loong 32.

Tanami 133, 171, 179, 198.
Tanami Gold Mines N.L. 179, 198.
Tate, Prof. R. 32.
Teamsters 28, 54, 56.
Telegraph Co. 9, 11, 21, 29.
Telegraph Prospecting & Gold Mining Co. 4, 9.
Tennant, D.B. 29, 30, 55.
Tennant, J. 72.
Tennant Creek 198, 199—202.
Tennant Creek Batteries N.L. 200.
Thyer, T. 194.
Tin, discovery of 30.
Tongkah Compound N.L. 203.
Travers & Gibson 29.
Triads (Treads) 58.
Tribute system 55, 60, 61, 142.
Tumbling Waters 3, 6.
Tumbling Waters Freehold Goldmining Co. 9, 20.
Turner, H.J. 203.

Underdown, G. 197.
Union Reefs 9, 10, 21, 24, 51, 59, 63, 88, 101, 110, 151, 168, 182, 209.
United Goldmining Co. 31.

Vegetable growing 53.
Venture Syndicate 159.
Vestey Bros. 177, 178.
Virginia Co. 20.
Virginia Mine 31.

Walder, C.E. 142.
Walsh, J.W. 203.
Wandi 63, 143.
Wardens 3, 13, 14, 25, 56.
Watt, H. 85, 100.
Wauchope 151, 161, 179, 203.
Weaber, W. 199.
Wearing, Judge 22.
Webb, R. 143.
West Arm 63, 140, 210.
Wescott, J. 4, 8, 22.
Westcott’s New Goldmining Co. 21.
Weston, R. 91.
Wheal Danks Mine 82, 134.
Wheal Doria Mine 199.
White Range 138, 203.
Williams, H. 5.
Wolfram Camp 143, 169.
Wood, Dr. P.M. 80.
Woolnough, Dr. W.G. 150, 169, 194, 200, 206, 207.
Woolwonga 20, 61, 103, 107, 108.
Worgan, T. 160.
Yah Yah 170.
Yam Creek 3, 4, 11, 20, 21, 113, 208.
Yam Creek Goldmining Co. 5.
Yemelba 194, 206.
Yenberrie 169.
Yet Loong 59, 65.
Yet Loong Chan 60.
