

**Tasmanian Geological Survey
Record 2013/07**

A brief history of the Department of Mines — 1882 to 2013

by C. A. Bacon

THE HEADS OF DEPARTMENT

The creation of a mines department came from an idea of the Commissioner for Mines and Goldfields, one Bernard Shaw, who suggested to the Minister for Lands and Works in letters of 6 May 1882 and 11 August 1882¹ that a department should be set up to administer matters connected with gold mining (under the *Goldfields Regulation Act*), mining in general (under the *Mineral Lands Act and Regulations*), and the registration of companies under the *Mining Companies Limited Liability Act*. At this time, mining matters were under the jurisdiction of the Mines Branch of the Lands and Works Department².

The State was divided into five districts³, and within each of these, mining activities were administered by a Commissioner for Mines and Goldfields. Commissioners were stationed at Launceston (Northern and Southern District), St Helens (Eastern District), Scottsdale (North-Eastern District), Emu Bay (North-Western District), and at Remine (Western District). In addition, Registrars of Mines and Goldfields were stationed at Launceston, Scottsdale, Moorina, and Gladstone, while there were also Registrars of Goldfields at Alberton and Mt Victoria. The Commissioners of the North-West and Western districts had to act as Registrars, having no additional staff for this purpose.

Bernard Shaw was Commissioner for Mines and Goldfields of the Northern and Southern District, stationed in Launceston. The separation of the Mines Branch from the Lands and Works Department began in late 1882, and was finally completed by January 1883, being called the 'Mines Office'. Bernard Shaw was made the Secretary for Mines. Annual reports were made to the Minister for Lands and Works until 1894⁴, when the office of Minister for Mines was created. The title 'Mines Office' became 'Mines Department' in 1896⁵.

After having set up the new department in Hobart and instigated orderly methods of dealing with mining lease applications, mine registers and mine plans, Shaw left the position of Secretary for Mines to become the new Police Commissioner in February 1886⁶.

Shaw was succeeded by Francis Belstead, who had taken over Shaw's previous position of Commissioner for Mines and Goldfields in Launceston in late 1882⁷, following Shaw's relocation to Hobart and involvement in setting up the Mines Office. This was a natural progression 'upwards', as the Launceston Office was the largest of all the regional offices, and the Commissioner here could be expected to be regarded as the 'senior' of all the district commissioners. Belstead continued the orderly work set out by Shaw, but was forced to retire due to ill health on 31 December 1897⁸. He died of 'softening of the brain'⁹ on 23 April 1898, aged 63.

The next Secretary for Mines was William Henry Wallace, who started with the Department of Lands and Works as a junior clerk on 17 March 1878¹⁰, aged 14. He transferred to the Mines Department in 1882, and held positions of junior clerk, cashier, accountant and chief clerk¹¹, before being made Secretary for Mines in 1898¹² following Belstead's retirement. Wallace, who was interested in music and was

fond of bicycling¹³, held the position for twenty-two years before he died 'suddenly and unexpectedly' on 18 November 1920¹⁴, aged 56. The cause of death was given as a cerebral haemorrhage¹⁵.

The position then passed to William Arthur Pretzman, who, like his predecessor, had started out in the Lands and Works Department. Pretzman started there in 1879 (aged 16) as a volunteer draftsman¹⁶, and was appointed mining clerk in 1881¹⁷. On transferring to the Mines Office he was made Registrar of Mines in 1883¹⁸, and on Wallace's appointment as Secretary for Mines Pretzman was made Chief Clerk.

Although a year older, Pretzman, at 16, started work a year after Wallace, who had started at 14. Pretzman remained a step behind Wallace all through his working life. Wallace was only 29 when he was promoted from accountant to chief clerk, the heir-apparent to the Secretary for Mines position, and only 33 when he took up the head position on the death of Belstead.

The position of Chief Clerk could equally have been filled by either man. By 1893, Pretzman had been Registrar for ten years, a fairly good apprenticeship for the clerk's job — but the post went to the younger man, and Pretzman had to wait until 1898 for his next promotion. He was 35 when he finally obtained the Chief Clerk's post, and had to wait until he was 57 before the Secretary's chair again fell vacant. Pretzman was made Acting Secretary on Wallace's death, but his progression to the Secretary for Mines' position was not instantaneous. Loftus Hills, the most senior geologist in the survey, had been waiting for an opportune moment to fully air his views on the role and duties of a Permanent Head of the Department.

Hills started lobbying for a technical man to be appointed as Permanent Head — suggesting that this new position, to be styled 'Director of Mines', could most satisfactorily be combined with the position of Government Geologist. Hills wanted¹⁹ "to place the development and control of the mining industry in the hands of an officer possessing an intimate knowledge of technology and economics and all of its phases". Hills wrote prolifically on the direction the Department of Mines and the Geological Survey should take, on the investigations which should be undertaken, and on the difficulties faced by having a 'non-technical' man as head of department. This, he said, led to a "damping of enthusiasm of those professional officers" in having a purely clerical officer as head of department. In Hills' opinion "in a department concerned with the control and development of the mining industry the initiative and creative capacity essential to the inauguration of progressive and developmental departures can only be expected in a professional head".

Early in 1921 a formal review was made into the re-organisation of the Department, which was then in three branches — Administration, Geological and Inspection, all under the auspices of the Secretary for Mines. Despite Hills' impassioned plea he was not made head of department. The Minister for Mines, Sir Elliot

THE HEADS OF DEPARTMENT

<i>Period</i>	<i>Occupant</i>	<i>Title</i>	<i>Comments</i>
1882–1886	Bernard Shaw	Secretary for Mines	Resigned
1886–1897	Francis Belstead	Secretary for Mines	Retired
1898–1920	William Henry Wallace	Secretary for Mines	Died
1920–1926	William Arthur Pretzman	Secretary for Mines	Replaced
1926–1930	Alexander McIntosh Reid	Director of Mines	Sacked
1930–1933	William Arthur Pretzman	Secretary for Mines	Retired
1933–1939	James Balfour Scott	Secretary for Mines	Died
1939–1954	William Henry Williams	Director of Mines	Retired
1954–1980	Jack Gilroy Symons	Director of Mines	Retired
1980–1989	Hugh Murchie	Director of Mines	Retrenched

The Department of Mines became the Division of Mines and Mineral Resources (DMMR) in the Department of Resources and Energy (DRE) in July 1989.

July 1989–September 1989	Don Williams	Secretary DRE	Died
September 1989–April 1990	Ron Harvey	A/Secretary DRE	Resumed previous duties
July 1989–April 1990	Michael Rodney Hargreaves	A/Director of Mines	Resumed previous duties

Head of Agency functions separated from those of General Manager, HEC

April 1990–February 1992	Graeme A. Kennedy	Secretary DRE & Director of Mines	Title changed
April 1990–February 1992	Michael Rodney Hargreaves	Deputy Secretary, DMMR	Title changed

Department of Mines re-established as a separate Department in February 1992

February 1992–Sept 1992	Graeme A. Kennedy	Director of Mines	Replaced
February 1992–May 1993	Michael Rodney Hargreaves	Deputy Director of Mines	Retrenched
September 1992–February 1993	Michael William Dowling Ayre	Secretary for Mines & Director of Mines	Title changed

Department of Mines becomes Division of Mines of the Department of State Development and Resources (DOSDAR) in February 1993. Within a few months the new Department was renamed Tasmania – Development and Resources (TDR) and the Division of Mines was renamed Mineral Resources Tasmania (MRT). In November 1994 MRT was combined with the former Industry Safety Division of TDR; the newly formed Division was called Industry Safety and Mines. The hyphen was removed from Tasmania – Development and Resources in December 1994.

March 1993–June 1996	Michael William Dowling Ayre	Director of Mines	Moved to new position
February 1993–February 1993	Don Challen	Secretary DOSDAR	Resigned
February 1993–September 1993	Stuart McGregor	Chief Executive TDR	Resigned
September 1993–March 1994	Chris Brooks	A/ Chief Executive TDR	Promoted
March 1994–August 1996	Chris Brooks	Chief Executive TDR	Resigned
August 1996–May 1997	Michael Roxbrough	Executive General Manager	Resigned
May 1997–September 1998	Andrew Koo	Executive Chairman	

The Industry Safety and Mines Division was split in March 1996. The 'Mines' part became Mineral Resources Tasmania, a division of TDR, while industry safety was absorbed by a new Workplace Standards Authority. The former 'Mines' functions of Dangerous Goods and Mines Inspection mostly passed to Workplace Standards.

July 1996–September 1998	Anthony Vincent Brown	Director of Mines, Director Mineral Resources State Chief Geologist	
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In September 1998 Mineral Resources Tasmania became a division of the new Department of Infrastructure, Energy and Resources.

September 1998–present	Mark Austin Addis Norm McIlfratrick	Chief Executive Officer DIER Secretary of the DIER	
September 1998–September 2009	Anthony Vincent Brown	Director of Mines, Director Mineral Resources State Chief Geologist	Moved to new position
September 2009–July 2011	Michael Reginald Leonard	Director of Mines	Retired
August 2011–	Kimberley R J Creak	Director of Mines	

Lewis, thought a technical man would be wasted on administrative affairs, and of course the Acting Secretary, Pretzman, was not keen to relinquish any powers²⁰. The result was that Pretzman became Secretary for Mines, head of department, and Hills was made Director of the Geological Survey, housed in Launceston. The other geologists, A. M. Reid, P. B. Nye and H. G. W. Keid, were re-named Government Geologist's instead of 'Assistant Government Geologist' as before.

This set the scene for a clash of two iron wills — Pretzman in Hobart and Hills in Launceston. As Director of the Geological Survey Hills made sweeping changes to office rules and the running of the laboratory.

Hills had letterhead paper printed with the title 'Geological Survey of Tasmania' for the use of the Launceston Office; before this, letterhead paper was headed 'Geological Survey Office'. After Hills' term, and when the office was moved to Hobart, ordinary Department of Mines letterheads were used by the Survey staff²¹.

During the first year in his new position, Hills' autocratic manner went either unnoticed or was accepted without complaint by the staff. Hills introduced new rules, decided what enquiries were to be answered and by whom, directed what staff were to work on what projects, and generally kept a pretty close eye on the day-to-day running of the office. The exception to this was with the Secretary in Hobart — with whom Hills waged a constant and unabating paper war. Pretzman tried making decisions (such as whom to send on enquiries) which Hills regarded as his to make, and took to issuing instructions direct to Nye and Reid, much to Hills chagrin. Pretzman insisted on the return of innumerable forms and letters — returning time sheets for miserable amounts of information to be added — causing Hills to complain bitterly²² about these "petty annoyances" and "pernickety requirements (which) break the heart of a conscientious officer". Added to this was the old Secretary's habit of not forwarding a geological enquiry to the Survey, but asking Hills to provide information which the Secretary would then pass on to the enquirer. Hills implored to be allowed to answer enquiries properly — protesting that the practice of Pretzman²³ "... dealing direct with the correspondent concerned and your withholding the name and particulars from me is not conducive to efficiency". This outburst followed Pretzman's request²⁴ for "any information ... in regard to oil shales" for an enquirer — a fairly vague and loose topic, and Hills was justified in wanting to know exactly what the enquirer wished to find out. However, Pretzman insisted²⁵ that, as Head of Department, all enquiries should be made through him.

This unsatisfactory working relationship continued for some years. Things were so bad at one stage that Pretzman asked the Minister to tell Hills to return some time sheets²⁶ — surely a trivial issue with which to trouble a Minister.

Pretzman was not the only one to get on badly with Hills. By 1923 the whole Survey was up in arms and so much 'friction' existed between individuals and branches that an inquiry was held. Hills' position was abolished²⁷, leaving A. M. Reid and P. B. Nye as Government Geologists, answerable to Pretzman.

In 1926 Cabinet decided to appoint a 'technical head' to the Department of Mines, Magazines and Explosives. The Hon. James Belton, MHA was Minister for Mines at this time, and explained to the Commissioner in 1930 that Cabinet realised the State had no real mining policy. A man who understood the whole of the mining industry would be an advantage as head²⁸. Reid was appointed Director of Mines, a position which replaced Secretary for Mines as the departmental head.

The then Secretary for Mines, Pretzman, bitterly resented these changes²⁹. Pretzman had, at that stage, been in the employ of the government for 47 years (he was 63 years old) while Reid, now aged 44, had been in the Department for only nine years. Only five years earlier Pretzman had staved off a push by Loftus Hills to become Director, and now Hills' assistant had succeeded.

From the outset, the working relationship between Pretzman and Reid was so poor as to be almost non-existent. Eventually the Public Service Commissioner was asked to conduct an inquiry "Into the Matter of the Organisation of the Mines Department". This was held in February 1930.

Witnesses alleged that Reid took commissions from companies to do private work³⁰, whilst still being employed by the Department. Reid hotly denied this charge, admitting that he did give advice, but accepted only sufficient funds to cover expenses³¹. Pretzman trotted out a store of grievances³², rather along the lines of the Hills inquiry a few years earlier. Pretzman and Reid became locked into a war of words. Each accused the other of bungling and inefficiency; Reid saying at one point³³ "As a matter of fact I do not think a straight out idea has ever germinated in the mind of the Secretary for Mines ... I do not say that as a matter of vindictiveness, but as an absolute fact".

Pretzman maintained that although Reid was the Permanent Head, the Director still had 'no function' under the Mining Act or any other act, and that the responsibility for discharging these duties lay solely with the Secretary³⁴.

Mr A. B. Bryan, Chief Accountant, told the Commissioner that he did not want to criticise either man, but that the only friction was because "they all want to be generals"³⁵. Clearly this unsatisfactory state of affairs could not continue. The position of Director was abolished on the recommendation of the Commissioner³⁶, and on 30 May 1930 Reid was out of a job.

Whilst Reid's tenure as Director was a very difficult one, made no less so by the obstructive ways of the old Secretary, Reid can be credited with lobbying for and convincing his Ministers of the necessity for organised and systematic geological surveys over various parts of Tasmania. Reid had several surveyors put on staff to compile proper topographic maps, so that the geologists could accurately plot the geology, instead of having to first make a topographic map of sorts.

Somewhat pompously Reid wrote³⁷ "...I have been able to set in motion more important works than any of my predecessors. The time will soon arrive when the true

value of the new systematic topographical and geological surveys will come up for recognition and general approval”.

Reid was an excellent geologist who produced a large number of interesting and valuable reports during his time with the Department. Although he became involved in policy and planning whilst Director, he still carried out his own field investigations, and like Hills, may have been able to do more if clashes of personality had not drained his time as Director.

Pretyman regained his position as undisputed head of Department, which he kept for the next three years until his retirement on 19 April 1933³⁸, aged 70, after 54 years service with the government³⁹.

After the turbulent years of Pretyman, Reid and Hills, life at the Department must have been quite tame under the direction of the new Secretary, a former State Mining Engineer James Balfour Scott⁴⁰. However one episode of Scott's tenure certainly made papers fly. The Adelaide Oil Exploration Company Ltd, with whom Hills had had numerous arguments, had continued spending shareholders money looking for liquid oil, then turning to 'oil bearing' substances. In the late 1920s the Adelaide Oil Exploration Co. Ltd joined forces with the Standard Oil Co. of Australia Ltd and the Chilean Oil Fields (South America) Ltd in a 'pool agreement'⁴¹. That is, any find of riches by one company was to be shared by the other two. However, after 16 years of looking and spending by the Adelaide Oil Exploration Co. Ltd, not a single teaspoonful of oil had been produced commercially. Shareholders induced the Shareholders Mutual Protection Society to investigate the affairs of the company⁴², and the Minister for Mines, Major T. H. Davies, called the company "a menace to the mining public"⁴³.

In late 1935 the company removed a 20 ton sample of shale from Crown Land in the northern part of China Flats. Inspection by Department of Mines officers, and the miner who procured the shale, showed that only the rich 'top band' of shale had been taken⁴⁴. The shale seam was known to be easily split into three bands: a top, very rich band; a thinner, almost barren, middle band; and a moderately rich bottom band^{45,46}. The company insisted that the value of oil procured from this sample, 48 gallons/ton, was representative of the shale as a whole⁴⁷, causing Secretary Scott to write to the Minister⁴⁸ pointing out that the shale, as a whole, yielded only 27 gallons/ton. The discrepancy in anticipated yields was pointed out to the company⁴⁹ at the request of the Premier⁵⁰. The Adelaide Oil Exploration Company was also at this time (early 1937) making representations to the Commonwealth Government for remission of duty on some equipment to be purchased in America and in London^{51,52}. Scott wrote to the Minister⁵³ noting that the company had no actual title to any shale-bearing lands anywhere in the Mersey Valley, as the Crown had leased "practically all the shale bearing areas in the district" to L and N (Tasmania) Ltd. A message to this effect was conveyed to the Commonwealth Government⁵⁴.

Moate, the Managing Director of the Adelaide Oil Exploration Co., reiterated earlier claims that the new Trac Vapour Phase plant in America "proved to give far higher results than was deemed possible" and continued his efforts to have the duty lifted⁵⁵, so that the three million tonnes of

shale on his company's privately-owned 700 acres could be treated by this new retort^{56,57,58}.

Moate spent most of 1937 promising to start up a shale oil industry, and trying to extract leases, both over Crown and private land in the Mersey district⁵⁹ without first drilling on land over which Permits to Enter were already held. The Department promised that leases would be issued if satisfactory results were produced from the drilling⁶⁰. This was not enough for the company, which never missed an opportunity to blame the government for their fairly evident lack of activity⁶¹. Minister Davies must have finally had enough of their tactics — after promising the leases, pending satisfactory drilling results, he tabled in the House, on 5 October 1937, all the files of Department of Mines correspondence relating to the Adelaide Oil Exploration Company. This was just too much for the company, which promptly threatened to withdraw from Tasmania⁶². This prompted a furious outburst in the press. *The Examiner* editorial of Monday 3 November 1937 castigated the government for letting a potential industry slip by. Major Davies replied at length, describing the company's activities as being, amongst other things: "a blackfellows corroboree for the Moate family, and may be likened to a fourth class American jazz band which is without tune or harmony in that it has no real progressive policy for unfortunate shareholders"⁶³. A barrage of articles and letters, both for and against the company, followed⁶⁴⁻⁶⁸. The Adelaide Oil Exploration Company left Tasmania and transferred its attentions to the Baerami oil shales in New South Wales⁶⁹.

In this, at least, Hills' view was finally vindicated, and his advice relating to the position of 'Head of Department' was also heeded: since Pretyman, the head of department has always been a 'technical man', not a clerk.

The remainder of Scott's time as Secretary was reasonably uneventful. He died after only six years in office, on 1 December 1939 at the age of 64, from heart failure⁷⁰.

His replacement was a former Inspector of Mines, William Henry Williams, who was immediately appointed Acting Secretary of Mines⁷¹, and yet another internal re-organisation followed. The title of the head of department changed back to Director of Mines, and Williams was appointed to the post in 1940⁷².

For the first few years Williams actively suppressed the publication of departmental reports, much to the frustration of officers of the Geological Survey. After the war years Williams became instrumental in setting up the Regional Geological Mapping Branch, and encouraged systematic regional mapping of Tasmania⁷³. Perhaps the secrecy of the affairs of the country weighed heavily during the war years, and the suppression of even geological information was thought by Williams to be the right course of action. The publication policy was reversed by Williams' successor, former mining engineer J. G. Symons, who replaced Williams after his retirement in 1954⁷⁴.

Born at Broken Hill (NSW) in 1915, Symons spent his childhood in Adelaide. After graduating from the University of Adelaide with an engineering degree he moved back to Broken Hill, where he was employed at the

North Broken Hill mine from 1936 to 1954, the last eight years as underground manager⁷⁵.

Symons retired in 1980, after serving a record term of 25½ years as Director of Mines, and was replaced by Hugh Murchie⁷⁶.

Murchie was born in Glasgow, Scotland in 1928, and graduated from the University of Glasgow before embarking on a mining career which took him to the Middle East, contract diamond drilling, to South Africa and Ghana working in gold mines, and the United Kingdom working for the mining sales division of the Swedish company Uddenholm Limited. In 1966 Murchie joined the Department of Mines as a Mining Engineer, subsequently holding the positions of Inspector of Mines, Senior Mining Engineer, Senior Inspector of Mines and Deputy State Mining Engineer before succeeding to the top post in 1980⁷⁷.

Department of Resources and Energy

Murchie retired in June 1989 when the Department of Mines was amalgamated with the Rivers and Water Supply Commission to form the Department of Resources and Energy. The old Department of Mines became the Division of Mines and Mineral Resources.

Initially, the Hydro-Electric Commission (HEC) was also to be amalgamated into the new department. The head of agency was named as Don Williams, who had a dual role as General Manager of the Hydro-Electric Commission and Secretary of the new department. Williams died, tragically and unexpectedly, whilst windsurfing in September 1989. Ron Harvey acted in the roles previously held by Williams until 23 April 1990, when Graeme Kennedy was appointed as Secretary, Department of Resources and Energy and Director of Mines. This role was split from the functions of General Manager HEC, although Kennedy was made a Commissioner of the HEC to facilitate close links between the two agencies.

In the interval between the departure of Murchie and the appointment of Kennedy, Michael Rodney Hargreaves acted as Director of Mines.

In February 1992 the Department of Resources and Energy was abolished and the Department of Mines was re-established as a Department. Kennedy continued as Secretary, Department of Mines and Director of Mines, until September 1992 when Michael William Dowling Ayre was appointed to the post.

Tasmania Development and Resources

Another interdepartmental shuffle in February 1993 resulted in the amalgamation of the Department of Mines with the Tasmanian Development Authority (TDA) and the Industry Services Division (ISD) of the Department of Employment, Industrial Relations and Training (DEIRT). The Forestry Commission was initially to be part of this new Department and this was announced in the *Government Gazette*, but the decision was eventually made to leave the Forestry Commission as a separate entity. The fact that the *Forestry Act 1920* required the Chief Commissioner to also be the Head of Department may have influenced this final

position. A new announcement in the *Government Gazette*, several days after the first, re-established the previous status quo.

The old Department of Mines became the Division of Mines, part of the Department of State Development and Resources (DOSDAR). This unwieldy name was soon changed to State Development and Resources (SDR) and then to Tasmania – Development and Resources (TDR), all within eight months of the initial amalgamation. The Division of Mines was renamed Mineral Resources Tasmania (MRT) with this last departmental name change.

The head of the old TDA, Don Challen, was made head of agency, with the title Secretary, Department of State Development and Resources. After only a few weeks in the position Challen resigned to take another government post.

His successor, Stuart J. McGregor, formerly the Managing Director of the local Cascade Brewery, was appointed in February 1993. After seven months McGregor resigned to take a job with a brewing company in Hong Kong, leaving Chris Brooks, who had been General Manager of the Development Division of the TDR, to act in the Chief Executive role from October 1993. Brooks was officially appointed to the posts of Managing Director and Chief Executive on 3 March 1994.

The hyphen in the name Tasmania – Development and Resources was officially removed in December 1994, and all staff were informed of this change by memo. Also in December 1994, Mineral Resources Tasmania was combined with the Industry Services Division to create the Industry Safety and Mines Division of Tasmania Development and Resources. Mike Ayre was appointed as Executive Director of the newly formed Division, and also retained the title Director of Mines.

In the period 1989 to 1994 there were more changes in the organisation than in the previous hundred years. The amalgamations were not without distress to staff, as change, even if for the better, is always unsettling. During 1994, integration workshops and seminars were held to try to make the 'melding' as smooth as possible, a move which was widely appreciated by staff.

The alliance between the Industry Safety and Mines branches was short lived. In March 1996 the division was dismantled, with the 'Mines' part remaining a division of Tasmania Development and Resources under the title Mineral Resources Tasmania. The industry safety functions, including the former 'Mines' functions of dangerous goods and most of mines inspection, were incorporated in a new Workplace Standards Authority. M. W. D. Ayre became Acting Chief Executive of the new authority, whilst A. V. Brown became Director of Mines.

Department of Infrastructure, Energy and Resources

A Tasmanian State election held on 28 August 1998 returned a Labor majority government. The new government set about re-organising the existing government departments almost immediately. An Order, dated 18 September 1998, listed the 'new' departments

created by the new arrangements. Mineral Resources Tasmania, Private Forests Tasmania, the Department of Transport, the Workplace Standards Authority, the part of the Local Government Authority dealing with building, plumbing and related matters, and Racing Tasmania were combined to form the Department of Infrastructure, Energy and Resources (DIER).

Mark Austin Addis was appointed as head of DIER, while A. V. Brown continued as Director of Mines, in charge of Mineral Resources Tasmania which became a Division of the Department of Infrastructure, Energy and Resources. Addis

was replaced as Secretary of DIER by Norm McIlfratrick in September 2008.

Brown relinquished the Director of Mines and Director of Mineral Resources Tasmania positions in September 2009, but stayed on as State Chief Geologist until retiring in March 2011. He was replaced as Director of Mines by Michael Reginald Leonard in September 2009. Leonard retired in July 2011 and was replaced by Kimberly R. J. Creak, with both Leonard and Creak being internally transferred from within DIER.

THE GEOLOGISTS

The first government-funded geological studies in Tasmania were made by Charles Gould, who was appointed as 'Geological Surveyor of Tasmania' on 17 July 1859⁷⁸ by the Governor, Sir Henry Edward Fox, who was acting on a request from the Secretary of State⁷⁹, Sir Roderick Murchison. Prior to this appointment, various geological studies and surveys had been made by interested amateurs — the mineralogist Humphrey; the flamboyant Polish visitor Strzelecki; the surgeon Milligan; and other prominent visitors such as Darwin, Lhotsky and Jukes⁸⁰.

Gould was the first person to undertake such work who had "any feel for geological structure"⁸¹. He was educated at the Royal School of Mines, London, and had been a geologist with the Geological Survey of Great Britain⁸². His initial contract of £600/year with travelling expenses was renewed several times⁸³, until the final contract expired in August 1869.

Gould's observations were of enormous benefit to later geologists, miners and explorers, and he made major contributions to the recognition of the stratigraphy and structure of Tasmania during the ten years he spent in the government's employ.

With the creation of a Department of Mines in 1882 came the need to have a government geologist on staff, to advise the government of the various mining areas within Tasmania. In fact, Gustav Thureau had been offered an assignment by the Colonial Government in 1881, even before a Department of Mines was created. Thureau was born in Hanover, Germany, on 5 July 1821. He arrived in Hobart on the *Southern Cross* in April 1880⁸⁴, and his abilities as a geologist soon became known to the government of the day.

The Premier and Treasurer (the Hon. W. B. Giblin) wrote to Thureau in April 1881, offering him the job of making reports on all the goldfields and tin fields in the colony, at a salary of two guineas per day, plus expenses⁸⁵. Thureau wasted no time in accepting this offer, and started work in early May 1881, under the direction of the Minister for Lands and Works.

Following his contract work, Thureau was appointed Inspector of Mines in January 1882⁸⁶, and as well as inspecting various mine sites, made geological examinations of the country surrounding each mine. This led to Thureau's title being changed to Inspector and Mining Geologist. The areas Thureau covered were wide and varied and included gold, tin, and coal; his reports were well reasoned and informative. Thureau received his naturalisation papers in April 1885 and retired from the Mines Branch in 1889, at the age of 68.

The title of Thureau's position was altered to 'Geological Surveyor' after his retirement, and this was filled in July 1889⁸⁷ by 27 year-old Alexander Montgomery, who came to the post with glowing references describing him as "a brilliant student, strong, active and reliable". Referee James Black of the University of Dunedin wrote "... you may advertise over all the world and not get a better man...". At the time of his appointment Montgomery held the position

of Head of Department of the School of Mines in Dunedin⁸⁸.

Montgomery held a Master of Arts degree from the University of New Zealand, with a First Class Honours degree in Chemistry and Electricity and a Certificate of Metallurgical Chemist and Assayer from the Otago School of Mines, Dunedin, New Zealand. In his seven years as Geological Surveyor Montgomery, like Thureau, covered a large number of subjects, including coal, limestone, tin, gold, copper and the West Coast silver-lead-zinc deposits. Montgomery resigned in 1896 to take up a 'more lucrative position' as mine manager of the Kauri Freehold Estate Company gold mine in New Zealand⁸⁹.

Following Montgomery's departure, the position of Geological Surveyor was filled by James Harcourt Smith. Smith was born in Launceston in November 1864, and after being educated at the Launceston Church of England Grammar School, gained a Tasmanian Scholarship which enabled him to proceed to Cambridge where he proved himself to be an able scholar. Smith gained certificates in metallurgy and mining subjects from the Mining Academy in the Hartz Mountains, Clausthal, Germany, and studied at the Muldener Smelting Works before returning to Launceston in 1891. Before being appointed to the position of Chief Inspector of Mines and Geological Surveyor, Smith worked as an assayer at the Central Broken Hill mine from March to October 1892 (being laid off during the Great Strike of 1892), then found work (assaying) at the Western Silver mine at Zeehan in November 1892, where he stayed until taking up the position with the Department of Mines in March 1897⁹⁰.

Harcourt Smith had many sound and practical ideas. One of his first suggestions was that mine owners be obliged to furnish detailed quarterly returns showing the quantity and quality of ore obtained and processed, the number of employees, value of ore obtained, and value of plant and machinery. He also urged a detailed geological survey of the island, especially the West Coast districts, and commented on how the lack of detailed topographical maps severely hampered progress⁹¹.

Harcourt Smith died, aged 34, on Clarke Island in the Furneaux Group in June 1899 of pleurisy and pneumonia⁹² whilst on a tour of inspection of the islands, thus cutting short 'a career of great promise'⁹³.

Following the sad and unexpected demise of Smith, the post of Geological Surveyor was advertised, and the successful applicant was one William Harper Twelvetrees. Twelvetrees was born in Bedfordshire, England, in 1848. He was educated in Germany, becoming fluent in French, German and Russian, as well as English, after studying at the Johanneum Institute, Hamburg, and at the University of Bonn, where he studied ore dressing and surveying under Dr Adolf Gurtl.

Twelvetrees worked at the Voskrenseny copper mine and smelting works in Eastern Russia from 1871 to 1880, and at the Lidjezi silver-lead mines in Asia Minor from 1882 to 1891, after which he emigrated to Tasmania,

HEADS OF GEOLOGY

<i>Period</i>	<i>Occupant</i>	<i>Title</i>	<i>Comment</i>
1882–1889	Gustav Thureau	Mines Inspector & Mining Geologist	Retired
1889–1896	Alexander Montgomery	Mines Inspector & Geological Surveyor	Resigned
1897–1899	James Harcourt Smith	Chief Inspector of Mines & Geological Surveyor	Died
1899–1919	William Harper Twelvetrees	Government Geologist & Chief Inspector of Mines	Died
1919–1923	Clive Loftus Hills	Director Geological Survey	Resigned
1923–1926	Alexander McIntosh Reid	Government Geologist	Became Director of Mines
1923–1934) 1941)	Percival Bartlett Nye	Government Geologist	Resigned
1934–1940	Frank Blake	A/ Government Geologist	Resumed previous duties
1941	Quentin John Henderson	Field Geologist	Resumed previous duties
1944–1946	Samuel Warren Carey	Government Geologist	Resigned
1946–1960	Harold Guy Walker Keid	Chief Geologist	Retired
1960–1965	Terrence D. Hughes	Chief Geologist	Resigned
1965–1985	Ian Blore Jennings	Chief Geologist	Retired
1985–1993	Michael Rodney Hargreaves	Deputy Director of Mines and Chief Geologist	Retrenched
1993–1994	David McPherson Duncan	A/ State Chief Geologist	Retired
1994–2011–	Anthony Vincent Brown	State Chief Geologist	Retired
2012–2013	Carol Anne Bacon	Chief Geologist	Retired

taking up residence in Launceston. He worked firstly as Secretary of an exhibition⁹⁴ in the Albert Hall in 1892, then was involved in insurance work until he took the job of Government Geologist and Chief Inspector of Mines in 1899, when he was aged 51. In 1914 the inspection of mines became a task divorced from the duties of the Government Geologist⁹⁵, and separate inspectors were employed. Twelvetrees was then able to devote the whole of his attentions to geological matters.

He was a prolific writer, producing 177 reports on Tasmanian geology alone in the twenty years of his employ. In addition he published works in Russian and German scientific journals on a wide variety of geological subjects. He became a Fellow of the Royal Geographical Society, London, and of the Royal Society of Tasmania, was a keen Greek and Latin scholar and member of many learned societies, both in England and Europe. He was awarded the Royal Society of N.S.W. Clarke Memorial Medal for research into Natural Science⁹⁶.

Twelvetrees was a very able geologist, with a keen eye for detail and precision. He took an active interest in the training of his junior colleagues. He often spent long periods in the field, writing to the librarian at regular intervals asking for maps, charts, books, sometimes equipment such as ‘the new tape measure from cupboard’⁹⁷ and once, a tea strainer for a billy, as the librarian had sent one suitable only for use in a cup⁹⁸. In addition to the geological expeditions, Twelvetrees led a party into wild and virtually unexplored country in 1908, in search of a route for the proposed Great Western Railway⁹⁹, for the Lands and Surveys Department. The chemist, L. K. Ward, led a party from Gormanston to survey the northern part of the proposed route.

Although the retirement age was, in those days, 70 years Twelvetrees was asked to stay on for another twelve months to catalogue the rock collection housed in the Queen Victoria Museum¹⁰⁰. The collection was Twelvetrees’ idea, and he was largely responsible for the

extensions to the museum which were intended to house the Survey's rock, mineral and fossil collections, which until then had no permanent home. Twelvetrees was still working on this catalogue when he died.

Twelvetrees established the Geological Survey library and expanded the scope and role of the Government Geologist from that of inspection of individual mines to a useful and systematic study of whole mineral fields. Loftus Hills notes that the instigation of a "systematic study of prescribed fields" was a feat of some considerable merit, as Twelvetrees had to balance the interests of the 'practical miners' who were distrustful, if not outright antagonistic of the 'theoretical geologists', and the necessity of scientific investigations which may show no immediately obvious advantage to the current mining operations¹⁰¹.

Twelvetrees was a far-sighted man who organised the Geological Survey into a long-term plan of systematic studies of Tasmania's mineral deposits, encouraging and fostering these investigations to completion. He recognised the need and value of a proper geological library, both of reports and rock specimens.

Twelvetrees was a man of rare insight — an excellent geologist, who obviously enjoyed his work very much, with tremendous geological knowledge and ability to interpret, understand and write valuable and interesting papers on the subject; evidently he was a good organiser, was able to work well with people, was kindly and tactful. His contribution to Tasmanian geology was quite outstanding. He died on 7 November 1919 of pneumonia and influenza, aged 71¹⁰².

The twenty years under the guidance of Twelvetrees were possibly the most productive years the Survey has ever seen. Bulletins were produced regularly, on a wide range of topics: goldfields of Mangana, Mathinna, Lisle; tin fields of North Dundas, X River; mining districts of Zeehan, Scamander, Mt Balfour, Mt Farrell, Mt Claude, Gunns Plains; oil shale and coal fields. In addition, innumerable callers and enquiries were satisfied with replies, Twelvetrees even having urgent correspondence sent on to him in the field to answer.

On Twelvetrees' death, the position of Government Geologist went to Hills, whom Twelvetrees had trained, and regarded as a suitable successor. Twelvetrees wrote to Wallace "I feel considerable satisfaction at the prospect of being succeeded at the appointed time by Loftus Hills, who is known to the Department and myself as a good officer, well acquainted with our mining fields and metallurgy, and capable of doing the State credit in the position which he will be called upon to occupy"¹⁰³.

Loftus Hills was born in Deloraine, Tasmania, on 31 March 1885, and was educated at Launceston Church of England Grammar School and the University of Tasmania, where he graduated with a Bachelor of Science degree in 1907, a Master of Science (in metallurgy) in 1913, and in 1923 received the first science doctorate awarded by the University. Before being appointed Assistant Government Geologist in 1912, Hills worked as a chemist, assayer and metallurgist and part-time lecturer in geology¹⁰⁴.

Hills was an excellent geologist and produced numerous papers and reports dealing with the West Coast mining

districts. Hills took leave from the Survey in January 1916 to join, firstly the Australian Imperial Forces, then the 4th Australian Tunnelling Company, transferring to the 1st Tunnelling Company in France. After the First World War he returned from active service and resumed duties as Assistant Government Geologist in May 1919. On the death of W. H. Twelvetrees he was appointed Government Geologist¹⁰⁵.

In 1921 the Geological Survey was re-organised, with Hills becoming Director of the Geological Survey, and the Assistant Government Geologist positions were re-titled Government Geologist. During his term as Government Geologist Hills directed and became involved in several major studies of the mineral fields of Tasmania — following the tradition set down by his predecessor. One of Hills' largest works was a comprehensive survey of the coal resources of Tasmania, in which he was assisted by his colleagues P. B. Nye, H. G. W. Keid, and A. M. Reid.

Whilst Hills was a brilliant scholar, a very able geologist and a man of integrity and principles, he evidently lacked the same tactful and persuasive nature of his predecessor Twelvetrees. Hills' straightforward way of thinking and speaking his mind was not always appreciated by the recipients of his advice.

In the early 1920s something of an 'oil boom' began in Tasmania. Several companies were set up and took up ground in the Latrobe and Pelion areas in a search for oil. The largest of these companies was the Adelaide Oil Exploration Company Ltd, which was formed in March 1920. Throughout 1921 and 1922 Hills waged a war of words with the directors of the Adelaide Oil Exploration Company, writing vociferously to both local and interstate papers¹⁰⁶ and to the Minister. Hills took exception to the wildly optimistic claims made by the 'oil boomsters', and regarded that his duty lay in warning the public against their activities¹⁰⁷.

The Adelaide Oil Exploration Company claimed, in January 1921, to hold land which "contains the greatest potential amount of wealth hitherto controlled by any one concern in the British Empire and probably the whole world, outside the States of America", and promised returns of up to five thousand pounds (\$10 000) per ten pound (\$20) share from oil, which was "...there in millions of tons... in the form of carbonised asphaltum — that is, inspissated or dried up petroleum", noting that "such fabulous returns are not an uncommon thing in new oilfields"¹⁰⁸.

Hills' outbursts to the press, under banners such as 'Foredoomed to Failure'¹⁰⁹ and 'Oil Indications — A Serious Mis-statement'¹¹⁰ were countered by the company releasing vitriolic press statements and sending circulars to the shareholders.

One such circular devotes almost two of the four pages to an attack on Hills — starting off with a referral to Hills' statements as 'miserable whimperings'¹¹¹. By October 1921 the company no longer referred to 'inspissated petroleum' but was planning to extract oil from the 'rich-in-oil material' (i.e. pelionite) under their control. In December 1921 they asked the Government for exclusive

rights to search for oil and oil-producing substances in Tasmania for five years¹¹² — they proposed spending £10,000 during each of the five years, after which they would be allowed to hold permanently an area “not less than one hundred square miles” for oil producing purposes. Not surprisingly, this offer was rejected.

In 1922 the Mersey Valley Oil Co. Ltd and the Tasman Oil Products Co. NL entered the arena. Hills described the Mersey Valley Oil Co. Ltd prospectus as “very entertaining and would regard it as on a parallel with *Punch* as a source of humour if it were not for the fact that money badly needed for other purposes is going to be expended with no hope of getting the results expected”.

A new Minister for Mines was appointed late in 1922. The outgoing Minister, Sir Elliot Lewis, wrote to the Secretary of Mines in June 1922: “I had hoped that I had had the foundation for the harmonious working of the several branches of the Mines Department. I have apparently failed lamentably in my endeavours and can only hope that my successor will be able to obtain more satisfactory results”.

His successor, Ernest F. Blythe, was made Minister in August 1922¹¹³, and in September¹¹⁴ was made Director of one of the companies (the Standard Oil Company of Australia Ltd) involved in the search for oil. Blythe did not see eye to eye with Hills on his opinions relating to the oil search and Hills’ remonstrances continued, although in late 1922 Hills had matters closer to home to worry about. Working relationships with most of the staff became so strained that an inquiry was held in January 1923 by the Public Service Commissioner ‘In Connection with Alleged Friction in the Mines Department’.

Correspondence was produced¹¹⁵ to show that Hills had managed to have disagreements with almost everyone in the Department — the former Secretary Wallace, the current Secretary Pretzman, the inspectors, the Minister, and most of the survey staff. The Commissioner heard the staff reel off lists of grievances, and Pretzman had an enormous store of petty and trivial incidents involving Hills about which he complained at length. The main problem seems to have been that (in Pretzman’s words) “He (Hills) does not seem to have the tact, and he seems to have a domineering spirit”¹¹⁶.

Hills was relieved of his duties as Director while the Commissioner considered the case, and would have been reinstated had the survey staff (the two Reids, Bath, Edwards the Draftsman, Nye and Manson) not written to the Minister¹¹⁷ stating that “his reinstatement would lead to constant friction in the Geological Survey and other branches of the Mines Department”. So although Hills was not found to have done any wrong, the Commissioner resolved the issue by abolishing the position of Director, Geological Survey and recommending that the Launceston office be moved to Hobart.

After leaving the survey, Hills worked as a geological consultant, visiting many mineral fields within Australia and the goldfields in Fiji. This was followed by a stint as Chief Chemist with the Commonwealth Department of Supply (1938–1946) where he was engaged in munitions manufacture. During this period he changed his name to Clive Loftus Hills¹¹⁸.

He returned to Tasmania after World War II and again worked as a geological consultant and mining entrepreneur, successfully standing as a candidate for the 1950 Hobart City Council elections. Hills died at the age of 83 in December 1967¹¹⁹.

Following the departure of Hills, the Geological Survey in Launceston was left to the running of A. M. Reid and P. B. Nye jointly as government geologists.

Reid came to the survey in 1917, aged 35, as Assistant Government Geologist with an impressive array of engineering and geological qualifications. He held diplomas in economic geology, metallurgy, assaying, surveying, and mine management, and was a member of the Australasian Institute of Engineers. He had worked in Africa as an economic geologist with J. Hoffman and Co., Johannesburg; as a mine manager to De Beers Consolidated Diamond Mines, Cape Colony; and as a metallurgist to the Niekerk Gold Mining Co., and the Witwatersrand Deep Mining Company. In Western Australia he had been employed with the Golden Pole Mining Co. as an assayer, chemist and mine manager, while in Tasmania he was known to many mining companies as a design and construction engineer and mine surveyor. He had spent 4½ years as a railway engineer with the Public Works Department, in charge of surveys¹²⁰.

Reid made a valuable addition to the Geological Survey staff. Hills allotted to him the more difficult of the geological investigations and was full of praise for his work. Local companies repeatedly requested¹²¹ the department to allow A. M. Reid to examine their prospects, and his engineering expertise was always in demand. Reid produced eight bulletins during his stay in the department, as well as writing many other geological reports.

On the resignation of Hills, Reid was left on an equal footing with Nye as Government Geologist, and they continued conducting geological investigations and writing reports of their findings. Interruptions to the preferred work schedule were abhorred by Reid, who regularly lamented in his annual reports of the amount of time needed to be spent on public enquiries¹²².

Reid became increasingly involved in matters of policy and planning, having very definite views on the direction the department should take, and was, after some lobbying, appointed as Director of Mines in 1926. This left Nye as the sole Government Geologist.

P. B. Nye was appointed as Assistant Government Geologist in September 1920, and came to the post with a degree in engineering from the University of Melbourne and 15 months experience on the Cloncurry copper fields¹²³. Under Hills’ direction Nye was set to work on underground water resource investigations and smaller geological examinations of various mines and prospects. In 1927 two assistants, F. Blake and Q. J. Henderson (first and second year geology students respectively), were appointed to assist Nye¹²⁴.

In addition to answering the never ending stream of public enquiries and letters, and researching and writing many geological reports, Nye also lectured in geology at the University of Tasmania¹²⁵.

In September 1934 Nye was granted leave of absence to take up a position as chief executive of an aerial survey of the Northern Territory, conducted by the Commonwealth, Western Australian and Queensland governments. Leave was extended annually until 1941¹²⁶, when he returned to the job of Government Geologist for three months before resigning in November 1941.

During Nye's leave of absence, Frank Blake was appointed Acting Government Geologist until he left for war service in 1940. After the war he returned to the department and worked ably and competently, both as geologist and draftsman, until he retired in 1960¹²⁷.

Blake's departure left former cadet Quentin John Henderson, now a field geologist, as the sole geologist on the Geological Survey staff, until Nye returned briefly in 1941. Following Nye's formal resignation as Government Geologist in November 1941, Henderson was again alone until the appointment, in September 1942¹²⁸, of David R. Thomas as Government Geologist. Thomas stayed at the post only fifteen months, during which time he wrote a very valuable treatise on Tasmanian graptolite faunas and made studies of the tin fields of Balfour and Blue Tier. One of the reasons for Thomas' short stay was undoubtedly the idiosyncratic nature of the current Director of Mines, Williams, who at that stage actively discouraged publication of any geological data.

Following Thomas' resignation, the post of Government Geologist was taken up in November 1944 by S. W. Carey¹²⁹, who left the position in October 1946 to take the Chair of Geology at the University of Tasmania¹³⁰. Carey carried out geological investigations covering an enormous variety of subjects in all parts of Tasmania, but none of these were printed as Geological Survey Bulletins or Mineral Resource Records due to the policy of non-publication.

The title of 'Government Geologist' was changed in 1946 and the position of head of the Geological Survey re-titled 'Chief Geologist'. The first to fill the position with this new title was Harold Guy Walker Keid¹³¹, who had first joined the department as 'third field geologist' in 1920¹³² when Loftus Hills was Director of the Geological Survey, but was put off in 1922 when his position was abolished¹³³. Hills had wished to retain the services of the chemist, Bath, who was holding down a temporary position, and wrote to the Secretary suggesting that the chemist's job be made permanent at the expense of one of the geological positions¹³⁴ and Keid, who was a recent graduate with little experience, had not measured up to Hills' own exacting standards. Hills declined to recommend an annual increment for both Nye and Keid in August 1921¹³⁵, and after receiving an unfavourable report from Reid on Keid's work¹³⁶, Hills recommended the position of third geologist be abolished.

During his short two-year stay, Keid assisted in the preparation of the bulletin on coal resources, and assisted A. M. Reid during a number of geological investigations. Neither Nye nor Keid were thanked in the preface of the 1922 coal bulletin by Hills, although the typist and the draftsman were both mentioned, a point which annoyed Nye in particular¹³⁷.

In 1942 Keid returned to the department as a field geologist¹³⁸ and for four years made routine geological examinations of tin and underground water prospects, before being appointed as Chief Geologist in 1946¹³⁹.

During his 14 years as Chief Geologist Keid concentrated on matters of a supervisory nature, making frequent trips to drilling operations and the regional depots at Lorinna, Port Davey and Zeehan, which had earlier been established by Williams, and were now centres of regional mapping activities. Keid retired in 1960¹⁴⁰.

Following Keid's retirement, Terrence D. Hughes was made Chief Geologist. Hughes started work at the department in 1929¹⁴¹ as a field assistant, and was made draftsman to the Geological Survey in 1935¹⁴², leaving in 1940¹⁴³ for military service for the duration of the war. Hughes returned to the department after the war, took a year's leave of absence to study in Sydney, and was promoted to the position of geologist in November 1947¹⁴⁴. Hughes was made a senior geologist in 1955¹⁴⁵ and became Chief Geologist in 1960¹⁴⁶. During Hughes' term, at the recommendation of the Director Symons, the Geological Survey was divided into three branches: Economic Geology, Regional Mapping and Engineering Geology and Groundwater. This re-arrangement was completed in 1964¹⁴⁷. Hughes worked in all parts of Tasmania, mainly in the area of economic geology, although he also made significant contributions to regional mapping and engineering geology. Hughes resigned in 1965¹⁴⁸ and was replaced by Ian Blore Jennings.

Jennings was born in Hobart in 1924 and was educated at the Princes Street School and Hobart Junior Technical College. After overseas service with the RAAF in World War II, he studied at the University of Tasmania and graduated in the first Honours class in the newly established Geology Department under Professor S. W. Carey.

After a few years' service as a geologist with the Hydro-Electric Commission, Jennings joined the Department of Mines in 1954¹⁴⁹ and worked as a regional geologist in the Sheffield and Middlesex areas before being transferred to Hobart. He led the Engineering Geology and Groundwater Branch before being appointed Chief Geologist in 1964¹⁵⁰, a post he held until he retired in 1985¹⁵¹.

He guided a period of unprecedented growth in the geological knowledge of Tasmania which contributed to new developments in the mining industry, the expanded use of underground water resources, and definition of areas of landslide hazard.

Following the retirement of Ian Jennings, the Chief Geologist role was taken over by Michael Rodney Hargreaves, who had joined the department as Deputy Director of Mines in 1984. Hargreaves was born in 1943 in Wakefield, Yorkshire, and graduated from the University of Liverpool and later the University of Western Australia.

He began his professional career in Botswana in 1966 where he was part of the exploration team which discovered the Selibe and Pikwe copper-nickel ore bodies. After arriving in Australia in 1969 he was employed by

AMAX until 1971 when he became Chief Geologist of the Worsley Alumina Project. His association with Worsley lasted until 1977, when he was appointed Vice-President of Reynolds Australia Mines. The discovery of the Boddington gold ore body was a highlight of his time with Reynolds.

After a period in the United Kingdom he returned to Australia in 1979 and after consulting for six months, was appointed Western Australian Exploration Manager for CSR Limited. During this period he was involved in the Yandicoogina Iron Project, the Paringa Gold mine, the Haveluck Gold Joint Venture, and the Tuckabianna Gold Project¹⁵².

Hargreaves was retrenched in May 1993, and the Chief Geologist role passed to David McPherson Duncan, who was at that time Deputy Chief Geologist—Economic. Duncan was appointed as Acting State Chief Geologist, a new title to replace the old Chief Geologist title, a position he held until November 1993.

During 1993 there was a major re-organisation, downsizing and re-direction of the Geological Survey during the formation of Mineral Resources Tasmania. Instead of continuing traditional systematic work, the survey was directed to focus its outputs to the specific needs of mineral exploration. This necessitated the suspension of systematic mapping for a period of at least two years, specific projects to be undertaken, and the conversion of all previous geological data from printed to digital format.

Dr Anthony Vincent Brown was appointed to the post of State Chief Geologist in December 1993. Brown was born in Launceston in 1941 and educated in Smithton and Deloraine, before moving to Hobart to start an apprenticeship as a communication technician with the Postmaster Generals Department (later Telecom) in 1958. Following his resignation from the PMG in 1966 he attended the University of Tasmania between 1967 and 1971, graduating with upper second class honours in 1972.

In March 1972 Brown joined the Department of Mines and worked as a regional geologist for the Geological Survey,

mapping mainly in western Tasmania for the next 20 years. During this time he completed an external study for a Ph.D., which he received in 1986. During the period 1987 to 1992, Brown also undertook numerous administration and management tasks as well as continuing with regional mapping. In May 1993 he was appointed Acting Managing Geologist and in September 1993 Managing Geologist.

With the amalgamation of the Industry Services Division and Mineral Resources Tasmania to form Industry Safety and Mines, Brown was appointed as Director, Mineral Resources and State Chief Geologist. In March 1996 the Industry Safety and Mines Division was split, with Mineral Resources Tasmania remaining as a Division of Tasmania Development and Resources. At this stage Brown also became Director of Mines.

In 1998 Mineral Resources Tasmania became a division of the Department of Infrastructure, Energy and Resources. The title of Brown's position became 'Director, Mineral Resources and State Chief Geologist'. The Head of Division role was split in September 2009, with Tony Brown being retained as State Chief Geologist and Michael Reginald Leonard appointed as Director of Mines. Brown retired in March 2011.

In 2012 Carol Anne Bacon was appointed as Chief Geologist. Carol started with the Department of Mines in April 1980 after undertaking a four-year cadetship at the University of Tasmania, initially working on the coal exploration program the department was conducting on Fingal Tier. She later assumed responsibility for coal, industrial minerals, construction materials and environmental matters, streamlining the approvals process by developing the *Mineral Exploration Code of Practice*. She also produced bulletins on coal and petroleum prospectivity in Tasmania. Carol held a variety of management positions within MRT, including Supervising Geologist and Managing Geologist, before being appointed as Chief Geologist.

THE INSPECTORS

From the inception of the Department of Mines in 1882 until 1914 the duties of Mines Inspector were combined with those of the Government Geologist. Gustav Thureau was the first Mines Inspector in the State, being appointed in 1882¹⁵³ as 'Mines Inspector and Mining Geologist'. On Thureau's retirement in 1889¹⁵⁴ Alexander Montgomery was appointed 'Mines Inspector and Geological Surveyor', and was based in Launceston. Montgomery had to manage single handed until a second inspector, James Harrison, was appointed in January 1892¹⁵⁵ and stationed at Zeehan.

Harrison, who was born in Ireland in 1845, had worked on the British-built railways in India as an engine driver, and in the mineral fields of Victoria managing mines, batteries, driving engines and operating diamond drills. The twelve months prior to his appointment in 1893 as inspector were spent in charge of a Departmental diamond drill. Harrison, a keen mason and member of the local hospital board, helped to found the Zeehan School of Mines¹⁵⁶.

In 1893 Montgomery's title became 'Chief Inspector of Mines'. Following Montgomery's resignation in 1896, James Harcourt Smith was appointed Chief Inspector of Mines and Geological Surveyor. In 1897 a third inspector, Michael J. Griffin, was appointed and stationed at Gladstone¹⁵⁷. Smith died in 1899, and the position of Chief Inspector of Mines was filled by the new Government Geologist, William Harper Twelvetrees.

To assist with the ever-increasing workload, Inspector Harrison at Zeehan was given an assistant in 1900, one C. Curtin, who was stationed at Queenstown¹⁵⁸. In 1903 Inspector Griffin at Gladstone was relieved of his duties relating to the Mt Cameron Water Race Board so he could spend more of his time on matters relating to mines inspection¹⁵⁹.

In 1905 Harrison's assistant, C. Curtin, was given the Lyell district to supervise as Inspector of Mines. The demands on the inspector's time continued to increase, so that in 1914 the first full-time Inspector of Mines, James O. Hudson, was appointed¹⁶⁰. This left the Government Geologist, W. H. Twelvetrees, free to concentrate on matters of a geological nature.

One month after Hudson taking office, on 16 June 1914, war broke out and a number of mines closed down. However sufficient remained open for Inspectors Harrison (Zeehan), Curtin (Queenstown) and Griffin (Launceston) to remain at their stations. In 1915 Hudson was made State Mining Engineer in addition to being Chief Inspector of Mines, furnishing reports in 1915 and 1916¹⁶¹, but this title seems to have then languished until James Balfour Scott was appointed State Mining Engineer in 1927¹⁶².

In 1917 Inspector Griffin in Launceston retired and a reshuffle saw Inspector Curtin move from Queenstown to Launceston and Inspector H. A. Vaudeau appointed to take Curtin's place in Queenstown. Griffin was then 70 years old and had spent 29 years in the employ of the department¹⁶³. Two years later, in 1919, Inspector Harrison (Zeehan) retired after 37 years service as Mines Inspector, and was replaced by Vaudeau from Queenstown. A new recruit,

W. H. Williams from the Queensland Mines Department, filled Vaudeau's old spot in Queenstown¹⁶⁴. When Curtin retired in 1927, Williams moved to Launceston, and one J. J. Andrews was appointed to fill Williams' former position¹⁶⁵.

The same year saw James Balfour Scott made State Mining Engineer, a position he held until 1933 when he became Secretary for Mines on Pretzman's retirement. Scott retained the duties of State Mining Engineer whilst Secretary. Hudson continued in his duties as Chief Inspector of Mines and Explosives. The exact title of his position from 1917 to 1927 was 'Chief Inspector of Mines and Chief Inspector of Magazines and Explosives'. After 1927 the 'Magazines' was dropped from the latter title. In 1936 this title changed to 'Chief Inspector of Explosives and Inflammable Liquids'.

Hudson retired in November 1937¹⁶⁶ and the chief's position was filled by Inspector W. H. Williams, who in 1937 was titled 'Chief Inspector of Mines and Inflammable Material'. This title only lasted one year, being changed in 1938 to 'Chief Inspector of Mines and Chief Inspector of Explosives'. When Scott died in 1939 Williams migrated to the position of Head of Department, first as Acting Secretary then, in 1940, as Director of Mines. Hudson was persuaded to come out of retirement, and filled the chief inspector's position in a temporary 'acting' capacity for four years until 1944¹⁶⁷, when Williams, in addition to the Directorship, took up the titles of Chief Inspector of Mines and Chief Inspector of Explosives. The title of State Mining Engineer also remained with Williams, as J. B. Scott had incorporated this position with that of Head of Department. Williams retired in 1954. The incoming Director, J. G. Symons, retained the titles Chief Inspector of Mines, Chief Inspector of Explosives, and State Mining Engineer.

Symons retired in 1980 and was replaced by Hugh Murchie. The titles 'Chief Inspector of Mines' and 'Chief Inspector of Explosives' were relinquished by the Director in 1984, and each position was filled separately.

The Chief Inspector of Explosives traditionally headed the Dangerous Goods Branch; in 1990 this title was changed to Chief Inspector of Dangerous Goods. The Dangerous Goods Branch underwent a series of changes in 1993/94. The name of the branch was changed to the Chemical Safety Branch, the branch moving to the Industry Services Division of TDR in May 1994. Here the old branch was again renamed, becoming the Chemical Safety Section of the Workplace Safety Branch of the Industry Services Division of Tasmania Development and Resources.

With the formation of the Workplace Standards Authority (later renamed Workplace Standards Tasmania) in 1996, all functions relating to dangerous goods moved to the new authority. The WSA also took over the occupational health and safety functions relating to the inspection of mines and plant, with Mineral Resources Tasmania retaining responsibility for all other tenement, geoscientific and land access services.

HEADS OF THE INSPECTORATE

<i>Period</i>	<i>Occupant</i>	<i>Title</i>	<i>Comment</i>
1882–1889	Gustav Thureau	Inspector of Mines	Retired
	Alexander Montgomery	Inspector of Mines, Chief Inspector of Mines	Resigned
	James Harcourt Smith	Chief Inspector of Mines	Died
	William Harper Twelvetrees	Chief Inspector of Mines	
1914	James Owen Hudson	Chief Inspector of Mines	Retired
1915–1916		State Mining Engineer	
1917–1927		Chief Inspector of Mines, Chief Inspector of Magazines & Explosives	
1928–1935		Chief Inspector of Mines, Chief Inspector of Explosives	
1936–1937		Chief Inspector of Mines, Chief Inspector of Explosives & Inflammable Liquids	
1937	William Henry Williams	Chief Inspector of Mines, Chief Inspector of Explosives & Inflammable Material	Promoted
1938–1939		Chief Inspector of Mines, Chief Inspector of Explosives	
1939–1943	James Owen Hudson	Acting Chief Inspector of Mines, Acting Chief Inspector of Explosives	Retired
1944–1954	William Henry Williams (Director)	Chief Inspector of Mines, Chief Inspector of Explosives, State Mining Engineer	Retired
1954–1980	Jack Gilroy Symons	Chief Inspector of Mines, Chief Inspector of Explosives, State Mining Engineer	Retired
1980–1984 (or 1986??)	Hugh Murchie	Chief Inspector of Mines, Chief Inspector of Explosives, State Mining Engineer	Titles relinquished
1984–1986	Roy C. Thomas	State Mining Engineer	Position reorganised

From this point separate heads were appointed in charge of Mines Inspectorate and Dangerous Goods Inspectorate

HEADS OF MINES INSPECTORATE

<i>Period</i>	<i>Occupant</i>	<i>Title</i>	<i>Comment</i>
1984–1991	Roger Billingham	Chief Inspector of Mines	Resigned
1991–1992	Thomas Evans	Chief Inspector of Mines	Retired
1992–1993	Michael W. D. Ayre	Director of Mines and Chief Inspector of Mines	Remained as Director
1993–	Anthony S. Christianson	Chief Inspector of Mines	Current

HEADS OF DANGEROUS GOODS INSPECTORATE

<i>Period</i>	<i>Occupant</i>	<i>Title</i>	<i>Comment</i>
1986–1988	Roy C Thomas	Chief Inspector of Explosives	Retired
1989–1990	W Eric E Lake	Chief Inspector of Explosives	Title re-named
1990–???	W Eric E Lake	Chief Inspector of Dangerous Goods	Resigned
Oct 1992–Feb 1993	James Hillhouse	A/Chief Inspector of Dangerous Goods	
Feb 1993–May 1994	Peter Drygala	Chief Inspector of Dangerous Goods then Director of Dangerous Goods	

Dangerous Goods Inspectorate renamed Chemical Safety Branch in 1993, then in May 1994 amalgamated with the Industry Services Division of TDR to become the Chemical Safety Section of the new Workplace Safety Branch.

May 1994–July 1995	Peter Drygala	Director, Workplace Safety Branch	Transferred
May 1994–current	Ray Pickett	Manager, Chemical Safety	
July 1995	Steve Hyam	Acting Chief Inspector – General Industry	

With the formation of the Workplace Standards Authority (later renamed Workplace Standards Tasmania) in 1996, all functions relating to dangerous goods moved to the new authority.

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8. *Report Secretary for Mines Tasmania* 1898.
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10. *Report Secretary for Mines Tasmania* 1920.
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15. Death certificate, William Henry Wallace.
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19. Letter: Loftus Hills to Public Service Commissioner, 11 January 1921. TA Min. 24 319/508.
20. Notes on conference held at the office of the Minister for Mines (Sir Elliot Lewis) in regard to the Mines Department, 29 June 1921. TA Min. 24 319/508.
21. Correspondence 1920–1922 tendered as exhibits to 1923 Inquiry. TA Min. 24 319/508.
22. Letter: Hills to Acting Secretary of Mines, 10 November 1921.
23. Letters from Hills to Acting Secretary of Mines, 16 August 1921.
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27. Recommendation of Public Service Commissioner to Minister for Mines, 5 July 1923.
28. Evidence of the Hon. James Belton MHA to 'Inquiry into the matter of the organisation of the Mines Department' February 1930; transcript p. R11.
29. Evidence of William Arthur Pretymann to the Inquiry; transcript p. D1.
30. Evidence of John Stoddart Barr, medical practitioner, to the Inquiry, relating to visit by Reid to Mt Parish Mine, Blue Tier; Transcript p. Z1–Z2.
31. Evidence of Alexander McIntosh Reid to the Inquiry; transcript p. W10–W12.
32. Evidence of William Arthur Pretymann to the Inquiry; transcript pp. A3–D2 and Y1–Y5.
33. Evidence of A. M. Reid to the Inquiry; transcript p. E3.
34. Evidence of W. A. Pretymann to the Inquiry; transcript pp. A4, A12, A13.
35. Evidence of Alfred Brock Bryan to the Inquiry; transcript p. V3.
36. *Report Secretary for Mines Tasmania* 1930.
37. *Report Secretary for Mines Tasmania* 1929.
38. *Report Secretary for Mines Tasmania* 1932.
39. *Report Secretary for Mines Tasmania* 1931.
40. *Report Secretary for Mines Tasmania* 1932.
41. Director's Reports and Balance Sheets 30 June 1936 of Adelaide Oil Exploration Co. Ltd; Standard Oil Co. of Aust Ltd and Chilean Oil Fields (South America) Ltd.
42. Letter from Shareholders Mutual Protection Association to Secretary for Mines, 5 July 1937; and a brochure produced by Shareholders Mutual Protection Association, Adelaide, addressed to the shareholders of the Adelaide Oil Co. Ltd and associated companies.
43. *The Advocate* 5 November 1937.
44. Letter Secretary Mines to Assistant Manager Shareholders Mutual Protection Association Ltd, 1 June 1938.
45. Report of Tasmanian Shale Oil Investigation Committee, Volume II, 1933. *Geological Survey Mineral Resources* 8.
46. Letter Secretary Mines to Secretary, Shareholders Mutual Protection Association Ltd, 12 November 1937:
top shale band 20.5 in. yield 49.5 gal/ton
5 in. yield 5 gal/ton
18 in. yield 23 gal/ton
whole seam 43.5 in. yield 30.3 gal/ton.
47. *The Advocate* 10 December 1936.
48. Letter Secretary Mines to Minister for Mines, 10 December 1936.
49. Letter Minister for Mines to Managing Director Adelaide Oil Co., 20 January 1937.
50. Letter Premier Ogilvie to Minister for Mines Major T. H. Davies, 24 December 1936.
51. *The Advocate* 21 April 1937.
52. *The Examiner* 15 April 1937.
53. Memorandum Secretary Mines to Minister for Mines, 13 April 1937.
54. Letter Minister for Mines to Col. White, Commonwealth Office, Canberra 28 April 1937.
55. *The Mercury* 20 May 1937.
56. *The Truth* 22 May 1937.
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59. Letters J. H. Moate, Adelaide Oil Exploration Co. Ltd to Minister for Mines 23 June 1937, 21 July 1937.
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61. *The Advocate* 12 August 1937.
62. *The Advocate* 21 October 1937.

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84. Letters in TA correspondence file ‘Thureau’.
85. Letters in TA correspondence file ‘Thureau’.
86. *Report Secretary for Mines Tasmania* 1883.
87. *Report Secretary for Mines Tasmania* 1889.
88. Letters in TA correspondence file ‘Montgomery’.
89. *Tasmanian Mail* 1904 p.28.
90. *Cyclopedia of Tasmania*.
91. *Report Secretary for Mines Tasmania* 1898.
92. Death certificate, James Harcourt Smith.
93. *Report Secretary for Mines Tasmania* 1899.
94. *The Weekly Courier* 11 November 1919.
95. *Report Secretary for Mines Tasmania* 1914.
96. *The Weekly Courier* 11 November 1919.
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98. Letter W. H. Twelvetees to Miss Middleton, Librarian, 20 February 1919 with drawing of the tea strainer requested.
99. *Annual Report of the Director of Lands and Surveys* 1908.
100. Letters Secretary Mines W. H. Wallace to Public Service Board 3 October 1918; Secretary Mines to W. H. Twelvetees 12 October 1918 confirming continuation of services.
101. *Report Secretary for Mines Tasmania* 1919.
102. Death certificate W. H. Twelvetees.
103. Letter Government Geologist to Secretary Mines 26 June 1919.
104. *The Mercury* 16 December 1967.
105. *Australian Dictionary of Biography*.
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107. Letter L. Hills to Sir Douglas Mawson 24 March 1922 “certainly the oil boomsters have taken up a lot of our time. They are an awful nuisance but I am trying to protect the good name of Tasmania...”.
108. *London Times Trade Supplement* January 1921.
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113. Evidence of E. F. Blythe to 1923 Inquiry.
114. Adelaide Oil Exploration Co. Ltd Report to Third half yearly meeting 11 September 1922.
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131. *Director of Mines Report* 1945, 1946.
132. *Report Secretary for Mines Tasmania* 1920.
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134. Letter L. Hills to Secretary Mines, 4 May 1922.

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136. A. M. Reid (at Waratah) to L. Hills 27 April 1922, documenting the 'bad impression' created by Keid at the camp; how he was referred to as 'the surly boy'. This lack of dignity in his bearing 'brings contempt and lowers his status in the eyes of his fellows'; and noting 'Mr Keid upsets one by his constant grumbling; he finds no pleasure in his work'.
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146. *Director of Mines Report 1960.*
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152. DICKENS, G. J. 1993. The Mt Cameron Water Race Board — A history of management. *Report Mineral Resources Tasmania 1992/21.*
153. *Report Secretary for Mines Tasmania 1882.*
154. *Report Secretary for Mines Tasmania 1889.*
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158. *Report Secretary for Mines Tasmania 1900.*
150. *Report Secretary for Mines Tasmania 1903.*
151. *Report Secretary for Mines Tasmania 1914.*
152. *Report Secretary for Mines Tasmania 1914, 1915.*
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[20 November 2013]