



**HERITAGE
COUNCIL**
OF WESTERN AUSTRALIA

REGISTER OF HERITAGE PLACES – ASSESSMENT DOCUMENTATION

11. ASSESSMENT OF CULTURAL HERITAGE SIGNIFICANCE

The criteria adopted by the Heritage Council in November 1996 have been used to determine the cultural heritage significance of the place.

PRINCIPAL AUSTRALIAN HISTORIC THEME(S)

- 3.3.3 Mining
- 3.7.5 Building and maintaining roads

HERITAGE COUNCIL OF WESTERN AUSTRALIA THEME(S)

- 110 Resource exploitation and depletion
- 202 Rail and light rail transport
- 303 Mining

11.1 AESTHETIC VALUE*

The number of quarry faces at *Government Quarries (fmr)*, the sheer size of quarries 5 and 6 and the realisation of the extent of the activity that once occurred at this site contrasts sharply with today's air of isolation and abandonment. The site's location also provides sweeping views across the coastal plain to Perth's high-rise central business district. (Criterion 1.3 and 1.4)

Government Quarries (fmr) contrasts natural bushland, quarry faces and the remains of the crushing buildings to create a visually powerful and evocative landscape. (Criterion 1.3)

11.2. HISTORIC VALUE

Government Quarries (fmr) is associated with the development of the quarrying industry in the Darling Range dating from the 1870s through to the mid-twentieth century, being one of a number of State and Local Governments and private quarrying concerns established in the area at the turn of the twentieth century, at which time the State was subject to much growth. (Criterion 2.1)

Government Quarries (fmr) was commenced by the State Government in 1901 to provide granite for the construction of the North Mole during the Fremantle Inner Harbour works. (Criterion 2.2)

* For consistency, all references to architectural style are taken from Apperly, R., Irving, R., Reynolds, P. *A Pictorial Guide to Identifying Australian Architecture. Styles and Terms from 1788 to the Present*, Angus and Robertson, North Ryde, 1989.

For consistency, all references to garden and landscape types and styles are taken from Ramsay, J. *Parks, Gardens and Special Trees: A Classification and Assessment Method for the Register of the National Estate*, Australian Government Publishing Service, Canberra, 1991, with additional reference to Richards, O. *Theoretical Framework for Designed Landscapes in WA*, unpublished report, 1997.

From 1912 to 1950, *Government Quarries (fmr)* was one of the business enterprises associated with the Government Trading Concerns Act of 1912. The industries, which included the State Brickworks, the State Saw Mills and the State Implement Works, were established by John Scaddan's Labour Government in answer to Western Australia's relatively underdeveloped economy. (Criterion 2.2)

11. 3. SCIENTIFIC VALUE

While the remains of some buildings were found at the site, it is possible further physical evidence of buildings and daily activities still remain at *Government Quarries (fmr)*. Further inspections and archaeological work could reveal additional structures or further information on those structures already found. As one of the few quarry sites to have surviving structural evidence, *Government Quarries (fmr)* is archaeologically important for the information it could reveal on the operations of an early twentieth century quarry site. (Criterion 3.2)

11. 4. SOCIAL VALUE

Government Quarries (fmr) is valued by the local community for its contribution to the historic and economic development of the Mundaring area and in particular the Darling Range. This is evidenced by its inclusion in the Shire of Mundaring Municipal Inventory. (Criterion 4.1)

12. DEGREE OF SIGNIFICANCE

12. 1. RARITY

Government Quarries (fmr) is unusual in that it is one of the few stone quarries to survive with physical evidence of the manufacturing process intact and it was the only quarry to be established under the Government Trading Concerns Act of 1912, which attempted to boost Western Australia's underdeveloped economy during the pre-WWI era and the Interwar period. (Criterion 5.1)

During the first quarter of the twentieth century, *Government Quarries (fmr)* was the largest quarry operating along the Darling scarp. (Criterion 5.1)

12. 2 REPRESENTATIVENESS

The workings and quarry faces surviving at *Government Quarries (fmr)* are representative of the type of industrial process carried out at quarry sites throughout the Shire of Mundaring and throughout the State. (Criterion 6.2)

12. 3 CONDITION

All of the structures that have survived on site are in a ruined but stable condition. The quarry faces are considered to be unstable by the Shire of Mundaring and care is required by abseilers. *Government Quarries (fmr)* is in fair condition.

12. 4 INTEGRITY

The ruined condition of the structures that have survived on the site makes it difficult to determine how the stone crushers operated and how the compressor building was integrated into the operations of the quarry. The remaining structures at *Government Quarries (fmr)* have low integrity.

The quarry faces all display evidence of rock extraction, which was their main function. However, they are no longer used for their original purpose. The six quarry faces at *Government Quarries (fmr)* have moderate integrity.

12.5 AUTHENTICITY

While the structures at *Government Quarries (fmr)* are in a ruined condition, the fabric that remains is original. *Government Quarries (fmr)* has high authenticity.

13. SUPPORTING EVIDENCE

The documentation for this place is based on the heritage assessment completed by Kristy Bizzaca, Historian, and Fiona Bush, Heritage Consultant, in July 2004, with amendments and/or additions by HCWA staff and the Register Committee.

The curtilage should extend along the southern Hudman Road, approximately following the scarp line. Near the corner with Loc. 5688 and Loc. 2833, Hudman Road turns east and the land flattens out on the southern side of the road to form a wide flat area. In this section of the reserve, the line of the curtilage needs to extend 10 metres beyond the scarp line to pick up the sites once occupied by the stables. Where the road bends again slightly to enter Greenmount Sub Lot 219, the scarp line can again form the southern side of the curtilage. The western side of the curtilage should start at the western side of Swan Loc. 2655, while the eastern side ends at the eastern edge of Greenmount Sub Lot 219. The northern boundary should follow the ridge forming the tops of the quarry faces. (see attached plan).

13.1 DOCUMENTARY EVIDENCE

Government Quarries (fmr) is a granite and diorite quarry comprising six quarry faces, the remains of two concrete crushing plants (pre-1912 and 1912) and associated concrete engine beds, the remains of a concrete and stone compressor building together with associated concrete engine beds, a short stretch of railway track and the formation for the main spur line which served the quarries. The quarry was opened in 1901 by the State Government and ceased operating in 1942.

Dr. Alfred Waylen was the first European to purchase land in Darlington. Waylen purchased three 50-acre blocks in 1883 (Lots 951, 952 and 953) on which he established a vineyard. By March 1886, Waylen had planted 24 acres with vines, fenced a 30-acre paddock (four acres of which were cleared) and built a four-room cottage and stable. He named the vineyard 'Darlington'.¹

The second stage of the Eastern Railway, between Guildford and Chidlow's Wells (Chidlow) was completed in 1884. After the line was opened, the area close to Waylen's vineyard was surveyed and sub-divided into twenty-one suburban lots. The lots lay on either side of the railway line and did not initially attract much attention, although Waylen purchased Lot 71 in 1886.²

In 1889, a railway siding was established to serve the vineyard owned by Waylen and his business partner, Hon. Josceline G. H. Amherst, Governor Broome's private secretary. The vineyard was called 'Darlington Vineyard'. In 1902 it was shortened to Darlington. Land sales in Darlington finally took off in the 1890s and a number of orchards were established: W. E. Victor and his father built 'The Glen' on Swan Location 35; Thomas Cockshutt, 'Bellair' on Swan Location 33 and John Allpike, manager of Padbury and Loton's store in Guildford, established a vineyard on his property *Leithdale*.³

The district acquired a multi-cultural air during the early years of the twentieth century. Italians were employed on the various vineyards that had developed in Darlington and Chinese labourers came to work in the market gardens

¹ *West Australian*, 31/3/1886; Tuckfield, T., 'Darlington from the beginning', Mundaring and Hills Historical Society, Darlington file, n.d., p.3.

² Elliot, I., *Mundaring: a history of the Shire, Shire of Mundaring*, Mundaring, 1983, pp. 40, 192 - 194.

³ Elliot, op. cit., p. 196; Tuckfield, op. cit., p. 7.

established by Ah Ling and Co. in 1902. The State Government at Boya established a quarry in 1901 – *Government Quarries (fmr)* – which brought a further influx of settlers to the district.⁴

Quarries first started operating in the Darling Range district during the 1870s when the Colonial Government opened up a site on the western side of Greenmount Hill.⁵ This quarry was worked by convicts who came from the nearby Greenmount Depot⁶ and produced granite used as a base for road construction and later also for ballast for the railways.⁷ In the 1880s, Peter Guger, an early settler of the district, recommended to the City of Perth that the hill range ‘contained good supplies of gravel [laterite]’.⁸ Similar views led to the development of quarries by State and local government, and by privately owned companies. Around 1883, a gravel quarry was opened at Glen Forrest (then Smith’s Mill) by the Burkinshaw brothers and additional quarries were also established in the area by the Perth City Council in 1897 (*Parkerville Quarry*), Thomas Statham and William Burton in the 1890s (*Statham’s Quarry (fmr)*), and the State Government in 1901 (*Government Quarries (fmr)*).⁹ Quarries differ from mines in that they are for the extraction of building materials, where mines are for the extraction of minerals.

Government Quarries (fmr) was developed by the State’s Public Works Department (PWD) to provide granite for the construction of the North Mole for the new Fremantle Inner Harbour. Works on the harbour commenced on 16 November 1892 when Lady Robinson, wife of the Western Australian Governor, tipped the first truckload of stone for the North Mole. In July 1899, an extension of the North Mole, at the time 3,450 feet in length, by a further 1,350 feet began.¹⁰

The limestone for the construction of the first stage and the extension of North Mole was mined and transported from the Rocky Bay quarries. It was later reported that it had been ‘found necessary to utilize a heavier class of stone for protecting the mole from winter gales’.¹¹ The supply of this heavier material, granite, initially came from a government quarry at Collie, but it was realised that additional stone would be needed to complete the work.¹²

In an oral history interview, Alexander S. Anderson, a PWD engineer, recalled that he was given the task of locating a granite formation and establishing a quarry so as to supply the material for the North Mole.¹³ This quarry was opened at Boya in 1901 and soon a small settlement consisting of iron and hessian dwellings, for approximately 150 workmen, had been erected in the vicinity of the quarry.¹⁴ A spur line from the Eastern Railway to the quarry was laid so as to allow the transportation of the stone by rail directly to Fremantle.¹⁵

4 Elliot, op. cit., p. 198.

5 Callow, B. & Associates Pty Ltd., ‘Shire of Mundaring Municipal Inventory’, 1996, Site No. 141.

6 Elliot, op. cit., p. 206.

7 ‘Shire of Mundaring Municipal Inventory’, op. cit., Site 141.

8 Ibid.

9 Ibid.

10 Battye, J. S., *The Cyclopaedia of Western Australia*, Vol. 1, Hesperian Press, Facsimile Edition, 1985, pp. 492-93.

11 Ibid, p. 493.

12 Ibid.

13 Transcript on an Interview with Alexander S. Anderson by Miss M. Lukis on 14 April 1967, cited in Elliot, op. cit., p. 199.

14 *Swan Express*, 20/7/1901, cited in Elliot, op. cit., p. 199.

15 Elliot, op. cit., p. 199.

The North Mole extension was completed in December 1902. The total quantity of stone from *Government Quarries (fmr)* used in this construction 'was 99,618 tons for a cost of £29,579'.¹⁶ Stone from the site appears to have also been used in the building of the windbreak at Rous Head, North Mole at this time.¹⁷

In 1911, Labor came to power in Western Australia under John Scaddan. This government began to establish, as well as purchase, various manufacturing and service businesses. There was some controversy about this activity as it was in direct competition to private enterprise, but it was also seen that such State-owned industries were in the public interest, especially in light of the relatively underdeveloped Western Australian economy.¹⁸ Indeed, it has been argued that some State Government industries were begun in answer to problems in the economy; for example, the high cost of building materials for the construction of worker's houses led to the establishment of the State Brickworks.¹⁹ With the implementation of the Government Trading Concerns Act 1912, the State commenced the operation of concerns such as the State Brickworks, the State Saw Mills, the State Implement Works, the State Shipping Service, the State Hotels, meatworks, ferries, tramways and the State Quarry at Boya.²⁰

The emphasis on the State run trading concerns resulted in resources being earmarked for works to *Government Quarries (fmr)*. During 1913-14, over 26,000 tons of stone was mined at the quarry.²¹ At this time, the site comprised two working faces and associated buildings such as a crushing plant, office, smithy, weighbridge, winch house, powder magazine, power house and coal storage and rail tracks.²² As a result of increased demand and output, it was proposed to install two more stone crushers at *Government Quarries (fmr)*.²³

Plans were drawn in November 1912 for the construction of further plant to precipitate the growth in production.²⁴ These plans saw the retention of the older structures and the erection of a larger, modern crushing plant, screens and bins with easy access to the main railway, a building to house the compressor and a powerhouse and transformer for the electrification of the quarry. These new buildings were located on the southwestern side of the main quarry face. A new office was also constructed to the southeast of the existing office.²⁵

Much of the stone mined at *Government Quarries (fmr)* was used for road construction and concrete. Contracts for the stone primarily went to Federal, State and Local Government projects and the activities of the State Quarry, with its increased production, were able to keep the cost of materials down for these agencies.²⁶

16 Battye, op. cit., p. 493.

17 Ibid.

18 Le Page, J. S. H., *Building a State: The Story of the Public Works Department of WA 1829-1985*, Water Authority of WA, 1986, pp. 385-86; Snooks, D., 'Development in adversity 1913 to 1946', in Stannage, C. T. (ed.), *A New History of Western Australia*, UWA Press, Nedlands, 1981, pp. 261-62; Black, D., 'Party Politics in turmoil 1911-1924', in Stannage, op. cit., p. 383.

19 Black, op. cit., p. 383.

20 Le Page, op. cit., pp. 386-87; Snooks, op. cit., pp. 261-62. The 1912 Government Trading Concerns Act was superseded by the Coalition's State Trading Concerns Act of 1916, which gave Parliament more control over the State industries and their development. (Le Page, op. cit., p. 387.)

21 Le Page, op. cit., p. 389.

22 Boya Quarries, n.d. [pre 1912], PWD 17281, Cons. 1647, SRO.

23 Le Page, op. cit., p. 389.

24 Boya Quarries, November 1912, PWD 25724, Cons. 1647, SRO.

25 Ibid.

26 Le Page, op. cit., p. 389.

The building industry, as with other industries as a whole, was impacted by the outbreak of World War I. This was largely due to economic depression and general wartime conservatism. The decline in building affected associated operations such as quarrying and this is reflected in the reduced output at the State Quarry. At its lowest point in 1916/17, *Government Quarries (fmr)* produced approximately 10,000 tons of stone compared to the 26,000 tons quarried in 1913/14. This rose slightly in later years and in the aftermath of the War, 1918 to 1921, during which time the average yearly production was 15,000 tons.²⁷

In the 1920s, a decision was made to expand the granite quarrying at Boya and this work had been completed by 1927.²⁸ A topographical survey of the site as existing in 1927 shows the large scale of *Government Quarries (fmr)* and its growth since 1912.²⁹ The pre-1912 structures (the crusher and winch house) were still extant at this time, as were the 1912 stone crushing plant, the powerhouse and the transformer.³⁰

The 1927 plan shows a residence (possibly that occupied by either the manager or caretaker) and a workers' barracks located to the north of the quarry workings. New buildings at the quarry itself to the west and northeast of the 1912 plant included a storage shed, earth closets, extensions to the compressor and a smithy. Alterations were also made to several pre-1912 buildings, such as the crushing plant on the southern side of the main quarry and the office buildings were enlarged to form one structure. Two new stables with yard were constructed to the southwest of the office buildings. Other structures on the site consisted of railway tracks leading from the working faces to the plant and main railway line, loading platforms, chutes and spoil dumps. The plan also indicates that there were at least 5 faces which had been or were being quarried by 1927.³¹

Information about the production and operation of the Boya State Quarries has been difficult to locate. It appears that the production figures and costings for the place would require an in-depth search of the State Government budgets and earnings from the 1920s up to the 1940s. In general, it is known that *Government Quarries (fmr)* was operating on a break-even basis for much of this period.³² It is likely that the trading concern was found to be uneconomic, which led to the cessation of crushing there in May 1942.³³

In 1949/1950, the Annual Report of the Public Works Department, which was responsible for State-owned enterprises, states:

The State Quarries ceased crushing in May 1942. The buildings, plant and tools have been sold as far as possible and action has been taken to have the undertaking removed from the operation of the Trading Concerns Act.³⁴

27 Le Page, op. cit., p. 389; Seddon, G. & Ravine, D., *A City and its Setting*, Fremantle Arts Centre Press, Fremantle, 1986, pp. 169 – 176; Hocking, I., 'Growth and Change in Central Perth', in Pitt Morison, M. & White, J. (eds.), *Western Towns and Buildings*, UWA Press, Nedlands, 1979, p. 276.

28 Le Page, op. cit., p. 389; Boya Quarry, May 1928, Topographical Survey, as existing 12/11/1927, PWD 25724, Cons. 1647, SRO.

29 See Boya Quarry, May 1928, Topographical Survey, as existing 12/11/1927, PWD 25724, Cons. 1647, SRO as compared to Boya Quarries, November 1912, PWD 25724, Cons. 1647, SRO & Boya Quarries, n.d. [pre 1912], PWD 17281, Cons. 1647, SRO.

30 Ibid.

31 Boya Quarry, May 1928, Topographical Survey, as existing 12/11/1927, PWD 25724, Cons. 1647, SRO.

32 Le Page, op. cit., p. 467.

33 PWD Annual Report, 1949/1950, p. 45, in *Votes & Proceedings*, 1951, Vol. 2.

34 PWD Annual Report, 1949/1950, p. 45, in *Votes & Proceedings*, 1951, Vol. 2.

Expenditure in relation to *Government Quarries (fmr)* does not appear in the State Enterprises costings for the year ended 30 June 1951, which indicates that this had been removed from the State Trading Concerns by this time.³⁵ It is interesting to note, however, that during its period of operation as a trading concern (from 1912 to 1950), a total of £33,293/18/11 had been spent at *Government Quarries (fmr)*. (This amount takes into account the repayment of loan funds from any profit that may have been made from the enterprise.)³⁶

The classification of Reserve 8006, *Government Quarries (fmr)*, was altered in June 1957 from Quarries to Park and Public Recreation area. The reserve was eventually vested with the Shire of Mundaring on 29 October 1976.³⁷ Since that time, up to the present (2005), the place has been used for such activities as walking, picnicking, rock climbing, abseiling and geological studies. In 1988, the quarry served as a stage for performances of a Hindu epic *The Mahabharata*, directed by Peter Brook.³⁸ In 1998, the place was part of the itinerary for the Geological Society of Australia's (WA Division) Prider Field Trip, a professional development day for high school geology and science teachers.³⁹

13.2 PHYSICAL EVIDENCE

Government Quarries (fmr) is a granite and diorite quarry comprising six quarry faces, the remains of two concrete crushing plants (pre-1912 and 1912) and associated concrete engine beds, the remains of a concrete and stone compressor building together with associated concrete engine beds, a short stretch of railway track and the formation for the main spur line which served the quarries. The quarry was opened in 1901 by the State Government and ceased operating in 1942.

The quarry is located to the south of Coulston Road, Boya, at the southeast end of Hudman Road. The whole of the quarry site has gradually been recolonised by native plants (together with some exotic species), except on the quarry faces. The quarry is situated in a partly residential area with houses along the southern side of Hudman Road, which then gives way to bushland. At the western end of the quarry is a weatherboard cottage, which is thought to be the cottage shown on the 1927 plan. This building, which has been substantially altered, is now in private ownership.

To the northeast of the Quarry are extensive recreational areas consisting of the former Mountain Quarry, now a recreation area vested with CALM, and the former Mundaring–Midland Railway line, which is used as a walking/bridle trail. *Government Quarries (fmr)*, while affording sweeping views across the plain to Perth's Central Business District and the Darling Scarp to the south, is extremely difficult to see from the coastal plain.

Access to the quarry sites is along the route of the former spur line, which served the quarries and the crushing works. There is no evidence of the metal rails. Today, the formation is a dirt track, which commences at the southeast end Hudman Road. The track runs along the southwest side of the quarry, which is located along a granite and diorite scarp, which is aligned approximately east to west. The track formation has been built up with earth fill in some places to create

35 PWD Annual Report, 1950/1951, p. 57, in *Votes & Proceedings*, 1951, Vol. 2.

36 PWD Annual Report, 1950/1951, p. 57, in *Votes & Proceedings*, 1951, Vol. 2.

37 *Government Gazette* 21/6/1957, p. 1993.

38 'Shire of Mundaring Municipal Inventory', op. cit., Site 141; Information provided to Fiona Bush by members of the Mundaring & Hills Historical Society, June 2004.

39 Prider Field Trip notes, on HCWA file PD 16788.

a comparatively level route. There is a slight fall to the east. Due to this infill, the land on the southern side of this track falls away quite steeply in some places.

Government Quarries (fmr) has six individual quarry faces, which represent the expansion of the quarry. The first face is approximately 75 metres from the beginning of the track on Hudman Road. The last face lies approximately 500 metres from the entry. The 1927 plan approximately conforms to what is visible today, but as the quarry faces continued to be operated after this plan was drawn, there have been slight changes to the orientation of the quarry faces and the spread of the spoil heaps. Native vegetation is gradually taking over the site, covering the spoil heaps and in some places growing on the quarry floors.

The location of the granite and diorite formations has led to the rock being quarried on two separate levels. On the lower level there are three comparatively small faces (quarries 1, 2 and 3) located quite close to the main spur line.⁴⁰ The three main quarry faces (quarries 4, 5 and 6), are located on the upper level, approximately 10 metres above the spur line and about 50 metres to the north of this line. Quarries 5 and 6 are the two largest quarry faces and are located at the southeast end of the site, quite close to each other. They are separated by a natural high rock wall. The third quarry (number 4) lies slightly to the northwest of these two faces.

Quarry 1 comprises a typically worked vertical face displaying mostly granite. The entrance is comparatively narrow and there have been some rock falls near the face. The remains of a pair of metal railway tracks, approximately 1 metre long, lie about 15 metres from the quarry face. The tracks have been covered with soil and debris and it is possible that a longer section may still be covered with soil.

Quarry 2 is slightly larger than 1, otherwise it has similar details, although no tracks survive. Quarry 3 is not quite so high although it is much wider than 1 and 2. Partially dressed granite blocks lie on the southeast side at the entrance to the quarry.

The three upper quarries are quite separate from the two lower quarries and are accessed via a track that splits off from the main route and climbs steeply to enter quarry 6 at its eastern end. Quarry 6 is the eastern most worked face and is very high and wide. The gravel track passes along the southern side of this quarry where it enters the floor area of quarry 5. The track then continues across this wide floor to the northwest end where the floor narrows bringing the track quite close to the edge of the floor. The track then continues northwards where it enters quarry 4, which is somewhat smaller than 5 and 6.

The wide flat floor area on the southern side of the quarries has been enlarged through the dumping of excess soil and rock (spoil heaps). The southern side of this floor ends somewhat abruptly and approximately 10 metres below is the main spur line track. The two crushing mills are located along this scarp line, obviously located to take advantage of the sloping site, which assisted with the processing of the rock, as the physical evidence for these buildings was spread from the top of the scarp to the bottom.

No evidence of metal tracks was found on the quarries' wide floor, however soil and debris may have covered the tracks. Buildings once located in this floor area include: the compressor house, smithy, storage shed, an earth closet, and winch house. Only the remains of the compressor building were found.

⁴⁰ For ease of reference, the spur line is considered to be ground level and other features are located either above or below the spur line, or ground level.

The remains of the compressor building lie on the southern side of the quarry floor, between quarry 5 and 6, on an elevated area of ground. The elevated flat site appears to both natural and artificial (created through the use of spoil dumps). On the southern side of this area is the scarp. Only the north wall of the ruins has survived due no doubt to the fact that it was built into the side of a hill. The building appears to have been constructed in two phases.⁴¹ The oldest section (the eastern end) is built from roughly dressed, smooth faced granite set into the hillside. Round timber posts are set at regular intervals between sections of the stonework and probably assisted in supporting a roof structure. The roof is no longer extant. The later stage, at the western end, is constructed from concrete and is also partially built into the hillside. A small section of the northern concrete wall remains.

The floor in the oldest section is in two parts: one section is bitumen while the section at the eastern end is concrete. No floor was visible in the western section due to the amount of vegetation now covering this area. Several rectangular concrete engine pads, with threaded metal rods protruding from each corner, remain in situ on the floor. The whole area is overgrown with vegetation.

One of the concrete pads carried a roughly scratched inscription: 'G.Q., 2.3.1957, R.I.P.'

The southern half of the building appears to be missing and there was no evidence of southern wall.

To the southeast of the compressor building, at the edge of the scarp, were the remains of several concrete and bitumen floors and isolated concrete engine pads which ran down the scarp. Only small sections of the floors were visible, the remainder being covered by dirt, debris and vegetation. The remains were found on two separate levels below the main floor of the quarry. Concrete engine pads were also associated with these floors. Directly below these floors, on the same level as the main spur line, was a long concrete wall, approximately 3 metres high, which had been built into the hillside. In front of this wall was what appeared to be a loading platform constructed from rendered stone and bitumen. Associated with these floors and the wall was a hard black slurry which ran down the scarp, on one side of the concrete wall and ending at ground level. The composition of the slurry indicated that this was the waste material from the stone crushing process. The incomplete features and engine pads on the hillside, together with the concrete wall, may represent the remains of the original crushing plant which is shown on the pre-1912 and 1912 plans or they may be related to the new stone crusher which is shown on the 1927 plan. It is also possible that the new crushing plant utilised portions of the older plant and those sections not required were partially covered over. The overlying soil debris and vegetation make it difficult to come to any firm conclusions at this stage.

No evidence was found of the earlier powerhouse and coal storage area shown to the east of the compressor building and stone crusher in all of the plans.

The remains of the stone crushers that were installed in 1912 can be found directly below quarry 5, to the southwest of the compressor building. These remains fall into two sections. At ground level are three long concrete walls,

⁴¹ This tallies well with the plans for the site which show a rectangular compressor building in the 1912 plans. The plan for the building is indicated by a hatched rather than a solid line so that it is unclear whether it was planned in 1912 or whether it is a later addition to this plan. By 1927 a much larger building is shown with a 'stepped' northern façade and straight southern façade. The physical evidence suggests that the western end of the building is missing.

approximately 3 metres high, which have been built into the hillside. The spur line lies just to the south of these walls. The walls are spread out in a line along the base of the scarp. Each wall is approximately 10 metres long. Two are paired quite close together, only one metre apart, while the third is separated by about five metres. Directly above each of these walls are pairs of tall concrete engine pads fitted with threaded metal rods. Hard black dirt slurries, similar to that described previously, are visible near the southeast end of the walls. Directly above two of the walls and associated engine pads, on the quarry floor, are two dirt ramps, which are aligned with the engine pads and the walls (the third ramp appears to have been destroyed).

No evidence was found for the 1912 powerhouse and transformer or the stables and yard. All of these features would lie to the southeast of the stone crushers. A flat area slightly to the east of the 1912 stone crushers appeared to have the remains of a concrete foundation or floor but it was difficult to determine how this feature related to those structures shown on the 1927 plan.

All of the structures are in a ruinous condition and the manner in which the buildings functioned is now difficult to discern without the original plans.

As mentioned previously, the 1927 plan notes the presence of a residence and barracks on the site. A weatherboard building is currently located on the southern side of Hudman Road, to the west of the present entrance. The style of the building and its size suggests that this is likely to be the building shown on the 1927 plan. The building has a verandah on the front, which has been enclosed at some time. Additions have been made to the rear of the building and a verandah placed down the eastern side. New openings have also been made in the eastern wall to provide access to the new verandah. The hipped roof is covered with asbestos cement tiles. The building appears to be in good condition. It is outside the curtilage of *Government Quarries (fmr)*.

The area where the barracks building was thought to have been located was searched extensively with no remains of this building found. However, a rectangular stone structure approximately two metres long, one metre wide and 1.25 metres high was found in what is thought to have been the general vicinity. It resembles the foundation for a chimneystack however, there is no evidence of a hearth or opening for the flue and no smoke staining. The top is sealed with a layer of cemented stones.

Approximately 24 metres to the southwest of this structure is a flat stone plinth measuring approximately 1.75 metres by 3 metres. While the area around this plinth is heavily overgrown no additional evidence for other structural remains were found in the vicinity.

The original uses for these two structures are not known. Nor is it clear whether these two structures have some association with each other. While the area carried a heavy covering of sweet peas and other vegetation it is unlikely that clearing the area would reveal any additional material above ground. Archaeological evidence may exist below the surface.

The Shire of Mundaring has erected signage to indicate that the quarry faces are dangerous. Rock debris at the base of all of the quarries indicates that rock falls have occurred over the years.

13.3 COMPARATIVE INFORMATION

There are nearly thirty quarries listed on the Heritage Council's database. None of these have been placed on the Register to date. The majority of the listings are

for limestone quarries or quarries opened to provide raw materials for brick making. None of these listings, except for Greenmount and Mountain quarries, are for granite and diorite quarries. Only one limestone quarry and associated kilns has been placed on the Register, Cooper's Lime Kilns (4558) at Mindarie.

Several granite and diorite quarries were established along the Darling Scarp during the nineteenth and early twentieth centuries. Five of these were established in the Mundaring district. These included: Greenmount Quarry (1870s), Parkerville or *Clifton Quarry* (1896), Mountain Quarry (1902), Mahogany Creek Quarry (1926) and *Government Quarries (fmr)* (1901). Both Greenmount Quarry, the first to be established in the district, and *Clifton Quarry* were opened to supply road base for Perth's streets. Greenmount Quarry was initially established by the colonial government, before being leased out to private operators. *Clifton Quarry*⁴² was opened by the Perth City Council. Mountain Quarry was established by the state railway department to supply that department with ballast. Mahogany Creek Quarry was a private operation supplying granite rocks for building and cemetery purposes. No physical remains could be found of Greenmount Quarry and while the other quarries have all retained their quarry faces and spoil heaps none of the buildings associated with stone crushing have survived.

Aboriginal ochre mines, such as those listed in the Aboriginal Sites Register, are not comparable with *Government Quarries (fmr)*, as ochre is not a building material.

At present only one other quarry along the Darling Scarp is known to have retained physical evidence of quarry manufacturing processes, *Statham's Quarry (fmr)* near Gooseberry Hill. This quarry was established by Thomas Statham in c. 1894. *Statham's Quarry (fmr)* was purchased by the Perth City Council in 1920 after *Clifton Quarry* became uneconomical. A bush fire went through the quarry site in 1957, destroying the extensive plant that had been constructed by Statham and Perth City Council. The remains of the crushing building have survived at *Statham's Quarry (fmr)*.

While the crushing building at *Statham's Quarry (fmr)* is more intact than those found at *Government Quarries (fmr)*, *Government Quarries (fmr)* is a much larger site and the number of stone crushers and quarry faces indicates that this was a much larger operation in comparison to *Statham's Quarry (fmr)*. However, both sites are rare in that they have retained evidence of the manufacturing processes that once took place at these quarries.

Government Quarries (fmr) is the only quarry that was operated by the state government under the Government Trading Concerns Act of 1912. It represents an attempt by the government of the day to improve Western Australia's economy by initiating the development of a manufacturing industry.⁴³

13.4 KEY REFERENCES

No key references.

13.5 FURTHER RESEARCH

Information about the production and operation of the Boya State Quarries, including the demographics regarding the workers, has been difficult to locate. It

⁴² Database No. 9191. This place was assessed in 2001 and found to have insufficient cultural heritage significance to be included on the Register.

⁴³ Information for this section obtained from the HCWA database.

appears that the production figures and costings for the place would require an in-depth search of the State Government budgets and earnings from the 1920s up to the 1940s, which is beyond the scope of this project. This is an area for further research.

Further work needs to be carried out on the compressor building site to delineate the extent of the building and also along the scarp line around the 1912/1927 stone crusher (the one lying to the east of the 1912 crushers) to determine whether this was the early crusher shown in the pre-1912 plan or a replacement crusher.