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WESTERN AUSTRALIAN GOLD

Gold Fields' investments in Australia were aided by the presence in the country of experienced mining engineers. Prominent among these was John Agnew, who was appointed a director of The Consolidated Gold Fields of South Africa in 1922 and served as chairman from 1933 to 1939. Agnew was instrumental in several investments by Gold Fields in the Western Australian gold mining sector from the mid-1920s. His son, Rudolph, or Dolph as he was commonly known, also played an important role in the oversight of gold mining interests in Western Australia.

John Agnew was described as having a 'technical brilliance in engineering and a flair for finance' and was viewed at the time of his death as a 'dominant figure in the goldmining industry'.¹ New Zealand born, Agnew studied at the Thames School of Mines, initially working as a mine manager at the Victoria Gold Mining Company in the Thames gold fields.² In 1898 Herbert Hoover, the young American mining engineer later to become president of the United States, appointed Agnew, then aged 26, to Bewick, Moreing and Company (Bewick Moreing). The British mining engineering consultancy had had a presence in Western Australia since 1893 and in the first decade of the twentieth century managed 20 mines in Western Australia, accounting for nearly three-quarters of the gold produced in the state.³

1 *The Times*, 'Obituary: Mr John A Agnew', 4 August 1939.

2 New Zealand Government, 'The Goldfields of New Zealand'.

3 Hartley, 'Bewick Moreing in Western Australian Gold Mining', p. 1.

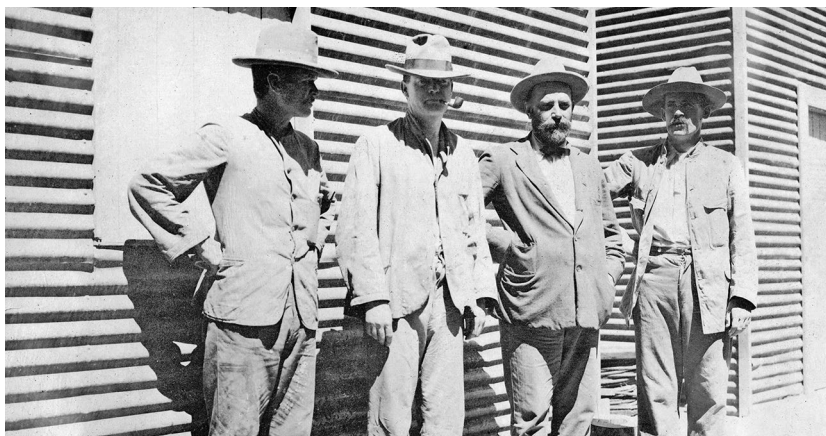


Figure 3. Herbert Hoover (second from left) and John Agnew (right) in Western Australia while working for Bewick Moreing.

Source: Herbert Hoover Presidential Library.



Figure 4. John Agnew (left) at a mining operation of Bewick Moreing.

Source: Herbert Hoover Presidential Library.



Figure 5. John Agnew (third from left) while on a mine inspection for Bewick Moreing, Western Australia.

Source: Herbert Hoover Presidential Library.

Agnew came to Australia to take charge of the underground mining operations of the Sons of Gwalia gold mine, from 1898, the first of several mines at which he worked for Bewick Moreing. The others included the Golden Age Mine at Wiluna, and the Lake View and Star mine and the Lancefield gold mine near Laverton.⁴ In 1899 he accompanied Hoover to China to evaluate mining opportunities as part of Hoover's role as engineer in charge of the newly established Chinese Department of Mines. Mrs Hoover accompanied her husband and at one stage was installed in a settlement for foreigners near Tientsin, which was surrounded by members of the Boxer Rebellion. The settlement came under prolonged bombardment from the Chinese Army and the Hoovers and Agnew were fortunate not to lose their lives.⁵ Agnew developed a high regard for both of the Hoovers. He viewed Mrs Hoover as 'the finest woman he had ever known'.⁶ He and Hoover developed a close professional and personal relationship. They maintained a correspondence after Hoover had left the employ of Bewick Moreing in 1908 and established his own consultancy in London. Agnew was to say that Herbert Hoover had given him the chance to make his career while, at his death, it was recorded that Hoover's name was the last one Agnew mentioned.⁷

4 Cumming and Hartley, *Westralian Founders of Twentieth Century Mining*, pp. 2–4; Nash, *The Life of Herbert Hoover*, p. 303. See also Gibbney and Smith, *A Biographical Register*, p. 7.

5 Herbert Hoover Presidential Library (HHPL), Post Presidential Individual File, Agnew, John A, Correspondence: 1933, 1937, 1939.

6 Letter from Miss EA Rolfe to Mr H Hoover, 7 August 1939, in *ibid*.

7 *ibid*.

In 1906, Agnew was appointed Western Australian manager of Bewick Moreing, located at Kalgoorlie, and in 1912 he became general manager. He travelled widely within the state, providing management and technical oversight for the operations that came under the firm's control and evaluating new mining investments. In 1912 WJ Loring, who managed the firm's overall interests from Melbourne, wrote to the London office. The correspondence referred to Agnew and noted that he had been running the firm's Western Australian business for a number of years and during that time had done a great deal of hard work with the consequence that he was 'completely run down in health'.⁸ The letter went on to state: 'A month ago he was stricken down by pneumonia, and I am told by his Medical Adviser that if it had been double pneumonia, he would have had a very bad time in getting right again'.⁹ The view was he required an extended holiday, and Agnew himself was keen to travel to England. Reflecting the fact that the relationship between Bewick Moreing and Hoover was strained by legal claims following Hoover's departure from the firm, the correspondence remarked upon a letter of June 1912 from Hoover to Agnew. The contents had been communicated to Loring by Agnew's private secretary, who had been dismissed a little time previously by Agnew. Loring wrote:

In my opinion, while there may be some reason to suspect a bit of collusion between a certain gentleman in London and J.A.A. [John A Agnew] I do not for one moment think there is any reason for us to take any drastic stand in the matter.¹⁰

Agnew denied any knowledge of the letter, and Loring himself wrote:

You can quite understand the high regard which Agnew had had for H.C.H. [Herbert C Hoover] ... At the same time this regard has been so great that, more likely, the man on this side has been misled to some extent, especially during the time that certain troubles were going on in London.¹¹

8 Letter from WJ Loring, Moreing Chambers, Kalgoorlie to Messrs Bewick, Moreing and Co., London, 30 April 1912, p. 4, in Bewick, Moreing & Co, State Library of Western Australia (SLWA), MN2530, 6736A.

9 *ibid.*

10 *ibid.*

11 *ibid.* See also letter from John A Agnew to Herbert Hoover, 3 July 1911, HHPL, Pre-Commerce Subject File, Mining Correspondence, Agnew, John A, 1905–1914.

A later note recorded:

In 1912 Mr. Agnew began to cause the firm a great deal of trouble in Western Australia. He stated, like Mr. Hoover, that he was very ill, and that he could not continue to carry on the business, he became very irritable, and did the firm considerable harm ... However, as the firm knew him to be a very able man, and not suspecting any treachery, they did their best to persuade him to remain.¹²

Agnew had become disenchanted with his employer, based on the level of direction from London and his lack of confidence in Loring's management and technical abilities. After withdrawing an earlier letter of resignation, Agnew resigned in 1912.¹³

After leaving Bewick Moreing, Agnew was employed by Hoover, working from his London office, 1 London Wall Building, the registered office of many of the companies that Hoover had assisted with the formation of, or in which Hoover held an investment. Agnew served on technical committees and as a director of a number of these companies. The interrelationships and cross shareholdings of numerous companies, many formed by Hoover and with the involvement of others influential in the London and international mining and finance scene, were extraordinary. When Hoover made the move from company promoter and mining engineer to wartime services and oversight of the provision of food aid to Belgium, Agnew took over the management of many of Hoover's business interests. Agnew's close relationship with Hoover as one of his chief lieutenants gave him a breadth of connections, mining company involvement and knowledge of investment opportunities that proved invaluable in subsequent investments by Gold Fields in Australia.¹⁴ For Agnew, his reputation for commercial acumen, technical competence and first-hand mining and processing involvement was broadened by associations with leading mining men in the United Kingdom, United States, Australia and other countries. It was his time in London, shaped in no small way by the influence of and opportunities provided by Hoover, that offered him a wider canvas to develop his knowledge, experience and associations.

¹² Bewick, Moreing & Co, SLWA, MN2530, 6736A.

¹³ *ibid.*

¹⁴ Agnew declared in 1928 that 'Hoover was the greatest man he had ever known and the ideal for honest, straightforward business conduct' and with a 'kindliness of heart' (Nash, *The Life of Herbert Hoover*, pp. 572–573).

Through his professional standing and directorships on a range of companies, including those in which Gold Fields also retained an interest—including National Mining Corporation, Burma Corporation, Oroville Dredging and Camp Bird—Agnew was appointed a director of Consolidated Gold Fields of South Africa and New Consolidated Gold Fields in 1922. In 1933, he became the fifth chairman of Gold Fields, the first mining engineer to be appointed to this role. He held this position until his death in 1939. He brought his wide-ranging technical expertise, the experience he had acquired in observing Hoover's ruthless efficiency applied to Bewick Moreing-controlled mining operations in Western Australia, his knowledge of technologies for processing complex ores, and his extensive contacts with finance men in the City of London. In addition, he drew upon a deep pool of professional mining engineers—many American—for the identification and pursuit of investments in gold and base metals mining in Australia. Agnew's experience meant that he was pivotal in Gold Fields' early involvement in Australia, and in doing so made a major contribution to revitalising the Western Australian gold mining sector in the 1920s and 1930s.

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Hoover was a close associate of Francis Govett, the City of London stockbroker and partner in Govett, Sons and Co. Govett, in turn, through an investment by one of his companies in the establishment of Zinc Corporation, became closely connected with WS Robinson and WL Baillieu, key figures in the development of a number of the Barrier mines in New South Wales that spawned the range of industrial and manufacturing interests known as the Collins House Group of companies. Hoover first met Govett when travelling on the same vessel to Fremantle in 1901. Govett was on his way to inspect the Lake View Consols gold mine in Western Australia. English-based investor James Whitaker Wright controlled the mine through his London and Globe Finance Corporation. Following his conviction for fraud, Wright lost control of Lake View Consols.¹⁵ Govett acquired an interest in the company and in 1902 was elected chairman, a role he fulfilled until 1917. When Govett met Hoover on the way to Fremantle he subsequently employed Bewick Moreing, and Hoover in his capacity at the firm, to manage the mine.¹⁶

15 Blainey, *The Rush that Never Ended*, p. 204; Koenig, 'Herbert Hoover—Australian Mining Entrepreneur'.

16 Yule, *William Lawrence Baillieu*, p. 127.

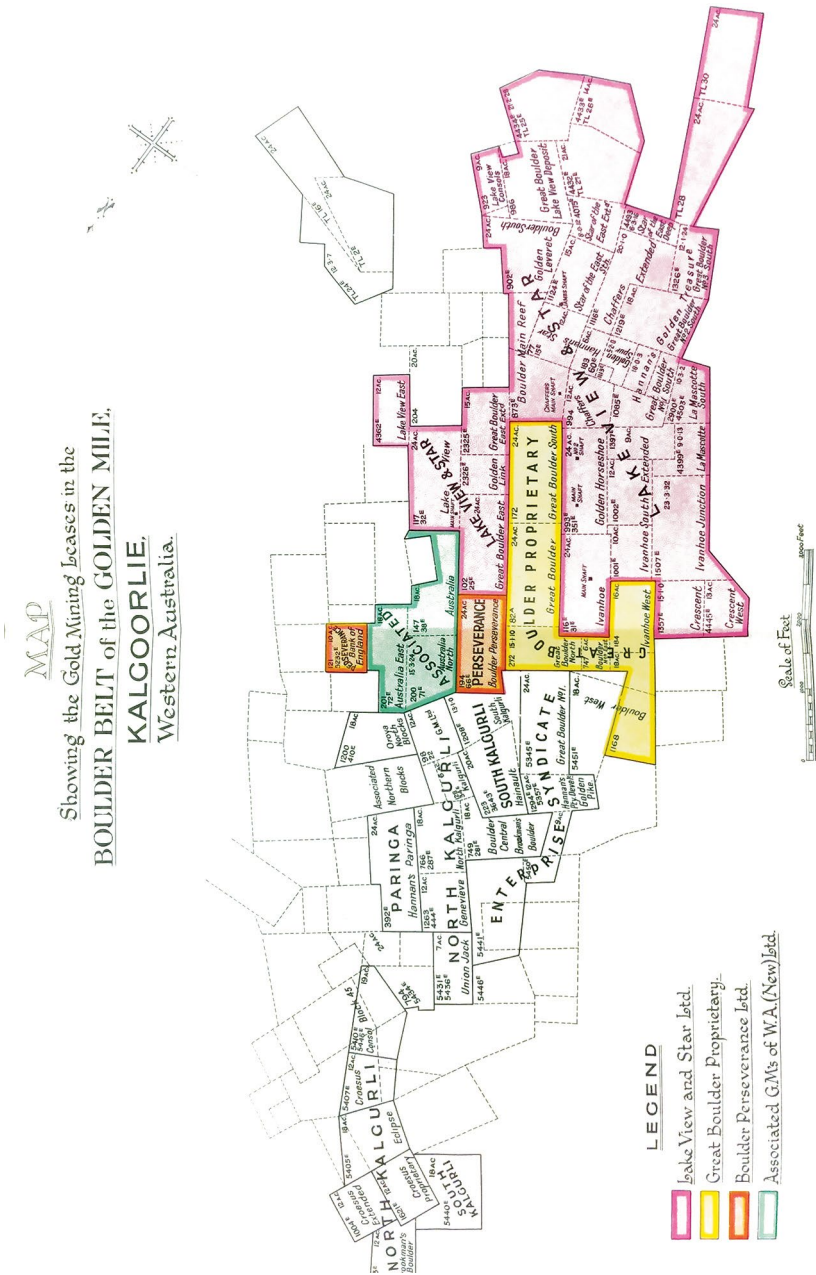


Figure 6. Map of mining leases of the Golden Mile, Kalgoorlie. Lake View and Star represented one of the largest single mining areas.

Source: University of Melbourne Archives (UMA).

Lake View and Star, to be a principal investment of Gold Fields in Australia from the second half of the 1920s, was registered in London in 1910 to acquire the properties and assets of Lake View Consols and Hannan's Star Consolidated. Described at the time as 'one of those meteoric mines, whose occasional flashes dazzle, but whose re-appearance, like the comet is a matter of conjecture', it was uncertain whether what had been 'a wonderful mine' had a life in front of it.¹⁷ Govett served as the initial chairman of Lake View and Star and Hoover was a director during 1911 and 1912. Agnew worked on the mine's initial redevelopment and was described by Govett as 'the chief at Kalgoorlie' and a man 'universally respected'.¹⁸ In 1929 Agnew would assume the chairmanship when it was determined by the directors that Lake View and Star required a chairman 'who had an intimate knowledge of Kalgoorlie and of the mines themselves'.¹⁹

Agnew also gained the opportunity for involvement in a series of companies that had been sponsored by Hoover. One, Lake View & Oroya Exploration, had been formed by the amalgamation of Oroya Exploration Company and Lake View Consols in 1911.²⁰ Its registered offices were 1 London Wall Building. Govett served as the chairman and joint managing director with Hoover. Agnew later joined the board as a director. Lake View & Oroya Exploration had a number of investments, including Babilonia Gold Mines in Mexico, The Yuanami Mine in Western Australia, Burma Corporation, the Bawdwin Syndicate mine in Burma, and Lake View and Star. Agnew served on the technical committees of these companies. The bankruptcy of the bankers for the mining companies Camp Bird and Santa Gertrudis led these companies to come under the control of Hoover, who was appointed chairman of both in 1914. Agnew also served on the technical committees of these

17 Clark, 'Australian Mining and Metallurgy', p. 65.

18 *The Financial Times*, 14 June 1912.

19 *The Financial Times*, 31 December 1929.

20 O'Brien, *Hoover's Millions*, pp. 164 and 195.

two companies. Camp Bird would play a key role in the investment in the Lake George lead and zinc mine at Captains Flat, New South Wales, to be controlled by Gold Fields.²¹

By 1914 Hoover was the director of 18 mining and financing companies, many of which had cross shareholdings and the involvement of former colleagues and associates. Agnew had become one of Hoover's closest and most trusted associates. He took a central role in managing Hoover's business affairs when Hoover was appointed president of the Commission of Relief in Belgium and moved to Washington. Hoover transferred a number of directorships and engineering consulting responsibilities to his trusted associate and nominated Agnew as the person to take responsibility for dealing with his household effects in London.²² In July 1914 Hoover formalised the arrangements, writing to Agnew:

You are to give your entire time and service to the conduct of my business; to undertake such professional work as I may direct, to act as Director or Engineer or Member of Technical Committee of such corporations as I may procure your appointment to ... I agree to give you a participation on the ground-floor in any mining business which I may take up.²³

Agnew succeeded Hoover on a number of company boards, including becoming chairman of Burma Corporation where he had previously acted as Hoover's alternate. Burma Corporation owned a mining operation in Burma that was experimenting with the means to process its complex ore. Zinc Corporation, of which Govett was chairman, had by 1917 taken a one-third interest in Burma Corporation, in part to provide Zinc Corporation with access to this developing technology.²⁴

21 Camp Bird Limited was incorporated in London in 1900 to acquire the Camp Bird mine, a gold mine in the Mount Sneffels mining district, County Ouray, Colorado. Herbert Hoover was enlisted as chairman in 1914 to restore the financial position of the company. Mining at Camp Bird was temporarily suspended in 1916 and the company carried on a mining-finance business with interests in Santa Gertrudis gold and silver mines, Mexican Corporation, Lake George Mines, Talbot Alluvials and Gold Fields Australian Development Company (from 1932). After having its registered offices at 1 London Wall, Camp Bird's offices were later recorded as 49 Moorgate, London, the offices of Consolidated Gold Fields of South Africa and New Consolidated Gold Fields (London Metropolitan Archives, 'Camp Bird Ltd'; *The Economist*, 8 August 1903. See also *Mining and Scientific Press*, vol. 21, 1920; *The Mining Magazine*, vol. 26, 1922; Stewart, *Thomas F Walsh: Progressive Businessman*).

22 Whyte, *Hoover: An Extraordinary Life*, pp. 130 and 207–208.

23 Letter from Herbert Hoover to JA Agnew, 1 London Wall Buildings, 16 July 1914, arrangement dated 1 July 1914, HHPL, Pre-Commerce Subject File, Mining Correspondence, Agnew, John A 1905–1914.

24 *The Times*, 26 June 1917. See also Kelly, 'FA Govett, Chairman and Managing Director'.

Agnew was a director of Oroville Dredging, later to be associated with New Consolidated Gold Fields' involvement in New Guinea. Agnew was also involved in The South American Copper Syndicate and as chairman of Mount Elliot, which had interests in low-grade copper porphyry ore deposits near Cloncurry in Queensland. A number of these interests, including Mount Elliot, were associated with interests also held by New Consolidated Gold Fields before Agnew became a director of this company.²⁵

In 1919, National Mining Corporation was established with capital of GB£3 million. The company was formed by several leading United Kingdom mining houses to organise British capital for mining and metallurgical processing ventures internationally. The founders included New Consolidated Gold Fields, Mexican Corporation, Chemical and Metallurgical Corporation (founded by Richard Tilden Smith, a co-founder with Hoover and director of Burma Corporation), Union Corporation, and The Imperial and Foreign Group. Govett became a director. The registered office for National Mining Corporation was Hoover's London office. The chairman of the new company, FW Baker, was chairman of Camp Bird and Santa Gertrudis and had been involved in the promotion of gold mines, including in Western Australia during the 1890s. He was later influential in the investment in the Lake George mine in New South Wales.²⁶ He was also a former student and lecturer at the Thames School of Mines, attended by John Agnew.²⁷ Thomas Baker, general manager of the Fresnillo Mine of Mexican Corporation and later general manager of the Comstock Lode in Nevada, would become managing director of Lake George Mines when it was majority owned by New Consolidated Gold Fields.

Agnew became an initial director of National Mining Corporation and was on the company's technical committee to examine a range of investment opportunities, particularly in base metals. National Mining Corporation acquired an interest in Burma Corporation and helped raise capital by underwriting a share issue in 1920, as well as investing in other companies, including Camp Bird and Santa Gertrudis. Chemical

25 *The Financial Times*, 26 October 1928. By the following year it had been determined it was not possible to carry on work on the series of mines in the Cloncurry field (*The Financial Times*, 6 December 1929).

26 Kynaston, *The City of London*, p. 187.

27 FW Baker obtained his BSc with first-class honours in 1899 after winning a scholarship from the Thames School of Mines. It is likely he was a contemporary of Agnew as a student (New Zealand Government, 'The Goldfields of New Zealand').

and Metallurgical Corporation, a shareholder, was formed in 1919 for the purpose of undertaking work on the recovery of lead, silver and zinc from complex sulphide ores, which led to the trialling of the Elmore acid-brine process, using ore from Burma, through a plant at Newcastle in England.²⁸ Consolidated Gold Fields of South Africa was the major shareholder in National Mining Corporation as well as Chemical and Metallurgical Corporation and, through them, came to hold an interest in the Lake George mine.

Agnew developed an association with Govett through Hoover. In turn, Govett and Hoover had relations with influential individuals, both in Australia and in London associated with the Collins House Group, including brothers Lionel and WS Robinson, and WL Baillieu. Lionel was an expert in Australian mining shares and had established the firm of Lionel Robinson & Clark, initially in Adelaide before relocating to London in 1899.²⁹ His partner, William Clark, had a reputation as a leading dealer in gold mining shares in London.³⁰

It is hard to think of anyone better placed than Agnew to identify and pursue multiple opportunities available for Gold Fields when it turned its attention to international diversification, including Australia. Through his associations, Gold Fields had an insight into the mineral deposits and mines in both Western Australia and other parts of Australia, and the basis for establishing broader business relationships. These included individuals who were influential in the formation of a number of companies, including Gold Mines of Australia, Western Mining Corporation and Gold Exploration and Finance Company of Australia. Agnew worked closely with these companies and Gold Fields in turn established a major shareholding in each. Through his experience in Western Australia, and the association with Govett, he was able to advance Gold Fields' interests in Lake View and Star while through the companies Hoover's interests had spawned, he was able to pursue other opportunities, including the Lake George mine. Mining investment opportunities in New Guinea were also pursued. Agnew also developed a relationship with Australian mining promoter Claude Albo de Bernales, who presented opportunities for investment in the Wiluna and Moonlight Wiluna gold mines in Western Australia.

28 *The Mining Magazine*, vol. XXVI, no. 6, December 1922, p. 384. The Elmore process was adopted by Zinc Corporation for the Broken Hill ores to replace the Potter process.

29 Blainey, *If I Remember Rightly*, p. 28.

30 Yule, *William Lawrence Baillieu*, p. 126.

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Western Australia experienced rapid development of its gold mining sector between 1895 and 1899, aided by the listing of Australian gold mining companies on the London Stock Exchange and the provision of British capital. The advent of the cyaniding process was a major technological development in the ability to treat sulphide ores and made a major contribution to the establishment of numerous mines in Western Australia.³¹ Gold production reached its peak by 1903 and then more than halved during the period of World War II and into the 1920s. In 1926 the volume of gold produced was less than a quarter of that in 1903, although Western Australia still represented over two-thirds of the total value of gold produced in Australia.³² The effects of manpower and equipment shortages brought about by the war years, exhaustion of the alluvial fields and poorer recoveries led to a lack of investment, a slowing of activity and a reduction in employment in the Western Australian goldfields.

While the alluvial fields at Edie Creek in the Mandated Territory of New Guinea were creating something of their own gold rush and was an area in which Gold Fields became involved, prospects for the Australian gold industry appeared bleak. As a mining industry advocate wrote in 1927:

At present nothing is talked about in industrial circles save wool, wheat, butter and product on the run, the farm or the orchard. To the bucolic mind as well as the man in the factory the welfare of the mining industry, particularly the gold section of it, is a matter of profound indifference. It might as well be dead as far as they are concerned.³³

Through the provision of capital, technical capabilities and the adoption of modern mining methods, Gold Fields played a pivotal role in the resurgence of gold mining in the state, particularly the mining of sulphide ores.³⁴ The British mining house became involved in the two largest-producing goldfields in Western Australia in the 1920s and 1930s: Wiluna,

31 See Prider, *Mining in Western Australia*; Close, *The Great Gold Renaissance*, pp. 3–7.

32 Gold output in Western Australia peaked at around 2.1 million ounces in 1903 and was at 450,000 ounces in 1925, to decline in the next two years (Government of Western Australia, *Report of the Department of Mines for the Year 1927*, pp. 3–4).

33 Editorial, *Chemical Engineering and Mining Review*, 5 February 1927, p. 167.

34 As Close states in her book on the various gold booms in Australia, the lift in gold output in the 1930s was appreciable but from a low base. She describes it as a ‘mini-boom rather than a true boom’ (Close, *The Great Gold Renaissance*, pp. 6 and 171). Close also states that in 1924 an exemption from income tax for gold mining came into force as part of efforts to stimulate investment in that sector.

and Lake View and Star. Gold Fields' first investment in Australia was in the Wiluna Gold Mine, which held leases at Wiluna, 525 kilometres north of Kalgoorlie and 940 kilometres north-east of Perth. Wiluna, located on the edge of the Western Desert and at the start of the Canning Stock Route, is an arid area of sandy red earth, minimal rainfall and long, oppressively hot summers. After the discovery of gold in the 1890s it had burgeoned from a small, isolated settlement of several hundred people to a population of over 9,000 by the 1930s. The investment from London was made through Wiluna Gold Corporation, listed on the London Stock Exchange in 1926. Gold Fields' involvement in Wiluna was directly facilitated by Claude Albo de Bernales. Described as superbly elegant, impressive, articulate and a consummate salesman, de Bernales cultivated links with financiers, especially in London, for his numerous mining ventures in Western Australia.³⁵ According to the noted historian of Australia's early gold mining, Geoffrey Blainey:

With his monocle he seemed to look right through London investors. For years they failed to see through him. In London, as the price of gold rose, he floated new gold companies. A tall pied-piper, he led a procession of investors into the land of his imagination.³⁶

While de Bernales would later be 'scorned in England' with the Stock Exchange of London delisting his companies and Scotland Yard investigating his activities, his securing of British financing was influential in opening up gold mines considered marginal.³⁷ According to a 1949 report into the affairs of his companies, it was alleged that de Bernales bought out mines that had not been in operation for years, 'spent nothing on exploring and developing the mines ... collated information regarding the properties ... invariably holding out the mines as good ventures ... even though engineers could not make even superficial examinations'.³⁸ In the case of the investments introduced by de Bernales to Gold Fields, they were largely financially successful, aided by the metallurgical and mining knowledge of Agnew and his colleagues.

35 Davies, 'Claude Albo de Bernales', p. 186. See also Bolton, *A Fine Country to Starve In*, p. 86.

36 Blainey, *The Golden Mile*, p. 134.

37 Blainey, *The Rush that Never Ended*, pp. 312–313. See also Laurence, 'de Bernales, Claude Albo (1876–1963)'; MK Quartermaine and E McGowan, 'A historical account of the development of mining in Western Australia', in Prider, *Mining in Western Australia*, p. 15.

38 *The Courier-Mail*, 13 November 1949.

The original mining at Wiluna had created two enormous open cut pits from which oxidised ore had been extracted for over 20 years into the first decade of the twentieth century. While the oxidised ore had been largely exhausted, there remained large quantities of ores compounded with sulphides. It was recognised that Wiluna possessed one of the largest resources of low-grade sulphide ores in the state. However, the ore body was characterised as 'where isolation greatly compounded formidable problems with metallurgical chemistry'.³⁹ Extraction of the ore was complicated by the presence of pyrite and arsenopyrite (iron arsenic sulphide) that typically required a process of grinding, roasting, cyaniding and heating to high temperatures.⁴⁰ In 1911 a revival of sorts took place by the adoption of a roasting process to recover gold from the difficult-to-treat sulphide ores. This was not effective in terms of the level of gold recovery and the area was again abandoned. The challenges related not only to the effective means for recovery of gold from the sulphide ores, but also the isolation of Wiluna, located 160 kilometres from the nearest railway connection. The depletion of local wood supplies within a 20-kilometre radius, exhausted by earlier mining activity, also acted as an impediment to shaft mining at depth.

In 1924, after de Bernales and his syndicate had gained control of the leases, attention was directed to the best means to treat the complex ores. De Bernales raised funds to undertake large-scale research into the means to extract the low concentrations of gold, and a complex multi-stage form of processing was developed. An electrostatic precipitation plant was constructed with an experimental unit erected in 1924. The lack of success with this process led to the adoption of the flotation process that had been used successfully in New South Wales at the Barrier mines near Broken Hill.⁴¹ It was evident that a railway connection was necessary for the provision of material, equipment and power requirements if the planned operation was to be profitable.

Agnew had a familiarity with the deposits of the area. From 1902 to 1904 he had managed the Golden Age Consolidated Mine, which, while a separate ore body, adjoined the Wiluna property. In 1909, while working for Bewick Moreing, an option was taken over the group of deposits, known as Bulletin, located on the east lode of Wiluna. While a shaft

39 Colebatch, *Claude de Bernales: The Magnificent Miner*, p. 50.

40 *ibid.*, p. 52.

41 Institute of Mining & Metallurgy, 'General Description of The Wiluna Mines Limited', pp. 2-3.

was sunk to 250 feet and a gold-bearing lode observed, the refractory nature of the ore meant that no further work was undertaken, while the nearby Happy Jack deposit was also developed, to a depth of 90 feet. As Agnew recalled in 1928, it was largely 'on account of the difficulty then apprehended in the treatment of this ore that the company was prompted to abandon the option on the Bulletin group'.⁴²

Gold Fields held initial reservations about investing in the Western Australian gold industry. This hesitancy was associated with concerns regarding the combative labour situation, as well as an awareness of various scandals associated with the promotion of speculative or bogus mining ventures in the state. These reservations were overcome through the urging of 'influential associates' who had identified ore bodies of 'great size ... persistence and length and reasonably high average value' as well as undertakings obtained by these same associates from the Western Australian Government to commit to build a railway line from Meekatharra to the site of the Wiluna mine, a distance of 175 kilometres.⁴³ Gold Fields' own evaluation provided it with confidence to take an initial, 'quite modest' stake, viewing the potential of the Wiluna deposit and its northern extensions, as well as other mineralisation in the area, as sufficient to justify its investment. Its confidence was reinforced by the state mining engineer's report of 1927 to the Western Australian Government that determined that 'the Wiluna Mines Ltd's proposition has now been well proved'. The lodes were assessed as long and wide, with 'no visible geological reason why they should not continue to like depths as the Kalgoorlie lodes, and have a similar life of not less than, say, 25 years'.⁴⁴ This in turn provided sufficient encouragement for the government to consider a rail connection.

42 'Wiluna Gold Corporation', *The Financial Times*, 27 April 1928, Butlin Archives, The Australian National University (ANU), 67/71.

43 The Consolidated Gold Fields of South Africa Limited, 'Report of the Proceedings at the Ordinary General Meeting, 2nd December 1926', University of Melbourne Archives (UMA), Stock Exchange of Melbourne, 1968.0018, Box 67.

44 A Montgomery, 'Report on the Request of the Wiluna Gold Mines, Limited, for Railway Connection of Wiluna with the State Railway System', in Government of Western Australia, *Report of the Department of Mines for the Year 1928*, p. 81.



Figure 7. Western Australian Minister for Railways laying the first track of the Meekatharra to Wiluna railway line, 1929.

Source: SLWA, 2680B, vol. 170.

Wiluna Gold Corporation was the first of de Bernales's major gold company flotations in London. The London Stock Exchange listing was associated with Consolidated Gold Fields of South Africa shortly after taking a major shareholding and Agnew becoming a director. The Wiluna Gold Corporation initially had Sir Frederic Hamilton as its chairman, an associate of de Bernales, until 1934 when Agnew was appointed chairman, a role he retained until his death in 1939.⁴⁵ The *Kalgoorlie Miner* recorded the initial investment of Gold Fields, describing it as 'the powerful company operating in South Africa' with its interest in Wiluna associated with the activities of Agnew who had 'for years [been] professionally associated with mining enterprises in Western Australia'.⁴⁶

⁴⁵ Wiluna Gold Mines sought a listing on the Australian stock exchanges in 1930, with a listing on the Adelaide exchange in 1931, followed in 1933 by Brisbane, Sydney and Melbourne. Operations at Wiluna ceased in 1953 (Robinson, William Sydney, UMA, 101/70, Box 4; Wiluna Gold Mines Ltd and Wiluna Gold Corporation Ltd, UMA, Stock Exchange of Melbourne, 1968.0018, Box 353).

⁴⁶ *Kalgoorlie Miner*, 19 March 1926.



Figure 8. Wiluna gold mine, 1927.

Source: SLWA, BA 2127/2.

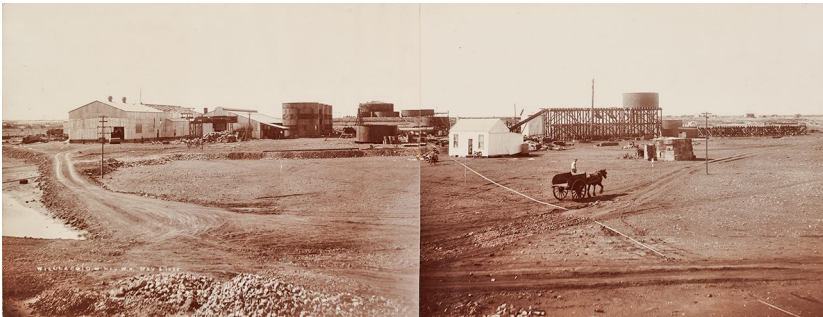


Figure 9. Panorama of Wiluna mine site, 1930.

Source: SLWA, BA 144-1/4.

Representations had been made to the Western Australian Government by the de Bernales group seeking the commitment to construct a railway from Meekatharra if work were undertaken on the testing and development of the ore bodies at depth. The commitment of A£250,000 to install modern equipment was made. Mining initially occurred from a western and eastern lode, with a new eastern gold-bearing lode also encountered. The ore at Wiluna required a complex method of processing and extensive experimental work was undertaken to enhance the process.⁴⁷ At Wiluna and later at Gold Fields' other main gold mining interest in Western

⁴⁷ Technical investigations by Gold Fields Australian Development Company, owner of the Moonlight Wiluna Gold Mines, were also undertaken in the 1930s on the semi-oxidised ores of this field with the intention of allowing the treatment of these ores to take place along with the sulphide ores at the Wiluna Gold Mines' plant (The Mines Department of WA, 'Report on the Treatment of Semi-Oxidised Ore', p. 1).

Australia, Lake View and Star, oil flotation was employed after crushing to separate the gold, followed by a process of roasting and cyaniding. Wiluna commenced operation of a flotation pilot plant in 1927, which provided initial success with high gold recoveries from the ore in the southern part of the Wiluna deposits, an area encompassing over 790 acres.

Confidence was high that recoveries up to 90 per cent could occur but results proved to be variable and determination of the most appropriate form of flotation remained an area of intense technical review and experimentation involving Agnew and his colleagues. These included the American mining engineer HE (Herbert) Vail, a former Bewick Moreing employee and later involved with Lake View and Star, a mine that had to tackle similar, although not as severe, recovery issues. In November 1927, Vail wrote: 'We are doing better with Lake View & Star and the Wiluna Mines continue to respond handsomely. Once the property is in full swing it will have an important bearing on the affairs of Western Australia'.⁴⁸



Figure 10. Wiluna gold mine poppet head and engine room.

Source: SLWA, B4712611.

⁴⁸ Letter from HE Vail to FL Thomas, 23 November 1927, Butlin Archives, ANU, 67/71.



Figure 11. Pouring first gold, Wiluna, 1935.

Source: SLWA, B/3/16.



Figure 12. Wiluna gold mine, 1935.

Source: SLWA, 7:2951 B/3114.

The development of the mining operations in which Gold Fields had an interest displayed a large degree of technical cooperation. In this regard, Agnew was pivotal, focused on ensuring the best talent was secured through the development, mining, operational and treatment stages. TM (Tom) Owen, the operations manager of Lake George, was seconded to help with the work undertaken at Wiluna on flotation and gold recovery, while in turn Owen had an interest in this technology for its potential to assist with the recovery of sulphur from the pyritic ores at Lake George. The work proceeded over several years. In 1932 Agnew wrote to Owen:

We are not only dealing with a difficult ore but at the same time we are doing a good deal of pioneer work in the way of applying flotation methods to a straight gold ore and it is obvious that a great deal depends upon our being able to secure experience in work of this character outside the ordinary routine of the gold metallurgist.⁴⁹

Over the period from 1927 to 1930 work at Wiluna focused on sinking a new main shaft and preparations for underground mining from the two main lodes. Development work on the mine shafts and plant construction began in 1929. A new power plant was constructed, a steel head frame erected and electric winders installed while facilities for the complex process to treat the sulphide ore were established. In 1929 the extension of the railway from Meekatharra to Wiluna was substantially complete, while a 'comprehensive housing scheme' was put in place to 'attract and hold labour'.⁵⁰ By 1931 most of the plant and machinery had been installed. According to one observer of the operations at Wiluna: 'The plant is easily the best laid out and best equipped gold mining unit in Australia'.⁵¹ Production began in 1931. As was observed at the time, 'if Kalgoorlie ore is refractory, Wiluna is super refractory'.⁵² This, along with even greater challenges associated with processing the Moonlight Wiluna ore, which was introduced to the Wiluna facilities from 1935, created ongoing production challenges. Leases to the north were considered prospective and were drilled with two deposits, Bulletin and Happy Jack, planned to be tied back to the Wiluna facilities in the coming years. The milling capacity of the mine was increased by the construction of a new plant with a capacity of 40,000 tons per month.

49 Letter from JA Agnew to TM Owen, 27 January 1932, p. 2, Butlin Archives, ANU, 67/71.

50 'Wiluna Gold Corporation, Ltd, Mr John A Agnew's Review of the Year's Work', *The Financial News*, 26 September 1929, UMA, Stock Exchange of Melbourne, 1968.0018, Box 353.

51 *Chemical Engineering and Mining Review*, 5 January 1931, p. 139.

52 *Chemical Engineering and Mining Review*, 8 February 1937, p. 201.

In 1931, an engineer from Gold Fields American Development Corporation, CO Lindberg, was sent to Western Australia to evaluate several gold opportunities as well as to investigate the processing challenges and implications for ore reserves at Wiluna. His investigation, undertaken in conjunction with Owen, involved an 'exhaustive investigation' into the treatment problems at the Wiluna mine.⁵³ His 1931 report determined that, while 'no cause for alarm', it was unlikely that sufficient ore could be recovered to provide any more than 25,000 tons of the 40,000 tons of capacity of the milling plant.⁵⁴ Furthermore, ore yields at depth were determined to be lower than expected. At the company's general meeting in London the following year, the chairman reported that the corresponding 30 per cent reduction in reserves was a 'distinctly disappointing' outcome.⁵⁵

Despite this initial setback, by 1932 the mine could be characterised as 'remarkable', with an 'entirely new lode of a grade well above the previous mine average' having been identified.⁵⁶ Evaluation of the Bulletin lease led to a new mineralised ore zone, which enabled reserves to be increased, while ore recoveries to the milling plant had improved, allowing 43,000 tons a month to be treated in 1934. Funds for the development of the Wiluna deposits had been exhausted by 1930 and the Western Australian and Commonwealth governments advanced loan funds of A£300,000 to complete the construction of the plant, with the funds repaid by 1934. In the same year Wiluna provided the London corporation with a dividend of GB£430,279 with a balance of accumulated profits of over GB£718,000, after extinguishing accumulated debt.⁵⁷ For Gold Fields, Wiluna was an excellent investment. In the first four and a half years of production, gold to the value of A£3.5 million was extracted with some of the most modern mining methods aiding recoveries and unit costs. According to one writer, the application of modern, large-scale mining techniques, such as those employed at Wiluna and Lake View and Star, enabled the handling of large quantities of low-grade ore and 'opened up a new phase of Western Australian mining, as nothing equal to it had ever been seen in the State before'.⁵⁸

53 *Chemical Engineering and Mining Review*, 9 October 1931, p. 3.

54 *Chemical Engineering and Mining Review*, 5 December 1931, p. 85.

55 *Chemical Engineering and Mining Review*, 5 March 1932, p. 222.

56 *The Age*, 26 July 1932.

57 Wiluna Gold Corporation, Limited, 'Directors' Report and Statement of Accounts for the Year Ended 31st March, 1933', UMA, Stock Exchange of Melbourne, 1968.0018, Box 353.

58 Snooks, *Depression and Recovery in Western Australia*, p. 66.

In combination with Lake View and Star, Gold Fields had established an involvement in the two largest gold-producing fields in Western Australia. In the 1934 financial year Lake View and Star produced over A£1.2 million worth of gold and Wiluna over A£1 million. Profitability was impressive, with Wiluna generating a profit of GB£615,283 and Lake View and Star, GB£573,097.⁵⁹ The share price performance of its investments on the London Stock Exchange was equally impressive:

Wiluna Gold Corporation ... enjoyed very handsome rises, from a low of 19/- in 1929. By 1931, reflecting shortages and fears of the mine's future, the shares were down to 8/3 but it was only a temporary drop and those that bought them did well. Three years later Wiluna shares climbed to more than ten times that ... It became WA's biggest goldfield after Kalgoorlie.⁶⁰

The fortuitous circumstances for Gold Fields' initial investments in Australia were associated with Dolph Agnew arriving back in Western Australia in 1932, after spending time working in various mines in Western Australia and then in Yugoslavia and northern Italy.⁶¹ In Western Australia, Dolph became general manager of Gold Fields Australian Development Company (GFADC) and took charge of the Wiluna mine and evaluation of the nearby Moonlight Wiluna leases, as well as other mining opportunities. GFADC was designed to act as a vehicle for investments in a range of Western Australian gold mines, and an office was established in Kalgoorlie. Principally, though, it was formed to take a shareholding in the Moonlight Wiluna, Starlight and Horseshoe Wiluna gold mines, and 13 leases at the northern end of the leases already held by Wiluna Gold Mines. The options over Moonlight, Starlight and Horseshoe Wiluna were exercised for A£100,000 and three companies were established with combined issued capital of A£500,000.⁶² The leases had been owned by either Commonwealth and Mining Finance Limited or Australian Machinery and Investment Company, both companies under the control of de Bernales. Hamilton and de Bernales served as initial directors of GFADC.

59 *Chemical Engineering and Mining Review*, 8 February 1935, p. 168.

60 Colebatch, *Claude de Bernales: The Magnificent Miner*, p. 53.

61 See Appendix 3 for a biographical profile of Dolph Agnew.

62 *The Financial Times*, 20 February 1935. GFADC drew a wide net over potential investment opportunities, taking options over a range of mining operations in Western Australia. In 1934, these included the Gladiator Gold Mine, Laverton district; Pericles Gold Mine, Mount Monger district; Black Range Gold Mines, near Sandstone; and Lochinvar Gold Mine, Broad Arrow District, Kalgoorlie-Boulder Shire (*Sunday Times*, 15 April 1934). Horseshoe Wiluna Gold Mine was wound up in August 1943.



Figure 13. Aerial view of Wiluna gold mining operation.

Source: SLWA, 545813/79.

In 1935 Wiluna began treating ore from the Moonlight mine to the north. Processing of the Moonlight ore introduced greater complexities; the ore was later described by Charles Prior, the former general manager of Wiluna, as one of the most difficult to treat ores in Australia.⁶³ The arsenopyritic component of the ore led to various technical evaluations of the best means of treatment. The decision was made in October 1936 to adopt a smelting process to remove arsenic, followed by sintering the gold with lead.⁶⁴ The process entailed the acquisition of two lead deposits at Northampton.⁶⁵ According to a later review of the Moonlight Wiluna ore: 'Never before had a gold ore containing such large amounts of arsenic and antimony sulfides been treated on a large scale'.⁶⁶

63 *Chemical Engineering and Mining Review*, 8 February 1937, p. 201. Prior was appointed managing director of Wiluna Ltd in 1935 and was a consulting engineer to GFADC (Cumming and Hartley, *Westralian Founders of Twentieth Century Mining*, p. 133).

64 *ibid.*

65 The mines were Grand Junction and Wheal May near Northampton, Western Australia.

66 *Chemical Engineering and Mining Review*, 10 July 1952, p. 385.

In 1936, dewatering was undertaken of the Happy Jack leases, located less than a mile north of the Wiluna main shaft, prior to production commencing. According to an industry publication in 1936:

Wiluna must be ranked as second only to Kalgoorlie's Golden Mile among Australia's goldfields. Recent developments on the main Wiluna leases and on the Happy Jack and Bulletin leases to the north, coupled with favourable results on the Moonlight mine of Gold Fields Australian Development ... have proved large tonnages, and have indicated the probable existence of great extensions.⁶⁷

However, by 1938, challenges associated with the Wiluna deposit had become apparent. A limited reserve life meant that extensive diamond drilling had begun. In addition, while smelting continued intermittently, it introduced technical challenges and higher operating costs. Smelting operations were eventually suspended in March 1938. Speaking at the 1938 annual general meeting of the company, John Agnew observed:

While results at depth in the main mine were not good, development in the Bulletin and Happy Jack sections gave every promise of furnishing very substantial tonnages of good grade ore ... believing that, if the corner had not yet been turned, it was clearly in sight.⁶⁸

Despite this, mining conditions for both the Wiluna and Moonlight Wiluna deposits deteriorated, while the challenges associated with the war years, including shortages of manpower, created further difficulties. The London corporation reported a loss in 1939 to be repeated in subsequent years. The consulting engineer for Wiluna Gold Corporation reported in 1940 that the Wiluna deposits had a remaining life of two-and-a-half years, with 'no alternative but to cut expenditure to the minimum and concentrate on salving the existing reserves at the greatest possible profit'.⁶⁹ By 1940 the Bulletin lode was being treated as a 'salvage proposition'. In 1941 the Moonlight Wiluna mine was displaying a decline in reserves and grade at depth, while exploration activities conveyed 'little prospect of any new ore being discovered'.⁷⁰

67 *Chemical Engineering and Mining Review*, 8 August 1936, p. 397.

68 *Chemical Engineering and Mining Review*, 10 February 1939, p. 228.

69 *Chemical Engineering and Mining Review*, 10 January 1940, p. 165.

70 *Chemical Engineering and Mining Review*, 11 March 1940, p. 250 and 10 January 1941, p. 121.

During part of the war years, the Wiluna mine continued to operate only by obtaining a subsidy from the Western Australian and Commonwealth governments, defined as it was as a protected industry due to the production of antimony, used in the manufacture of bullets and shell casings and for which permission to export had been granted.⁷¹ The low-grade ore characteristics of Wiluna made the subsidy essential to maintain a higher rate of production as, unlike other mines, there was not an opportunity to scale back production in any material manner.⁷² Planning for operations after the war, in light of the serious contraction in reserves, led to the consideration of the need to acquire additional properties. Options were secured over other deposits, including Mount Charlotte and Porphyry (1939), viewed as necessary replacement sources of ore.⁷³

In 1945 Moonlight Wiluna was closed and in 1947 underground mining operations ceased on the Happy Jack leases. Wiluna mining ceased in 1948 after producing more than A£12 million worth of gold over its 15 years of operation, with activities restricted to the processing of residual tailings.⁷⁴ By 1949, Wiluna had returned to a small profit solely related to the recovery of tailings. It was a lean period for the London holding company and its major shareholder, with no dividends received for an extended time. Despite the earlier than expected decline in the ore bodies, Wiluna still proved to be one of the largest and most profitable gold mines in Western Australia.⁷⁵

...

71 *West Australian Mining and Commercial Review*, vol. 9, no. 6, August 1944, p. 21 and vol. 10, no. 1, March 1945, p. 15. By 1945 it was recognised that the mine was nearing the end of its economic life.

72 Wiluna Gold Corporation, Limited, 'Directors' Report and Statement of Accounts for the Year Ended 31st March, 1945', UMA, Stock Exchange of Melbourne, 1968.0018, Box 353.

73 *West Australian Mining and Commercial Review*, vol. 11, no. 1, March 1946.

74 *West Australian Mining and Commercial Review*, vol. 11, no. 10, December 1946, p. 26; Topperwien, *The History of Wiluna*, chapter 3 and pp. 2–6 for a description of the gold mining activities. See also Heydon, *Wiluna: Edge of the Desert*.

75 In notes prepared by WS Robinson on Western Australian gold mines, Wiluna was described as one of the largest gold mines in Western Australia, producing 1,334,705 fine ounces of gold between 1927 and 1953. The Wiluna district overall produced 1,810,000 fine ounces (Gold Mines of Kalgoorlie, Robinson, William Sydney, UMA, 101/70, Box 4, File 78).

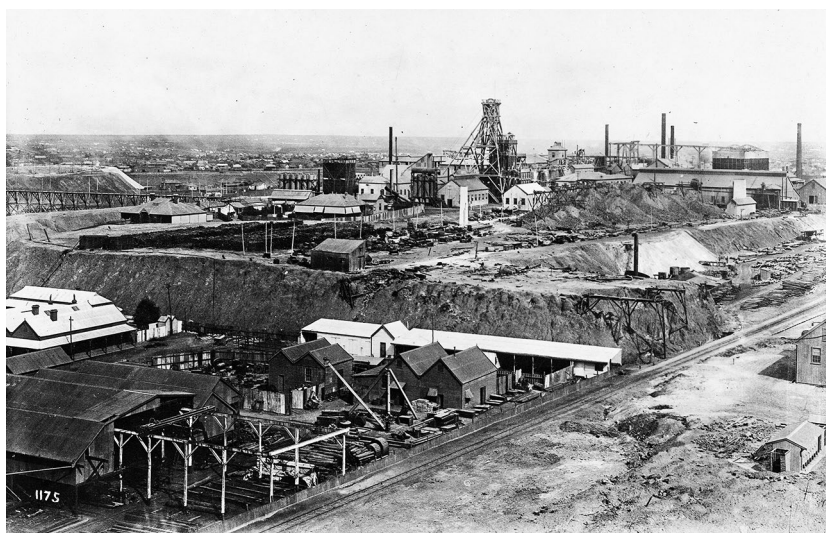


Figure 14. View of Lake View Consols in 1928, renamed Lake View and Star.

Source: SLWA, 1913/1/53.

In 1928, through the influence of Agnew, Gold Fields acquired an interest in Lake View and Star, located in the Boulder end of the Kalgoorlie gold fields. In 1929, Agnew became chairman of Lake View and Star and by 1931 Consolidated Gold Fields was the largest investor while also providing technical assistance and loan funds for the mine's expansion. The mining operation was transformed under Agnew's influence. He drew heavily upon the capabilities of Herbert Vail.⁷⁶ Given the sharing of technical expertise at Gold Fields' controlled mines, similar techniques, such as the initial use of oil flotation, were applied across operations. Agnew also recruited another American mining engineer, Joseph Thorn, as manager of Lake View and Star.⁷⁷ Thorn became general manager in 1929 and remained in the role for 20 years until 1950, with a record of impressive achievement at the operation that, according to Blainey 'created a virtually new mining enterprise' at Lake View and Star.⁷⁸ He was succeeded by Dolph Agnew, who was also a director of the company, from 1951 until his death in 1960.

⁷⁶ *The Daily News*, Perth, 28 July 1934. Vail also provided consulting engineering services to the Wiluna mine.

⁷⁷ *Kalgoorlie Miner*, 13 May 1950.

⁷⁸ Blainey, *The Golden Mile*, p. 130.



Figure 15. Associated Tailings, part of the properties controlled by Lake View and Star.

Source: Lake View and Star company publication, UMA.

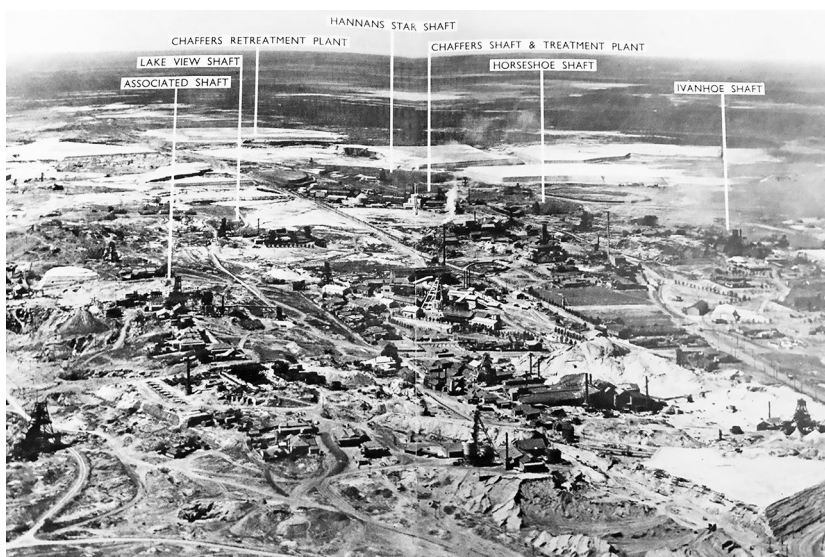


Figure 16. Aerial view of Lake View and Star facilities.

Source: Lake View and Star company publication, UMA.

The improvement in the fortunes of Lake View and Star was achieved by a combination of acquiring nearby mines and leases, deeper workings, the implementation of modern mining methods and investment in new equipment, as well as the processing of tailings. In this regard, the commitment of additional capital and technical expertise facilitated the revitalisation of a mine that was viewed to have seen its best days. After the successful trialling of oil flotation at Wiluna, in 1930 Lake View and Star installed the first flotation plant in the state on a production scale to enhance the recovery of gold. The flotation capacity was expanded over the next two years from 5,000 tons per month to 20,000 tons, and then further increased. The mine developed by repeated expansions, which made it possible to extend operations into new ground, as well as through continual technical advancements, including the decision to construct a central treatment plant and to standardise operations. The application of modern techniques for drilling, establishment of the mine's own power source, the transportation of ore by electric locomotives, the installation of electric shaft winders and the use of modern processing techniques were all part of the measures adopted.⁷⁹ In turn, these led Lake View and Star to be one of the most modern and efficient operations in Western Australia.

Agnew's and Thorn's efforts were such that in 1932 Lake View and Star was producing at 10 times the 1924 level. In 1930, it was the largest gold-producing operation in the state. In that year it was reported:

Owing to larger profits earned and to the additional receipts from Australian [currency] exchange and increased price of gold, this Company has been able to pay off its current indebtedness and has financed all its special development, mine preparation and new plant expenditure, in addition to which its liquid reserves have materially increased.⁸⁰

According to a 1934 report on gold mining in Australia, of the operating mines on the Golden Mile, Lake View and Star was considered 'by far the greatest and best equipped'.⁸¹ It by then comprised 37 gold mining leases and six tailings blocks, over an area of 626 acres. In 1935, a series of mine amalgamations occurred, and The Associated Mine was acquired.

79 Snooks, *Depression and Recovery in Western Australia*, p. 65.

80 The Consolidated Gold Fields of South Africa, Limited, 'Report of the Directors and Statement of Accounts, 30th June 1932', p. 16, UMA, Stock Exchange of Melbourne, 1968.0018, Box 67.

81 H Byron Moore, Day & Journeaux, *Gold Mines of Australia and New Guinea: Leading Companies*, p. 39.

In 1939, the year of John Agnew's death, Lake View and Star generated a profit of GB£526,459, a record for the company. Dividend payments were at 50 per cent of the profit generated.⁸² The aggregation of leases over the years meant that the mine comprised a series of operations, including the Golden Horseshoe, Ivanhoe, Chaffers, Great Boulder Main Reef, Hannan's Star, Lake View Consols, and Associated Group of leases.⁸³ By 1947, Lake View and Star comprised an area of over 970 acres, with 42 gold mining leases and 22 tailings areas. To 1960 Lake View and Star produced over 5.5 million ounces of gold and paid dividends for 34 years, the last 28 of which to 1960 were consecutive.⁸⁴ At its 50th anniversary in 1960, Lake View and Star was the largest gold producer in Western Australia and Gold Fields' most successful investment in Australia, with a shareholding it retained until 1970.⁸⁵

...

Consolidated Gold Fields established a commanding position in the Western Australian gold mining sector due to its investment in Lake View and Star and Wiluna. Lake View and Star was the major gold producer while, according to one report in the 1930s, the development of Wiluna and the technical advances applied were 'responsible in no mean measure for holding the fading hope and creating a new interest in Australian mining'.⁸⁶ The period represented resurgent years for gold production in Western Australia from the depths of the decline after the 1890s boom. The gold price in Australia increased from 89 shillings (A£4/9 shillings) an ounce in 1930 to over 195 shillings (A£9/15 shillings) in 1939, to more than 209 shillings (A£10/9 shillings) in the early 1940s, aided by the depreciation of the Australian, British and United States currencies, particularly in the early 1930s.⁸⁷ In 1937, Lake View and Star recorded a profit of GB£478,414, while Wiluna recorded a profit of GB£159,512.⁸⁸

82 'Lake View and Star, Limited', *The Mining World*, 16 December 1939, UMA, Stock Exchange of Melbourne, 1968.0018, Box 151.

83 Westralia (Western Australia), *1948 Story of the Goldfields*, p. 19; Snooks, *Depression and Recovery in Western Australia*, p. 64.

84 Anon, *Fifty Historical Years, 1910–1960*, p. 16.

85 *ibid.*

86 H Byron Moore, Day & Journeaux, *Gold Mines of Australia and New Guinea: Leading Companies*, p. 68.

87 Depreciation of the Australian currency in January 1931; British pound in September 1931 and United States currency in April 1933 (Snooks, *Depression and Recovery in Western Australia*, p. 67).

88 *Chemical Engineering and Mining Review*, 8 January 1937, p. 175 and 8 February 1937, p. 215. The profit in 1936 for Wiluna Gold Mines Ltd, the Australian entity, was A£439,894.

Lake View and Star paid total dividends of over GB£1.7 million to 1938, eclipsing returns from the next most productive mine, Sons of Gwalia.⁸⁹ The mine also generated annual profits at the end of the 1930s exceeding GB£500,000.

The company had established an exceptional and highly remunerative position, even if the expansions beyond Wiluna and Lake View and Star in the 1940s and 1950s were less successful. In this outcome, John Agnew's role was of central importance. Described by a contemporary as a 'man of vision [with a] remarkable knowledge of mining',⁹⁰ he was recorded in the silver jubilee history of Lake View and Star mine in 1960 as:

A well-known mining engineer who had spent many years on the Kalgoorlie gold field, was a Director of The Consolidated Gold Fields of South Africa, Limited and acting on his advice, the operating subsidiary of this powerful finance house, New Consolidated Gold Fields Limited, offered to provide capital for the development of the Chaffers lease. In the same year well directed driving in the Chaffers area had confirmed the extension of two rich lodes which had previously been worked ... and a sum of £150,000 was ... raised in equal parts by the Shareholders and by New Consolidated Gold Fields Limited, the latter acquiring options over a further 100,000 shares which were exercised in 1933.⁹¹

In 1939, Agnew died in California after contracting pneumonia while visiting mining properties. He was 67 years of age. His funeral service in London was attended by dozens of former colleagues and friends, including de Bernales, Sir Frederic Hamilton, representatives of Zinc Corporation and the Agent-General in London for Western Australia. Tributes were paid of him, including by former president Herbert Hoover.⁹² At the time of his death Agnew was chairman of Consolidated Gold Fields of South Africa and 12 other companies, and a director of 13 more. His obituary in *The Times* recorded that Agnew had been awarded

89 Government of Western Australia, *Report of the Department of Mines for the Year Ended 1938*, pp. 34 and 18.

90 *The West Australian*, 5 August 1939. This comment was made by JF Thorn, who was then general manager of Lake View and Star.

91 Anon, *Fifty Historical Years, 1910–1960*, p. 5. Agnew was also described as far-seeing, courageous and a man who 'saw the possibilities for Western Australian mining' (Uren, *Glint of Gold*, p. 264).

92 *The Financial Times*, 4 August 1939.

a gold medal of the Institute of Mining and Metallurgy in recognition of services in the 'development of mineral resources of the Empire, and to the mining industry'.⁹³

Consolidated Gold Fields gained an involvement in two of the main gold mining operations in Western Australia. Its presence as a major participant in Australian gold mining had been established through its own expertise, first-hand knowledge of mining conditions in the state and by an ability to draw upon a depth of mining engineering and metallurgical skills through personnel known to Agnew. In the case of Lake View and Star, it was an interest held by Gold Fields in London until 1966, when Consolidated Gold Fields Australia gained administrative control when its residence as a listed company was transferred from London to Australia. From the sound base established in Western Australian gold mining, Gold Fields' interests expanded, both in Western Australia as well as to other parts of Australia and to New Guinea.

93 *The Times*, 4 August 1939.

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