

**NORTH CENTRAL GOLDFIELDS PROJECT**

**HISTORIC MINING SITES  
IN THE  
MALDON  
MINING DIVISION**

**PART TWO: SITE GAZETTEER**

**David Bannear**

**Department of Conservation and Natural Resources  
North West Area**

**May 1993**

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**SITE NO. & NAME:**

1	HAVILAH CO.
2	CHARLOTTE PLAINS PIONEER CO.
3	DEEP LEADS ELECTRIC COMMISSION CO.

**LOCATION:** Berry-Moolort-Loddon Deep Lead, Baringhup.

**VHR NO:** 3 H1689

**HI NO:**

1	H7623-0002
2	H7623-0003
3	H7623-0004

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**DIRECTIONS:** West side of the Bald Hill-Baringhup Road, 7 km south west of Baringhup. Shafts 1.7 km apart.

**MUNICIPALITY:** Sites 1 and 2—Mount Alexander Shire  
Site 3—Central Goldfields Shire

**LAND STATUS:** Freehold Land

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**HISTORY:**

Charlotte Plains deep lead prospecting (1883 to 1888).

March 1883. There is one party boring a line of holes in the parish of Eddington, between the Deep Creek and the Loddon River. From the last hole bored, near Rumboldt's farm, the prospect was sufficient to induce them to start a shaft from the surface, and a steam engine has been purchased to work the mine.<sup>1</sup>

June 1883. The company on the Charlotte Plains, near Rumboldt's farm, is also sinking a shaft and erecting a steam-engine for pumping and hauling the dirt.<sup>2</sup>

June 1887. Alluvial Mining. In alluvial mining there is no improvement hitherto. A bore has been started near the Boundary Gully on allotment 12A1 of section 3, parish of Eddington, on the north-west of the Carisbrook-road. The bore has passed through between 70 and 80 feet of basaltic rock, under which it has passed through several strata of drift to over 200 feet. At the bottom the drift is very loose, and it is found a difficulty to keep open the bore. A log or tree has been passed through, which, in my opinion, is an indication of being near the bottom. To all appearances, the Charlotte Plains before long will become a large gold-field. All the leads from Maryborough, Talbot, Creswick, Daylesford, and Castlemaine are trending in that direction, and the only outlet is at Eddington, near the junction of the Loddon and the Tullaroop Creek, where the basaltic bed is only about half-a-mile in width.<sup>3</sup>

September 1887. Boring is still going on on the Charlotte Plains, and the third bore on lease No. 659 P.P. is now down 177 feet, and still in drift.<sup>4</sup>

December 1887. Alluvial. The only work done on the Charlotte Plains is on lease No. 659, private property. The fifth bore has been recently bottomed at 133 feet, but this being on 39 feet higher ground than the deep bores would be equal to 100 feet shallower than the first and fourth bores, both of which have passed through drift containing gold in the cores.<sup>5</sup>

September 1888. Alluvial. Boring is still going on in Lease No. 977, Charlotte Plains. In the last bore they got through the rock at 75 feet, and came on to a heavy wash, where (at 91 feet) the rods got jammed and cannot be got out. Another bore is to be started about half-a-mile further north. The bore put down in Lease No. 723, P.P. is bottomed at 305 feet 8 inches (in wash).<sup>6</sup>

December 1888. The Pioneer Company, on the Charlotte Plains, has bottomed the ninth bore at a depth of 278 feet 9 inches; there is 5 feet of wash on the bottom, with a good prospect of gold. Golden prospects have also been found in three other bores, all nearly of the same depth. Having now proved the deep ground to be running through their lease, their next step, I presume, will be to select a position for the shaft, and start sinking. Nearly all the other companies having been waiting the result of this company's operations.<sup>7</sup>

March 1889. Alluvial. The Charlotte Plains Pioneer Company has commenced to sink a shaft, and are now down 85 feet, but have not yet got through the basaltic rock.

The Havilah Company, adjoining on the west, has bottomed another bore at a depth of 296 feet.<sup>8</sup>

June 1891. In connection with alluvial mining, the Charlotte Plains Pioneer Company has put up several bores from the back of the drive to the wash, and as favourable prospects were discovered in several of them, a large area of

ground has been applied for in the vicinity and for miles around. The Havilah Company has again started boring for the lead.<sup>9</sup>

October 1898. On the following morning a party, consisting of the Minister, Messrs. Stirling, W.B. Gray, J. Drysdale Brown (representative of three English companies), and Wright (engineer to the Tasmanian Mine, Beaconsfield), made a tour of the district to view the works in progress by the great alluvial mining companies, namely, The Gold Estates, Charlotte Plains Pioneer, Deep Leads Junction, and Havilah. At each mine evidence of great undertakings were noted.<sup>10</sup>

Amalgamation of both properties. Charlotte Plains Consolidated Co. (c.1900 to 1909).

c.1900-1907. The Charlotte Plains Consolidated Company's lease, consisting of 4,000 acres, is situated in the south of the parish of Eddington, and about midway between the townships of Carisbrook and Baringhup.

Boring operations were commenced in 1887, and proved the existence of a deep lead, with the result that the Charlotte Plains Pioneer Company was formed, with a nominal capital of £40,000, in £1 shares, the shareholders consisting principally of those who had supplied the money for boring. A pumping and winding plant, which at that time was considered up-to-date and of full capacity, was erected, and a large amount of developmental work was carried out, when a burst of water and drift occurred, resulting in the loss of the mine. Subsequent operations have proved that, even if such loss had not occurred, the original plant would have been quite inadequate to cope with the volume of water to be pumped before driving in wash-dirt could be commenced. The shareholders were unable to supply the necessary funds to recommence operations, and a two-thirds interest in the property was granted to London capitalists for a sum of £20,000, and a company owning the adjoining mine (the New Havilah) soon afterwards obtained £25,000 from English capitalists on similar conditions. An amalgamation afterwards took place, and this mine now forms part of the Charlotte Plains Company's workings. It was soon discovered that the amounts above mentioned were insufficient to develop the mine, but the prospects of the preliminary work were sufficiently encouraging to justify additional capital coming forward when required. The present company consists of 260,000 shares at £1 each, and 520,000 shares at 3s 4d each, the legal manager being the Hon. J. Drysdale Brown, of Collins-street, Melbourne. Boring operations have proved the existence of a lead about 500 feet wide. An eastern and western run of gold frequently occurs in this lead, the latter usually being in the deeper ground and carrying the higher values in wash-dirt, and really constitutes the main lead ... From the Pioneer shaft, which is 344 feet deep, a main level has been driven westward 1,040 feet to the edge of the lead. At a point about 1,000 feet from the shaft, a south-west branch bottom level has been driven towards the New Havilah workings, and from the bottom level rises communicate with the intermediate and wash drives.

Auriferous quartz leaders, which have assayed up to 10 dwts per ton, have been occasionally cut in the bottom level. Recent developments indicate that the main and deeper deposit of wash-dirt contains highly payable gold ... The chief difficulty now appears to exist in raising sufficient capital to cut up the payable wash-dirt and panel it out.

The Havilah shaft, which is 339 feet deep was sunk at a distance of a little over a mile south-westward from the Pioneer shaft. Extensive wash workings have been carried out on the eastern deposit of wash, but in the author's opinion the best values lie still untouched to the west of the ground already treated.

Up to the end of 1907, the company had called up £232,400 of capital, and had treated 13,600 fathoms for a yield of over 6,800 oz, valued at about £27,000. About 250 men were engaged on the mine.

A sum of £25,000 has been spent on the electrical equipment of the power house, the plant being the property of the Deep Leads Electric Transmission Company, which originally consisted of the Charlotte Plains, the Victorian Deep Leads and Junction Deep Leads Companies, formed to supply power for pumping, hauling, and other mining work. The plant at the Central Power Station, which adjoins the Charlotte Plains mine, consists of three sets of 400 Kilowatt generators of the revolving field type, direct coupled to 600 H.P. compound condensing engines running at 150 revolutions per minute, and producing a three-phase alternating current at 6,600 volts and 60 cycles per second. Two generators are in constant use, the third being kept as a stand-by.

Pumping at both shafts is done by two three-throw double-acting plunger pumps, each capable of raising 2,500,000 gallons of water per 24 hours. It is by this machinery that the water trouble has been overcome.

The underground haulage plant at each shaft consists of a motor generator supplying 75 amperes at 240 volts, an earthed return being used. A 10 H.P. electro-locomotive, with the electrical parts protected from the water, is used for hauling, and will pull 60 full-loaded trucks, at a speed of 6 miles per hour, along a tram line about 5,000 feet long. The lighting of the drive is done by 16-candle-power electric incandescent lamps, and an extensive telephone system is also in operation. The puddling plant consists of a plat capable of containing four puddling machines, but only two are at present erected. The harrows make eight revolutions per minute, and power is supplied through bevelled gear from a 40 B.H.P. electro-motor. With four machines at work it is estimated that 900 tons can be handled per twenty-four hours. Another 40 B.H.P. electro-motor drives a Root's blower capable of discharging 15,000 cubic feet of air per minute, which is used for ventilation purposes. The whole of the mine workings and plant are in excellent order, and, provided no great fall in wash values occurs, the mine will be worked for years to come.

<sup>11</sup>

1906. The Victorian Deep Leads Company, the only alluvial mine working within the division during the year, completed the installation of a double action 3-throw pump, similar to those at work in the Charlotte Plains Consolidated mine. This, with the two 20-foot Cornish pumps previously at work, gives a pumping capacity of over 5,000,000 gallons per day. A second shaft, in which, I am informed, additional pumps of very large size are to be fixed, has been commenced near the site of the present shaft. The whole of the pumping machinery at present in use in this mine is driven by electric power obtained from the power station of the Charlotte Plains Electric Transmission Company, some five or six miles distant. The average number of men employed by this company was 26<sup>12</sup> underground, and fourteen on the surface.

1907. Alluvial Mines. Of the four deep alluvial mines in this division three--the Loddon Valley Goldfields, Charlotte Plains Consolidated Gold Mines, and Victoria Deep Leads--have continued, with their splendid pumping machinery, to reduce the pressure of water in the old river beds, and in the two former mines have so reduced it as to be able to open up drives in the wash, and in the case of the Charlotte Plains Consolidated to extract a considerable quantity of gold therefrom.<sup>13</sup>

1908. Alluvial. Of the three large deep alluvial mines in this division that were carrying on operations, and employing a large number of hands twelve months ago, I regret to have to report that two of them, viz., the Loddon Valley and Victorian Deep Leads Companies have suspended operations. The Charlotte Plains Company (the one that continues working) would in all probability have also suspended work had the Mines Department not come to its assistance with a loan of £6,000. This loan has been attended with fortunate results, since by its assistance what appears to be a large field of highly-payable wash has been discovered, and the future of the mine appears exceedingly promising. A large number of men are now employed, and this number must be considerably increased during the existing year.<sup>14</sup>

1909. Alluvial mining. I regret to have to report that there is practically no alluvial mining now being carried on in this division. The one mine that was working at this time last year, and about which I had good hopes, viz., the Charlotte Plains Company, has ceased operations, and I do not think there is any probability of work being resumed.<sup>15</sup>

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*DESCRIPTION & INTERPRETATION:*

Havilah Co. (operated from 1889 to 1909).

The remains of this company's operations consist of a large intact grey/blue mullock heap associated with a small, partially quarried heap of washed gravel. Little survives of any machinery footings barring a small concrete slab and some scraps of timber.

Charlotte Plains Pioneer Co. (operated from 1887 to 1909).

The remains of this company's operations consist of a large mullock heap and partially quarried heap of washed gravel. The mullock heap has a diameter of 90 m and would be around 20 m high. Little trace of any machinery footings etc.

Deep Leads Electric Commission Co. (operated from c.1906 to 1909).

On the south west side of the Charlotte Plains Co's heap are the footings of the Deep Lead Electric Commission Co's Central Power Plant. The site consists of 1-1/2 ft thick concrete footings for two adjoining structures. Presumably the footings were for Gal. Iron. sheds. The southern footings measures 46 ft (14 m) and contains a massive, below floor, concrete generator foundation which measures 32 x 24 ft (9.75 x 7.3 m), and stands 7 ft (2.13 m) high. On the concrete foundation are several stone mounting beds with 1-1/2-inch mounting bolts.

The northern footings are 50 ft (15.25 m) square and contain two similarly sized concrete and stone generator foundations. There are also four concrete pedestals running along the front of the eastern ends of the foundations. The basements area surrounding the mounting beds in both buildings contains farm rubbish and the bones of many sheep.

15 m west of the machinery site is a large square dam. On the dam's edge is a small brick base (machine-made variety).

*INTEGRITY/CONDITION:* Power plant foundations in good condition.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because the sites are associated with the first large-scale deep lead mining in the Maldon Mining Division.
- Scientific Significance, because the sites demonstrate the utilisation of electric power generation for deep lead mining.

The site's significance is increased by cumulative value because:

- the sites form part of a group or network of sites that together represent the development of deep lead mining technology on northern extension of the Berry-Moolort-Loddon deep lead, Charlotte Plains. The network comprises Sites 3, 4, 5 and 6 (Deep Leads Electric Commission Co., Victorian Deep leads Co., Loddon Valley Co. and Moolort Goldfields Co.).

SIGNIFICANCE RANKING:     Site 3 Listed Heritage Register.  
                                      Sites 1 2 & 3 Listed Heritage Inventory.

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**Assessor: David Bannear****Date: November 1992.**

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- 1 Mining Surveyors' Reports, March 1883
  - 2 Mining Surveyors' Reports, June 1883
  - 3 Mining Surveyors' Reports, June 1887
  - 4 Mining Surveyors' Reports, September 1887
  - 5 Mining Surveyors' Reports, December 1887
  - 6 Mining Surveyors' Reports, September 1888
  - 7 Mining Surveyors' Reports, December 1888
  - 8 Mining Surveyors' Reports, March 1889
  - 9 Mining Surveyors' Reports, June 1891
  - 10 Australasian Mining Standard, Oct 1898, p3342.
  - 11 Hunter, S., The Deep Leads of Victoria, No. 7 in 'Memoirs of the Geological Survey of Victoria' series, Department of Mines, Victoria, 1909, pp. 79-80
  - 12 Annual Report, 1906
  - 13 Annual Report, 1907
  - 14 Annual Report, 1908
  - 15 Annual Report, 1909

**SITE NO. & NAME:** 4 **VICTORIAN DEEP LEAD CO. (KEYSTONE SHAFT)**

**LOCATION:** **Berry-Moolort-Loddon Deep Leads, Baringhup**

**HI NO:** **H7623-0005**

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**DIRECTIONS:** 1 km west of the junction of Keystone Mine and Baringhup-Moolort Rds. North side of Keystone Mine road.

**MUNICIPALITY:** Central Goldfields Shire

**LAND STATUS:** Freehold Land

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**HISTORY:**

The Loddon Valley Goldfields mine is situated about 2 miles in a north-easterly direction from the Moolort railway station, and on the northerly extension of the main Berry-Moolort-Loddon lead in the parish of Moolort. The lease consists of 6,921 acres.

It was originally included in the lease of the Victoria Gold Estates, which company owned about 7 miles of the main lead which was first referred to in 1897 as the Berry-Moolort-Loddon lead.

The Victorian Gold Estates in 1898 sank two shafts about 4 miles apart; the northern one now included in the company's lease is known, and will be referred to as the No. 1 shaft. This No. 1 shaft was sunk at the No. 4 Government Diamond Drill, but apparently little regard was paid to the suitability or otherwise of the site, and as the line of bores was carried in a north-easterly direction from the shaft it became obvious that a grave blunder had been made, and on the completion of the boring a sectional drawing of the results showed the lead to be over 5,000 feet eastward from the shaft, but, notwithstanding this, driving towards the lease was persevered with.

Subsequently, about 1901, the Victorian Gold Estates Company divided the property into two parts, which were worked by the Moolort Goldfields and Loddon Valley Companies respectively, and pumping and exploration work in a small tributary lead was carried on by the Loddon Valley Company until about June 1903, when the reconstruction of the companies became necessary owing to shortness of funds. By this time the Loddon Valley Company (No. 1 shaft) had extended the reef drive eastward to the main lead, a distance of some 6,000 feet, and had been pumping about 2-1/2 million gallons of water per diem. The cost of all this was about £120,000. On reconstruction being effected the pumping plant was at once increased to between 3-1/2 and 4 million gallons per diem, and subsequently a beam-engine pump from one of the Berry mines was obtained and set to work, but this pump was found to be so expensive for fuel and inefficient in results that it was discarded as soon as possible. After this huge amount of work had been more or less completed, it was recognised that the No. 1 shaft and main level therefrom would not command the deep ground, and a new shaft, now known as the Keystone Shaft, some 4,500 feet nearer the head, and 15 feet lower in surface level, was decided upon. The pumping machinery and mining plant were shifted from the Moolort Goldfields Shaft and re-erected at the Keystone Shaft in a little over five months, the pumps being started in August, 1906, and, at the end of 1906, wash-dirt was touched. Since then the pumps have been kept going, and a large area of more or less auriferous wash-dirt is drained. The expenditure from the end of 1903 until the present date is some £82,000, making in all an expenditure of £202,000 on the original property.

Nearly 200 bores have been put up from the back of the drives and about 30 safety lock-doors built.

Messrs Bewick, Moreing and Co., of Melbourne, are the legal managers for this company, which has a capital of 160,000 £1 shares fully paid up.

So far only the affluents and tributaries of this lead system have been described. Many, however, are so large that they have justly been termed "main leads". North of the boring completed in 1904 by the Loddon Valley Pioneer Syndicate the channel is known as the Berry-Moolort-Loddon lead and has been proved in its northerly extension by thirteen lines of bores for a distance of 30 miles, giving in nearly all cases fair results in wash and gold prospects.

No mines are at present at work on this portion of the main lead, the Loddon Valley goldfields previously mentioned and the Victorian Deep Leads having recently closed down. The latter sunk a main shaft and drove a main reef drive and pumped for some years, but no wash was operated on, and the lead at the locality tested appears to be widespread and probably unpayable.<sup>16</sup>

1898-1909. Victorian Deep Leads Mine. Boring operations to locate the northerly extension of the main Berry-Moolort-Loddon Lead were carried out during 1898 in the locality of Baringhup and Neereman. The cost of most of the bores was defrayed by the companies interested, but Government supervision was exercised over the work to insure correctness in records, &c. The prospects of gold obtained from several of the bores were favourable, and payable results were confidently anticipated.

Shaft sinking was commenced in 1899, and a westerly reef drive was extended out about 525 feet. Work was then suspended for some time, and in July 1903, the management of the mine was taken over by Messrs Bewick, Moreing and Co. No plat having been cut, and the reef drive being considered too small, these two works were immediately undertaken, together with the further extension to the west of the reef drive.

A steam plant was first used for pumping, but subsequently electricity was used, and both the Cornish pump and three-throw pump were electrically driven. Approximately some 3,600,000,000 gallons of water were pumped when the company decided to close down. The portion of the lead where the mine is situated is very wide, and large tributaries converge at that point, consequently the wash is scattered and relatively poor. This factor is also responsible for the slow reduction of the water pressure when pumping was in full swing, and it is probable that nothing less than 10,000,000 gallons per day plant will be effectual should the reopening of the mine ever be considered.

The boring in the northern portion of the company's lease proved a well-defined and somewhat narrow valley, with less overlying and waterlogged strata than where the present mine is, and notwithstanding the recent failure to carry on operations, there is reason to anticipate that much better results will be obtained in such portion of the lease.<sup>17</sup>

1905. The only alluvial mine within the division is the Victorian Deep Lead (an English company), situated near the Loddon River, at Baringhup. In this mine 700 feet of main-reef drives and cross-cuts were driven during the year, and 15 bores were put into the wash for drainage purposes. During the same period 690,312,662 gallons of water were pumped. Finding the pressure of water very strong, the company decided to materially increase the pumping capacity, and is now installing a new three-throws pump, which, when completed, will bring the total pumping capacity of the plant up to 6,000,000 gallons per day. For the installation of the new three-throws pump a large chamber has been cut in hard solid blue rock, and about 40,000 cubic yards of rock have been taken out. When completed, the cost of the chamber, pumps and machinery will be about £9,000. The shaft is 310 feet deep, and the end of the main reef drive is 1,700 feet from the shaft. The average number of men employed is 32, of whom 11 are at work on the surface. The pumps now in use are two 20-inch diameter Cornish lifts, which are driven by electricity. The whole of the pumping plant, when complete, will be driven by electricity.

The treatment of sand by the cyanide process continues to be a flourishing industry in this division. At least 46 plants have been in active operation during the year, employing not fewer than 245 hands and about 80 horses and drays. The yield of gold from this source, which, although I am unable to give, is, I know, considerable.<sup>18</sup>

1906. The Victorian Deep Leads Company, the only alluvial mine working within the division during the year, completed the installation of a double action 3-throw pump, similar to those at work in the Charlotte Plains Consolidated mine. This, with the two 20-foot Cornish pumps previously at work, gives a pumping capacity of over 5,000,000 gallons per day. A second shaft, in which, I am informed, additional pumps of very large size are to be fixed, has been commenced near the site of the present shaft. The whole of the pumping machinery at present in use in this mine is driven by electric power obtained from the power station of the Charlotte Plains Electric Transmission Company, some five or six miles distant. The average number of men employed by this company was 26 underground, and fourteen on the surface.<sup>19</sup>

1907. Alluvial Mines. Of the four deep alluvial mines in this division three--the Loddon Valley Goldfields, Charlotte Plains Consolidated Gold Mines, and Victoria Deep Leads--have continued, with their splendid pumping machinery, to reduce the pressure of water in the old river beds, and in the two former mines have so reduced it as to be able to open up drives in the wash, and in the case of the Charlotte Plains Consolidated to extract a considerable quantity of gold therefrom.

The Loddon Valley Gold-fields Company has not yet been able to open up the deep ground, owing to the water pressure being too great, and hence its yields are small. The fourth company, The Victoria Deep Leads Junction, has been hampered owing to the difficulty in getting the requisite capital to carry out the expensive work necessary.<sup>20</sup>

1908. Alluvial. Of the three large deep alluvial mines in this division that were carrying on operations, and employing a large number of hands twelve months ago, I regret to have to report that two of them, viz., the Loddon Valley and Victorian Deep Leads Companies have suspended operations. The Charlotte Plains Company (the one that continues working) would in all probability have also suspended work had the Mines Department not come to its assistance with a loan of £6,000. This loan has been attended with fortunate results, since by its assistance what appears to be a large field of highly-payable wash has been discovered, and the future of the mine appears exceedingly promising. A large number of men are now employed, and this number must be considerably increased during the existing year.<sup>21</sup>

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*DESCRIPTION & INTERPRETATION:*

Victorian Deep Lead Co, Keystone shaft (operated from 1903 to 1908).

Remains of this company's operations comprise a large mullock heap. On the south side of the heap is a massive, roughly H-shaped, mounting bed. The bed, measuring 90 x 40 ft (27.5 x 12.2 m), and standing 9 ft (2.75 m) high is constructed of an outer layer of hand and machine-made red brick and an inner core of rough concrete. Running from the north side of the bed is an open concrete culvert that leads to a square pond.

West of the massive bed is a well preserved concrete pump arch which stands to a height of about 6 m. The arch measures 19 x 10 ft (5.8 x 3 m). Between the arch and the massive bed is a collapsed shaft which has been filled with farm rubbish, dead sheep and car bodies. Abutting the west side of the pump arch is a 18 x 5 ft (5.5 x 1.5 m) concrete-lined pit which is 5 ft deep. On the western side of the pit is a 7 ft (2.13 m) diameter concrete cylinder bed with 3-1/2 inch mounting bolts. Ten metres from the cylinder footing are three , 40 ft long, parallel concrete footings.

*INTEGRITY/CONDITION:*

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because, along with associated sites 5 and 6 (Loddon Valley Co. and Moolort Goldfields), the site documents a sequence of events brought on by difficulties encountered in mining the deep lead.
- Scientific Significance, because, along with sites 5 and 6, the remains demonstrate two different types of pumping appliance, and the massive size of the plant necessary to dewater a deep lead.

The site's significance is increased by cumulative value, because:

- it forms part of a group or network of sites that together document the development of deep lead mining technology on northern extension of the Berry-Moolort-Loddon deep lead, Charlotte Plains. The network comprises Sites 3, 4, 5 and 6 (Deep Leads Electric Commission Co., Victorian Deep leads Co., Loddon Valley Co., and Moolort Goldfields Co.).
- the mullock heap is a prominent landscape feature.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 16 Hunter, S., The Deep Leads of Victoria, No. 7 in 'Memoirs of the Geological Survey of Victoria' series, Department of Mines, Victoria, 1909, p. 64
- 17 Hunter, S., The Deep Leads of Victoria, No. 7 in 'Memoirs of the Geological Survey of Victoria' series, Department of Mines, Victoria, 1909, p. 80
- 18 Annual Report, 1905
- 19 Annual Report, 1906
- 20 Annual Report, 1907
- 21 Annual Report, 1908

**SITE NO. & NAME:** 5 **LODDON VALLEY CO.**  
**(Formerly Victorian Gold Estates Co.'s North Shaft)**

**LOCATION:** **Berry-Moolort-Loddon Deep Lead, Baringhup**

**HI NO:** **H7623-0006**

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**DIRECTIONS:** 1 km west of Keystone mine (Site 4)

**MUNICIPALITY:** Central Goldfields Shire

**LAND STATUS:** Freehold Land

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**HISTORY:**

The Loddon Valley Goldfields mine is situated about 2 miles in a north-easterly direction from the Moolort railway station, and on the northerly extension of the main Berry-Moolort-Loddon lead in the parish of Moolort. The lease consists of 6,921 acres.

It was originally included in the lease of the Victoria Gold Estates, which company owned about 7 miles of the main lead which was first referred to in 1897 as the Berry-Moolort-Loddon lead.

The Victorian Gold Estates in 1898 sank two shafts about 4 miles apart; the northern one now included in the company's lease is known, and will be referred to as the No. 1 shaft. This No. 1 shaft was sunk at the No. 4 Government Diamond Drill, but apparently little regard was paid to the suitability or otherwise of the site, and as the line of bores was carried in a north-easterly direction from the shaft it became obvious that a grave blunder had been made, and on the completion of the boring a sectional drawing of the results showed the lead to be over 5,000 feet eastward from the shaft, but, notwithstanding this, driving towards the lease was persevered with.

Subsequently, about 1901, the Victorian Gold Estates Company divided the property into two parts, which were worked by the Moolort Goldfields and Loddon Valley Companies respectively, and pumping and exploration work in a small tributary lead was carried on by the Loddon Valley Company until about June 1903, when the reconstruction of the companies became necessary owing to shortness of funds. By this time the Loddon Valley Company (No. 1 shaft) had extended the reef drive eastward to the main lead, a distance of some 6,000 feet, and had been pumping about 2-1/2 million gallons of water per diem. The cost of all this was about £120,000. On reconstruction being effected the pumping plant was at once increased to between 3-1/2 and 4 million gallons per diem, and subsequently a beam-engine pump from one of the Berry mines was obtained and set to work, but this pump was found to be so expensive for fuel and inefficient in results that it was discarded as soon as possible. After this huge amount of work had been more or less completed, it was recognised that the No. 1 shaft and main level therefrom would not command the deep ground, and a new shaft, now known as the Keystone Shaft, some 4,500 feet nearer the head, and 15 feet lower in surface level, was decided upon. The pumping machinery and mining plant were shifted from the Moolort Goldfields Shaft and re-erected at the Keystone Shaft in a little over five months, the pumps being started in August, 1906, and, at the end of 1906, wash-dirt was touched. Since then the pumps have been kept going, and a large area of more or less auriferous wash-dirt is drained. The expenditure from the end of 1903 until the present date is some £82,000, making in all an expenditure of £202,000 on the original property.

Nearly 200 bores have been put up from the back of the drives and about 30 safety lock-doors built.

Messrs Bewick, Moreing and Co., of Melbourne, are the legal managers for this company, which has a capital of 160,000 £1 shares fully paid up.

So far only the affluents and tributaries of this lead system have been described. Many, however, are so large that they have justly been termed "main leads". North of the boring completed in 1904 by the Loddon Valley Pioneer Syndicate the channel is known as the Berry-Moolort-Loddon lead and has been proved in its northerly extension by thirteen lines of bores for a distance of 30 miles, giving in nearly all cases fair results in wash and gold prospects.

No mines are at present at work on this portion of the main lead, the Loddon Valley goldfields previously mentioned and the Victorian Deep Leads having recently closed down. The latter sunk a main shaft and drove a main reef drive and pumped for some years, but no wash was operated on, and the lead at the locality tested appears to be widespread and probably unpayable.<sup>22</sup>

1907. Alluvial Mines. Of the four deep alluvial mines in this division three--the Loddon Valley Goldfields, Charlotte Plains Consolidated Gold Mines, and Victoria Deep Leads--have continued, with their splendid pumping machinery, to reduce the pressure of water in the old river beds, and in the two former mines have so reduced it as to be able to open up drives in the wash, and in the case of the Charlotte Plains Consolidated to extract a considerable quantity of gold therefrom.

The Loddon Valley Goldfields Company has not yet been able to open up the deep ground, owing to the water pressure being too great, and hence its yields are small. The fourth company, The Victoria Deep Leads Junction, has been hampered owing to the difficulty in getting the requisite capital to carry out the expensive work necessary.<sup>23</sup>

1908. Alluvial. Of the three large deep alluvial mines in this division that were carrying on operations, and employing a large number of hands twelve months ago, I regret to have to report that two of them, viz., the Loddon Valley and Victorian Deep Leads Companies have suspended operations.<sup>24</sup>

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*DESCRIPTION & INTERPRETATION:*

Loddon Valley Goldfields Co. (operated from 1901 to 1908).

Mine site is located 1 km west of Keystone mine. Not surveyed, but contains the largest mullock heap to survive from the Maldon's deep lead mining industry. Certainly has substantial foundations.

*INTEGRITY/CONDITION:* Good.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because, along with associated Sites 4 and 6 (Loddon Valley Co. and Moolort Goldfields), the site documents a sequence of events brought on by difficulties encountered in mining the deep lead.
- Scientific Significance, because, along with Sites 4 and 6, the remains demonstrate different types of pumping appliance, and the massive size of the plant necessary to de-water a deep lead.

The site's significance is increased by cumulative value because:

- it forms part of a group or network of sites that together represent the development of deep lead mining technology on northern extension of the Berry-Moolort-Loddon deep lead, Charlotte Plains. The network comprises Sites 3, 4, 5 and 6 (Deep Leads Electric Commission Co., Victorian Deep leads Co., Loddon Valley Co., and Mooloort Goldfields Co.).
- the mullock heap is a prominent landscape feature.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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<sup>22</sup> Hunter, S., The Deep Leads of Victoria, No. 7 in 'Memoirs of the Geological Survey of Victoria' series, Department of Mines, Victoria, 1909, p. 64

<sup>23</sup> Annual Report, 1907

<sup>24</sup> Annual Report, 1908

**SITE NO. & NAME:** **MOOLORT GOLDFIELDS CO.**  
**(Formerly Victoria Gold Estates Co.'s South Shaft)**

**LOCATION:** **Berry-Moolort-Loddon Deep Lead, Baringhup**

**HI NO:** **H7623-0007**

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**DIRECTIONS:** North side of Rodborough road, 12.5 km east of Newstead.

**MUNICIPALITY:** Central Goldfields Shire

**LAND STATUS:** Freehold Land

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**HISTORY:**

October 1898. On the following morning a party, consisting of the Minister, Messrs. Stirling, W.B. Gray, J. Drysdale Brown (representative of three English companies), and Wright (engineer to the Tasmanian Mine, Beaconsfield), made a tour of the district to view the works in progress by the great alluvial mining companies, namely, The Gold Estates, Charlotte Plains Pioneer, Deep Leads Junction, and Havilah. At each mine evidence of great undertakings were noted.<sup>25</sup>

1897-1907. The Loddon Valley Goldfields mine is situated about 2 miles in a north-easterly direction from the Moolort railway station, and on the northerly extension of the main Berry-Moolort-Loddon lead in the parish of Moolort. The lease consists of 6,921 acres.

It was originally included in the lease of the Victoria Gold Estates, which company owned about 7 miles of the main lead which was first referred to in 1897 as the Berry-Moolort-Loddon lead.

The Victorian Gold Estates in 1898 sank two shafts about 4 miles apart; the northern one now included in the company's lease is known, and will be referred to as the No. 1 shaft. This No. 1 shaft was sunk at the No. 4 Government Diamond Drill, but apparently little regard was paid to the suitability or otherwise of the site, and as the line of bores was carried in a north-easterly direction from the shaft it became obvious that a grave blunder had been made, and on the completion of the boring a sectional drawing of the results showed the lead to be over 5,000 feet eastward from the shaft, but, notwithstanding this, driving towards the lease was persevered with.

Subsequently, about 1901, the Victorian Gold Estates Company divided the property into two parts, which were worked by the Moolort Goldfields and Loddon Valley Companies respectively, and pumping and exploration work in a small tributary lead was carried on by the Loddon Valley Company until about June 1903, when the reconstruction of the companies became necessary owing to shortness of funds. By this time the Loddon Valley Company (No. 1 shaft) had extended the reef drive eastward to the main lead, a distance of some 6,000 feet, and had been pumping about 2-1/2 million gallons of water per diem. The cost of all this was about £120,000. On reconstruction being effected the pumping plant was at once increased to between 3-1/2 and 4 million gallons per diem, and subsequently a beam-engine pump from one of the Berry mines was obtained and set to work, but this pump was found to be so expensive for fuel and inefficient in results that it was discarded as soon as possible. After this huge amount of work had been more or less completed, it was recognised that the No. 1 shaft and main level therefrom would not command the deep ground, and a new shaft, now known as the Keystone Shaft, some 4,500 feet nearer the head, and 15 feet lower in surface level, was decided upon. The pumping machinery and mining plant were shifted from the Moolort Goldfields Shaft and re-erected at the Keystone Shaft in a little over five months, the pumps being started in August, 1906, and, at the end of 1906, wash-dirt was touched.<sup>26</sup>

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**DESCRIPTION & INTERPRETATION:**

Moolort Goldfields Co. (operated from 1903 to 1906).

The remains of this company's plant includes the remains of large mullock heap. On the heap's south side is a massive, roughly H-shaped winding and pumping engine bed. The bed, measuring 85 x 40 ft (26 x 12.2 m), and standing 8 ft (2.45 m) high is constructed of an outer layer of hand and machine-made red brick and an inner core of rough concrete. Running from the front end of the massive bed are the parallel brick walls of a bob-pit. The bob-pit terminates with a massive concrete footing profiled in the wall of a collapsing (fenced) shaft.

**INTEGRITY/CONDITION:** Good.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance because, along with associated Sites 4 and 5 (Loddon Valley Co. and Moolort Goldfields), the site represents a sequence of events brought on by difficulties encountered in mining the deep lead.
- Scientific Significance because, along with Sites 4 and 5, the remains represent different types of pumping appliance, and illustrate the massive size of the plant necessary to dewater a deep lead.

The site's significance is increased by cumulative value because:

- it forms part of a group or network of sites that together represent the development of deep lead mining technology on northern extension of the Berry-Moolort-Loddon deep lead, Charlotte Plains. The network comprises Sites 3, 4, 5 and 6 (Deep Leads Electric Commission Co., Victorian Deep leads Co., Loddon Valley Co., and Mooloort Goldfields Co.).
- its mullock heap is a prominent landscape feature.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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<sup>25</sup> Australasian Mining Standard, Oct 1898, p3342.

<sup>26</sup> Hunter, S., The Deep Leads of Victoria, No. 7 in 'Memoirs of the Geological Survey of Victoria' series, Department of Mines, Victoria, 1909, p. 64

**SITE NO. & NAME:** 7      **JUNCTION DEEP LEAD CO.**  
**LOCATION:**                      **Berry-Moolort-Loddon Deep Lead, Baringhup**  
**HI NO:**                              **H7624-0108**

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**DIRECTIONS:**                      1.5 km north west of Baringhup. East side of Loddon River

**MUNICIPALITY:**                      Mount Alexander Shire

**LAND STATUS:**                      Freehold Land

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**HISTORY:**

1898-1907. In October, 1898, the Junction Deep Lead Company commenced sinking a shaft on what appears to be a tributary lead coming in on the western side of the Charlotte Plains lead. Basalt was passed through at 108 feet from the surface, and a heavy inflow of water and fine sand was encountered, necessitating the use of iron cylinders to complete the shaft-sinking to bedrock. This work was proceeded with until July 1899, when the shoe or cutting ring on the bottom of the cylinder was fractured. The waterlogged drift surrounding the cylinder being of a dangerous nature, it was considered impossible to remove the broken iron segments, the engineer therefore decided to complete the sinking to bedrock (about 50 feet) by telescoping a second cylinder inside the fractured one; this was done, and the cylinder sunk to a distance of 14 feet into the bedrock, making a total depth from the surface to the bottom of cylinder of 177 feet. The remaining depth of 168 feet was sunk in the bedrock without any trouble, a chamber was cut and about 800 feet of an easterly drive extended. Work was suspended in December 1902, owing to want of funds.<sup>27</sup>

1906. Work was resumed at the Junction Deep Lead Co. ... towards the end of 1906 for a few weeks, after which the mine was finally closed down. The total expenditure at the mine was about £40,000.<sup>28</sup>

c.1906. A sum of £25,000 has been spent on the electrical equipment of the power house, the plant being the property of the Deep Leads Electric Transmission Company, which originally consisted of the Charlotte Plains, the Victorian Deep Leads and Junction Deep Leads Companies, formed to supply power for pumping, hauling, and other mining work. The plant at the Central Power Station, which adjoins the Charlotte Plains mine, consists of three sets of 400 Kilowatt generators of the revolving field type, direct coupled to 600 H.P. compound condensing engines running at 150 revolutions per minute, and producing a three-phase alternating current at 6,600 volts and 60 cycles per second. Two generators are in constant use, the third being kept as a stand-by.<sup>29</sup>

1907. The Victoria Deep Leads Junction, has been hampered owing to the difficulty in getting the requisite capital to carry out the expensive work necessary.<sup>30</sup>

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**DESCRIPTION & INTERPRETATION:**

Junction Deep Leads Co. (operated from 1898 to 1906).

Remains of this company's operations included a large mullock heap. On the heap's eastern side are substantial concrete footings with some brickwork visible. Site not surveyed in any detail.

**INTEGRITY/CONDITION:**

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**CULTURAL SIGNIFICANCE:**

The site has little historical significance or integrity.

**SIGNIFICANCE RANKING:**              Site Listed Heritage Inventory.

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**Assessor: David Bannear**                      **Date: November 1992.**

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<sup>27</sup> Hunter, S., The Deep Leads of Victoria, No. 7 in 'Memoirs of the Geological Survey of Victoria' series, Department of Mines, Victoria, 1909, p. 80

<sup>28</sup> Hunter, S., The Deep Leads of Victoria, No. 7 in 'Memoirs of the Geological Survey of Victoria' series, Department of Mines, Victoria, 1909, p. 80

<sup>29</sup> Hunter, S., The Deep Leads of Victoria, No. 7 in 'Memoirs of the Geological Survey of Victoria' series, Department of Mines, Victoria, 1909, pp. 79-80

<sup>30</sup> Annual Report, 1907

**SITE NO. & NAME:** 8 **CARMAN'S TUNNEL (Great International Mine)**

**LOCATION:** **Armstrong Gully, West Maldon**

**HI NO:** **H7723-0117**

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**DIRECTIONS:** At head of next gully south of Mantons Gully

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

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**HISTORY:**

July 22nd. 1882 to September 13th. 1882 (18 Appearances).

Prospectus of the Great International Quartz Mining Company--Mt. Tarrangower, Maldon.

This company is formed for the purpose of working an extensive lease on the southern slope of Mount Tarrangower, immediately adjoining the Grand Junction Company's Tribute, having nearly 2000 ft. along the lines of the celebrated Lisle's and Braithwaite's Reef, which yielded such enormous returns in former years, the fortunate holders netting £128,400 in a few months, from merely surfacing a few yards of Lisle's Reef; immense returns also having been obtained on and near the surface of Braithwaite's Reef.

From the northern boundary of this company's property, the whole Mount is in full work, and every claim either giving or promising a rich harvest, as high as 11 oz. per ton, having recently been obtained near the northern boundary of this company's lease.

It is proposed to work the ground by means of a tunnel from Carman's Gully on the eastern side of the lease, and arrive west to intersect the whole of the lode country, rock boring machinery being used for the purpose. 300ft. to 600ft. of backs will thus be obtained the whole length of the lease.

Armstrong's, another rich reef and besides those above mentioned, intersects the south-east portion of the lease, and will be cut in the first 200ft. of tunnelling.<sup>1</sup>

September 30, 1882. Tenders returnable on Thursday the 5th of October, at 3pm, for the following:

For driving 150 or 200 feet of tunnel.

The erection of Blacksmith's Shop.

The supply of 100 props.

The supply of 500 slabs.

October 18, 1882. The cutting towards the point where it is intended to commence tunnelling the Mount towards Lisle's Reef, has been opened out over 60 feet, the ground being loose rock and debris. The mine manager, G. Lewis, expects 80 feet will be finished by the end of this week; at that point they commence driving underground. A rock borer is expected on the ground at an early day. The smithy and other works are being pushed ahead.

October 28, 1882. It is the intention of the Company to penetrate the Mount in the direction of the fabulously rich Lisle's and Purcell's Reef by means of a tunnel, and a fortnight since Mr. G. Lewis, the manager, commenced operations by opening a cutting intending to convey this on for a distance of 80 feet, but as the ground has not proved firm enough to commence tunnelling, the cutting has been extended to 90 feet. At this point or near about, driving will be commenced with the aid of a rock borer. During the past week, the manager and his men have been laying down air pipes from the Independent engine, the proprietor, Mr. Oswald, as we suggested a short time since, being the first to supply air power to the mine as well as steam power for crushing purposes.

November 18, 1882. The rock borer at the Great International was started yesterday morning, and during the day worked well. It started at 130 feet, and if all works smoothly, rapid progress in driving the tunnel will be made.<sup>2</sup>

December 1882. The Great International Company has started a tunnel and set the rock-borer to work to drive under the mount. They are driving about 25 feet a week.<sup>3</sup>

March 1883. The Great International Company is going fast ahead with their tunnel; with the rock-borer they are driving about 25 feet per week. They have crossed one reef known as Armstrong's from which 12 tons were crushed which gave 1 oz 6 dwts of gold, they are now driving westerly to strike Lisle's Reef.<sup>4</sup>

September 24, 1884. Extended tunnel 18 feet for the week, making total length 413 feet. Still much broken up and intermixed with bluestone, but am glad to say some of the stone contains a good deal of galena and a little fine gold.

December 10, 1884. The winze is now down 57 feet. Reef about 4ft. thick; very promising. A little gold in dish prospects. If it improves the slightest from the present, we may safely save the stone for crushing. (No further reports appear to 1888, during which year the name of the company ceases to appear in the published list of the Mining Companies at Maldon).<sup>5</sup>

1897. Grand International Tunnel Mine. This mine, situated near the head of the gully, which passes close to the Independent mine on the west, represents the expenditure of a considerable amount of capital for comparatively trifling results. The tunnel was started to work to better advantage Armstrong's Reef, which yielded two or three blocks of payable stone close to the surface higher up the hill.<sup>6</sup>

1988. Carmens Tunnel. 425 metres long, is an authentic nineteenth century mine now operated as a tourist attraction.<sup>7</sup>

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*DESCRIPTION & INTERPRETATION:*

Grand International company's adit. This company operated from 1882 to c.1888.

Adit

Open adit. The adit's mullock heap has been flattened for car parking and museum facilities. 150 m above (west of) the adit are some other mine workings, including a line of small open cuts. Associated with the workings is a well constructed track.

*INTEGRITY/CONDITION:* Good.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Social Significance, because it is an important tourist attraction, regularly visited by school groups.
- Scientific Significance, because it is the only tunnel open for inspection in the Maldon area and thus has a very high educational value.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1991.**

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- 1 Great International QM Co., News Items and Mining Reports, Douglas S Kemsley, 1979 (DMID Records, Bendigo Office)
  - 2 Great International QM Co., News Items and Mining Reports, Douglas S Kemsley, 1979 (DMID Records, Bendigo Office)
  - 3 Mining Surveyors' Reports, December 1882
  - 4 Mining Surveyors' Reports, March 1883
  - 5 Great International QM Co., News Items and Mining Reports, Douglas S Kemsley, 1979 (DMID Records, Bendigo Office)
  - 6 Department of Mines, Special Reports - Report on the Maldon Gold-Field, R A Moon, 1897
  - 7 Maldon Historic Reserve Management Plan, Department of Conservation, Forests and Lands, 1988

**SITE NO. & NAME:** 9 BEEHIVE COMPANY  
**LOCATION:** Beehive Reef, Beehive Hill, Maldon Township  
**VHR NO:** H1361  
**HI NO:** H7724-0023

**DIRECTIONS:** North-east of the corner of Phoenix and Reefs Streets

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Area

**HISTORY:**

1854-1890s. The Mines. The first auriferous quartz reef discovered was on a rise overlooking Tarrangower Creek, towards the lower end of Long Gully, in January 1854. Other reef discoveries quickly followed--The Eaglehawk, Bells and Beehive in 1854.<sup>1</sup>

1854-56. Sensational discoveries followed in quick succession--Eagle Hawk, Bell's Reef and the Beehive in 1854; German, Nuggetty, Victoria and Lisle's Reefs in 1855; Linscott's and Parkin's Reefs in 1856, and many others of lesser value ... Here were riches beyond compare--500 ounces from one ton of quartz obtained at Eagle Hawk (a small fortune in itself of £2,000), 300 to 400 ounces per ton on the Bee Hive rise, 133 ounces per ton at Bell's Reef, 320 ounces per ton from the fabulously rich Nuggetty Reef, and a fortune of £30,000 won by two lucky miners for ten months work on Lisle's Reef.<sup>2</sup>

August 1859. Beehive Quartz-mining Association. This association has pushed forward its operations with considerable activity. Since the last report the tramway down the incline has been made (?) by which it is intended to draw up the quartz, by means of their engine power. A small shaft has been sunk near the newly made clearing dams, and an eight-inch lift pump put up, for the purpose of raising the water a second time, to be again used before being finally done with.

The supply of water at the present time is greater than before, and is sufficient to supply 12 heads of stampers, which have lately been set to work. The remaining set of 12, making a total of 24, will soon be completed. It is supposed that the main reef will be met with at a depth of 170 feet, at which point a considerable influx of water is anticipated.<sup>3</sup>

December 1859. The Beehive Quartz-Mining Association is steadily progressing. New contracts have been entered into for sinking the pump-shaft 50 feet deeper, in addition to its present depth of 102 feet 6 inches. The machinery is being erected, and they expect to begin work in a month.<sup>4</sup>

1860. The Beehive Mine was originally a rich mine, with \$206,000 of gold being obtained in the first 6 years of the Beehive Company's operation, which commenced in 1860. Prior to the formation of the company, yields of between 9 and 12-1/2 kg/tonne were obtained to a depth of 6 m, by several small mining parties.<sup>5</sup>

June 1860. With respect to the supply of water at present available at the different crushing machines throughout the district I have to remark that those at

The Springs have a supply to last	3 months
The Union Company, Eaglehawk Reef Machine at Peg-Leg Gully	3
The four crushing machines at Long Gully	2
Three machines at Sandy Creek	1
Two machines at Green Gully	3
Omega Reef, Green Gully	1

The other machines on the line of the Beehive Reef and the Atlas Association drain their respective supplies from the reef which at present is sufficient for all purposes.

The Beehive Association, Beehive Reef. The works of this association are not only the most extensive in the colony, but are carried on with that amount of systematic care and economy which are indispensable in all mining enterprises.

The engine of this company is the most powerful employed in mining speculations in Victoria. It is of 60 horse-power, the diameter of the cylinder being 30 inches and the stroke 5 feet. Attached are 24 heads of stampers and 1 pair of Chilian wheels, a 5 and 8-inch house-lift and 12-inch plunger, and drawing-lift 218 feet long, and 2 sets of ship winding gear.

The following are the principal features of the mine: the engine shaft 9 x 4, within sets, and sunk to a depth of 218 feet, slabbed all the way down with sets of wood 8 by 8 placed at intervals of 4 feet to strengthen and uphold the ground. This shaft is divided in the centre by stout boarding, thus forming two distinct shafts, one for working and the other for pumping. This shaft is situated about 200 feet from the engine. At a depth of 130 feet gold was struck in this shaft, and a drive is now being carried north and south at this particular depth.

No. 1 shaft North, is sunk to a depth of 95 feet, from which level drives and cross cuts have been driven south, east, and west. On the east side very rich gold bearing stone was found in a leader but 4 feet deeper than the old working, and followed by a drive north and south nearly 150 feet when it apparently run out. Miners were employed to sink near the spot where the gold was first struck, and within 6 feet were rewarded by finding a succession of veins or lodes 13 feet thick, all more or less thickly impregnated with gold.

Nearly 250 tons of crushing stuff and mullock are raised from this shaft every week.

Above this level, at a depth of 90 feet from the surface, is a tunnel 500 feet in length, with tramways the whole length by means of which much payable ground has been opened. From this level you are afforded a sight of three large stalls for supporting the ground, which for solidity and magnitude are unequalled in the district.

The tunnel in the 40-foot level is upwards of 600 feet in length, with tramways the whole distance. This level in common with all the others is intersected with traps, or as they are usually called, mills--by means of which the wagons are filled and a great saving of labour effected. This is also called the incline level, from the fact that the wagons are brought to the surface by means of an incline at an angle of 45 degrees.

From the mouth of this incline as from those of the shafts the stuff is lifted and run direct to the stampers by means of tramways and turntables.

The whole expense of these large works does not exceed £230 per week, while the yield of gold for the past seven weeks has been 731 oz, showing a profit of nearly £1200.

Upwards of fifty men are constantly employed, and, as the works become more extensive, a much greater number will eventually obtain employment.<sup>6</sup>

July 1860. The Beehive Association, Beehive Reef. The surface operations are going on steadily, and a new winding shaft is being prepared 125 feet south of the 95 feet winding shaft, to be in time for working the south ground, when the slopers arrive at that portion of the company's ground.<sup>7</sup>

August 1860. The Beehive Association, Beehive Reef. The No. 1 shaft is being timbered, and poppet-heads will soon be fixed for winding from this portion of the ground of the company.

New dams are being constructed to carry out the system of sluicing away the tailings adopted by this company. Mr R. Tregaskis's patent amalgamator is now on the ground, and will soon be erected, which, if it succeeds, will be a great improvement upon the Chilian mill principle of amalgamation.<sup>8</sup>

January 1861. The Beehive Company's yields have fallen off of late, but within the last week it has again struck upon some rich ground.<sup>9</sup>

February 1861. The Beehive Company's yield for the month has not been very encouraging. The last return ... was 189 oz 15 dwt of retorted gold [for 4 weeks]. This is the lowest yield for the last ten months. A new brick stack is being built to a height of ninety-five feet; when this is finished, the company anticipates a considerable reduction in the consumption of fuel, as the draft from the old stack is very indifferent.<sup>10</sup>

March 1861. The Beehive Company has completed the new stack, which answers well and will, doubtless be the means of great saving in fuel. The prospects in the underground workings are improving. No returns have been made since the 11th inst., in consequence of the machinery undergoing a thorough repair.<sup>11</sup>

May 1861. The yields of the Beehive Company have greatly improved, during the past month 533 tons have been crushed, producing 486 oz of fine gold. The ground of this company is of a very patchy nature, the lode at the bottom of the mine looks well at present.<sup>12</sup>

April 1862. The new stack at the Beehive mine is now completed, and as an architectural design it is the admiration of all beholders. Its base is ten feet square and twelve feet high, and the column tapers from eight feet diameter to four feet six inches and is surmounted by a Gothic block cornice and embattled parapet. Height in full, is 98 feet.<sup>13</sup>

## September 1864, Miners distributed thus:

Pickpocket	89	Green Valley	35
Newstead	114	Long Gully Md.	18
Back Creek	44	Peg Leg Gully	67
Frenchman's Gully	42	Porcupine Flat	176
Gardner's Gully	32	Eaglehawk	150
Sandy Creek	250	Bradford	16
Nuggetty Flat	149	Mount Tarrangower	190
<b>Beehive Hill</b>	<b>110</b>	Ironbark	14
Armstrong's	4	Hard Hills	20
Hunter's Rush	27	Fryingpan	8 <sup>14</sup>

## March 1865, Miners distributed thus:

Pickpocket	113	Growler's Gully	82
Newstead	25	Long Gully	16
Green Valley	45	Peg Leg Gully	77
Fryingpan Gully	3	Porcupine	63
Gardner's Gully	28	Eaglehawk	182
Sandy Creek	230	Long Gully, Muckleford	60
Nuggetty	71	Mount Tarrangower	248
<b>Beehive Hill</b>	<b>180</b>	Ironbark Gully	16
Armstrong's	3	Hard Hills	9
Hunter's Rush	17	Back Creek	25 <sup>15</sup>

## September 1865, Miners distributed thus:

Pickpocket	546	Growler's Gully	55
Newstead	36	Long Gully	48
Green Valley	38	Peg Leg Gully	78
Fryingpan Gully	21	Porcupine Flat	86
Gardner's Gully	19	Eaglehawk	176
Sandy Creek	212	Long Gully, Muckleford	39
Nuggetty	65	Mount Tarrangower	226
<b>Beehive Hill</b>	<b>152</b>	Ironbark Gully	33
Armstrong's	7	Hard Hills	25
Hunter's Rush	31	Back Creek	23
Frenchman's Gully	2 <sup>16</sup>		

## March 1866, Miners distributed thus:

Pickpocket and Strangways	855	Growler's Gully	50
Newstead	7	Porcupine Flat	60
Gardner's Gully	16	Eaglehawk	186
Sandy Creek	256	Long Gully	54
Nuggetty	80	Mount Tarrangower	238
<b>Beehive Hill</b>	<b>152</b>	Ironbark Gully	15
Hard Hills	25	Muckleford	221 <sup>17</sup>

## September 1866, Miners distributed thus:

Pickpocket	1,200	Growler's Gully	33
Newstead	22	Long Gully	45
Green Valley	49	Peg Leg Gully	63
Fryingpan Gully	14	Porcupine	50
Gardner's Gully	12	Eaglehawk	180
Sandy Creek	219	Long Gully, Muckleford	30
Nuggetty	60	Mount Tarrangower	210
<b>Beehive Hill</b>	<b>117</b>	Ironbark Gully	20
Armstrong's Gully	2	Hard Hill	8
Hunter's Rush	8	Back Creek	13
Frenchman's	10		

The best paying reefs at present in this division are the Old Beehive, Victoria, and Wilson's. The engine shaft of the Beehive Company is 360 feet in depth ... The new lode at the bottom speaks well for the future of the mine.<sup>18</sup>

December 1866, Miners distributed thus:

Pickpocket	1,200	Growler's Gully	31
Newstead	15	Long Gully	46
Green Valley	45	Peg Leg Gully	65
Fryingpan Gully	3	Porcupine	50
Gardner's Gully	12	Eaglehawk	187
Sandy Creek	205	Long Gully, Muckleford	33
Nuggety	75	Mount Tarrangower	195
<b>Beehive Hill</b>	<b>111</b>	Ironbark Gully	23
Armstrong's Gully	9	Hard Hills	22
Hunter's Rush	17	Back Creek	18
Frenchman's	7 <sup>19</sup>		

March 1867, Miners distributed thus:

Pickpocket	650	Growler's Gully	25
Newstead	65	Long Gully, Maldon	65
Green Valley	59	Peg Leg Gully	76
Fryingpan Gully	19	Porcupine	60
Gardner's Gully	12	Eaglehawk	190
Sandy Creek	180	Long Gully, Muckleford	35
Nuggety	85	Mount Tarrangower	195
<b>Beehive Hill</b>	<b>98</b>	Ironbark Gully	25
Armstrong's Gully	11	Hard Hills	22
Hunter's Rush	18	Back Creek	21 <sup>20</sup>

June 1867. During the quarter a considerable amount of work has been done by the Derby, Nelson, and Beehive Companies, in opening up new ground, and preparing for future operations.<sup>21</sup>

September 1867. The Beehive also has done but little in the way of raising stone this quarter, being principally engaged in cross-cutting to the west for the reef.<sup>22</sup>

December 1867. The South Eaglehawk Company's tributors cut the reef at 300 feet from the surface, with very encouraging prospects. The Beehive are all but idle in the deep ground, having been, up to this time, unsuccessful in obtaining payable stone in sufficient quantities ... The quantity of stone put through this quarter appears to be within twelve tons of last quarter's return, for a yield of 3,359 oz less, which may in some way be accounted for from the fact of the Beehive, Linscott's, and Frazier's mines being obliged to work their upper and poorer ground ... The Derby Company also have been sinking their shaft, and consequently have not raised so much golden stone.<sup>23</sup>

June 1868. The public crushings have been generally low, and the parcels small, which may be accounted for by the large amount of prospecting going on in old reefs, many men during the quarter being out of constant employment, consequent on the Union, Beehive, Great Western and Derby Companies having, more or less, ceased work or reduced their hands underground.<sup>24</sup>

September 1868. The Beehive, in sinking, has cut a very promising reef, carrying gold at about 465 feet deep.<sup>25</sup>

December 1868. The Beehive Company's engine-shaft is now down a depth of 483 feet, where they are cross-cutting west for the old reef.<sup>26</sup>

March 1870. Two of our crushing machines have been idle during the last two months for want of water.

Nuggety Reef. The New Enterprise Company on this reef is constantly employed in breaking of golden stone, which averages about 1 oz per ton. A crushing of 11 tons from the Alliance Company's claim yielded 33 oz of stone. The tributors in the Speculation Company's claim are crushing as high as 3 oz to the ton.

Beehive Reef. The Beehive Company, after having driven to the west and not meeting with anything payable, have suspended operations in the deep ground. A few tributing parties are working the top ground, but these are barely making wages.<sup>27</sup>

June 1870. This quarter shows a falling off in quantity of quartz crushing of 1,500 tons; and in the yield of gold of 834 oz; the total average per ton also shows 2 dwts 4 grs less as compared with the returns for the previous quarter. In some of our principal mines, ie. the Alliance, Wellington, Linscott's, Eaglehawk, Beehive, Derby, Cymru, German Reef, Pioneer, and Brewer's Reef Companies, owing to poverty and the want of a cheaper process of crushing, operations in the deep ground have been suspended for some time past, consequently some of our quartz miners have gone to other diggings.<sup>28</sup>

December 1870. Our best mines have been the Tarrangower Nuggety Alliance, Speculation, and New Enterprise on Nuggety Reef; the Great Western, on the Beehive Reef, and the Nelson Extended on Wilson's Reef.<sup>29</sup>

March 1871. BEEHIVE REEF. Beehive Company. The tributing parties are obtaining but slight returns from the shallow ground; the deep ground is still lying idle.

The Great Western Company has commenced to sink another 50 feet, to try for the reef which wedged out at the 447-foot level.<sup>30</sup>

June 1871. BEEHIVE REEF. Great Western Company. The prospects in this mine during the last fortnight have considerably improved, especially in the bottom level (470 feet) going south; the reef is about 4 feet thick, with a good show of gold. The company are sinking their engine-shaft another 100 feet, which, when completed, will be a good test for the deep ground.

The Beehive Company's mine is let on tribute to various parties, who, for the most part, are making wages.<sup>31</sup>

March 1872. The old Beehive Company has been employing several men on tribute to work the upper ground. The ground being soft, and inexpensive to work, a little gold pays wages. The lower part of the mine is full of water, and the pumping and crushing engines are idle.<sup>32</sup>

June 1872. The Great Western Company, in driving north at the 470-foot level, has recently come upon a good reef, containing gold below the dyke that cut off the reef in the Beehive Company's ground. The new make is about 100 feet below the dyke, and is likely to be traced northward through the company's mine.<sup>33</sup>

December 1872. The Great Western Company is driving north and south on the course of the reef at the 550-foot level, where the reef looks promising; at the 470-foot level northward the reef has been much improved. Had the quartz taken from this portion of the mine been crushed separately, it is estimated that the yield would have been from 4 oz to 6 oz per ton. This looks well for the Old Beehive Company's ground (See plan and sections of the Great Western Company's mine.) ... The Old Beehive Company has commenced work in the deep ground with a view of striking the "run" of gold now being worked by the Great Western Company near their boundary. [Report includes plan of Great Western Quartz Mining Co.'s mine on Beehive Reef, with Beehive and Cymru Co.'s adjoining.<sup>34</sup>

March 1873. The Great Western Company still continues to receive average returns, and is getting a fine body of payable stone along the west boundary of the Beehive Company's least at the 470-foot level.<sup>35</sup>

September 1873. Beehive Reef. The Beehive Company on this line are sinking the engine-shaft to a greater depth, in order to discover the lost reef cut off by the large dyke at the 300-foot level.

The Great Western Company has stopped work at the bottom of the mine, but in driving south at the 470-foot level they have struck gold; the lode is about 10 feet in thickness, and looks very promising; they are also driving a cross-cut east at this level to strike a reef known as Cranswick's Reef, about 200 feet distant. The Cymru Company is enlarging the engine-shaft to make it practicable for hauling and pumping; an engine has been purchased during the last week for this purpose ... will be erected at once.<sup>36</sup>

December 1873. The Great Western Company, owing to the poverty of the reef, and water heavy, has suspended operations in the deep ground at present, and let the upper ground on tribute, until the Cymru Company, adjoining, who are erecting a new steam-engine to work the deep ground, get down to take a portion of the water, and lighten the expense of sinking. The Beehive Company, on the north, has sunk the engine-shaft another 50 feet, and are now crosscutting eastward to pick up the lost reef. The upper part of the mine is being worked by parties of tributers, who have recently come upon some good patches of golden stone; one lot of 49 tons yielded 91 oz 6 dwts of gold.<sup>37</sup>

March 1875. For the want of funds, in some of our mines in times past, operations have been suspended; the reefs have been cut off by dykes, and the companies, having no reserve fund or calling power on the shareholders, are unable at present to prosecute a search for the lost lodes. These remarks apply especially to the Nelson, German, Reef, Victoria, and South Eaglehawk Companies. Others of our mining companies, viz., the Eaglehawk Limited, the Wellington, the Alliance, the Speculation, the New Enterprise, and Beehive Companies, have been for some time past struggling hard, and expending large sums of money in sinking and driving, to find the lost rich lodes.<sup>38</sup>

September 1875. The Beehive Company is cross-cutting at the 530-foot level for the reef ... the upper portion of the mine is being worked by parties of tributers with varied success.<sup>39</sup>

December 1875. The Beehive Company has stopped the western cross-cut at 140 feet from the shaft, at the 430-foot level ... At 130 feet north from the cross-cut gold was struck; 20 tons of stone from here have been sent to the mills, which yielded 1 oz of gold per ton.<sup>40</sup>

March 1876. The Beehive Company has struck a new shoot of gold in the 530-foot level; the last 45 tons of stone sent to the crushing mills yielded 71 oz 8 dwts 10 grs of gold, and the stone now being broken is expected to yield much higher.<sup>41</sup>

September 1876. In the Beehive mine a crushing of stone from below the bottom level yielded an ounce and half to the ton. The reef is from 1 foot to 1 foot 6 inches in thickness; but owing to hardness of the ground, and want of proper appliances for working, this did not pay. It appears to be a new shoot of golden stone, that is likely to lead to something better, and only requires the mine to be systematically worked to be made remunerative to the shareholders.<sup>42</sup>

December 1877. This quarter's report shows a falling off in the quantity of gold obtained, and also the average per ton; there is also a decrease in the number of miners employed, who have left for Tasmania and in other tin and copper mines. Several of our mines on the main lines of reef are idle, and in consequence of the water rising and overflowing into the few mines that are at work great inconvenience and expense are caused ... The Old Beehive, Great Western, and Cymru companies are working the shallow ground in their mines on tribute. There is 300 feet of water in the mines, and the engines all idle. The only other mines doing any work of any consequence are the North Eaglehawk United, the Linscott's, and North British mines.<sup>43</sup>

March 1879. Quartz mining. This branch of mining shows a decrease of 824 tons in the quantity crushed, and over 350 oz in the yield of gold, the cause of which in a great measure is the suspension of work in several of our principal mines, viz., the two Nelsons, the Crown claim, the Cymru, the Great Western, the Beehive, six mines on the Eaglehawk line, three mines on the Nuggety line, the Grand Junction and Welshman's Reef, and three mines on the Victoria line--making altogether twenty mines in which the engines are idle, and the water within from 100 to 180 feet of the surface. All the work being done in these mines is merely fossicking in the shallow ground.<sup>44</sup>

March 1880. A new company has also been formed for working the Old Nelson and Nelson Extended mines; the shares have all been sold, and preparations are being made to start work. A new company is also being formed, by gentlemen of Sandhurst, for working the Old Beehive mine; the last crushing from the bottom of this mine, 530 feet in depth, gave 22 dwts of gold per ton.<sup>45</sup>

December 1881. The Beehive Company is making good progress with the shaft; since starting they have got down 100 feet; the size of the shaft is 11 feet by 4 feet 6 inches. The boilers have been taken out, cleaned, and put in thorough repair, and preparation is being made for pumping as soon as they get to the water level.<sup>46</sup>

March 1882. The Beehive Company is erecting machinery, and making preparations for pumping.<sup>47</sup>

September 1882. The contractor for the Beehive and German Reef machinery will soon have the two mines at work.<sup>48</sup>

December 1882. The German Tribute and Beehive companies have finished the erection of their engines and started to pump.<sup>49</sup>

March 1883. The Beehive Company is down within a few feet of the bottom of the engine-shaft; this shaft has been enlarged and securely timbered from the surface; its present depth is about 530 feet. It is the intention of the Company to sink another 100 feet, before driving to strike the reef.<sup>50</sup>

June 1883. The Beehive Company has completed the cutting-down of their engine-shaft, and started sinking below the 530-foot level with their rock-boring machine; they have decided to sink a further depth of 100 feet before cross-cutting to intersect the lode.<sup>51</sup>

September 1883. The Beehive Company has sunk their shaft to a depth of 610 feet, and are now preparing to start a crosscut westward to strike the reef.<sup>52</sup>

December 1883. The Beehive Company have struck the reef in their bottom cross-cut at 60 feet west from their shaft; the reef is 14 feet in thickness, and shows gold in the stone, but none has yet been taken to the mill to test its quality.<sup>53</sup>

March 1884. The New Beehive Company, adjoining the Great Western Cymru on the north, has also been fortunate in striking a good shoot of gold at the 600-foot level, from which 152 tons of stone have been crushed, the yield averaging 1 oz 9 dwt 9 grs of gold per ton. According to previous prospects, this mine promises to be one of the best in the division.<sup>54</sup>

June 1884. The prospects in the New Beehive Company's mine are still good. The shoot of gold referred to in my last quarter's report is still extending north and south. During the last quarter, 720 tons have been crushed, which yielded 525 oz 18 dwt of gold. A dividend (the 1st) of 6d per share on 30,000 shares has been paid.<sup>55</sup>

September 1884. The Beehive Company has been at regular work stoping the back of the 600-foot level. They have crushed over 1,000 tons, which gave an average of 9 dwt per ton. The reef is from 12 to 14 feet wide, and it pays the expenses of working, but has given no dividends for the quarter. The directors decided at the last half-yearly meeting to sink the engine shaft, and also to erect a battery of stamps for crushing the quartz on the mine.<sup>56</sup>

March 1885. The Beehive Company has nearly completed the sinking of the main shaft to the depth of 100 feet, which will make a total of 630 feet.<sup>57</sup>

June 1885. The New Beehive Gold Mining Company is now driving a cross-cut westward at the 700-foot level.<sup>58</sup>

September 1885. The Beehive Company, having struck the lode west of the shaft, at the 700-foot level, is now engaged in driving north on the course of it. At the 600-foot level, 435 tons of quartz was crushed for a yield of 420 oz 7 dwt 12 grs of smelted gold. The diamond-drill hole has been bored to a depth of 408 feet west at the 600-foot level ... At the end of the bore, water was tapped, which came out with such force that the drill-rod was driven back in the drive, the pressure being over 120 lbs to the square inch. Further boring was impossible, and the bore is now plugged up. They are now boring eastward to test the ground in that direction.<sup>59</sup>

December 1885. The New Beehive Company is sinking a winze through from the 600 to 700 foot level. Good gold was struck in this winze, a crushing of 105 tons of quartz yielding over 3 oz of gold per ton ... The diamond drill is still engaged in the mine, boring east at the 600-foot level, but nothing of importance has been struck.<sup>60</sup>

March 1886. There has been an increase in the yield of gold for the quarter of 3,312 oz 2 dwt 6 gr. This is owing chiefly to the extraordinary yields from the New Beehive Company's mine ... The prospects of the mine are still excellent. A battery of stampers is about to be erected for crushing the stone on the ground. The Great Western Cymru Company is driving northward towards the New Beehive boundary; the stone in the end shows gold and the stone saved for crushing. They are also stoping from the winze in the south drive, from which good golden stone is being raised and sent to the mills, and shortly dividends may be expected.<sup>61</sup>

June 1886. The prospects in the New Beehive mine are still very good, the last crushing of 135 tons gave over 1,000 oz of gold. They are now engaged in stoping the backs and extending the north drive. A new battery of stampers will soon be completed for crushing the quartz on the mine.

The Great Western Cymru Company has driven to their northern boundary, and they have come to terms with the New Beehive Company to break through for the purpose of ventilation, when they will be able to work their mine to much greater advantage.<sup>62</sup>

September 1886. The total yield of gold for the past quarter is 855 oz 8 dwt 13 gr more than the previous one. It would have been greater but for the Caledonian mills having been stopped for a month for repairs, and cleaning the boilers. They started again about a fortnight since, and are likely to be kept in constant work. The New Beehive battery now being erected will be ready to start in about four weeks, by which time the engine shaft will be down to a depth of 800 feet from the surface, when it is intended to put in a cross-cut west to strike the reef. The present prospects of the mine are splendid, and continued monthly dividends may be expected for a long time to come ... the North British mine is still keeping up to the mark, the shoot of gold still extending in length, and the prospects improving. The owner, Mr R.D. Oswald, has purchased two new rock-drills, for facilitating the breaking out of quartz, to supply his two splendid batteries of 24 heads each, which are now fitted up with the newest and most improved appliances for crushing the quartz and saving the gold, and that much larger quarterly yields may be expected in future. The shoot of gold surpasses in extent and richness everything seen in Maldon since the opening of our quartz reefs.

The South German Reef Company will have the new battery of 20 heads of stampers (each 8 cwt) at work in about a month from this date. This promises to become another dividend-paying mine, as the trial crushings taken from different places prior to the erecting of the battery nearly all proved payable. It was on the strength of this fact, and the quantity of quartz now opened up, that the company was induced to erect the new battery.

The Great Western Cymru Company has been prospecting to all directions for some time, but not having succeeded in finding anything payable, they have decided to sink their main shaft another 100 feet or more, to test the lode at a lower level. At the present level the lode is large, and in many places has a very promising appearance, containing various metals generally found in gold-bearing lodes. Gold is also visible in many places, but not found in payable quantities. Blank spots are found in most of our best mines, but in this, as in many other cases, I have not the slightest doubt that the reef will again, at a lower level, turn as rich as ever it has been. Alluvial. The prospects of the lead running through the Gibson's Freehold Company's ground are improving, so much so that the company have taken up more ground adjoining.<sup>63</sup>

December 1886. The New Beehive Company has completed the erecting of their new battery of 20 heads of stampers, and started crushing some of the quartz which had been stacked on the mine as of inferior quality. The engine shaft has also been sunk to a depth of 820 feet ... A shed of ovens for roasting the blanket sand is being erected, and also a smelting furnace and office ... The North Beehive Company is down 200 feet with the new shaft. They have also driven a cross-cut west, and struck a reef about 60 feet from the shaft. They have now called for tenders for sinking a winze on the reef, so as to test it.<sup>64</sup>

March 1887. The Beehive Company has also sunk another 100 feet deeper ... The Great Western Company expects to strike the reef at 170 feet west. The Beehive, who are now in over 100 feet, expect to strike it in a week or two ... The Beehive Company has just let a contract for the erection of six Chilian wheels, the directors preferring burning the quartz, and passing the sand through the mills after the battery instead of crushing it raw.<sup>65</sup>

June 1887. The three principal mines, viz., the Great Western Cymru, New Beehive, and the North British mines [have] been engaged doing dead work in the erection of machinery, sinking their main shafts, and cross-cutting to strike the lodes. The length of the cross-cut west in the New Beehive mine is 245 feet; here the lode was struck and found to be small and poor, and has not improved in driving north and south on its course. The gold got during the quarter is in stoping above and below the 600-foot level. The Great Western Cymru Company is in with the 800-foot cross-cut about 100 feet west.<sup>66</sup>

December 1887. The yields from the New Beehive mine have improved during the quarter, being 256 oz more than the previous one. The company's machinery is all in first-class order, and they are now prepared to crush any quantity of quartz from the mine. The Great Western Cymru Company is still extending the drives at the 800-foot level ... The Derby United Company is driving south on the lode, which looks very promising, containing a little gold, and a large quantity of pyrites and other metals usually found in all the rich lodes of this division.<sup>67</sup>

March 1888. The New Beehive Mine is just paying expenses.<sup>68</sup>

June 1888. The New Beehive Company's crushing plant is stopped for the present, the last crushing not being payable. Operations now being carried on consist of sinking a winze on the south boundary below the 700-foot level, and driving north on the course of the lode.<sup>69</sup>

September 1888. The New Beehive, Great Western Cymru, and the Tarrangower Companies have not yet come upon anything payable, and no crushing has been done by them for the quarter. The Derby United Company is driving on the course of the reef, north and south, and dish prospects show a little gold.<sup>70</sup>

June 1889. The Derby United Company, during the quarter has been driving north and south on the course of the lode, and have had gold in dish prospects but not payable. The New Beehive Company, during the quarter, has been driving north on the course of the reef about 220 feet; and although they have a good looking reef containing metals nothing payable has yet been found.<sup>71</sup>

September 1889. The New Beehive Company has ceased driving north on the reef at the 900-foot level, not being able to find anything payable, and has started to sink their shaft a further depth of 100 feet, which will be completed in the course of a week.

The Derby United Company finding nothing payable in the 820-foot level, has also started to sink another 100 feet.<sup>72</sup>

December 1889. The mines in my division are looking very poor at present. The New Beehive Company has completed another sink of 100 feet, making a total depth of 1,020 feet from the surface ... The Derby United

Company has completed the sink of 100 feet, making a total of 940 feet from the surface. In sinking, near the bottom, they came upon a large reef about 12 feet thick, which had never been seen before in this mine.<sup>73</sup>

March 1891. The Derby United Company has obtained an average of 10 dwt 10 gr per ton. The New Beehive Company has succeeded in striking a reef, but has not yet found gold in payable quantities.<sup>74</sup>

September 1891. During the quarter the Beehive Company has been driving north and south at the 1,000-ft level on the course of the lode, which varies in width from 14 feet to 22 feet, and has hitherto proved non-payable. The Derby United Company has sunk the shaft a further depth of 100 feet, making a total depth of 1,035 feet from the surface. From the lode at the 920-ft level 180 tons of stone were crushed for a yield of 16 dwt of gold per ton.<sup>75</sup>

1897. Beehive Mine. This mine, taken up by the Beehive Company about the year 1860, but which is now incorporated with the Derby and held by the Derby United Company, has not been worked for some years, prospecting operations not meeting with much success in the lower levels. On the surface, however, the value of the stone is well attested by extensive excavations along the line of reef.

As to the yields of gold from this mine, I here quote an old official record on the subject, "In the lease of the Beehive Co. the reef is from 12 to 15 feet thick and the yields since the formation of the company six years ago have amounted to £103,321 worth of gold. The workings extend to a depth of about 300 feet, and the quartz below the water level is very strongly impregnated with iron and arsenical pyrites, and to a less degree with galena. Previous to the formation of the company large yields of gold has been obtained from the reef: at one place, to a depth of 20 feet from the surface, the quartz paid 300 to 400 oz. of gold to the ton". Later returns report 69,000 oz. of gold in 1882; between this and 1886, 4,506 tons yielded 12,010 oz. of gold; the latest returns of gross total account for a yield (including 16,106 oz. from the deep mine) of 132,000 oz. of gold, representing rather more than a half-a-million sterling.<sup>76</sup>

1904. Beehive Consolidated. The present company took over several tenements held by early parties, known as the Beehive group of mines. It sunk a main shaft to a depth of 1,300 feet and is now engaged in driving in the lower levels in search of a continuation downwards ... The Beehive group of mines, the areas of which are now included in the Beehive Consolidated Company's lease, are credited with yields totalling 210,550 oz.<sup>77</sup>

1903. The Beehive and German Consolidated Company, after years of vigorous prospecting without success, during the last quarter of the year suspended operations. It is now proposed to amalgamate this company with the Derby United Company. The Derby United Company's mine has been shut down during the whole year.<sup>78</sup>

1904. Beehive Consolidated. The present company took over several tenements held by early parties, known as the Beehive group of mines. It sunk a main shaft to a depth of 1,300 feet and is now engaged in driving in the lower levels in search of a continuation downwards ... The Beehive group of mines, the areas of which are now included in the Beehive Consolidated Company's lease, are credited with yields totalling 210,550 oz.<sup>79</sup>

1904. No work has been done by the Beehive and German Consolidated Companies during the year, and the Maldon Gold-fields and German and Derby Companies closed down and sold their machinery.<sup>80</sup>

1905. The Derby United Company resumed underground operations, after a long suspension, in March last, and has since continued prospecting work at different levels, from the 500-feet to the 1,220-feet, without finding anything payable. Work is now being carried on at the 1,220-feet level only. Twenty-one men were employed in connection with the mining operations, and fifteen in connection with a cyanide plant, by which the sand wrought by the company in years past, and stacked on the lease, is being treated. The gold obtained from the sand has very materially helped to pay the expenses incurred in prospecting the mine.<sup>81</sup>

1906. Work has been carried on at the Derby United Company's mine during the year, with more or less payable results. An average of 49 hands has been employed, 30 on the surface, and 19 underground. Of the surface hands 14 were employed in connection with the cyanide plant.<sup>82</sup>

1907. The Derby United Company having continued work at the Derby shaft during the first quarter of the year, with unprofitable results, decided to temporarily suspend work at this shaft, and to direct its attention to developing the different levels in the Beehive, and Beehive and German shafts, also within the boundaries of their holding ... Seventeen hundred tons of stone, taken principally from the Beehive shaft, have been crushed for a yield of 475 oz of gold, and 589 oz of gold have been obtained from 13,200 tons of sand treated by cyanide, &c. An average of forty-seven men was employed.<sup>83</sup>

1907. The Derby United Company having continued work at the Derby shaft during the first quarter of the year, with unprofitable results, decided to temporarily suspend work at this shaft, and to direct its attention to developing the different levels in the Beehive, and Beehive and German shafts, also within the boundaries of their holding ... Seventeen hundred tons of stone, taken principally from the Beehive shaft, have been crushed for a yield of 475 oz of gold, and 589 oz of gold have been obtained from 13,200 tons of sand treated by cyanide, &c. An average of forty-seven men was employed.<sup>84</sup>

1908. The Derby United Company has pluckily continued to carry on developmental work. Nothing payable, unfortunately, has yet been found. An average of 39 men has been employed.<sup>85</sup>

1909. The Derby United Company continued work during the greater part of the year with a few tributers only, and the present prospects are not encouraging.<sup>86</sup>

1910. A little work has been done on the Derby United Company's lease by a few tributers.<sup>87</sup>

1911. The Derby United Company, having obtained fresh capital, resumed work, and almost immediately struck payable stone. Work in this mine is now being carried on with renewed vigour.<sup>88</sup>

1912. The Derby United Company having struck payable stone in 1911 continued to operate thereon during 1912 with results that have scarcely come up to expectations. Work is still being carried on with vigour, and the principal shareholders appear to be very hopeful, regarding the future of the mine.<sup>89</sup>

1913. The Derby United Company has experienced an unsuccessful year, being obliged to make an occasional call to pay expenses.<sup>90</sup>

1914. Notwithstanding the excitement recently caused in this division by some new finds, I do not think any real improvement has occurred, since I am of opinion that the closing down of one more of the old established mines, viz., the Derby United, more than counterbalances the whole of the new finds.<sup>91</sup>

1918. The Derby Company, not meeting with success, suspended work at its mine during the year, and sold the machinery.<sup>92</sup>

1988. The mine on the Beehive Reef (discovered in 1854), was incorporated with the Derby Hill Mine and came under the control of the Derby United Company, hence the tramway between the mines.

The Beehive chimney is the most important historic feature within this unit and is the only chimney remaining on the Maldon Goldfield. It was bought in 1923 by T.B Brook and W. E. Preece as a monument to the gold mined at Maldon and the town's pioneers.<sup>93</sup>

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*DESCRIPTION & INTERPRETATION:*

**Interpretation of site:**

Four main periods of mining:	1854--Reef opened up
	c.1859 to 1879--Beehive Quartz Mining Association until 1861, then referred to as Beehive Co.
	1880 to mid 1890s--New Beehive Co.
	Late 1890s to 1918--Amalgamated with Derby United. Name changed to Beehive and German Consolidated Co from 1903.

The remains appear to cover all four periods of mining:

- Open cut would date to the first period of mining (mid/late 1850s).
- Chimney stack and kiln, plus winding, pumping and battery engine footings to the second period of mining.
- Chlorination and cyanidation features to the last two mining periods.

**Description of site:**

Winding and pumping machinery footings.

10 m east of Reefs Street is a fenced shaft. The shaft has been filled, but has collapsed some 5 m. Visible in the east wall of the collapsed shaft area are two parallel stone footings which may be part of a pumping bob-pit.

33 m east of the shaft, largely obscured by black berry bushes and pepper trees, are the fragmentary remains of a stone winding engine bed. The bed is constructed of stone blocks which are set in a soft mortar. The bed,

standing to a height of 60 cm, has 1-1/2 inch mounting bolts; and is 8 ft (2.4 m) wide and at least 24 ft (7.3 m) long. On the south side of the bed is a mound of stone rubble from which protrude several mounting bolts. From the south east corner of the machinery site there is a 3 ft (90 cm) wide stone flue that runs some 15 m to an intact brick chimney stack. The stack, which is fenced-off, rests on a square base which has been embellished by decorative concrete rendering.

#### Battery footings

Immediately to the rear (east) of the remains of the stone winding engine bed is another engine bed. The bed, constructed of stone set in a soft mortar, is partly buried. The stone engine bed has 1-1/2 inch mounting bolts and is 5 ft (1.5 m) wide and at least 21 ft (6.4 m) long. To the north of this stone engine bed is an excavated platform which contains a 22 ft (6.7 m) long linear depression. Presumably this depression once housed battery stumps. At the north end of the linear depression are some modern-looking concrete footings which have two parallel lines of protruding iron hooks.

#### Cyanide vat footings

16 m east of the northern end of the battery site is a brick sump. The sump, with two, 3 ft deep, concrete-rendered, compartments; and is constructed from machine-made (Northcote manufactured) red bricks set in a hard concrete mortar. The brick vat has 14 inch thick walls, and has overall measurement of 20 x 8-3/4 ft (6 x 2.6 m). The vat appears to be a copy, albeit a much smaller one, of the brick vat associated with the remains of the cyaniding plant at the South German mine site. Immediately to the north of the brick vat are eight parallel stone footings. These footings are similar to the ones found at the North British Mine site which still support two large cyanide vats. Each of the stone vat supports at the Beehive mine site measures 42 ft x 2-1/2 ft (12.8 m x 76 cm) and are set 3-1/2 ft (1 m) apart.

#### Tailings dump

Below the east boundary fence placed around the chimney stack is a sludge pond which has a 100 m long earthen embankment. A culvert runs from the battery site to this pond. Below the pond's embankment is a partly quarried, but still extensive dump of treated tailings. On the levelled surface of the tailing dump, near the north end of the pond, is a line of six, largely buried, 15 ft (4.5 m) diameter, Gal. Iron cyanide vats. A drain runs east from the middle of the line of vats. 6 m to the east of the northern vats is a section of tarmac.

#### Furnace area

20 m north west of the stone vat supports are the remains of a 15 m long section of a stone flue. The flue has 2 ft thick stone walls with a 3 ft wide inner channel which is filled with an ash-like deposit. This flue and its filling is quite similar to the that found at the South German mine. On the north side of the flue are sections of stone walls belonging to the mine's administrative building.

#### Kiln and open cut

14 m west of the chimney stack's fence, running south, is a 50 m long, shallow, partly filled, open cut. 30 m east from the southern end of the open cut is a small section of a quartz roasting kiln. Protruding from tailings is a 2 m long, 1 m high section of the rear end of a roasting bowl.

*INTEGRITY/CONDITION:* Winding engine site is obscured by black berry bushes and pepper trees. The engine beds are in poor condition due to the scavenging of facing stones. The chimney stack, especially its base, requires some restoration work. The sludge pond's earthen embankment has been partially quarried during the removal of tailings, resulting in some continuing erosion.

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#### *CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because it is one of Maldon's famous mines, having operated from c.1859 to 1918. The mine's works were described in 1860 as the most extensive and sophisticated in the colony.
- Social Significance, because it has high public value due to the survival of its 1860s brick chimney stack. Prominent town landmark.
- Scientific Significance, because:
  - a) it has a large number of well preserved components which together demonstrate several different mining periods. The site's brick chimney stack, is one of only three intact mining chimneys left on the Central Victorian goldfields.
  - b) there is a possibility of buried remains.
  - c) the site's quartz roasting kiln is evidence of an early treatment process developed on the Victorian goldfields to facilitate quartz crushing and the retrieval of gold. Such sites are relatively rare in Victoria.

The site's significance is increased by cumulative value, because it:

- a) forms part of an important group of sites that runs parallel to the main commercial area of Maldon. These sites, from north to south, are Nos. 24, 17, 9, 38, 37, 39 and 18A (Maldon State Battery, Alliance, Beehive, Derby United, Caledonian Crushing Mill, Lady Darling and South German);
- b) is also part of a group of sites all of which containing the remains of quartz roasting kilns. The surviving kilns are evidence of the variation in kiln design, and also the continuation of the practice of quartz roasting in the Maldon area long after its discontinuation on other Victorian goldfield. These sites are Nos. 9, 10, 12, 14, 25, 31, 37, 51, 61, 69 & 76. (Beehive Co., Bells Reef, South Cookmans, Cookmans Association, Grand Junction, North British, Caledonian, Fentemans, Young Australian, Boswarva Hill and Thornhill Co.).
- c) has considerable tourism potential.

*SIGNIFICANCE RANKING:* Site Listed Heritage Register.  
Site Listed Heritage Inventory.

**Assessor: David Bannear**

**Date: November 1992.**

- 1 J.C Haupt, 1981, The Mineralogy of the Maldon Goldfield, The Mineralogical Society of Victoria, Monograph No. 1
- 2 Williams, p. 15
- 3 Mining Surveyors' Reports, August 1859
- 4 Mining Surveyors' Reports, December 1859
- 5 J.C Haupt, 1981, The Mineralogy of the Maldon Goldfield, The Mineralogical Society of Victoria, Monograph No. 1
- 6 Mining Surveyors' Reports, June 1860
- 7 Mining Surveyors' Reports, July 1860
- 8 Mining Surveyors' Reports, August 1860
- 9 Mining Surveyors' Reports, January 1861
- 10 Mining Surveyors' Reports, February 1861
- 11 Mining Surveyors' Reports, March 1861
- 12 Mining Surveyors' Reports, May 1861
- 13 Tarrangower Times, 2 April 1862, quoted in Williams, p. 67
- 14 Mining Surveyors' Reports, September 1864
- 15 Mining Surveyors' Reports, March 1865
- 16 Mining Surveyors' Reports, September 1865
- 17 Mining Surveyors' Reports, March 1866
- 18 Mining Surveyors' Reports, September 1866
- 19 Mining Surveyors' Reports, December 1866
- 20 Mining Surveyors' Reports, March 1867
- 21 Mining Surveyors' Reports, June 1867
- 22 Mining Surveyors' Reports, September 1867
- 23 Mining Surveyors' Reports, December 1867
- 24 Mining Surveyors' Reports, June 1868
- 25 Mining Surveyors' Reports, September 1868
- 26 Mining Surveyors' Reports, December 1868
- 27 Mining Surveyors' Reports, March 1870
- 28 Mining Surveyors' Reports, June 1870
- 29 Mining Surveyors' Reports, December 1870
- 30 Mining Surveyors' Reports, March 1871
- 31 Mining Surveyors' Reports, June 1871
- 32 Mining Surveyors' Reports, March 1872
- 33 Mining Surveyors' Reports, June 1872
- 34 Mining Surveyors' Reports, December 1872
- 35 Mining Surveyors' Reports, March 1873

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36	Mining Surveyors' Reports, September 1873
37	Mining Surveyors' Reports, December 1873
38	Mining Surveyors' Reports, March 1875
39	Mining Surveyors' Reports, September 1875
40	Mining Surveyors' Reports, December 1875
41	Mining Surveyors' Report, March 1876
42	Mining Surveyors' Reports, September 1876
43	Mining Surveyors' Reports, December 1877
44	Mining Surveyors' Reports, March 1879
45	Mining Surveyors' Reports, March 1880
46	Mining Surveyors' Reports, December 1881
47	Mining Surveyors' Reports, March 1882
48	Mining Surveyors' Reports, September 1882
49	Mining Surveyors' Reports, December 1882
50	Mining Surveyors' Reports, March 1883
51	Mining Surveyors' Reports, June 1883
52	Mining Surveyors' Reports, September 1883
53	Mining Surveyors' Reports, December 1883
54	Mining Surveyors' Reports, March 1884
55	Mining Surveyors' Reports, June 1884
56	Mining Surveyors' Reports, September 1884
57	Mining Surveyors' Reports, March 1885
58	Mining Surveyors' Reports, June 1885
59	Mining Surveyors' Reports, September 1885
60	
61	Mining Surveyors' Reports, March 1886
62	Mining Surveyors' Reports, June 1886
63	Mining Surveyors' Reports, September 1886
64	Mining Surveyors' Reports, December 1886
65	Mining Surveyors' Reports, March 1887
66	Mining Surveyors' Reports, June 1887
67	Mining Surveyors' Reports, December 1887
68	Mining Surveyors' Reports, March 1888
69	Mining Surveyors' Reports, June 1888
70	Mining Surveyors' Reports, September 1888
71	Mining Surveyors' Reports, June 1889
72	Mining Surveyors' Reports, September 1889
73	Mining Surveyors' Reports, December 1889
74	Mining Surveyors' Reports, March 1891
75	Mining Surveyors' Reports, September 1891
76	Geological Survey of Victoria, Bulletin No. 14, The Maldon Gold-field, W M Bradford, 1904
77	Geological Survey of Victoria, Bulletin No. 14, The Maldon Gold-field, W M Bradford, 1904
78	Annual Report, 1903
79	Geological Survey of Victoria, Bulletin No. 14, The Maldon Gold-field, W M Bradford, 1904
80	Annual Report, 1904
81	Annual Report, 1905
82	Annual Report, 1906
83	Annual Report, 1907
84	Annual Report, 1907
85	Annual Report, 1908

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86	Annual Report, 1909
87	Annual Report, 1910
88	Annual Report, 1911
89	Annual Report, 1912
90	Annual Report, 1913
91	Annual Report, 1914
92	Annual Report, 1918
93	Maldon Historic Reserve Management Plan, Department of Conservation, Forests and Lands, 1988

**SITE NO. & NAME:** 10 BELL'S REEF CO.

**LOCATION:** Bells Reef, North Maldon

**HI NO:** H7724-0029

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**DIRECTIONS:** 1.1 km along Bowes Cottage Road (also called Spring Gully Road) from its junction with Reef Street. On Freehold Land, nth side of road

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Freehold Land

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**HISTORY:**

1854-56. Sensational discoveries followed in quick succession--Eagle Hawk, Bell's Reef and the Beehive in 1854; German, Nuggetty, Victoria and Lisle's Reefs in 1855; Linscott's and Parkin's Reefs in 1856, and many others of lesser value ... Here were riches beyond compare--500 ounces from one ton of quartz obtained at Eagle Hawk (a small fortune in itself of £2,000), 300 to 400 ounces per ton on the Bee Hive rise, 133 ounces per ton at Bell's Reef, 320 ounces per ton from the fabulously rich Nuggetty Reef, and a fortune of £30,000 won by two lucky miners for ten months' work on Lisle's Reef.<sup>1</sup>

December 1859. The following applications have been made during the last month:

Registration--13

Abandoned reefs--9, 2880 lineal feet

Amalgamation--7, 1977 lineal feet

The applications for abandoned reefs recur at Nuggetty Reef, South Muckleford, Mining Board Reef, Long Gully, Welchman's, Smith's Reef (two instances), Dunn's, and Kangaroo Reef, North Muckleford. Those for amalgamation are at Eagle Hawk Reef (two instances), Nuggetty, **Bell's**, Parkin's, Tiverton, Kangaroo, and Victoria Reefs.

[A table lists gold yields from the following reefs: Eagle Hawk, Brewer's, Bell's, Tiverton, Fentiman's, Eagle Hawk (cement), Nuggetty, Manton's Gully, Beehive, Swipers', Linscott's, Perkin's, German Reef, Hill's (Mount), Eyrie, Lisle's (Mount), Allan's, Thornehill's, Omega, Kangaroo, New Wattle Gully].<sup>2</sup>

January 1865. Bells Reef Co.--driving at 140 ft and cross-cutting at 180 ft.<sup>3</sup>

September 1865. The tributers are crushing ... The men at the 190 ft level are still driving south in a very nice looking reef.<sup>4</sup>

October 1865. Hawkes & Co. and the No. 1 north tributers are crushing at Linscotts.<sup>5</sup>

March 1867. The contractors have completed 10 feet of the present contract for sinking, making the total depth of the engine shaft 232 ft.<sup>6</sup>

September 1868. Half Yearly Meeting--arrangements had been made to let mine on tribute for 2 years, company to receive 20% first year, and 25% for second year.<sup>7</sup>

September 1876. The Charcoal Reef, recently re-opened by Wratten and Co., has turned out a good paying reef; it is from 2 to 5 feet in thickness, the last crushing from which gave an ounce of gold per ton. The gold has been followed for about 80 feet in length. A trial crushing of 30 tons from this reef has been sent to two mills--the Phoenix and Bell's Reef mills--15 tons to each, measured bucket and bucket into the carts. At the Bell's Reef mill, the stone was crushed with stampers, and passed through rocking-cradles with blanket bottoms, worked by the engine; and no quicksilver used. At the Phoenix mill, quicksilver was used in the stamp-boxes, ripples, and Chilian mills. The result was in favour of the Phoenix, the difference being 3 oz 17 dwts; or 11 oz 10 dwts from Bell's Reef mills, and 15 oz 16 dwts from the Phoenix--from 15 tons of stone at each mill.<sup>8</sup>

June 1881. The Resurgam Company, on Bell's Reef, has drained the mine with a horse-whim, and is now sinking a winze on the reef. The prospects are favourable.<sup>9</sup>

March 1882. The Resurgam Company (Bell's Reef) is getting fair prospects from the mine; they have opened the reef about 90 feet in length, and gold can be found the whole distance.<sup>10</sup>

December 1886. The Bell's Reef Company is down with the new shaft 230 feet. It is 10 ft 6-in long by 3 ft 6-in wide in the clear, divided into three compartments, and secured timbered. They struck water 170 feet from the surface, since which they have had some difficulty in sinking. They have just got the reef in the bottom, which looks very promising, but they have not yet opened on it.<sup>11</sup>

March 1887. The Bells' Reef Company during this quarter has been sinking the shaft through quartz having no face on either side, the quartz looks very promising, but not payable.<sup>12</sup>

1904. I regret to report that the depression which existed in this division in 1903 has continued through 1904. The Nuggetty Extended Gold Mining Company has continued to work in the upper levels, with barely payable results.

The North of England Gold Mining Company, the Union Gold Mining Company, **Bell's Reef Gold Mining Company**, the Central Columbia Gold Mining Company, the Columbia Gold Mining Company, the South German Extended Gold Mining Company, the Mount Tarrengower Gold Mining Company, the Exhibition Consolidated Company, the Mount View Gold Mining Company, and the South British Company have, with indifferent success, carried on prospecting work during the year as vigorously as the funds at their command would allow.<sup>13</sup>

1904. Bells Reef Mine where Mr J H Williams is in charge ... There is a 16-head mill on the mine, and plenty of boiler power. The mine is not far from the granite.<sup>14</sup>

1905. The South of England, England Consols, Mount View, Exhibition Consolidated, Western Derby, Bell's Reef and the Ivy Reef Companies have all done more or less developmental work, without meeting with payable stone.<sup>15</sup>

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*DESCRIPTION & INTERPRETATION:*

Main periods of workings :	1854 reef opened	
	1865 to c. 1868	Bells Reef Co. (no battery)
	c.1876	Bells Reef Mill
	1881/1882	Resurgam Co.
	1886/1887	Bell's Reef Co.
	c. 1904	Bell's Reef Gold Mining Co. (16-head mill)

Kilns would most probably date to the mid 1870s (Bells Reef Mill), but could have been constructed in the mid 1880s by the Bell's Reef Co. Battery remains are turn of the century (Bell's Reef Gold Mining Co.).

Mine

The site consists of a set of four largely-intact roasting kilns contained within a rectangular structure measuring 20 m x 4 m. The roasting bowls are surrounded by random fill which is contained by an outer facade of stone. Each kiln contains a funnel-shaped roasting bowl made of hornfels slabs and blocks. The stonework of the bowls has a very burnt appearance. All the bowls are characteristically oval-shaped, and all are slightly different in size, varying from approx. 4.2 m wide to 3.7 m. All the bowls are partially filled with rubble, but appear to all be approximately 3.2 m deep and have 18 m diameter bases. The draught/unloading portals have collapsed, suggesting they were constructed with wooden lintels.

20 m west of the set of kilns is a battery site. The site consists of a stone and mortar engine bed measuring 5.2 m x 1 m, having 1in diameter mounting bolts. Near the engine bed is a line of decayed battery stumps and stump slots set in rough concrete. A scatter of red hand-made bricks (some of them tapered) suggests a collapsed chimney stack. At the back of the battery is a raised loading platform. Running north from this is a tramway embankment that goes around the side of the hill, terminating at a large open cut. There are also several shafts near the open cut. In places the tramway has been excavated to a depth of 2 m through the side of the hill. Below the battery, towards the main road, is an extensive deposit of tailings.

*INTEGRITY/CONDITION:* Good.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because:
  - a) its quartz roasting kilns are evidence of an early treatment process developed on the Victorian goldfields to facilitate quartz crushing and the retrieval of gold.
  - b) it contains a broad range of components which clearly illustrate mining operations which took place on the site.

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The site's significance is increased by cumulative value, because:

- it is part of a group of sites all of which contain the remains of quartz roasting kilns. The surviving kilns are evidence of the variation in kiln design, and also the continuation of the practice of quartz roasting in the Maldon area long after its discontinuation on other Victorian goldfields. These sites are Nos. 9, 10, 12, 14, 25, 31, 37, 51, 61, 69 & 76 (Beehive Co., Bells Reef, South Cookmans, Cookmans Association, Grand Junction, North British, Caledonian, Fentemans, Young Australian, Boswarva Hill and Thornhill Co.).

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Williams, p. 15
- 2 Mining Surveyors' Reports, December 1859
- 3 Dickers Mining Record, Jan 1865, p241
- 4 Dickers Mining Record, Sept 12 1865, p139
- 5 Dickers Mining Record, Oct 31 1865, p279
- 6 Dickers Mining Record, March 5 1867, p135
- 7 Dickers Mining Record, Sept 1868, p72
- 8 Mining Surveyors' Reports, September 1876
- 9 Mining Surveyors' Reports, June 1881
- 10 Mining Surveyors' Reports, March 1882
- 11 Mining Surveyors' Reports, December 1886
- 12 Mining Surveyors' Reports, March 1887
- 13 Annual Report, 1904
- 14 Geological Survey of Victoria, Bulletin No 14 - The Maldon Gold-Field, W M Bradford, 1904
- 15 Annual Report, 1905

**SITE NO. & NAME:** 11 COOKMAN'S GULLY WORKINGS

**LOCATION:** Cookmans Gully, West Maldon

**HI NO:** H7723-0118

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**DIRECTIONS:** West of Parkins Reef Road, opposite the South Parkins Reef mine

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Area

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**HISTORY:**

No references collected for this site. Puddler may date to the twentieth century.

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**DESCRIPTION & INTERPRETATION:**

Alluvial workings

Shallow sinkings have been either obliterated by reclaiming for pasture land or gravel extraction. One puddler survives in the main channel. The puddler has a diameter of 22 ft (6.7 m) and has a well defined inner mound (post hole visible) and puddling trench. Part of the puddlers outer mound has been excavated.

**INTEGRITY/CONDITION:** Poor.

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**CULTURAL SIGNIFICANCE:**

The site has:

- Scientific Significance, because it is one of only a handful of puddlers still surviving in the Maldon area.

**SIGNIFICANCE RANKING:** Site Listed Heritage Inventory.

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**Assessor:** David Bannear

**Date:** November 1992.

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**SITE NO. & NAME:** 12 SOUTH COOKMANS CO.

**LOCATION:** Cookmans Gully, West Maldon

**HI NO:** H7723-0119

**DIRECTIONS:** 1.8 km along South Parkins Reef Road. 250 m north from road.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Freehold Land

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**HISTORY:**

1904. Over a range to the west of the (South British) mine is a deserted mine known as South Cookman's. A steam winding plant and a 12-head battery mill are over a good shaft. The lode here is said to have yielded rich returns near the surface.<sup>1</sup>

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**DESCRIPTION & INTERPRETATION:**

Quartz roasting kiln

The site consists of the partially demolished remains of a single kiln contained within a structure which has an outer facade of hornfels slabs and blocks. The kiln contains a funnel-shaped roasting bowl made of hornfels slabs and blocks. The stone has a very burnt appearance. The bowl is approximately 4 m in diameter, 4.3 m deep, has almost vertical rear walls and flared sides, and a base diameter of approx. 3.1 m. The kiln's draught/unloading portal has been demolished. The kiln was constructed on top of a 5 m high mullock heap.

Battery site

Down slope, approximately 40 m north-west of the kiln, is a battery site. All that survives is a levelled area containing some battery stumps set in rough concrete and a scatter of red, hand-made bricks. Near the battery site is a capped shaft, and some stone footings.

Workings

30 m north of the roasting kiln are some bulldozed mullock paddocks and filled shafts.

Whim platform

Above one of the bulldozed mullock paddocks is a 40 ft diameter, stone-retained, whim platform.

**INTEGRITY/CONDITION:** Kiln and battery remains in a fragile state.

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**CULTURAL SIGNIFICANCE:**

The site has:

- Scientific Significance, because it:
  - a) has quartz roasting kilns that are evidence of an early treatment process developed on the Victorian goldfields to facilitate quartz crushing and the retrieval of gold.
  - b) contains a broad range of components which clearly illustrate mining operations which took place on the site.

The site's significance is increased by cumulative value, because it:

- a) is part of a group of sites which all contain the remains of quartz roasting kilns. The surviving kilns are evidence of the variation in kiln design, and also the continuation of the practice of quartz roasting in the Maldon area long after it had become obsolete on other Victorian goldfields. These sites are Nos. 9, 10, 12, 14, 25, 31, 37, 51, 61, 69 & 76 (Beehive Co., Bells Reef, South Cookmans, Cookmans Association, Grand Junction, North British, Caledonian, Fentemans, Young Australian, Boswarva Hill and Thornhill Co.).
- b) is part of a group of sites which document mining along the line of reef. These sites are Nos. 12, 13, 14, 26A, 25 & 22A (South Cookmans, Central Cookmans, Cookmans Association, Mount View Co., Grand Junction and Lises Reef workings).
- c) is part of a group of sites which all contain the remains of whim platforms. Once extremely common, this site type has (to date) only been found to survive in the Maldon Mining Division. These sites are Nos. 12, 22, 25, 48, and 76 (South Cookmans, Lises Reef workings, Grand Junction, Prince Llewellyn, and Thornhill Reef).

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- <sup>1</sup> Geological Survey of Victoria, Bulletin No 14 - The Maldon Gold-Field, W M Bradford, 1904.

**SITE NO. & NAME:** 13 CENTRAL COOKMANS CO.

**LOCATION:** Cookmans Gully, West Maldon

**VHR NO:** H1690

**HI NO:** H77230120

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**DIRECTIONS:** 1.9 km along South Parkins Road from its junction with Parkins Reef Road. North side of road. Mine site is on freehold land, the treated tailings dump on Crown Land.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Freehold Land

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**HISTORY:**

1903. The Central Cookman's Gold Mining Company resumed operations, under a new mine manager, in August last, after a period of suspension, since then several payable crushings have been taken out. This company has a very complete plant on the mine.<sup>1</sup>

1904. The Central Cookman's Gold Mining Company, after spending a considerable amount in erecting a winding, crushing, cyanide, and roasting plant complete, obtained such disastrous yields for some time as to make it necessary on the part of the directors to seriously consider whether the mine should be shut down or not. However, I am pleased to report that it was decided to do a little more prospecting work, and that it has resulted in payable stone being found.<sup>2</sup>

1905. Nine men, on the average, have been employed by the Central Cookman's Company--seven below and two on the surface--during the year, and 764 tons of stone have been raised and crushed for a yield of 220 oz of gold; 134 oz of gold were also obtained during the last quarter of the year from 1,387 tons of sand treated by the cyanide process. The mine is well equipped with winding and crushing machinery, and the prospects for the present year are encouraging.<sup>3</sup>

1906. The Central Cookman's Company has continued working during the year with an average of thirteen men below ground, and eight surface hands, with payable results. The lowest level is 300 feet from the surface. The mine is equipped with winding, crushing and cyaniding machinery.<sup>4</sup>

1907. The Central Cookman's Company sunk a new main shaft to a depth of 245 feet, about 500 feet north of the old main shaft. On this shaft, a first class, first motion, winding engine and gear, with all the latest improvements, such as air and steam brakes, &c., and steel poppet heads (manufactured by Roberts and Sons) have been erected. This mine, whose future prospects appear good, is now well equipped with winding, crushing, and cyaniding machinery. Two thousand two hundred and ninety tons of stone were crushed for 736 oz of gold, while 625 oz of gold were obtained from 3,660 tons of tailings and concentrates treated by cyanide, &c. An average of 25 men were employed.<sup>5</sup>

1908. The Central Cookman's Company has had a fairly successful year, and the prospects for the immediate future appear to be good. An average of 30 men has been employed.<sup>6</sup>

1909. The Central Cookmans Company has sunk the main shaft to a depth of 572 feet ... Large bodies of stone exist in this mine, but it is generally of such a low grade as to render it difficult, with the appliances at hand, to pay working expenses. An average of 38 men has been employed.<sup>7</sup>

1910. The Central Cookman's Company suspended underground operations during the second half of the year, for the purpose of erecting an up-to-date 10-head battery, to be driven by suction gas. This battery ... is, I am informed, in full work, and is fulfilling all expectations as to the number of tons crushed, and the cost per ton.<sup>8</sup>

1911. The Central Cookmans Company has worked throughout the year with about payable results, and has sunk the main shaft a further depth of 200 feet, making the total depth of the main shaft 758 feet.<sup>9</sup>

1912. Mining in this division has been very quiet indeed during the year. Two of the leading companies, viz., the Eaglehawk and Central Cookmans, have unfortunately been obliged to close down and sell their very extensive, and in the case of the Central Cookmans, most up-to-date mining plants.<sup>10</sup>

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**DESCRIPTION & INTERPRETATION:**

Central Cookman's Co. (operated from c.1904 to 1912).

**Shaft and mullock heap**

Intact large mullock heap which is about 60 m wide and 6 m high. The heap has three major dumping lines. On the heap's flattened surface is a filled, but slightly subsided shaft. Near the shaft are two, 3 ft square, concrete poppet leg pads. The pads are positioned 30 ft (9.15 m) apart.

**Winding engine house**

18 m west of the shaft is a set of brick winder beds. The beds are set 7 ft (2.13 m) apart; and each measures 23 x 4-1/2 ft (7 x 1.4 m) and stands 4 ft (1.3 m) high. The well preserved beds are constructed of hand-made bricks which are capped by a course of machine-made (Northcote manufactured) shaped red bricks. The brickwork rests on substantial stone footings. All of the mounting bolts have been removed from the two brick beds. Running across the western end of the winder foundations is a large brick engine bed. This bed is of similar construction to the winder foundations; measures 31 x 3-1/2 ft (9.45 x 1.06 m), stands 4 ft high and still has several 1 inch mounting bolts. The engine bed also has a small brick bed at its western end.

Running along the eastern side of the machinery foundations is a well preserved stone and concrete wall belonging to a boiler setting. The wall is 30 ft (9.15 m) long. The boiler setting's other wall has been demolished. A flue depression runs from the rear (south end) of the boiler setting and terminates at a square depression and mound of shattered brick (chimney stack site).

**Battery house**

Below (west) of the winding engine bed are battery foundations which occur on three levels. The upper level of the battery site consists of a concrete loading ramp which measures 20 x 14 ft (6.1 x 4.25 m), and is 7 ft high. The front of the concrete ramp has three post slots (supports for ore bin).

At the base of the loading ramp is the battery floor which has an area 40 x 26 ft (12.2 x 7.9 m). On the floor are well preserved concrete foundations and mounting bolts (2 inch diameter) belonging to two battery boxes (5-head of stamps each). In front of the concrete foundations are some post stumps. The front (western end) of the battery floor is a 8 ft (2.43 m) high, 40 ft wide, stone wall.

The battery's lowest level comprises a largely grass-covered 40 ft square concrete floor. The north east corner of this floor has a raised, stone-retained platform, which contains a rectangular concrete engine bed which measures 8-1/4 x 3 ft. On the concrete floor, below the raised platform, is a 3 ft square gas-producer pad.

A concrete culvert runs along the north side of the battery house.

**Road**

A well constructed road runs from the rear (east side) of the mine site some 250 m to the South Cookmans mine site.

**Sludge ponds and dam**

A culvert runs in a south westerly direction from the battery site and terminates at the middle of three sludge ponds. Two of ponds are 50 m wide, the other is only 25 m across. The middle pond's embankment is still capped in places by sludge. On either side of the sludge ponds are large water dams. Drains lead from the sludge ponds to these dams.

**Cyanide works**

On the north side of the southern water dam are some bulldozed concrete slabs and footings. Below the debris, to the west, on Crown Land, is a large dump of treated tailings. This dump is currently being quarried. Scattered around the tailings dump are fragments of Gal. Iron cyanide vats. There is also still one in-situ vat on the heap near the boundary fence between Crown and Freehold land.

**INTEGRITY/CONDITION:** Well preserved site, with good integrity.

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**CULTURAL SIGNIFICANCE:**

The site has:

- Scientific Significance, because it has a wide range of well-preserved quartz mining relics which demonstrates what was described (in 1912) as the Division's most up-to-date mining plant.

The site's significance is increased by cumulative value, because it:

- a) is part of a group of sites which document mining along the line of reef. These sites are Nos. 12, 13, 14, 26A, 25, & 22A (South Cookmans, Central Cookmans, Cookmans Association, Mount View Co., Grand Junction, and Lises Reef workings).
- b) is situated in an attractive valley setting.

**SIGNIFICANCE RANKING:** Site Listed Heritage Register.

Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Annual Report, 1903
  - 2 Annual Report, 1904
  - 3 Annual Report, 1905
  - 4 Annual Report, 1906
  - 5 Annual Report, 1907
  - 6 Annual Report, 1908
  - 7 Annual Report, 1909
  - 8 Annual Report, 1910
  - 9 Annual Report, 1911
  - 10 Annual Report, 1912

**SITE NO. & NAME:** 14 COOKMANS ASSOCIATION

**LOCATION:** Cookmans Reef, West Maldon

**HI NO:** H7723-0121

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**DIRECTIONS:** Kilns located 230 m north of Central Cookman mine. South side of track running west from the junction of Parkins Reef and South Parkins Roads.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

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**HISTORY:**

February 1861. About half-a-mile west of Parkins Reef, a reef, named Cookman's, has been taken up by another company; their stamping machinery is on the ground ready for erection. The reef in this company's ground is 8 feet wide, at a depth of 190 feet, and averages 1 oz of gold per ton.<sup>1</sup>

May 1861. Quartz mining has also improved during the past month; the machines of three companies, viz. Parkins's, Cookman's and Concord, are ready for work as soon as water is available, the quartz now being raised from Parkin's and Cookman's Reefs gives every indication of good yields.<sup>2</sup>

26 April 1861. Cookman's Reef Association. Contracts have also been let, and are now nearly completed for the following works: tramways to convey the quartz from the shafts to the kilns and the chute, and for a chute to convey the calcined stone from the kilns to the stampers. Also, for the construction of two quartz kilns.

A contract has been further entered into with Messrs Vivian & Co. for the supply, carriage, and erection of a Chilian mill with revolving pan.<sup>3</sup>

7 June 1861. Cookman's Reef Association. The kilns are capable of burning 40 tons, each, they are fifteen feet deep, and consist of solid masonry. The stone for the same was excavated on the spot, and as a piece of work, both in point of design and building, reflects great credit on the engineers and builders. Tramways and chutes are constructed from the mine and kilns. By this considerable saving will be made, as the topmen at the shaft can fill the wagons and convey them direct to the kilns or chute, while the quartz is being raised from the lower part of the mine. The chute is placed at the angle of thirty degrees, which gives ample fall to every kind of stuff that is taken from the mine. It is the first experiment of this kind that has been tried at Maldon, and is perfectly successful. We hear that other parties are adopting the same scheme where the contour of the ground permits.<sup>4</sup>

March 1875. The Cookman's Reef Company has sent 60 tons of quartz to the crushing mill; the stone looks well, but the result is not yet known.<sup>5</sup>

June 1875. The whole line of Nuggety Reef is idle at present, as well as the Nelson, the German Reef, Brewer's and Cookman's Reefs.<sup>6</sup>

September 1875. The Nelson, Great Southern, Cookman's Reef, and Wattle Gully Companies, are all idle at present.<sup>7</sup>

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**DESCRIPTION & INTERPRETATION:**

Kilns appear to have been erected by the Cookman's Reef Association in 1861. This construction date makes the kilns some of the earliest surviving in the Maldon Division.

**Kilns and battery site**

Near the top of a ridge, is a quartz kiln containing two roasting bowls. Only the rear of the roasting bowls, and the kiln's back wall survive. The kiln's back wall is constructed of stone and mortar, and is 3 ft (90 cm) thick and 30 ft (9.15 m) long. Enough survives of the two roasting bowls to show they, like most of the other above-ground quartz kilns at Maldon, have straight backs and flared sides. Both bowls, constructed of hornfels blocks and slabs, would have had top diameters of 10 ft (3 m). The interior stone work of the roasting bowls has been coloured red by the heat. Rubble obscures the bottom of the roasting bowls, but they appear to have been about 10 feet deep. Nothing survives of the front sections or portals of the roasting bowls. The kiln faces east.

25 m below the kiln is a levelled platform. At the northern end of the platform, exposed by a small excavation, is a decaying bedlog. Presumably this platform once housed the battery. Below the battery site is a large water dam. The dam's interior is stone lined. There are also stone by-pass at either end of the dam's high earthen embankment.

Bulldozed mine workings run along the top of the ridge, some 15 m to the south of the quartz kiln.

*INTEGRITY/CONDITION:* Kiln remains are in good condition.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because it has quartz roasting kilns which are evidence of an early treatment process developed on the Victorian goldfields to facilitate quartz crushing and the retrieval of gold.

The site's significance is increased by cumulative value, because:

- it is part of a group of sites all of which contain the remains of quartz roasting kilns. The surviving kilns are evidence of the variation in kiln design, and also the continuation of the practice of quartz roasting in the Maldon area long after its discontinuation on other Victorian goldfields. These sites are Nos. 9, 10, 12, 14, 25, 31, 37, 51, 61, 69 & 76 (Beehive Co., Bells Ree, South Cookmans, Cookmans Association, Grand Junction, North British, Caledonian, Fentemans, Young Australian, Boswarva Hill and Thornhill Co.).

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Mining Surveyors' Reports, February 1861
- 2 Mining Surveyors' Reports, May 1861
- 3 Tarrangower Times, 26/4/1861, p2
- 4 Tarrangower Times, 7/6/1861, p2
- 5 Mining Surveyors' Reports, March 1875
- 6 Mining Surveyors' Reports, June 1875
- 7 Mining Surveyors' Reports, September 1875

**SITE NO. & NAME:**       **15A                   EAGLEHAWK GULLY TAILINGS DUMP**  
                                   **15B                   ALLUVIAL SINKINGS/SITE OF CHINESE CAMP**

**LOCATION:**                   **Eaglehawk Gully, Maldon Township**

**HI NO:**                    **15A                   H7724-0030**  
                                   **15B                   H7724-0031**

**DIRECTIONS:**           Gully runs west from Union Hill, parallel to Lockwood Road. Treated tailings dump located in Eaglehawk Gully, corner of Reefs Street and Allans Road

**MUNICIPALITY:**         Mount Alexander Shire

**LAND STATUS:**         Maldon Historic Reserve

**HISTORY:**

1853-4. By the end of January 1854 twenty gullies were being worked on the field [*Argus*, 31 January 1854] but apart from Long Gully there were only about six main places. Peg Leg Gully, Eaglehawk Gully, Growlers and German Gully, were opened first, and a number of small places, whose rush names failed to stick, and which often did not pay [W. Howitt, *Land, Labour and Gold*].<sup>1</sup>

June 1860. The mining population is as follows:

Alluvial miners--568 Europeans, 458 Chinese  
 Quartz miners and men employed at machines--464 Europeans  
 Totals--1,032 Europeans, 458 Chinese

The machinery is as follows:

Steam crushing machines--28 (24 at work, 4 idle)  
 Horse whims--17 (all at work)  
 Puddling machines--52 (35 at work, 17 idle)  
 Hand machine--1  
 Crushing machine being erected--1

The following applications ... have been made during the month:

Prospecting Claims—quartz--Mosquito Reef, Green Gully, 240 feet  
 Abandoned Reefs--Perkin's, Palmer's, Lisle's, and Stone's, in each instance 320 feet granted  
 Registration--Sixteen cases  
 Acres of abandoned ground--Two at Porcupine Flat  
 Amalgamation--Wilson's and German Reef, 420 feet  
 Protection to heaps of Tailings (2)--At Long Gully, Eaglehawk Creek  
 Puddling machines and dams (4)--At Porcupine Flat, Sandy Creek, Seventy-Foot, and **Eaglehawk Gullies**<sup>2</sup>

July 1860. The following applications ... have been made during the month of July.

Protection to water-holes for domestic purposes (1)--At Eaglehawk Creek.<sup>3</sup>

March 1864. Miners distributed thus:

Pickpocket & Strangways	78	Growler's Gully	177
Newstead	113	Long Gully	145
Muckleford	137	Peg Leg Gully	148
Frenchman's Gully	51	Porcupine Flat	115
Mia Mia and Gardner's Gully	119	<b>Eaglehawk</b>	<b>182</b>
Sandy Creek	413	Bradford	45
Nuggetty Flat	126 <sup>4</sup>		

June 1864. Mining population:

Alluvial miners--896 Europeans, 483 Chinese--1,379  
 Quartz miners--516 Europeans  
 Totals: 1,412 Europeans, 483 Chinese

Miners distributed thus:

Strangways	39	Growler's Gully	177
Newstead	107	Long Gully	150
Muckleford	140	Peg Leg Gully	162

Frenchman's Gully	32	Porcupine Flat	121
Mia Mia	130	<b>Eaglehawk</b>	<b>203</b>
Sandy Creek	496	Bradford	17
Nuggetty Flat	121 <sup>5</sup>		

## September 1864. Miners distributed thus:

Pickpocket	89	Green Valley	35
Newstead	114	Long Gully Md.	18
Back Creek	44	Peg Leg Gully	67
Frenchman's Gully	42	Porcupine Flat	176
Gardner's Gully	32	<b>Eaglehawk</b>	<b>150</b>
Sandy Creek	250	Bradford	16
Nuggetty Flat	149	Mount Tarrangower	190
Beehive Hill	110	Ironbark	14
Armstrong's	4	Hard Hills	20
Hunter's Rush	27	Fryingpan	8 <sup>6</sup>

## March 1865. Miners distributed thus:

Pickpocket	113	Growler's Gully	82
Newstead	25	Long Gully	16
Green Valley	45	Peg Leg Gully	77
Fryingpan Gully	3	Porcupine	63
Gardner's Gully	28	<b>Eaglehawk</b>	<b>182</b>
Sandy Creek	230	Long Gully, Muckleford	60
Nuggetty	71	Mount Tarrangower	248
Beehive Hill	180	Ironbark Gully	16
Armstrong's	3	Hard Hills	9
Hunter's Rush	17	Back Creek	25 <sup>7</sup>

## September 1865. Miners distributed thus:

Pickpocket	546	Growler's Gully	55
Newstead	36	Long Gully	48
Green Valley	38	Peg Leg Gully	78
Fryingpan Gully	21	Porcupine Flat	86
Gardner's Gully	19	<b>Eaglehawk</b>	<b>176</b>
Sandy Creek	212	Long Gully, Muckleford	39
Nuggetty	65	Mount Tarrangower	226
Beehive Hill	152	Ironbark Gully	33
Armstrong's	7	Hard Hills	25
Hunter's Rush	31	Back Creek	23
Frenchman's Gully	2 <sup>8</sup>		

## March 1866. Miners distributed thus:

Pickpocket and Strangways	855	Growler's Gully	50
Newstead	7	Porcupine Flat	60
Gardner's Gully	16	<b>Eaglehawk</b>	<b>186</b>
Sandy Creek	256	Long Gully	54
Nuggetty	80	Mount Tarrangower	238
Beehive Hill	152	Ironbark Gully	15
Hard Hills	25	Muckleford	221 <sup>9</sup>

## September 1866. Miners distributed thus:

Pickpocket	1,200	Growler's Gully	33
Newstead	22	Long Gully	45
Green Valley	49	Peg Leg Gully	63
Fryingpan Gully	14	Porcupine	50
Gardner's Gully	12	<b>Eaglehawk</b>	<b>180</b>
Sandy Creek	219	Long Gully, Muckleford	30
Nuggetty	60	Mount Tarrangower	210
Beehive Hill	117	Ironbark Gully	20
Armstrong's Gully	2	Hard Hill	8
Hunter's Rush	8	Back Creek	13
Frenchman's	10 <sup>10</sup>		

December 1866. Miners distributed thus:

Pickpocket	1,200	Growler's Gully	31
Newstead	15	Long Gully	46
Green Valley	45	Peg Leg Gully	65
Fryingpan Gully	3	Porcupine	50
Gardner's Gully	12	<b>Eaglehawk</b>	<b>187</b>
Sandy Creek	205	Long Gully, Muckleford	33
Nuggety	75	Mount Tarrangower	195
Beehive Hill	111	Ironbark Gully	23
Armstrong's Gully	9	Hard Hills	22
Hunter's Rush	17	Back Creek	18
Frenchman's	7 <sup>11</sup>		

March 1867. Miners distributed thus:

Pickpocket	650	Growler's Gully	25
Newstead	65	Long Gully, Maldon	65
Green Valley	59	Peg Leg Gully	76
Fryingpan Gully	19	Porcupine	60
Gardner's Gully	12	<b>Eaglehawk</b>	<b>190</b>
Sandy Creek	180	Long Gully, Muckleford	35
Nuggety	85	Mount Tarrangower	195
Beehive Hill	98	Ironbark Gully	25
Armstrong's Gully	11	Hard Hills	22
Hunter's Rush	18	Back Creek	21 <sup>12</sup>

1988. The most important feature of this unit is the shallow alluvial diggings reputedly of Chinese origin and the site of the Chinese diggers' camp.<sup>13</sup>

#### Cyaniding

1903. There is practically no alluvial mining done in the Tarrangower Division, but a large number of men are employed in treating sand by cyanide.

There are between 40 and 50 cyanide plants working in the Division at present.<sup>14</sup>

1904. There is practically no alluvial mining in this division, but the treatment of sand by the cyanide process has continued to be a very live industry, giving employment to a large number of hands.<sup>15</sup>

1905. The treatment of sand by the cyanide process continues to be a flourishing industry in this division. At least 46 plants have been in active operation during the year, employing not fewer than 245 hands and about 80 horses and drays. The yield of gold from this source, which, although I am unable to give, is, I know, considerable.<sup>16</sup>

1906. There are still about 40 cyanide plants at work in this division, employing about an average of 200 men, and a large number of horses and drays.<sup>17</sup>

1907. 150 men ... were engaged in cyaniding the quartz tailings in different parts of the division.<sup>18</sup>

1911. A number of parties in this division continue to treat the old tailings heaps by the cyanide process, but there is practically no alluvial mining being carried on.<sup>19</sup>

September 1940. Residues from the old mines are being treated by cyanide plants, and several prospecting parties are at work in the Maldon district where some good returns have been obtained.<sup>20</sup>

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#### *DESCRIPTION & INTERPRETATION:*

##### Tailings Dump

North of Allans Road, in Eaglehawk Gully, is a large raised dump of treated tailings.

##### Chinese camp site and alluvial sinkings

100 m east of the tailing dump is a 350 m long band of weathered-looking shallow alluvial sinkings. None of the shafts are really defined. Main features of the place are closely packed small mounds of gravel and dirt. Associated with the sinkings is a cleared area which corresponds with the site of a Chinese camp.

*INTEGRITY/CONDITION:* Tailings dump is intact.

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*CULTURAL SIGNIFICANCE:*

Site 15B has:

- Historical Significance, because it was one of Maldon's richest and earliest-worked alluvial gullies. Others in this category are Long Gully, Peg Leg Gully, Growlers and German Gully.
- Scientific Significance, because it represents some of the last traces of alluvial sinkings in the Maldon area.

*SIGNIFICANCE RANKING:* Sites Listed Heritage Inventory.

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**Assessor: David Bannear****Date: November 1992.**

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- 1 Flett, J., The History of Gold Discovery in Victoria, Poppet Head Press, 1979, pp. 193-201
  - 2 Mining Surveyors' Reports, June 1860
  - 3 Mining Surveyors' Reports, July 1860
  - 4 Mining Surveyors' Reports, March 1864
  - 5 Mining Surveyors' Reports, June 1864
  - 6 Mining Surveyors' Reports, September 1864
  - 7 Mining Surveyors' Reports, March 1865
  - 8 Mining Surveyors' Reports, September 1865
  - 9 Mining Surveyors' Reports, March 1866
  - 10 Mining Surveyors' Reports, September 1866
  - 11 Mining Surveyors' Reports, December 1866
  - 12 Mining Surveyors' Reports, March 1867
  - 13 Maldon Historic Reserve Management Plan, Department of Conservation, Forests and Lands, 1988
  - 14 Annual Report, 1903
  - 15 Annual Report, 1904
  - 16 Annual Report, 1905
  - 17 Annual Report, 1906
  - 18 Annual Report, 1907
  - 19 Annual Report, 1911
  - 20 Mining and Geological Journal, September 1940

**SITE NO. & NAME:** 16 **EAGLEHAWK LIMITED CO.**

**LOCATION:** Eaglehawk reef

**HI NO:** H7724-0032

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**DIRECTIONS:** Along Reefs Street, 100 m south of its junction with Allans Road, and 20 m east of the street.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Area

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**HISTORY:**

March 1875. Others of our mining companies, viz., the Eaglehawk Limited, the Wellington, the Alliance, the Speculation, the New Enterprise, and Beehive Companies, have been for some time past struggling hard, and expending large sums of money in sinking and driving, to find the lost rich lodes. The Eaglehawk Limited Company is now sinking the shaft below the 615-foot level; the reef here is from 10 to 12 feet thick; occasionally good golden stone is found, but not hitherto in paying quantities; the prospects, however, are very promising.<sup>1</sup>

June 1875. The Eaglehawk Limited Company has purchased a second boiler for the engine, and has called for tenders for fixing it; they are still sinking on the reef.<sup>2</sup>

September 1875. The Eaglehawk Limited Company has just built in a second boiler, and started it last week; the reef in the deep ground is very large, about 24 feet in thickness, but there is no gold visible at present.<sup>3</sup>

December 1875. The Eaglehawk Limited Company, at the 600-foot level has driven a cross-cut west to test the reef.<sup>4</sup>

March 1876. The Eaglehawk Limited has driven north on the course of the reef at the 600-foot level.<sup>5</sup>

June 1876. The Eaglehawk Limited Company is extending the bottom drive northward ... a crushing of 26 tons from the back of the drive gave 22 oz 4 dwts of gold.<sup>6</sup>

September 1876. The prospects at present are not very bright. Three of our principal mines, viz., the Old Beehive, the Eaglehawk Limited, and the Central Eaglehawk Companies, have suspended operations for the present, and about forty men are thereby thrown out of employment. The prospects in each of these mines are such that should encourage a further outlay of capital, in order to develop their resources. In the Beehive mine a crushing of stone from below the bottom level yielded an ounce and half to the ton. The reef is from 1 foot to 1 foot 6 inches in thickness; but owing to hardness of the ground, and want of proper appliances for working, this did not pay. It appears to be a new shoot of golden stone, that is likely to lead to something better, and only requires the mine to be systematically worked to be made remunerative to the shareholders. The same may be said of the other two mines referred to. The reef in the Eaglehawk Limited, at the bottom of the mine, is 22 feet in thickness.<sup>7</sup>

September 1877. The water-baling question has now become a very serious matter along our principal lines of reef. Many of the companies have suspended work in the deep ground, and allowed the water to rise. In the Eaglehawk Limited Company's mine, it has risen to the 200-foot level, and is now affecting the claims and mines north and south of it very seriously.<sup>8</sup>

September 1878. The Eaglehawk Limited Tribute Company has started pumping. The mine has been idle for the last two years, and the water has risen about 450 feet. The cost of draining this mine will be a heavy item, as the drainage is over three quarters of a mile in length, and a large portion of the reef, to the depth of 300 feet, has been taken out.<sup>9</sup>

December 1878. The Eaglehawk Limited Tribute Company started baling on the 22nd of September last, and is still struggling with the water, but it is considered that they have got over the worst of it, as they have got below the old workings, where a large body had accumulated; they have not only two shafts and a few drives to drain.<sup>10</sup>



March 1879. Alluvial mining. In this branch of mining the yield has fallen off over 150 oz during the quarter, owing to the want of water. The only water to be got now is from the Eaglehawk Limited Company's mine. It has been purchased by some parties of Chinese, who have conveyed it by a race to Growler's Gully, where they are now busily engaged sluicing the gully, and to all appearances are highly satisfied with the profits obtained.<sup>11</sup>

June 1879. The Eaglehawk Limited Company is offering terms to parties to sink the engine shaft a further depth of 70 feet; when completed, the shaft will be about 700 feet. At this level it is contemplated to drive for the reef. The distance to drive will be about 120 feet. In this case the rock borer and compressed air-winch would be found very beneficial.<sup>12</sup>

September 1881. The Eaglehawk Limited Tribute Company is getting out stone yielding over 1 oz to the ton, and apparently it is still improving.<sup>13</sup>

September 1882. The plants on the Eaglehawk Limited lease and the Prince of Wales and Dunn's Reef mines have been sold. The two latter have been removed from the division.<sup>14</sup>

December 1882. The Eaglehawk Union and Eaglehawk Limited mines have changed hands, and for the present are idle, new companies are being formed to re-work them.<sup>15</sup>

September 1883. The Grand Junction Company has purchased the crushing plant which formerly belonged to the Eaglehawk Limited Company, and is now erecting it on their mine in Manton's Gully; they have recently struck the reef, and a trial crushing of 34 tons of stone gave a yield of 17 oz 15 dwt of gold.<sup>16</sup>

December 1883. There is a decrease of 780 oz of gold compared with the past quarter, chiefly owing to the suspension of work on the Eaglehawk line of reef. With the exception of two tribute parties working the shallow ground in the Eaglehawk Limited Company's mine, the whole line remains unworked.<sup>17</sup>

June 1890. Report on the Eaglehawk Consolidated Company's Mine, Maldon [with photograph].

The mine is situated on the Eaglehawk line of reef, Maldon; bounded on the north by the south boundary of the Eaglehawk Union Company's Lease, No. 2671, and on the south by the north boundary of the New Beehive Company's Lease, No. 1970. It includes leases formerly held by the Central Eaglehawk, the Central Extended, the Eaglehawk Limited, and the Alliance Companies. The area of ground held by the company is 60 acres and 13 perches; its extent along the course of the lode being about 1,060 yards, by a width of about 360 yards. A sufficient supply of water for working the machinery is obtainable from the mine and the drainage from the Eaglehawk Gully. The plant at the Central Extended shaft includes a 12-inch cylinder engine for winding; one air-compressor, with a 10-inch steam and a 9-inch air cylinder, for working the drills; one air-receiver, 34 feet long by 6 feet in diameter; one boiler, 22 feet by 5 feet. The shaft is 11 feet long by 4 feet wide, with two winding and one pumping compartment, all in good order, and is 592 feet deep. The Eaglehawk Limited shaft is 11 feet by 4ft 8 in wide, and 627 feet deep. It has three compartments, two for winding and one for pumping. At the Eaglehawk Alliance shaft there are three engines used for winding, pumping, and air-compressing. The winding-engine has an 18-inch cylinder and one air-compressor. The pumping-engine has a 24-inch steam and a 10-inch air cylinder for working the rock-drills, the pressure being 70 lbs to the square inch. There is a fourth engine for working the battery of stampers, having twenty heads, giving from 65 to 70 blows per minute. For amalgamation, blanket-tables are used, 40 feet in length, with usual wells and ripples. There are also four pairs of Chilean mills for pulverising the sand after being burnt. The House lift, supplying the battery with water, is 7 inches in diameter, having a 3-foot stroke--nine strokes per minute. The engine-shaft is 12 feet long by 5 feet wide, and 772 feet deep. The pumping-engine is of sufficient power to pump to the depth of 1,500 feet. The pumping and winding-engines, together with the compressor, are supplied with two boilers, 30 feet long by 6 feet in diameter, one of the boilers being strengthened with Galloway tubes. As the mine is extended, another boiler is likely to be required. There are a number of other shafts on the lease, varying from 200 to 400 feet in depth; but the three referred to are in proper positions from whence permanent works can be carried on. The reef worked is one of the main lines in the Maldon Division, and my knowledge of it dates back to the beginning of April, 1857. At that time it was occupied by parties holding small claims, some of which were very rich, yielding as high as 150 ounces of gold per ton of quartz, taken principally from the surface to a depth of 160 feet. When the present company came into possession, the main working shaft (formerly known as the Alliance) was 415 feet in depth. The lode was taken out in patches to a depth of 360 feet (north and south). This shaft is now enlarged, and sunk to a depth of 772 feet ... There are two parties of tributers at work in the upper ground, where some blocks of ground were left by the original holders. The value of the machinery now on the mine is estimated at £11,000. The Eaglehawk Consolidated Gold Mine Company was registered under the Imperial Act, with a capital of £120,000, in £1 per share.

In conclusion, I may state that the total yield of gold got from this company's ground, according to records in my possession, is 313,126 oz 3 dwts. The geological formation is metamorphic rock, of a very hard nature. There are 21 men employed on the mine, including eight tributers.<sup>18</sup>

1904. South of the Union mine is the area of the Eaglehawk Consolidated Company. This company was floated by the late Sir John McIntyre ... There are two main shafts equipped with steam winding gear. The northern one is down to a depth of 1,500 feet, and the southern one, which is the main shaft, to a depth of 1,050 feet ... Their works are connected below, and the present operations are being conducted from the southern one. The company's area extends about 3/4 mile north and south, with a width of 25 chains. All the works to the present time have been confined to the 1/4 mile on its northern end. The gold output from this part of the area totals 330,000 oz ... There is a 20-head mill on the mine, and also a cyaniding plant, both under the management of Mr. Ure.<sup>19</sup>

Eaglehawk Limited mine taken over by Eaglehawk Consolidated. The latter company worked the property from the Alliance shaft. See Site No. 17, Alliance Co., for comprehensive history of Eaglehawk Consolidated Co.

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*DESCRIPTION & INTERPRETATION:*

Brief history

- c. 1875 to 1882: Eaglehawk Limited (Plant sold off in 1882).  
 c. 1890: Eaglehawk Limited mine taken over by Eaglehawk Consolidated. The latter company worked the property from the Alliance shaft.

Remains appear to belong to the Eaglehawk Limited Co.

Machinery foundations

20 m east of Reef Street is a machinery site that is obscured by pepper trees. The remains consist of largely buried and fragmented stone and mortar footings which appear to belong to an engine bed and boiler setting. The surviving footings are constructed of blocks of granite and hornfels set in a soft mortar. Lying around the area are chunks of demolished brick (both hand and machine-made) engine beds.

Mine workings

10 m east of the machinery site are traces of a blue mullock heap. 50 m further east, and slightly to the south, is a partially filled open cut.

Treated Tailings

On the crown of the hill, south end of the open cut, is a low tailings dump.

*INTEGRITY/CONDITION:* Poor.

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*CULTURAL SIGNIFICANCE:*

The site's integrity has been reduced to such an extent that it holds little significance.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Mining Surveyors' Reports, March 1875
  - 2 Mining Surveyors' Reports, June 1875
  - 3 Mining Surveyors' Reports, September 1875
  - 4 Mining Surveyors' Reports, December 1875
  - 5 Mining Surveyors' Report, March 1876
  - 6 Mining Surveyors' Reports, June 1876
  - 7 Mining Surveyors' Reports, September 1876
  - 8 Mining Surveyors' Reports, September 1877
  - 9 Mining Surveyors' Reports, September 1878
  - 10 Mining Surveyors' Reports, December 1878
  - 11 Mining Surveyors' Reports, March 1879
  - 12 Mining Surveyors' Reports, June 1879
  - 13 Mining Surveyors' Reports, September 1881
  - 14 Mining Surveyors' Reports, September 1882
  - 15 Mining Surveyors' Reports, December 1882
  - 16 Mining Surveyors' Reports, September 1883

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- 17 Mining Surveyors' Reports, December 1883  
18 Mining Surveyors' Reports, June 1890  
19 Geological Survey of Victoria, Bulletin No. 14, The Maldon Gold-field, W M Bradford,  
1904

**SITE NO. & NAME:** 17 **ALLIANCE CO.**  
**LOCATION:** **Eaglehawk Reef, Maldon Township**  
**HI NO:** **H7724-0036**

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**DIRECTIONS:** East side of Reefs Street, opposite Ireland Street. North of Maldon Railway Station

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Area

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**HISTORY:**

March 1880. The contractors for cutting down the Alliance Company's shaft, on the Eaglehawk Reef, to the depth of 230 feet have nearly completed their contract; a contract has also been let for the erection of an engine, and soon we expect to see the old line of reef that has been idle for several years again drained and in full work.<sup>1</sup>

June 1880. The Alliance Company, working on Eaglehawk Reef south, are pushing ahead with their contract for the erection of machinery, and will be soon ready to start pumping.<sup>2</sup>

September 1880. The Eaglehawk Alliance Company has started the new machine, and is now draining the mine and enlarging the shaft for future operations.<sup>3</sup>

December 1880. The Alliance Company, since commencement, has had a great deal of trouble with the water, having to drain about 60 chains of the Eaglehawk line of reef. This great body has been drained enough to enable them to continue sinking the shaft. They have struck gold, and shares have risen considerably.<sup>4</sup>

March 1881. Alluvial mining. Three sluicing parties (Chinese) have taken advantage of the water now being pumped from the Alliance Company's mine, and have started operations at Porcupine Flat.<sup>5</sup>

June 1881. The Eaglehawk Alliance Company, in driving north on the line of reef, has recently struck gold, which is likely to prove payable. A crushing of 20 or 30 tons will be sent to the mills in the course of a few days.<sup>6</sup>

September 1881. The Eaglehawk Alliance Company is still breaking out crushing-dirt, of which they have about 200 tons on the surface. The north drive is looking well. They are also driving south, where the reef is showing payable stone; the reef is seven feet wide. Tenders have been called for supplying an engine of 16-inch cylinder, with a 20-head battery. The tender of Thompson and Co., of Castlemaine, has been accepted.<sup>7</sup>

December 1881: The Eaglehawk Alliance company have opened up their bottom drive for 190 feet in length, showing golden stone the whole length. A battery is on the ground, and is being erected; they have about 200 tons of stone ready for crushing.<sup>8</sup>

March 1882. During the quarter there has been a great falling-off in the yield of gold from quartz. The Alliance Company has just started their new battery of 20 stamp-heads, which is expected to put through 200 tons of stone per week. The prospects in the mine look well; a payable reef has been opened up for a length of 250 feet, and a sufficient number of miners employed to keep the battery in constant work.<sup>9</sup>

December 1882. The prospects of the Alliance Company, on the Eaglehawk Reef, have very much improved during the quarter. The reef is 15 feet in thickness, and is opened up for 25 feet in length.<sup>10</sup>

March 1883. The yield of gold for the quarter is less by 900 oz than that of the previous quarter, owing chiefly to the falling off in the Alliance Company's yields.<sup>11</sup>

June 1885. The Eaglehawk Alliance Quartz Mining Company has the battery of 24 stampers constantly employed crushing for the public, and sand and bank stuff for themselves; but no work has been done in the mine for the last two years, other than pumping water for the use of the mills.<sup>12</sup>

June 1887. The New Eaglehawk Company, recently floated in the London market, is expected to commence operations shortly; and the Eaglehawk Alliance Company has erected a new winding engine and gear, and will soon be starting to work the mine.<sup>13</sup>

September 1889. The Eaglehawk Consolidated Company has struck Eaglehawk Reef in the western cross-cut, at the 750-foot level ... The water from the reef is flowing at the rate of 6,000 gallons per hour.<sup>14</sup>

June 1890. Report on the Eaglehawk Consolidated Company's Mine, Maldon [with photograph].

The mine is situated on the Eaglehawk line of reef, Maldon; bounded on the north by the south boundary of the Eaglehawk Union Company's Lease, No. 2671, and on the south by the north boundary of the New Beehive Company's Lease, No. 1970. It includes leases formerly held by the Central Eaglehawk, the Central Extended, the Eaglehawk Limited, and the Alliance Companies. The area of ground held by the company is 60 acres and 13 perches; its extent along the course of the lode being about 1,060 yards, by a width of about 360 yards. A sufficient supply of water for working the machinery is obtainable from the mine and the drainage from the Eaglehawk Gully. The plant at the Central Extended shaft includes a 12-inch cylinder engine for winding; one air-compressor, with a 10-inch steam and a 9-inch air cylinder, for working the drills; one air-receiver, 34 feet long by 6 feet in diameter; one boiler, 22 feet by 5 feet. The shaft is 11 feet long by 4 feet wide, with two winding and one pumping compartment, all in good order, and is 592 feet deep. The Eaglehawk Limited shaft is 11 feet by 4 ft 8-in wide, and 627 feet deep. It has three compartments, two for winding and one for pumping. At the Eaglehawk Alliance shaft there are three engines used for winding, pumping, and air-compressing. The winding-engine has an 18-inch cylinder and one air-compressor. The pumping-engine has a 24-inch steam and a 10-inch air cylinder for working the rock-drills, the pressure being 70 lbs to the square inch. There is a fourth engine for working the battery of stampers, having twenty heads, giving from 65 to 70 blows per minute. For amalgamation, blanket-tables are used, 40 feet in length, with usual wells and ripples. There are also four pairs of Chilian mills for pulverising the sand after being burnt. The House lift, supplying the battery with water, is 7 inches in diameter, having a 3-foot stroke--nine strokes per minute. The engine-shaft is 12 feet long by 5 feet wide, and 772 feet deep. The pumping-engine is of sufficient power to pump to the depth of 1,500 feet. The pumping and winding-engines, together with the compressor, are supplied with two boilers, 30 feet long by 6 feet in diameter, one of the boilers being strengthened with Galloway tubes. As the mine is extended, another boiler is likely to be required. There are a number of other shafts on the lease, varying from 200 to 400 feet in depth; but the three referred to are in proper positions from whence permanent works can be carried on. The reef worked is one of the main lines in the Maldon Division, and my knowledge of it dates back to the beginning of April, 1857. At that time it was occupied by parties holding small claims, some of which were very rich, yielding as high as 150 ounces of gold per ton of quartz, taken principally from the surface to a depth of 160 feet. When the present company came into possession, the main working shaft (formerly known as the Alliance) was 415 feet in depth. The lode was taken out in patches to a depth of 360 feet (north and south). This shaft is now enlarged, and sunk to a depth of 772 feet ... There are two parties of tributers at work in the upper ground, where some blocks of ground were left by the original holders. The value of the machinery now on the mine is estimated at £11,000. The Eaglehawk Consolidated Gold Mine Company was registered under the Imperial Act, with a capital of £120,000, in £1 per share.

In conclusion, I may state that the total yield of gold got from this company's ground, according to records in my possession, is 313,126 oz 3 dwts. The geological formation is Metamorphic rock, of a very hard nature. There are 21 men employed on the mine, including eight tributers.<sup>15</sup>

September 1891. Nothing of a payable nature has yet been discovered by the Eaglehawk Consolidated Company, who have been extending their drive at the 750-ft level northward.<sup>16</sup>

September 1895. Maldon rocked on its foundations on the morning of September 9, 1895, when the steam boiler at the Alliance battery exploded with a deafening roar heard throughout the township. The boiler house almost entirely disappeared, and iron fragments rained over a wide area. One flying missile struck an unlucky Chinaman on his homeward way a quarter-mile off with fatal results.<sup>17</sup>

1903. The Eaglehawk Consolidated Gold Mining Company, which comes second on the list as a gold producer, and first as an employer of labour, has also had a very prosperous and profitable year. The average number of men employed by this company is 85. The deepest shaft is 1,500 feet, but the shaft from which the stone has been crushed is 1,070 feet deep. The prospects of this mine for the present year are good. A new high-pressure

boiler, by Thompson and Company, and a new single-cylinder air compressor, were purchased, and placed in position at this mine during the year.<sup>18</sup>

1904. I regret to report that the depression which existed in this division in 1903 has continued through 1904. Oswald's North British Mine, and the Eaglehawk Consolidated Gold Mining Company Limited have continued to return payable yields, and to employ a large number of hands, but few, if any, of the other mines throughout the division have cleared expenses. No work has been done by the Beehive and German Consolidated Companies during the year, and the Maldon Gold-fields and German and Derby Companies closed down and sold their machinery.<sup>19</sup>



Battery

On the other side of the heap is the Maldon State Battery.

To the south s of the Maldon State Battery, approx. 40 m east of the Alliance mine's fenced shaft are the remains of a large stone engine bed. The bed is constructed mainly of hornfels blocks set in a soft mortar. Occasional brick bats have also been used to construct the bed. The bed is obscured by pepper tree growth and has been partially demolished: what survives measures 27 x 5 ft (8.2 x 1.5 m) and stands 8 ft (2.4 m) high. Only one 1-1/2 inch mounting bolt has escaped being ripped out of the bed. 30 m south east of the stone engine bed is a large dry dam. The association of the dam and a single engine bed suggests that the latter powered a battery.

*INTEGRITY/CONDITION:* Brick beds are in good condition. The stone engine bed is deteriorating badly and is threatened by the pepper tree.

*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because it has a set of well-preserved engine footings and large tailings dump which together demonstrate the scale of mining operations which took place on the site in the 1890s/1900s.

The site's significance is increased by cumulative value, because it:

- a) is part of a group of well-preserved mine sites which run through the heart of the township of Maldon. These sites are, from north to south, Nos. 24, 17, 9, 38, 37, 39 and 18A (Maldon State Battery, Alliance Co. Beehive Co., Derby United, Caledonian Crushing Mill, Lady Darling and South German Co.).
- b) has engine foundations and a raised tailings dump which are important landscape features, associated with the adjacent tourist railway operation.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

**Assessor: David Bannear**

**Date: November 1992.**

- 1 Mining Surveyors' Reports, March 1880
- 2 Mining Surveyors' Reports, June 1880
- 3 Mining Surveyors' Reports, September 1880
- 4 Mining Surveyors' Reports, December 1880
- 5 Mining Surveyors' Reports, March 1881
- 6 Mining Surveyors' Reports, June 1881
- 7 Mining Surveyors' Reports, September 1881
- 8 Mining Surveyors' Reports, December 1881
- 9 Mining Surveyors' Reports, March 1882
- 10 Mining Surveyors' Reports, December 1882
- 11 Mining Surveyors' Reports, March 1883
- 12 Mining Surveyors' Reports, June 1885
- 13 Mining Surveyors' Reports, June 1887
- 14 Mining Surveyors' Reports, September 1889
- 15 Mining Surveyors' Reports, June 1890
- 16 Mining Surveyors' Reports, September 1891
- 17 Williams, p. 72
- 18 Annual Report, 1903
- 19 Annual Report, 1904
- 20 Annual Report, 1905
- 21 Annual Report, 1906
- 22 Annual Report, 1907
- 23 Annual Report, 1908
- 24 Annual Report, 1909
- 25 Annual Report, 1910

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- 26 Annual Report, 1911
  - 27 Annual Report, 1912

**SITE NO. & NAME:**           **18A           SOUTH GERMAN CO.**  
  **18B           GERMAN GULLY DUMPS**

**LOCATION:**                   **German Reef, Maldon**

**VHR NO:**                    **H1357**

**HI NO:**                    **18A & 18B    H7723-0100**

**DIRECTIONS:**           North of Boundary Road.

**MUNICIPALITY:**       Mount Alexander Shire

**LAND STATUS:**       Maldon Historic Area

**HISTORY:**

**MINING ON GERMAN REEF PRE FORMATION OF SOUTH GERMAN CO. IN 1882.**

1854-56. Sensational discoveries followed in quick succession--Eagle Hawk, Bell's Reef and the Beehive in 1854; German, Nuggetty, Victoria and Lisle's Reefs in 1855; Linscott's and Parkin's Reefs in 1856, and many others of lesser value ... Here were riches beyond compare--500 ounces from one ton of quartz obtained at Eagle Hawk (a small fortune in itself of £2,000), 300 to 400 ounces per ton on the Bee Hive rise, 133 ounces per ton at Bell's Reef, 320 ounces per ton from the fabulously rich Nuggetty Reef, and a fortune of £30,000 won by two lucky miners for ten months' work on Lisle's Reef.<sup>1</sup>

August 1859. The Atlas Association, German Reef. The supply of water the company has obtained is increasing, and is found ample. Considerable time has been expended since the last report in making trials, so as to test thoroughly the efficiency of the crushing machinery. The results have been generally satisfactory. The time taken for these trials, and the erection of the back-water pump, together with the interruption caused by the holidays, necessarily occupied a considerable portion of the month; but, notwithstanding these drawbacks, the receipts for crushing have been £311 10s 2d, to which must be added a further sum of £224 0s 4d, for pumping charges, making a total of £535 10s 6d.<sup>2</sup>

June 1860. The Atlas Association, German Reef. This company is busy sinking engine shaft a further depth of 50 feet, making the total depth 333 feet, being the deepest shaft in the district. Strong indications are now seen of a new reef, the water having now left the upper part of the mine, and is now flooding in from the bottom of the new shaft.<sup>3</sup>

July 1860. The Atlas Association, German Reef. The company is lowering plunger and cistern and repairing drawing lift; thirty men are employed; present depth of shaft, 304 feet; water supply abundant--drawn from the reef.<sup>4</sup>

1863. Batteries crushing for the public included ... Atlas (German Gully), renamed Phoenix after partly demolished by fire in 1863.<sup>5</sup>

June 1870. In some of our principal mines, ie. the Alliance, Wellington, Linscott's, Eaglehawk, Beehive, Derby, Cymru, German Reef, Pioneer, and Brewer's Reef Companies, owing to poverty and the want of a cheaper process of crushing, operations in the deep ground have been suspended for some time past, consequently some of our quartz miners have gone to other diggings.<sup>6</sup>

March 1875. For the want of funds, in some of our mines in times past, operations have been suspended; the reefs have been cut off by dykes, and the companies, having no reserve fund or calling power on the shareholders, are unable at present to prosecute a search for the lost lodes. These remarks apply especially to the Nelson, German, Reef, Vittoria, and South Eaglehawk Companies.<sup>7</sup>

June 1875. The whole line of Nuggetty Reef is idle at present, as well as the Nelson, the German Reef, Brewer's and Cookman's Reefs.<sup>8</sup>

June 1877. The German Reef Company has been pumping out the mine to get at the deep workings which have been lying idle for several years past. A diver was first employed to go down some 50 feet under water, to pack the plunger and put it in working order, but failed in the attempt; it has been since accomplished by a drawing pump and valve fixed to the plunger columns at the water-level, and lowering it as required. A tribute party has started to break out quartz in the deep ground, where the prospects at present are very promising. A kiln of the stone is being burnt, and will be ready for crushing in a few days.<sup>9</sup>

September 1877. The first crushing from the German Reef Company's mine after getting the water out was 126 tons, giving 39 oz 8 dwts of gold. Since this crushing the reef has improved; the stone now being broken is much better in. A crushing now going through the mills is expected to give a much better yield.<sup>10</sup>

December 1877. The German Reef Company has been for several weeks past baling water from the deep ground; the pump valves and pistons, through having been under water for several years, have been so corroded that they are rendered useless. A new lift of pumps has been dropped down alongside of the old pumps, to get the water down, so as to renew the valves and packing in the old pumps.<sup>11</sup>

March 1878. The German Reef Company, after spending £1,000 in baling water from their mine, has been obliged to suspend work, through the bursting of one of the pipes. The pipes in question, having been under water for several years, have become so much oxidised that the substance iron was not more than one-eighth of an inch in thickness, and consequently could not bear the pressure.<sup>12</sup>

June 1878. Mining prospects are not very bright in the Maldon division at present, owing to the stagnation caused by the rising of the water and stoppage of works on our main lines of reef. On the Eaglehawk and German Reef lines there are only three companies at work in the deep ground, viz. the Linscott's, Eaglehawk United, and Eaglehawk Union companies ... The German Reef tributers have again baled their mine to the depth of 240 feet, and are now opening up the mine southwards, to discover the reef which proved to be so rich in olden time.<sup>13</sup>

September 1878. Mining prospects have improved during the past quarter, the yield from the crushing machines being 348 oz more than for the previous quarter.

The German Reef Tribute Company, in driving south at the 240-foot level, where the old run of gold was lost some years ago, being cut off by a dyke, have come upon a new make of quartz. A distance of four feet has been driven into the reef, but the east face has not yet been struck. The stone, so far, shows good gold, as well as a quantity of galena and other metals that usually attend our best runs of gold.<sup>14</sup>

December 1878. The German Reef Tribute Company. This company's prospects have improved very much during the past quarter; there is now no doubt that the new reef recently discovered is the same that was so profitably worked sixteen years ago, but was then lost; it was cut off by a dyke, and thrown south 81 feet. The first crushing from the new discovery gave 59 oz 17 dwts from 27 tons of stone.<sup>15</sup>

March 1879. The German Reef and Welcome Tribute Companies have come upon some splendid stone within the last week.<sup>16</sup>

June 1879. The German Reef Tribute Company, from 68 tons of stone crushed, obtained 202 oz 1 dwt; and the last crushing from the South German Reef Tribute Company of 11 tons yielded 4 oz per ton.<sup>17</sup>

September 1879. The German Reef Tribute claim is still doing well; one lot of stone of 40 tons yielded 238 oz 12 dwts, and the stone now being taken out promises to be as good. The reef is well defined, and likely to continue. The South German Reef Tribute Company has been getting some good stone. One crushing of 21 tons gave 69 oz 9 dwts of gold, but the golden portion of the reef is only about 1 foot wide, and the water troublesome.<sup>18</sup>

December 1879. The German Reef Company has sunk the shaft to a further depth, and opened up the ground for stoping; within the last month 175 tons have been passed through the mills, giving a yield of 508 oz 1 dwt of gold; another lot of 60 tons is being crushed, which is expected to yield 3 oz per ton. The South German Reef Company has been idle for some time; operations were suspended on account of the water being too heavy for a horse whim. It was intended to purchase a steam-engine for baling and hauling the dirt, but the board of directors have now called for tenders for baling the water, and sinking another 50 feet to test the reef below the floors, before they go to the expense for steam machinery.<sup>19</sup>

March 1881. The prospects of the German Reef have improved of late, the last crushing of 29 tons yielding 36 oz 2 dwts of gold.<sup>20</sup>

## SOUTH GERMAN COMPANY FORMED

1882-1897. South German. This mine, situated a little to the south-east of the township, commenced work with the present company in August 1882, and after a few years of prospecting work, with varying success, the present well-defined auriferous section of the reef was broken into. Since then the mine has proved itself one of the most prosperous in the country, handsome monthly dividends having now for some considerable time been paid ... This success, however, was not altogether due to the fact that the mine was producing rich stone, but to a most complete and thorough system of cyanide and chlorination (thanks largely to the indefatigable zeal of the chairman of directors, W B Gray Esq.), yielding nearly as much gold as that won from the batteries.<sup>21</sup>

1882-c.1918. The South German Mine was probably the most prosperous on the field. After various attempts were made, the South German Company commenced operations in 1882. The company introduced efficient mining and extraction techniques and equipment, being one of the first mines in Australia to introduce the cyanide process for battery tailings. The cyanide process was found to recover as much gold as the battery itself. The Company crushed 190,356 tonnes for 5370kg ... Underground operations were suspended in 1918 when difficulties were encountered with water, and mining operations ceased shortly afterwards. The South German had reached a depth of 670 m, the only mine on the field to have exceeded a depth of 2,000 ft.<sup>22</sup>

June 1882. Several new companies have been floated during the quarter; three on the German Reef line, the North German, the Old German, and the South German; they are all making preparations to start working. The Old German has purchased a steam engine for pumping and hauling, the cost of which, including the erection, was about £1,400.<sup>23</sup>

September 1882. The contractor for the Beehive and German Reef machinery will soon have the two mines at work. The South German Reef Company is also erecting an engine for pumping and hauling.<sup>24</sup>

March 1883. The South German Reef Company has completed the erection of the engine; and is now enlarging the shaft and making preparations for properly working the mine.<sup>25</sup>

June 1883. The German Reef Company, since starting the rock-borer, has been driving about 35 feet a fortnight on the line of the lode (southward), but hitherto nothing payable has been found ... The South German Reef Company is still cutting down the shaft, and erecting the rock-boring machine, so as to be prepared for further sinking as soon as the cutting down of the shaft is completed.<sup>26</sup>

September 1883. The German and South German Reef companies have made great progress since starting with the rock-bores, but as yet have not come upon anything payable.<sup>27</sup>

December 1883. The South German Reef Company has struck a reef in the engine shaft, at a depth of 430 feet, and is now driving north on its course. One small crushing of 24 tons of stone gave 19 oz 1 dwt of gold; the lode in the end is improving in appearance.<sup>28</sup>

March 1884. The South German Reef Company's mine is also looking well; during the quarter they crushed 140 tons of stone which yielded 110 oz 8 dwt 12 gr of gold. The lode is still improving in appearance.<sup>29</sup>

June 1884. The South German Reef Company has sunk the shaft a further depth of 70 feet. In cross-cutting to the west a reef has been struck showing good prospects, but there has been no crushing yet to test its quality; about 50 tons of stone have been raised ready for the mills.<sup>30</sup>

September 1884. A recently formed company, the "New Nelson", consisting chiefly of local men, who have purchased the mine and plant from the former owners, and have succeeded in floating the whole of the shares, will start work as soon as possible. The South German Company, adjoining the last-named on the north, has crushed 230 tons, which gave 401 oz of gold, and the last 30 tons gave 311 oz of amalgam. The prospects of the mine are still very good, the reef varying from 3 to 12 feet in thickness.<sup>31</sup>

December 1884. The New Beehive Company is sinking the shaft so as to open up the mine at a greater depth, where, according to the prospects met with the South German Reef Company for the quarter has been very good. From 502 tons of quartz crushed, an average yield per ton of 2 oz 4 dwt 14 gr has been obtained, and the mine at present looks better than ever. Two dividends of £1,200 each have been declared during the quarter, and according to present prospects dividends may be expected for some time to come.<sup>32</sup>

March 1885. The South German Reef Company has been sinking their main shaft another 100 feet, and while the dead work has been in progress they have been breaking out quartz from the mine, the proceeds from which have given them a dividend of £1,200 after paying all expenses.<sup>33</sup>

June 1885. The South German Company have completed the sinking of their shaft to the depth of 550 ft.<sup>34</sup>

September 1885. The South German Company, in stoping the back of the 550-foot level, came upon a new make of the quartz on the east of their present workings, which induced them to extend their cross-cut farther east. In doing so they have struck a body of quartz ... It is now opened up nearly solid quartz 60 feet in width; the last crushing from the back of the level yielding 90 oz 4 dwt of gold from 80 tons of stone.

The German Reef Tribute Company is sinking the shaft another 100 feet, which will make a total of 630 feet from surface when completed. It is then intended to cross-cut for the reef to test it at that level.<sup>35</sup>

December 1885. The German Reef Company (tribute) have completed sinking the shaft, which is now a total depth of 630 feet. At this depth a cross-cut has been driven east, and the reef struck about 16 feet from the shaft. The reef is about 2 feet thick, containing metals, but no gold visible.

The shaft of the South German Reef Company has been sunk a further depth of 68 feet, making a total depth of 618 feet ... A trial crushing of 10 tons from this part yielded half an ounce to the ton.<sup>36</sup>

March 1886. The prospects in the South German mine are improving; the last crushing of 400 tons gave 346 oz of gold. Tenders have been accepted by the company for crushing the stone on the ground.<sup>37</sup>

June 1886. The South German Company is erecting a battery of stampers for crushing the quartz on the ground. The prospects in the mine are improving, and the quartz is now being taken out with, no doubt, given dividends when they start crushing.<sup>38</sup>

September 1886. The South German Reef Company will have the new battery of 20 heads of stampers (each 8 cwt) at work in about a month from this date. This promises to become another dividend-paying mine, as the trial crushings taken from different places prior to the erecting of the battery nearly all proved payable. It was on the strength of this fact, and the quantity of quartz now opened up, that the company was induced to erect the new battery.<sup>39</sup>

December 1886. The South German Company's shaft is now 700 feet deep. The lode has been struck at the bottom, but no work done on it to test its quality. The new battery has been started on quartz taken from the upper levels.

The German Reef Tribute Company has completed the sinking of the shaft to a depth of 600 feet, and put a cross-cut in westward. A reef was struck 246 feet from the shaft, and a drive is now being put in north and south on the course of the reef, which is about 5 feet in thickness, and the stone looks very promising.<sup>40</sup>

March 1887. The South German Company's new battery is now in full play, and crushing stone from their mine. They started upon a quantity of poor stuff at first, which scarcely cleared the cost of breaking and crushing, but the stuff is now improving and looks very encouraging. The battery is one of the best in Maldon. The stuff is crushed raw, and the process of amalgamation is mercury troughs, blanket, and Halley's patent percussion tables; they are also building ovens for burning the sand.<sup>41</sup>

September 1887. The South German Company has again started crushing during the last week. The prospects of the mine are improving. The reef is still large, and shows more gold than it has done for some time past. The Old German Reef Company has lately been purchased by Mr R.D. Oswald and Mr W.B. Gray, who no doubt will soon commence operations in the mine, which has been idle for the last two months.<sup>42</sup>

June 1888. The South German Reef Company is sinking the main shaft below the 680-foot level, and also a winze at the same level, south of the shaft.<sup>43</sup>

December 1888. The quarter just ended showed no improvement in mining generally. There was an increase of 471 oz 6 dwt 14 gr, but this was chiefly from the South German and North British mines ... The lode in the South German Reef Company's mine in the bottom has greatly improved, the average yield for last quarter being 9 dwt 21 gr.<sup>44</sup>

December 1889. The South German Reef Company during the quarter has been sinking the main shaft a further depth of 74 feet, making it 816 feet from the surface.<sup>45</sup>

December 1890. The South German Company has sunk the main shaft to a depth of 884 feet, and has crushed 1,420 tons of stone, which gave an average yield per ton of 7 dwt 2 gr of gold.<sup>46</sup>

June 1891. The yield of gold for the quarter is 2,477 oz, being an increase of 508 oz on the previous quarter, and there is every prospect of a larger yield being recorded next quarter now that work at the North British mine has been resumed, and considering the improvement that has lately been shown in the South German and Lock's United mines.<sup>47</sup>

1897, Annual Report for Bendigo Mining Division: Re cyaniding ... During the year a large number of samples of tailings have been sent into to be experimented on as to their suitability for treatment by the cyaniding process, and in nearly every case it has been demonstrated that the gold can be extracted by means of that solvent, though frequently the gold contents are too low to make it profitable. A large number of plants are now in existence in the principal mining areas. At Stawell 200 tons and more a day are put through, but with one or two notable exceptions the plants are all working on old tailing heaps. It would be a great advantage to this colony if more of the working batteries had a cyanide plant attached to their existing appliances, as by that means the gold could be extracted profitably, and which is now going to waste; but often if the tailings be run into a heap the cost of getting them in motion again is too great to leave a margin of profit. The South Star mine at Ballarat, and the South German at Maldon, are both cyaniding their tailings ... One of the difficulties of the treatment of tailings by cyanides is caused by the slimes which are always produced during crushing and are usually the richest in gold; if they be not removed they settle so densely in the vats that the percolation of the liquor is stopped; this is usually overcome by running the tailings through Butter's distributors, by which means the great bulk of the slimes are removed ... Two different systems have been devised by local inventors, one by Mr J. J. Deeble, of Bendigo, which consists of a circular vat with agitating blades capable of being raised or lowered, and keeping the whole thoroughly stirred; the vat is provided with a single side gate which can be gradually lowered to allow the clear liquor carrying the gold in solution to overflow after stoppage of the arms and the settlement of the slimes. This method is adopted in the South German Mine ... [where] the vats are 18 feet diameter and 4 feet deep, and require 3-hp; they hold about 20 tons each, and to get a complete extraction the slimes need 30 hours' agitation, the whole operation of agitation, settling and decanting takes 48 hours, the consumption of cyanide being about 1 1/2 lbs. per ton of slimes. Several parcels of pyrites have been treated without calcining by this method with over 95% of extraction of gold content.

The other slimes cyanide process is that invented by Messrs D White and Simpson, of Stawell: this consists of conical vats having perforated bottoms through which air is blown, keeping the whole charge thoroughly agitated; the vats are arranged in a series; so that air from the first vat passes through the second, and so on to the end of the series; from the last it is pumped back and used again.<sup>48</sup>

1897. South German Cyanide and Chlorination Works. The sand and pyrites, leaving the stamp-boxes, pass over silvered plates, thence over Halley's Percussion Tables, and from these over a series of blanket tables. The sand is then conveyed through a covered conduit to the sand-pit, from which it is pumped through the sand-pipe, into a pair of pyramidal boxes; the heavier portion of the sand is thence conveyed in an open semicircular channel to the large cyanide vats, where it is treated with successive solutions of cyanide until all the payable gold is removed.

The overflow slimes from the cyanide vats are conveyed through another open channel to the slime tanks, where the finer qualities of sand and metal are removed. These slimes are afterwards puddled in the little puddling machine, and passed over vanners to save the metal. The concentrates are then brought to the drying bed, which is heated by the flue which passes under it from the roasting furnace. The dried sand, etc., is next conveyed to the lift on the other side of the roasting furnace, and elevated to the platform above, whence it is shovelled on to the open hearth on top of the furnace. Here, as in each of the lower ovens, the hearth consists of a perforated plate, and a series of revolving rakes, actuated by the little furnace engine, keeps up the necessary agitation to cause the sand to pass from each level to a lower. When thoroughly roasted, the sulphur and arsenic being separated from the ores, the iron now exits in the form of peroxide, of a rich red colour, in which condition it is uncated upon by chlorine, and thereby a great saving in the liquor is effected. The sand is fed in at the top of a roasting furnace, and is gradually moved towards the lower end with rakes, worked by manual labour, until the bottom is reached, where the final roasting takes place. The sand is then put through the chlorination process, open vats being also employed here as in the case of the cyanide process.

In each of these processes, as here adopted, the gold liquor is reticulated over a series of charcoal filters. The charcoal when sufficiently charged with gold which it takes up from the chemical liquors, is then removed to the charcoal furnaces, where it is reduced to ash.

The ash, with suitable fluxes added, is finally smelted in the smelting furnaces, pure gold of the highest quality being obtained.<sup>49</sup>

1903. The South German Gold Mining Company's mine, famous for years for its yields, and which paid, in all, £336,600 in dividends to its fortunate shareholders, having lost the shoot of gold in 1902, have, I regret to state, not yet found it again. Prospecting work is being carried on in this mine at the 1,600 and 2,000 feet levels, with

every hope of success. The South German Extended Company has been working with a limited number of men for some time on payable stone at the 1,100 feet level. The shaft is 1,500 feet deep, and the mine is equipped with a good winding, crushing, and air compressing plant.<sup>50</sup>

1904. South from the Beehive consolidated mine is the South German Mine. The main shaft here is the deepest on the field, viz., 2,000 feet ... The old German and North German companies mined shallow formations of this area at one time, and the yields to date thereof (South German included) total 184,541 oz. of gold. The South German shareholders furnished less than £10,000 capital, and received nearly £337,000 in dividends ... There is a 30-head battery and a cyanide plant on the mine.<sup>51</sup>

1904. The ore-treating appliances of Maldon are very much behind the times. The only company with appliances anything like up-to-date is the South German.<sup>52</sup>

1904. The South German Gold Mining Company sunk its main shaft from 2,000 to 2,200 feet. A very strong lode has been struck at the 2,100-foot level, but up to the present it has not proved payable.<sup>53</sup>

1905. The South German Company, after having suspended crushing operations for some years, resumed work with the crushing plant during the latter half of the year, since when, from stone taken from stopes over the 440-foot, 1,100-foot and 1,750-foot levels, 1,118 oz of gold was obtained ... The shaft is 2,200 feet deep ... Twenty-eight men, on the average, were employed--18 below and 10 on the surface. The stone crushed left a fair margin of profit, and there is reasonable hope of this once-famous mine again appearing on the dividend list in the not very distant future.<sup>54</sup>

1906. The South German Company ... An average of 55 men has been employed, of whom 22 were surface hands.<sup>55</sup>

1907. The new find on the west side of the shaft in the South German Company's mine at the 1,900 feet level, although proving payable, has not proved so valuable as it was hoped ... The company employed an average of 82 men during the year.<sup>56</sup>

1908. The South German Reef Company has continued work ... with payable results ... An average of 84 men has been employed by this company.<sup>57</sup>

1909. The South German Reef Company has carried on work ... with results that have given a little profit.<sup>58</sup>

1910. The South German Reef Company has done a good deal of developmental work at the 2,200-ft level, as well as continued to break stone for milling purposes at the different levels from the 2,100-ft upwards. Owing to the greater quantity of stone mined being of low grade, very little if any profit has been made.<sup>59</sup>

1911. The South German Reef Company has continued to break stone for milling purposes at different levels with about payable results.<sup>60</sup>

1912. The South German Reef Company has continued work with results that have not been as satisfactory to the shareholders as one would wish. A good deal of developmental work is being carried on in the mine, some of which may at any time completely lift this once famous mine to its former prosperous position.<sup>61</sup>

1913. The South German Reef Company has done a considerable amount of prospecting work ... while a number of tribute parties have broken stone (mostly unpayable) at different levels from 600 feet to 2,000 feet. The prospects of this mine are favourable.<sup>62</sup>

1914. The South German Company has continued work between the 1,750 feet and 2,100 feet levels, with varying results, while a number of tributers have carried on work in the upper levels with about payable results.<sup>63</sup>

1915. The South German Company has recently met with encouraging prospects below the 1,700-ft level.<sup>64</sup>

1917. The South German Company has been working at a disadvantage, owing to the large increase of water at 1,750-ft level, which, having to be lifted by tanks, has entailed a large expense, and retarded development work. This company employed 40 men, and treated 8179 tons for 1,057 oz.<sup>65</sup>

1918. The South German Mine was one of the largest producers of gold in Victoria in the 1890s and was consequently of great importance to the social and economic stability of Maldon at that time. The mine was closed in 1918 when the shaft was flooded.<sup>66</sup>

## CYANIDING--MALDON DIVISION

1903. There is practically no alluvial mining done in the Tarrengower Division, but a large number of men are employed in treating sand by cyanide.

There are between 40 and 50 cyanide plants working in the Division at present.<sup>67</sup>

1904. There is practically no alluvial mining in this division, but the treatment of sand by the cyanide process has continued to be a very live industry, giving employment to a large number of hands.<sup>68</sup>

1905. The treatment of sand by the cyanide process continues to be a flourishing industry in this division. At least 46 plants have been in active operation during the year, employing not fewer than 245 hands and about 80 horses and drays. The yield of gold from this source, which, although I am unable to give, is, I know, considerable.<sup>69</sup>

1906. There are still about 40 cyanide plants at work in this division, employing about an average of 200 men, and a large number of horses and drays.<sup>70</sup>

1907. 150 men ... were engaged in cyaniding the quartz tailings in different parts of the division.<sup>71</sup>

1911. A number of parties in this division continue to treat the old tailings heaps by the cyanide process, but there is practically no alluvial mining being carried on.<sup>72</sup>

September 1940. Residues from the old mines are being treated by cyanide plants, and several prospecting parties are at work in the Maldon district where some good returns have been obtained.<sup>73</sup>

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*DESCRIPTION & INTERPRETATION:*

Site 18A. South German Co. operated from 1882 to 1918.

Winding/pumping plant foundations

Large H-shaped bed constructed of machine-made (Northcote manufactured) red bricks set in a hard concrete mortar. The bed's overall measurements are 21 x 17 ft (6.4 x 5.2 m), and standing 6-1/2 ft (2 m) high. The bed has 1 and 1-1/2 inch mounting bolts. The main shaft, recently capped and buried by the Department of Conservation and Environment, lies approx. 25 m west from the H-shaped bed. Water from the shaft drains to a large dam located in the gully to the west of the shaft.

Running across the rear (east) end of the H-shaped bed are the fragmentary, largely buried, remains of what appears to be a U-shaped brick bed. The bricks making up the top surviving courses are machine-made (Northcote manufactured) set in concrete mortar, whereas the lower courses appear to be mostly of the hand-made variety. The U-shaped bed measures 22 x 17 ft (6.7 x 5.2 m) and has 2 inch mounting bolts.

Running parallel to the U-shaped bed, 2.9 m to the east, are three partially buried parallel brick beds. The bricks used are of the Northcote manufactured variety and are set in a hard concrete mortar. The brickwork rests on stone footings which contain the odd hand-made brick bat. All the beds have numerous 1-1/4 inch mounting bolts and stand a metre above the current ground level. Collectively the three beds cover an area 26 x 21 ft (7.9 x 6.4 m).

Running parallel across the north ends of the three brick beds are two stone boiler settings. The boiler settings are situated 2.75 m apart and each measures 21 x 7-1/2 ft (6.4 x 2.3 m). A small section of flue runs from the rear (eastern) end of the southern most boiler setting and disappears under a mound of rubble.

Battery

Running parallel across the south ends of the three parallel brick beds, 2.1 m away, are the fragmentary remains of a stone (hornsfel blocks) engine bed which has 1-1/2 inch mounting bolts. The surviving 2.5 m section of the stone engine bed stands about a metre high, and is 5 ft (1.5 m) wide. 15 m south of the engine bed are three exposed battery stumps, several mounting bolts and a small section of concrete footing. The intervening ground between the exposed footings and engine bed covered by purple coloured calcined tailings.

Cyaniding Plant

Located at the rear (eastern end) of the battery site is a large concrete slab covering an area 70 x 50 ft (21.4 x 15.25 m). On the western side of the concrete floor are two, slightly raised, 17 ft ( 5.2 m) concrete circles. Situated between the two circles, eastern side, are some bedlogs containing 3/4 inch mounting bolts. Running along the southern side of the concrete floor is a long brick sump. The bricks used are the Northcote

manufactured type. The sump has two, 4 ft (1.3 m) deep compartments, has 14-inch thick walls, and an overall measurement of 44-1/2 x 10 ft (13.5 x 3 m). The inner walls of the sump are rendered.

North east of the concrete floor, situated 35 m from the rear of the winding/pumping machinery site, is an exposed 7 m long section of open brick-lined culvert. The track that runs passed the east side of the mine site passes over the 5 ft (1.5 m) wide brick culvert. The culvert appears to terminate just past the eastern side of the road.

#### Furnace area

9 m south of the exposed battery stumps, running east-west, is an exposed 9 m long section of what appears to be a stone flue. The flue has 2 ft (60 cm) thick stone walls and has a 3 ft (1 m) wide channel which is filled with an ash-like deposit. The eastern end of the flue disappears under a brick floor; whereas the extent of the western end is obscured by stone rubble. Running parallel to the flue, 10.3 m further to the south, is a partially exposed stone wall.

#### Site 18B. Treated tailings--two large dumps

In the gully below the culvert's terminus is a large dam and some mounds of tailings. The latter are obscured by gorse and blackberry bushes. These remains are on freehold land, but appear to have once been part of the South German mine property.

Dump A. On Freehold land, to the south east of the mine site, is a large treated dump. The surrounding area is overgrown with gorse bushes.

Dump B. On the opposite of the gully to Dump B., also on Freehold land, is another much larger heap.

*INTEGRITY/CONDITION:* Multi-featured site. Possibility of buried features, eg. flues and chimney stack associated with boiler settings.

#### *CULTURAL SIGNIFICANCE:*

Site 18A has:

- Historical Significance, because it:
  - a) was one of Maldon's premier long term gold producers. The other great Maldon mines were the North British and Eaglehawk Union Co.
  - b) was also responsible for helping to pioneer the cyaniding process in Victoria during the late 1890s.
- Scientific Significance, because it:
  - a) has a wide range of relics to do with mining, crushing and tailings re-treatment.
  - b) is a rich archaeological site.

Site 18B is on private land. The two large tailing dumps appear to have been the product of operations conducted after the demise of the South German Co. The dumps have little historical significance.

Site 18A's significance is increased by cumulative value because it:

- a) is part of a group of well-preserved mine sites which run through the heart of the township of Maldon. These sites are, from north to south, Nos. 24, 17, 9, 38, 37, 39 and 18A (Maldon State Battery, Alliance Co., Beehive Co., Derby United, Caledonian Crushing Mill, Lady Darling and South German Co.).
- b) forms part of two adjoining sites (18A & 19) on Crown Land which together illustrate quartz mining, crushing and tailings.

*SIGNIFICANCE RANKING:* Sites Listed Heritage Inventory.

**Assessor: David Bannear**

**Date: November 1992.**

- 1 Williams, p. 15
- 2 Mining Surveyors' Reports, August 1859
- 3 Mining Surveyors' Reports, June 1860
- 4 Mining Surveyors' Reports, July 1860
- 5 Williams, p. 29
- 6 Mining Surveyors' Reports, June 1870

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- 7 Mining Surveyors' Reports, March 1875
- 8 Mining Surveyors' Reports, June 1875
- 9 Mining Surveyors' Reports, June 1877
- 10 Mining Surveyors' Reports, September 1877
- 11 Mining Surveyors' Reports, December 1877
- 12 Mining Surveyors' Reports, March 1878
- 13 Mining Surveyors' Reports, June 1878
- 14 Mining Surveyors' Reports, September 1878
- 15 Mining Surveyors' Reports, December 1878
- 16 Mining Surveyors' Reports, March 1879
- 17 Mining Surveyors' Reports, June 1879
- 18 Mining Surveyors' Reports, September 1879
- 19 Mining Surveyors' Reports, December 1879
- 20 Mining Surveyors' Reports, March 1881
- 21 Department of Mines, Special Reports - Report on the Maldon Gold-Field, R A Moon. 1897
- 22 J.C Haupt, 1981, The Mineralogy of the Maldon Goldfield, The Mineralogical Society of Victoria, Monograph No. 1
- 23 Mining Surveyors' Reports, June 1882
- 24 Mining Surveyors' Reports, September 1882
- 25 Mining Surveyors' Reports, March 1883
- 26 Mining Surveyors' Reports, June 1883
- 27 Mining Surveyors' Reports, September 1883
- 28 Mining Surveyors' Reports, December 1883
- 29 Mining Surveyors' Reports, March 1884
- 30 Mining Surveyors' Reports, June 1884
- 31 Mining Surveyors' Reports, September 1884
- 32 Mining Surveyors' Reports, December 1884
- 33 Mining Surveyors' Reports, March 1885
- 34 Mining Surveyors' Reports, June 1885
- 35 Mining Surveyors' Reports, September 1885
- 36
- 37 Mining Surveyors' Reports, March 1886
- 38 Mining Surveyors' Reports, June 1886
- 39 Mining Surveyors' Reports, September 1886
- 40 Mining Surveyors' Reports, December 1886
- 41 Mining Surveyors' Reports, March 1887
- 42 Mining Surveyors' Reports, September 1887
- 43 Mining Surveyors' Reports, June 1888
- 44 Mining Surveyors' Reports, December 1888
- 45 Mining Surveyors' Reports, December 1889
- 46 Mining Surveyors' Reports, December 1890
- 47 Mining Surveyors' Reports, June 1891
- 48 Mines Dept, 1897 Annual Report
- 49 Department of Mines, Special Reports - Report on the Maldon Gold-Field, R A Moon. 1897
- 50 Annual Report, 1903
- 51 Geological Survey of Victoria, Bulletin No. 14, The Maldon Gold-field, W M Bradford, 1904
- 52 Geological Survey of Victoria, Bulletin No 14 - The Maldon Gold-Field, W M Bradford, 1904
- 53 Annual Report, 1904
- 54 Annual Report, 1905
- 55 Annual Report, 1906

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56	Annual Report, 1907
57	Annual Report, 1908
58	Annual Report, 1909
59	Annual Report, 1910
60	Annual Report, 1911
61	Annual Report, 1912
62	Annual Report, 1913
63	Annual Report, 1914
64	Annual Report, 1915
65	Annual Report, 1917
66	Maldon Historic Reserve Management Plan, Department of Conservation, Forests and Lands, 1988
67	Annual Report, 1903
68	Annual Report, 1904
69	Annual Report, 1905
70	Annual Report, 1906
71	Annual Report, 1907
72	Annual Report, 1911
73	Mining and Geological Journal, September 1940

**SITE NO. & NAME:** 19 NORTH GERMAN CO.

**LOCATION:** German Reef, Maldon Township.

**HI NO:** H7723-0122

**DIRECTIONS:** North side of Boundary Road. Remains of mine site on the approx. 200 m north of the South German main shaft.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

**HISTORY:**

June 1882. Several new companies have been floated during the quarter; three on the German Reef line, the North German, the Old German, and the South German; they are all making preparations to start working.<sup>1</sup>

**DESCRIPTION & INTERPRETATION:**

Mine site, most probably the North German. This company commenced operations in 1882.

Mine site

The mine site contains the remains of a fairly small bulldozed mullock heap. The Department of Conservation and Environment's walking track to Derby Hill passes over what survives of the mullock heap. On the north side of the walking track is a filled, but slightly collapsed, shaft. On the track's south side, is a small area free of gorse and blackberry bushes, which is littered with hand-made brick bats, lumps of granite and other building stone. Visible amid the rubble is the faint outline of what may be a stone boiler setting.

Tailings Dump

150 m north of the South German Co.'s machinery footings, near Boundary Road, is a large treated dump of tailings. The Department of Conservation and Environment's walking track to Derby Hill passes along the western side of this heap.

**INTEGRITY/CONDITION:** Integrity of mine is poor, but the tailings dump is in relatively unquarried.

**CULTURAL SIGNIFICANCE:**

The site has some cumulative value, because it forms part of two adjoining sites (18A & 19) on Crown Land which together illustrate quartz mining, crushing and tailings.

**SIGNIFICANCE RANKING:** Site Listed Heritage Inventory.

**Assessor:** David Bannear

**Date:** November 1992.

<sup>1</sup> Mining Surveyors' Reports, June 1882

**SITE NO. & NAME:** 20 **GROWLERS GULLY WORKINGS**

**LOCATION:** **Growlers Gully, Maldon Township**

**HI NO:** **H7724-0033**

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**DIRECTIONS:** Gully immediately to the east of Beehive mine site. Drains in a southerly direction into Tarrangower Creek

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Area

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**HISTORY:**

1853-4. A Polish Captain, John G. Mechosk, with a party of eleven hired men were the reputed discoverers of gold at Tarrangower field. On 10 March 1854 he sent a memorial from Muckleford Creek to La Trobe, asking for a reward. He said he commenced prospecting on 5 June 1853. He said he reported his discovery to Commissioner John Bull at Castlemaine in December 1853, and the field in consequence was opened up at Tarrangower.

Various newspapers printed notes about Mechosk's discoveries, but added little to his evidence. [*Herald*, 26 May (letter) and 7 July 1854, 20 June 1855. *Mt Alexander Mail*, 13 July 1855]. Commissioner Bull in a special report wrote that the first sign of the gold diggings on Tarrangower was miners going there from Barker's Creek in December 1853. About the same time, Mechosk called upon him and took him to the spot, and found that he and his party had been there, near where the Government Camp was set up, for some weeks. Bull suggested calling the field Menzies Hill Diggings. On 15 December 1853 Bull went to Tarrangower and found about fifty men there.

Local opinion at Maldon has been inclined to scepticism over Mechosk's claim as the discover of the field. A short history of the diggings in 1866 [*Tarrangower Times*, 28 September 1866] claimed that Mechosk only found gold after others had made piles. Diggers from Barker's Creek followed his cart on 6 December, and others followed on 8 December. The writer said that his party caught up with Mechosk on 11 December, and Mechosk had sunk too deep. This shaft was at the foot of Swipers Reef, and not far from the Derby Co's shaft in 1866. The writer's party then sunk in Long Gully, and a half-ounce of gold was found in every tub. This was the start of the great rush.

In 1864 Jonathan G. Moon wrote a booklet on Tarrangower. [SLVL, Jonathan G. Moon, Vic Hist Pamph, No. 4, Tarrangower, 1864] He said that Mechosk's party were discovered on 11 December 1853 putting down their second hole "near where the Royal Hotel stands". The next place opened was Long Gully, and two of the first here were Costick and Windy Jack, who got gold near (the later) Welcome Quartz Co. Another booklet says that Mechosk got gold near the site of the present Theatre Royal. It was generally believed that the first gold was found on the site of the monument, near the road in Long Gully, but many old hands contended it was found, "near the old, red-brick building that once stood in Reef Street, near the old Beehive Shaft". [Booklet from Mr Greig, MLC, Maldon] Bull said that the first holes were not far from the camp.

These places were, however, all more or less in the same locality, not far from the present centre of the town, and it seems reasonably certain that Mechosk's party were indeed the first there. His discovery by others no doubt led to his reporting the find to the authorities in Castlemaine. Bull said that they made their entry into the place by various bush routes, to evade detection.

On 21 January 1854 the *Herald* correspondent said that Bryant's Diggings--as Tarrangower was then called--was discovered by two Germans, whose names he could not spell adequately, but a later report [*Herald*, 15 May 1854] said that Hardimann, a German, and one of Chapman's party from South Australia, named Hardimann's Hill, behind the police station. He said that he was one of the original discoverers of Tarrangower, and got gold on the hill long before the rush. Chapman, one of the original discoverers of gold in South Australia, possibly gave his name to Chapman's Gully at Tarrangower.

By the end of January 1854 twenty gullies were being worked on the field [*Argus*, 31 January 1854] but apart from Long Gully there were only about six main places. Peg Leg Gully, Eaglehawk Gully, **Growlers** and German Gully, were opened first, and a number of small places, whose rush names failed to stick, and which often did not pay [W. Howitt, *Land, Labour and Gold*]. The gully at the Springs, near the old Brewery, was worked in January 1854, and produced as well as gold a great amount of water, when it was most needed. Porcupine Flat was entered from Peg Leg in April 1854, and Forty Foot Hill was opened then. [*Herald*, 28 April and 15 May 1854]. Sandy Creek, south of Long Gully, was discovered in May 1854 [*Herald*, 15 May 1854], and the bottom end of Nuggetty Flat and hard Hill leads were rushed by 5000 diggers in July. **Growlers Gully got its name from the necessary presence of the Commissioner three or four times daily to settle disputes.** [*Herald*, 28 February 1854].

Some of the Tarrangower quartz reefs, such as Eaglehawk Reef, were discovered at the first rush, and companies were in the process of being formed in February 1854. [*Herald*, 13 February 1854].

Nearly all the main diggings at Maldon (never a very considerable alluvial diggings, but later an important reefing place) had been opened up by the end of 1854.

The Seventy Foot Lead near Manton's Gully, south of the town, was possibly opened in 1854.<sup>1</sup>

## March 1864 Miners distributed thus:

Pickpocket & Strangways	78	<b>Growler's Gully</b>	<b>177</b>
Newstead	113	Long Gully	145
Muckleford	137	Peg Leg Gully	148
Frenchman's Gully	51	Porcupine Flat	115
Mia Mia and Gardner's Gully	119	Eaglehawk	182
Sandy Creek	413	Bradford	45
Nuggetty Flat	126 <sup>2</sup>		

## June 1864 Miners distributed thus:

Strangways	39	<b>Growler's Gully</b>	<b>177</b>
Newstead	107	Long Gully	150
Muckleford	140	Peg Leg Gully	162
Frenchman's Gully	32	Porcupine Flat	121
Mia Mia	130	Eaglehawk	203
Sandy Creek	496	Bradford	17
Nuggetty Flat	121 <sup>3</sup>		

## March 1865 Miners distributed thus:

Pickpocket	113	<b>Growler's Gully</b>	<b>82</b>
Newstead	25	Long Gully	16
Green Valley	45	Peg Leg Gully	77
Fryingpan Gully	3	Porcupine	63
Gardner's Gully	28	Eaglehawk	182
Sandy Creek	230	Long Gully, Muckleford	60
Nuggetty	71	Mount Tarrangower	248
Beehive Hill	180	Ironbark Gully	16
Armstrong's	3	Hard Hills	9
Hunter's Rush	17	Back Creek	25 <sup>4</sup>

## September 1865 Miners distributed thus:

Pickpocket	546	<b>Growler's Gully</b>	<b>55</b>
Newstead	36	Long Gully	48
Green Valley	38	Peg Leg Gully	78
Fryingpan Gully	21	Porcupine Flat	86
Gardner's Gully	19	Eaglehawk	176
Sandy Creek	212	Long Gully, Muckleford	39
Nuggetty	65	Mount Tarrangower	226
Beehive Hill	152	Ironbark Gully	33
Armstrong's	7	Hard Hills	25
Hunter's Rush	31	Back Creek	23
Frenchman's Gully	2 <sup>5</sup>		

## March 1866 Miners distributed thus:

Pickpocket and Strangways	855	<b>Growler's Gully</b>	<b>50</b>
Newstead	7	Porcupine Flat	60
Gardner's Gully	16	Eaglehawk	186
Sandy Creek	256	Long Gully	54
Nuggetty	80	Mount Tarrangower	238
Beehive Hill	152	Ironbark Gully	15
Hard Hills	25	Muckleford	221 <sup>6</sup>

## September 1866 Miners distributed thus:

Pickpocket	1,200	<b>Growler's Gully</b>	<b>33</b>
Newstead	22	Long Gully	45
Green Valley	49	Peg Leg Gully	63
Fryingpan Gully	14	Porcupine	50
Gardner's Gully	12	Eaglehawk	180
Sandy Creek	219	Long Gully, Muckleford	30
Nuggetty	60	Mount Tarrangower	210

Beehive Hill	117	Ironbark Gully	20
Armstrong's Gully	2	Hard Hill	8
Hunter's Rush	8	Back Creek	13
Frenchman's	10 <sup>7</sup>		

December 1866 Miners distributed thus:

Pickpocket	1,200	<b>Growler's Gully</b>	<b>31</b>
Newstead	15	Long Gully	46
Green Valley	45	Peg Leg Gully	65
Fryingpan Gully	3	Porcupine	50
Gardner's Gully	12	Eaglehawk	187
Sandy Creek	205	Long Gully, Muckleford	33
Nuggety	75	Mount Tarrangower	195
Beehive Hill	111	Ironbark Gully	23
Armstrong's Gully	9	Hard Hills	22
Hunter's Rush	17	Back Creek	18
Frenchman's	7 <sup>8</sup>		

March 1867 Miners distributed thus:

Pickpocket	650	<b>Growler's Gully</b>	<b>25</b>
Newstead	65	Long Gully, Maldon	65
Green Valley	59	Peg Leg Gully	76
Fryingpan Gully	19	Porcupine	60
Gardner's Gully	12	Eaglehawk	190
Sandy Creek	180	Long Gully, Muckleford	35
Nuggety	85	Mount Tarrangower	195
Beehive Hill	98	Ironbark Gully	25
Armstrong's Gully	11	Hard Hills	22
Hunter's Rush	18	Back Creek	21 <sup>9</sup>

March 1879. Alluvial mining. In this branch of mining the yield has fallen off over 150 oz during the quarter, owing to the want of water. The only water to be got now is from the Eaglehawk Limited Company's mine. It has been purchased by some parties of Chinese, who have conveyed it by a race to Growler's Gully, where they are now busily engaged sluicing the gully, and to all appearances are highly satisfied with the profits obtained.<sup>10</sup>

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*DESCRIPTION & INTERPRETATION:*

Growlers Gully sluiced by Chinese in late 1870s.

Alluvial workings

Sluiced gully overgrown with weeds.

*INTEGRITY/CONDITION:* Poor.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because it was one of Maldon's richest and earliest worked alluvial gullies. Others in this category are Long Gully, Peg Leg Gully, Eaglehawk and German Gully.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Flett, J., The History of Gold Discovery in Victoria, Poppet Head Press, 1979, pp. 193-201
- 2 Mining Surveyors' Reports, March 1864
- 3 Mining Surveyors' Reports, June 1864
- 4 Mining Surveyors' Reports, March 1865
- 5 Mining Surveyors' Reports, September 1865
- 6 Mining Surveyors' Reports, March 1866
- 7 Mining Surveyors' Reports, September 1866

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- 8 Mining Surveyors' Reports, December 1866
  - 9 Mining Surveyors' Reports, March 1867
  - 10 Mining Surveyors' Reports, March 1879

**SITE NO. & NAME:** 21 **EAGLEHAWK UNION CO.**  
**LOCATION:** **Union Hill, Maldon Township**  
**HI NO:** **H7724-0034**

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**DIRECTIONS:** Linscott's/Union Hill Reef

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Area

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**HISTORY:**

1854-1890s. The Mines. The first auriferous quartz reef discovered was on a rise overlooking Tarrengower Creek, towards the lower end of Long Gully, In January 1854. Other reef discoveries quickly followed--The Eaglehawk, Bells and Beehive in 1854.

Eaglehawk Reef. This reef was the most productive on the field. Many small claims were originally pegged along the reef with some phenomenal yields--one patch recording 15 kg/1 tonne of ore; 62 kg from a claim 3 m x 3 m, and 1 to 3 kg per tonne being common from others.

At the northern end of the reef, on Union Hill, several companies were formed and worked both the Eaglehawk and nearby Linscott's Reef. The most successful was the Eaglehawk Union Company, whose yield is estimated at 5500 kg of gold from 100,000 tonne of ore. The Union Company was later formed and amalgamated these earlier workings, extending the workings to a depth of 400m, but very little appears to have been produced by this company and effective mining appears to have ceased by the late 1890s.<sup>1</sup>

1854 to 1861. The Eaglehawk Reef, upon which kilns are situated, was first worked in 1854. The Eaglehawk Union Quartz Mining Company, which was responsible for the construction of the kilns, commenced operations on the reef in 1859. Quartz roasting at the Union mine was first reported in July 1860. By 1861, two large quartz roasting kilns had been constructed.<sup>2</sup>

January 11 1859. The Union Company. The shares in this company are in some cases fetching very high prices--£100 is the standing figure; £50 in cash, and the remaining in calls at different periods.<sup>3</sup>

28 January 1859. The Union Company has at length got fairly started. On Wednesday a shaft (eight feet by four) was commenced on that part of the company's claim lately owned by Bear & Co ... Twelve men are at present working in the day time, but when the upper arrangements are completed, such as fixing the fly, logging up, etc, they will be divided into three watches, and the sinking will be carried out night and day. Part of the machinery is daily expected, and it is to be fixed in proper working order by the makers, Messrs Dow & Co.<sup>4</sup>

18 February 1859. The Union Company. On Tuesday last the machinery arrived for this Company's use. The engine is said to be the finest ever brought out of Melbourne, and attracted quite a crowd of gazers as it passed through the town ... A tramroad is now being laid down on the Company's claim.<sup>5</sup>

25 March 1859. The Union Company. This company for "go-a-headism" eclipses any other yet started on Tarrengower. It was only inaugurated on February 1st, and the works have been pushed so rapidly that the boilers are ready set in their foundation, the dam finished, tram roads made, several tons ready for crushing, and the foundations for the machine is now being dug. The reef is divided into several sections, each with a foreman and number of workers. The first and second are now being worked, Mr James Reid being "Boss" of the first, and Mr. John Blackmore of the second. The pump shaft is now down, and most substantially timbered for 130 feet. It is 8 1/2 feet long, by 4 1/2 feet wide in the clear. In this shaft alone 15 pitmen are employed, and two blacksmiths; the total number of employees at present are 40.<sup>6</sup>

3 July 1859. The various gold mining companies are commencing work in earnest. On the 6th Inst. the Union Company began operations, both in crushing and pumping, and are now raising some very beautiful stone from the depth of 170 feet from their claim of 527 feet in length.<sup>7</sup>

8 July 1859. The Union Company. Dissatisfaction was expressed at the manner in which the ripple boxes etc. had been erected. The contract was, that they should be exactly similar to those of Messrs Bruce Brothers of Bendigo.<sup>8</sup>

August 1859. The Union Eagle Hawk Reef. The work at the pump shaft, now down 215 feet, continues uninterruptedly day and night. When the depth of 230 feet is reached a much better supply of water is anticipated. In the central part of the company's ground a number of men are at work getting some payable stone. The same is the case at the south end. The yield of gold for the month was 305 oz 11 dwt 18 gr extracted from 350 tons quartz.<sup>9</sup>

25 October 1859. The Union Company. Mr. C. Layton, who owns the claim in the middle of the company's ground, is still getting highly payable quartz, and the company must eventually come to, and work out the same lead.<sup>10</sup>

15 November 1859. The Union Company. As was expected, last weeks returns improved considerably ... The produce of six days stamping was 51 oz. some dwts. only one of the four batteries of stampers being employed in crushing quartz from the reef, the remainder were used simply for bank stuff ... The advantage of using copper tables at the extremity of the tailing chutes is daily becoming more manifest. On Saturday 10 oz. 11 dwts. of squeezed amalgam was saved. The gold being of the very finest description imaginable.<sup>11</sup>

June 1860. The Union Company, Eaglehawk Reef (twenty-eight men employed). Amount of quartz raised during the month of June [totals, from 400 tons, 221 oz 8 dwt 12 gr of gold].<sup>12</sup>

July 1860. The Union Company, Eaglehawk Reef. The surface of the reef is excavated for a depth of 40 ft. and for a length of 300 ft. is taken out altogether.<sup>13</sup>

July 6 1860. Union Association Third Half-Yearly Report. Machinery ... The stamper boxes after having been used for 12 months, have lately been replaced by new ones. The ripple-boxes are now lined throughout with copper, coated with silver; and your Board cannot but help express as their opinion that by these means a still more considerable saving of gold and quicksilver is effected.

Mine ... The principal part of the working during the past six months has been confined to the top ground, at a depth of about 50 feet from the surface. Preparations are now being made to work in the deeper ground, which will be carried into effect as soon as the necessary apparatus for the raising of the stuff by means of winding gear is executed. Engine shaft sunk to a depth of 225 feet.

Yield of gold. The value of gold obtained from the mine for the past six months has amounted to £3,698 0s 6d. Two thousand four hundred and eighty tons having been crushed, yielding 957 oz. 13 dwts. 6 grs, giving an average of 7 3/4 dwts to the ton.

Expenditure list [no mention of kilns, only Conveying of quartz to stamps and removing tailings].<sup>14</sup>

26 October 1860. Union Association. The Board is proceeding energetically with the alterations required. Tenders are issued for kilns as will be seen from our advertisement column.<sup>15</sup>

26 October 1860. Eaglehawk Union Quartz Mining Association. Tenders Wanted for building Kilns. Specifications to be seen at the Company's office. Tenders will be received up to Friday, Nov. 2nd, at 4 pm.

By order, H. Ellar, Secretary.<sup>16</sup>

7th December 1860. Union Association. Relative to the alterations and improvements required to the present stamping machinery, your Board has consulted the opinion of Mr. Anderson, an engineer thoroughly acquainted with quartz crushing machinery, who has erected most of the largest plants on Bendigo, and whose report together with plan will be submitted to you. Your Board has resolved upon making the present dam large; viz. 90 feet long, 70 wide, and 10 feet deep, which when completed will be capable of holding more than three months' supply.<sup>17</sup>

January 1861. The Eaglehawk Union Company finding its plant inefficient has ceased crushing, in order to erect a new battery of stampers. Working is still being continued below.<sup>18</sup>

11 January 1861. Union Association. Kilns. Two large kilns capable of holding 25 to 30 tons each have been built in the centre portion of the ground of the Association with a view to the more thorough calcining the stone obtained from the deeper parts of the mine, a process which is essentially necessary to render amalgamation more certain. Yield of gold. The value of gold obtained from the mine in the past 6 months has been as follows: from 2,978 tons reduced 1,117 oz. 6 dwts. 14 grs, or £4,267 12s 8d was obtained [average yield of 8 dwts per ton].<sup>19</sup>

March 1861. The Eaglehawk Union Company has commenced crushing with the new battery of stampers which are found to work admirably. The result of eight days' crushing, from 250 tons of quartz, produced 67 oz of fine gold.<sup>20</sup>

May 1861. The returns from the Union Company on Eaglehawk Reef, are nil, consequent upon machinery undergoing an alteration. The process of amalgamation as adopted viz. ripples with copper plates being found not to answer, they had some quartz crushed at the mills of the South Linscot's Company, the yield from which more than doubled that of their own, this trial has decided them upon adopting the same process as that of the above company, viz. Chilean wheels and revolving basins.<sup>21</sup>

7 May 1861. Union Association. Your Board has to report that since Wednesday, April 10th, up to Tuesday May 3rd, consequently 21 working days, 571 tons have been crushed, yielding 182 oz. of retorted, and after smelting 178 oz. of fine gold. This is not perhaps an average yield, as the quantity of amalgam required to thoroughly coat the plates cannot be taken off until it has become hard and brittle, when effectually coated more gold may be reasonably expected, and as proof of the above assertion, is the fact that crushing the same kind of stone this week more amalgam has gathered on the plates in about 24 hours than heretofore been found in that time. The ripple boards appear to answer well since their alterations.<sup>22</sup>

24 May 1861. In our last we mentioned that the Board of the Union Association found that the stampers and ripples were insufficient to save all, or in fact half, the gold contained in the quartz and we suggested that the attention of other Boards should be directed to the fact, we now find the Board of the Beehive Association had already taken the necessary steps to ascertain the efficiency of their amalgamating process by sending 6 tons of tailings to the Atlas to be put through the Chilian wheels. This was done, and the tailings produced thirteen pennyweights of smelted gold. The information ... can be relied on, and we think the fact sufficient to introduce all Companies possessing only stampers and ripples to at once set about improving and adding to the plant.<sup>23</sup>

14 June 1861. Union Association. Board ... sanctioned the erection of revolving pans.<sup>24</sup>

19 July 1861. Union Company. The mine is now opened up at its present depth from one end to the other, and as soon as the stulls are completed will be in as good working order as need be desired. The general appearance of the quartz from the different portions of the mine is most satisfactory, and the mining manager fully expects that an average yield of from 8 to 10 dwts. to the ton will be obtained, as soon as additional amalgamating machinery is completed.

Tramways from the different shafts to the kilns and from thence to the machine have also been completed.

Machinery ... the Ripple Boards being the only defective detail in connection therewith.

Your Board since the last monthly meeting has accepted the tender of Messrs Vivian & Co for the supply and erection of six of their patent revolving pans for the sum of £1,400.<sup>25</sup>

21 March 1862. Union Association. The only great drawback during the past two months has been, and at present is, the scarcity of water, which now compels the tributers to suspend crushing operations.<sup>26</sup>

22 August 1862. Union Company. In the end of November last year ... the operations of the company had left them £1,165 in debt, and circumstances induced the directory to let the mine on tribute. The result has been, that the tributers obtained about 1,155 oz. of gold up to the 26th of June last, worth £4,500, and that the percentage--a fourth--payable to the company, enabled the directors to reduce their liabilities to less than £600.<sup>27</sup>

9 December 1862. Union Company. During the term of lease the tributers 2605 tons which yielded 1,717 oz. 4 dwts. of smelted gold, value £6,645 19s 6d an average of nearly 13 dwts. to the ton. The royalty received by the company amounted to £1,661 10s ... In accordance with the resolution passed at a special meeting of shareholders, held November 5th. your Board has issued notices calling on parties willing to work the mine and plant of this company on a system similar to that of the Beehive Company, viz. The company giving three-fourths of the yield of gold after the sum of £50 is deducted for working expenses, they have, however, been unsuccessful in obtaining sufficient men.

Machinery--stampers ... No 1 battery--6 heads; No 2 battery--6 heads; No 3 battery--6 heads.<sup>28</sup>

6 January 1863. The new tributers of the Union Company have signed articles and to the number twenty one yesterday commenced working; the breaking out of quartz and sinking the Linscott's shaft having been started simultaneously. The party is said to be a very good one, composed chiefly of some of the best men of the Beehive, and they start with every confidence of being able to make the mine pay themselves and the shareholders. They have taken unto themselves the title of the "New Era Company".<sup>29</sup>

20 January 1863. The New Era (Union) Company is getting some very good stone with the sinking of the shaft on Linscott's Reef, and has obtained some splendid stone from the old workings in Eagle Hawk. New blanket tables have been put down, they being preferred before the Chilian wheels. Crushing was commenced yesterday.<sup>30</sup>

24 April 1863. Union Company. During the past month the tributers have crushed 140 1/2 tons, yielding 120 oz. 11 dwts. of refined gold, or an average of 13 dwts. to the ton ... The tributers are paying 10 per cent on the gross yields, and are compelled to have it crushed elsewhere ... The tributers have now about 120 tons raised and calcined ready for crushing.<sup>31</sup>

1 December 1865. The tributers of the Disunited Company are meeting with all the success to which their endurance and perseverance so well entitles them. The owners of the mine by their Board are never tired of seconding the tributers' efforts. Amongst other boons they have ordered the dam to be cleared out at the Company's expense, new kilns to be erected.<sup>32</sup>

19 January 1866. The continued drought compels the tributers to cart water, and failing to obtain a sufficient supply, they are, and have been, unable to use the full power of the crushing machinery.<sup>33</sup>

6 March 1866. Another splendid return has accrued from the last fortnights crushing. 180 tons were put through and the glorious result was 941oz 9 dwt of retorted gold. This must assuredly be the most fortune making (for tributers) claim in the district. We understand that even better returns are expected next week, and that a dividend is to be declared by the directory to the shareholders.<sup>34</sup>

17 April 1866. The wonderful success of this mine continues without the slightest signs of abatement. The washing off for the fortnight was completed on Saturday, when the retort gave 1228 oz 5 dwt 12 gr of gold.<sup>35</sup>

23 October 1866. Crushing was resumed yesterday morning. The tributers have 170 tons of quartz in the kilns ready for crushing, and are raising larger quantities than of late ... The tributers find much difficulty in prospecting the deeper ground, owing to their having to wind by means of skids. This difficulty will be done away with when the Company resumes work, as, in accordance with an agreement entered into with the owners of the adjoining ground, they will at once remove the block of ground which now renders the skids necessary.<sup>36</sup>

1867. A plan of the Union Co.'s 7-acre lease in 1867 shows four kilns on the site, as well as tramways, shafts, whims, stables, store room, carpenter's shop, office, smithy, and a large quartz crushing plant with related dam and sand pit.<sup>37</sup>

29 January 1867. The mine itself is already in the company's possession ... The contractors for the new shaft, having erected their whim, will commence sinking.<sup>38</sup>

March 1867. The Esperance Company on Eaglehawk Reef, from a crushing a short time since, obtained from 90 tons of quartz about £5,000, being fully equal to 13 oz per ton; and the Union Company, adjoining the Esperance, had, from a crushing of 59 tons, last week, close upon 6 oz.<sup>39</sup>

1 March 1867. We have taken out two mills, in order to lay down blanket tables, precisely like those in use at the Beehive works, except that ours presents a greater length and surface than theirs. The experiment of testing their gold saving qualities, compared with mills, will be carefully conducted, and if it succeeds, there will be a great saving of time, and the cost of crushing will be greatly reduced ... We have made an offer for a portable 11 inch cylinder engine, with winding gear for flat ropes, as the depth of workings makes horse winding tardy and unprofitable ... The stone is becoming harder.<sup>40</sup>

5 March 1867. Two kilns of the stuff are now burning and a third is filled.<sup>41</sup>

9 April 1867. A contract has been let for the erection of the new hauling engine and gear, to Mr. W. Maquard, who has undertaken to complete the same within three weeks.<sup>42</sup>

3 May 1867. From our ground we have crushed 30 tons of burnt stone for a yield of 23 ozs 8 dwts 12 grs, and 16 tons of raw stone for a yield of 10 oz. but this gold will not be melted until the sand from the blankets has been burnt and crushed ... The erection of the winding gear and poppet heads is completed, and a contract has been let for building an engine house.<sup>43</sup>

6 August 1867. Leighton and White's claim ... the parties are busily engaged filling their kilns adjoining the Union works.<sup>44</sup>

September 1867. A new rush to Lockwood has taken place, but I have not visited it, as I am not aware if it is in my district. A decrease both in yield of gold and number of men will be observed ... as also the falling off in the yield of some of our principal mines, viz., Beehive, Union, and Frazer and Co.'s claim on Eaglehawk.

The Eaglehawk Union Company, and Frazer's Claim adjoining northward, have considerably fallen off in quantity, the lode having been cut off in both claims by a dyke of hard greenish rock.<sup>45</sup>

21 January 1868. The new engine shaft has been sunk 66 feet 11 inches ... The sudden decrease in the yields of gold compelled us to suspend the contract for a time and employ the contractors in the mine. This suspension is to be regretted, as the shaft is of vital importance to the company.<sup>46</sup>

January 1870. Union Mine accident, 28 January 1870. Six men were aboard a skip ready to be lowered into the shaft, two inside and four standing above holding on to the rope. The winding engine slipped its clutch allowing the skip to drop suddenly to within 30 feet of the bottom of the shaft before braked to a stop. The four rope-hangers "lost their breath and their hold, and were almost, literally speaking, smashed to pieces", it was reported ... The engine driver was charged with manslaughter and found guilty.<sup>47</sup>

June 1870. In some of our principal mines, ie. the Alliance, Wellington, Linscott's, Eaglehawk, Beehive, Derby, Cymru, German Reef, Pioneer, and Brewer's Reef Companies, owing to poverty and the want of a cheaper process of crushing, operations in the deep ground have been suspended for some time past, consequently some of our quartz miners have gone to other diggings.

The North Block Tributors, in the Union Company's ground on Eaglehawk Reef, at a depth of 430 feet, are raising stone raising from 1 oz to 3 oz per ton; but the expensive nature of the rock, the cost of crushing, ie. 16s per ton, and percentage to the company, absorbs nearly the whole produce, leaving barely enough to pay the working men's wages.<sup>48</sup>

March 1871. EAGLEHAWK REEF. South Eaglehawk Company. A new company (the Preference) has been formed for the purpose of testing the deep ground in this company's lease, and is now erecting the pumping engine near to the main shaft, previous to commencing operations. D. Davis and Party, in this company's ground, are obtaining some very payable stone, at a depth of 30 feet, from a portion of the reef in the centre of Eaglehawk Gully. They have already crushed 77 tons which yielded 307 oz of gold, or an average of 4 oz per ton; and at present there is every indication of a continuation of the same stone. The reef here is about 12 feet thick, and the whole is taken. Eaglehawk Union Company. The contractors are busily engaged cross-cutting east for the reef, at the 405-foot level, in the new shaft; small quartz leaders carrying gold are met with in driving.

The tribute parties are busy at work, and one (Jarvis and Party) has crushed during the past month, from 5 to 6 oz per ton.

North Eaglehawk United Company. This company is sinking to cut the reef at present being worked by the Union Company on the south, and which is averaging about 19 dwts per ton.<sup>49</sup>

September 1871. The falling off in the quantity of quartz crushed and yield of gold ... may be accounted for in a great measure through the Union Company suspending underground operations in the south part of the mine while erecting new winding machinery; this having been completed, and the mine drained, the company have let a contract to drive north and south on the course of the reef struck in the new shaft, at the 430-foot level; the reef here is 7 ft 6 in. thick, and the average yield over 16 dwts per ton.<sup>50</sup>

31 January 1872. Union Company. The machinery being ... it will be necessary shortly to reconstruct the batteries. Before taking steps in this direction, it was thought desirable to have a test trial of two lots of 50 tons exactly similar stone to ascertain whether the raw or roasting system of crushing was the best for the company's stone. The result was that raw stone gave 32 oz. 8 dwt. 12 grs. against 40 oz. 1 dwt. 12 grs. from the roasted stone.<sup>51</sup>

June 1872. The Union Company (Eaglehawk Reef) is likely to be, for some time, a good dividend-paying mine. The tributors in the south part of the mine (The Troubadour Company) are getting some stone at a depth of 460 feet from surface. The last crushing of 85 tons produced 374 oz 11 dwt, and the stone now being raised promises an even better yield. The lead of gold is dipping at the ratio of 1 in 1 south towards the Central Company's ground, and is increasing in richness as it goes deeper. The claims between this and the Eaglehawk Preference Company are now being energetically prospected, in order to catch the lead. The north part of the mine is being worked by the Union Company themselves. The reef her, at a depth of 470 feet, is 5 feet in thickness, and averages about an ounce of gold per ton.<sup>52</sup>

September 1872. The Union Company's mine, Eaglehawk Reef, still continues to give good yields. The south portion of the mine, held by the Troubadour (tributing company), have crushed during the quarter 766 tons, which yielded 2381 oz 12 dwt of gold and the stone now being broken in the bottom of the mine (500 feet) looks as good as any taken out; it is still extending southwards towards the boundary of the Central Eaglehawk Company's mine, and shares in the said companies are in demand at a high figure.<sup>53</sup>

30 October 1872. Union Company--erection of new crushing plant.<sup>54</sup>

December 1872. The yield [for the quarter] would have been considerably higher but for the Eaglehawk Union Company's works (underground) being partially stopped while the crushing plant is being removed to a more suitable position; all the newest improvements for crushing and amalgamating are being added, and a capacious dam constructed to secure a constant supply of water. The works it is expected will be ready for crushing in about four weeks; in the interim the mine is being opened up by sinking the shaft and driving the levels, so as to facilitate the breaking out of quartz.

Another reason of the yields not being higher is the breaking up of the Troubadour Tributing Company, whose time of contract expired on the 10th of December. This company, for the previous ten weeks of the quartz, had been getting about 170 oz of gold per week, and their last crushings averaged about 2 oz per ton. Had this company continued operations to the end of the quarter, 500 oz more, at least, would have appeared on our statistics; this ground, being a portion of the Eaglehawk Union Company's mine, will in future be worked by the Company, as well as the claim formerly known as Leightons, situate in the centre of the Union, recently purchased for the sum of £2000. The claim has hitherto been a great obstruction to the proper working of the mine; this being now removed, the mine can be worked much more economically, and, from present appearance, is likely to be a dividend-paying mine for years to come.<sup>55</sup>

5 February 1873. Eaglehawk Union Co. The present main shaft contract will be completed in about another week, when the total depth will be close of 560 feet. In the crushing house things are getting more into shape, the batteries and 12 heads of stampers are in position, and the basis for the revolving mills in a forward state. The boilers are housed and complete for getting steam up, but there is yet much to be done about the engine work. There are seven kilns all but completed, four already filled to overflow with quartz. The deep dam by the old works contains several feet of water and is gradually filling [TT 5.2.1873].<sup>56</sup>

March 1873. The Eaglehawk Union Company has not completed the very extensive crushing plant, although their mine is improving in quantity and quality; also several companies have let their mines on tribute, and tributers are now forming companies for the better and more convenient working of the mines.<sup>57</sup>

7.5.1873. Eaglehawk Union Company. Starting of the New Crushing Plant. The whole of the new and extensive crushing plant which has been in course of erection during the past six months, was practically started on Monday evening. One half of the plant with the engine, boilers, etc., were finished after some delays by Vivian and Co--the remaining half now completed was fitted by the Company's men under the superintendence of Mr F. White, who certainly must be congratulated for the speed and firmness shown in carrying on this work. The new works at the Union is another "sight" in crushing plants for which the Tarrangower Division is famed.

The first portion of the new plant was fairly started about three weeks since, and with the additions finished this week, made up a splendid range of machinery, consisting of 24 revolving stamp heads, 6 batteries of 4 heads each. The batteries are self feeding, and fitted with counter shafting and all the best appliances. Connected with the stamp boxes are copper plate tables, then ripples discharging into patent revolving mills of great weight and capacity, and below this are blanket rocking cradles to receive the fine sand and pulverised particles of silver. Thus before leaving the house, the atoms after coming through the stamp box gratings, run a course of copper plates, ripples and cradles for a length of about 40 feet in addition to being whirled round under heavy pressure in the revolving mills. This system of disintegration one would imagine be sufficient, and the sand allowed to run into the sludge channel, but such is not the case, it is not done with yet. All the residue of blanket sand has yet to undergo another shaking by means of another rocking cradle to be worked by machinery. The sand and sludge after leaving the house, passes down a long narrow shoot to a pit made to receive it. From this pit it will be cradled and very probably re-cradled; in fact, the sand will not be allowed to flow away while it contains the most minute atom of gold. The stone when landed from the mine, will all be burnt before crushing and for this purpose 7 kilns, capable of containing in the aggregate 300 tons, are in constant use. The landing flats at each shaft are constructed at such a height as to admit of the stone being trammed direct to the kilns, and a tramway from the mouth of the kilns below, enables the tram-men to empty the kilns by simply lifting a gate which allows the stone to slide into the truck, which is then hauled up an incline (by means of winding gear attached to the engine, and is under the direct control of the tram-man himself both as to raising and lowering) to the top of the passes which are thus readily and easily supplied.

The plant now being in full swing will repay the trouble of a visit to all interested in our mining industry. The old beam engine is substantially built on solid granite foundations, and will now for the first time since in the company's possession have an opportunity of working to advantage. The engine is of 30 horse power with cylinder of 17-1/4 inches and 4 ft 5-in stroke. To move this ponderous mass of metal there are two boilers, one of 7 ft in diameter by 32 ft long, the other 6 ft by 28 ft long, to generate the steam--the motive power. The whole concern is well housed, and capable of manipulating 150 tons of quartz per week. In former years, or at the present time anywhere else but on Maldon, the first starting of such a splendid range of mining machinery would have been conducted by some ceremony in the presence of distinguished company. On this occasion--the forerunner of a new golden era and dividends to the Union shareholders, scarcely any interest was shown, and with the exception of three local shareholders and our reporter, those present when Mr White gave the signal to start, were employees of the company. *O Tempora! O Mores!*<sup>58</sup> Much of the gold contained in the stone was very fine and accompanied by a deposit of floury bismuth. Most of it would have been lost, but that the reducing plant includes some exceptional appliances, and that all the quartz was burnt in kilns before being crushed. Mr White claims that the process of burning the quartz destroys all the base metal contained and also causes the very fine gold to collect together in larger particles, thus rendering it more easy to save. The Maldon quartz being so very rich in refractory mineral matter, and the gold contained being so fine, has resulted in the burning process being somewhat general throughout the district and many of the most experienced miners are warm supporters of the kilns. Of these gentlemen Mr White is one, and he has at various times conducted careful experiments with the view of deciding on the relative merits of burning or crushing raw ore. Some particulars of these tests he kindly gave me. They are as follows:- In one test, one battery was engaged for six months; two batteries fitted to crush burnt quartz and one the raw stone. The result was that at the end of the period the burnt stone was found to have given 5dwt of smelted gold per ton more than was obtained from the raw. The yield from the former was 1oz to the ton, from the latter 15dwt. After that a severe test was made with 100 tons of stuff all broken up to uniform size, thoroughly mixed and shot down into a heap from a tramway 28ft high. Two truck lines were then laid into the heap and it was trucked off into two equal heaps. Lots were drawn as to which parcel should be taken to the kilns and which to the stamps direct. From the latter 13-1/2 tons of blanket sand was saved, roasted and put through mills, the cost of the various processes being allowed to pass, as the point as issue was merely whether or not more gold could be saved one way or the other. The 50 tons sent to the kilns was simply burnt and crushed with stamps run over the blankets and through the mills. It yielded 14dwt to 15dwt per ton. The raw stone yielded, in money value, 11s 5d less per ton. At the mount (the Grand Junction Company's ground, Brockwell's tribute) 82 tons of stone were broken out and thoroughly mixed; 42 tons were crushed raw and 40 tons burnt. The burnt stone yielded over 8dwt per ton (2oz to 3oz stone) more than the raw. Tests of the tailings made from time to time appear to prove the superior efficacy of the burning process.<sup>59</sup>

September 1873. Nuggety Reef. This line is again in active operation. The Alliance and Speculation Companies have drained the mines and commenced breaking stone for crushing. The Speculation Tribute Company sent 10 tons to the mill a few days since, and obtained 12 oz of gold therefrom.

On the Linscott's line of reef the Maldon United Company are sinking the main shaft below the 450-foot level; in driving this level north and south to their boundaries the stone taken out has varied from 3/4 oz to 2 oz of gold per ton, the lode being on an average about 5 feet in thickness.

On the Eaglehawk line of reef the various companies are all busy at work. The Eaglehawk Union, with their new battery, have crushed 1600 tons during the quarter, but the yields do not come up to expectation, the average being 14-1/2 dwts per ton. The Central Quartz Mining Company, in the adjoining claim south, have struck gold in the 500-foot level north of their shaft; the first crushing of 29 tons yielded about 15 dwt per ton; this is considered very fair, as a lot of poor stuff was mixed with it; this company has purchased an engine for the purpose of baling and winding, which has hitherto been done by a horse whim, which process is found to be very expensive and slow. The South Eaglehawk Company is getting down with the engine-shaft at the rate of about 4 feet per week. The various tribute companies along this line of reef southward are all getting old, varying from 1/2 oz to 2 oz per ton, taken from the surface to a depth of 200 feet. The Great Southern Company has recently let the mine on tribute; the tributers intend driving west to strike the run now being worked in the last-mentioned claims.<sup>60</sup>

March 1875. The yield of gold has fallen off considerably during the quarter, owing partly to the stoppage of the Union Company's mine for the last month, for the want of water. The manager, however, in the mean time has been busily engaged in cleaning the machinery, clearing out the dam, &c., and is now waiting for a rainfall, there being no other source of supply for water. One other cause of the great falling off in this quarter's returns is the poverty of our mines generally.

The Eaglehawk Union, the Central, the North Eaglehawk United, and the Linscott's Tribute Companies, are the only paying mines at present.<sup>61</sup>

September 1875. The Eaglehawk Union Company's prospects are not very bright at present; the shaft is down 760 feet, and still proceeding; the ground is very hard and dry, but there is no water below the 500-foot level.<sup>62</sup>

December 1875. The Eaglehawk Union Company's shaft is now 800 feet deep; it is intended to sink a few feet farther for a well, and then cross-cut for the reef, which is supposed to be 40 feet east from the shaft. A winze is being sunk from the 700-foot level, on the course of the reef, which, at the bottom of the winze is 4 feet in thickness, well defined, with a little gold in the stone, but not payable at present.<sup>63</sup>

March 1876. The Eaglehawk Union Company is still sinking the main shaft, the depth of which is at present 820 feet. The crushing plant has been stopped at present for the want of payable quartz to keep it constantly going.<sup>64</sup>

September 1876. The Eaglehawk Union Company, in sinking the engine shaft, came on to a dyke about 44 feet below the 800-foot drive. Previous to this the shaft was dry, but this dyke has let down a large quantity of water. The dyke has been sunk through, and a reservoir cut out of the solid rock, into which the water is conducted and baled by the engine. The shaft below the dyke is quite dry. The quantity of water caught in the reservoir is 35 tanks per day, each tank containing 140 gallons. The surface water is all conducted into a reservoir at the 400-foot level, from which it is baled. The total quantity of water from the mine is 363 tanks, or 50,820 gallons, per week.<sup>65</sup>

March 1877. The Eaglehawk Union Company has started to put in a cross-cut from the main shaft eastward at the 900-foot level, to cut the reef which had been previously followed down to about 850 feet, where they were obliged to stop sinking on account of a heavy influx of water, and having no means of baling it but by a windlass.<sup>66</sup>

September 1877. The Union Company is still driving the 900-foot cross-cut eastward in search of the reef ... Other parties are employed breaking quartz from the stopes in different parts of the mine for crushing. Water baling from this mine is a heavy item of expense. The quantity is 14,000 gallons daily; 3,300 gallons of this quantity is running over from the Central Company's mine, which adjoins on the south.<sup>67</sup>

December 1877. This quarter's report shows a falling off in the quantity of gold obtained, and also the average per ton; there is also a decrease in the number of miners employed, who have left for Tasmania and in other tin and copper mines. Several of our mines on the main lines of reef are idle, and in consequence of the water rising and overflowing into the few mines that are at work great inconvenience and expense are caused. The contractors for the sinking of the Eaglehawk Union Company's shaft have got down 50 feet (one-half of their contract), and are now timbering up preparatory to the sinking the remaining 50 feet; the shaft will then be 1,000 feet deep. Parties of men are employed breaking quartz for crushing; these are working above the 600-foot level. Nothing below this level has hitherto been found payable in the winze.<sup>68</sup>

January 1878	Cash Account for Half-year ending January, 1878--Kiln wood	£91 16s 7d
July 1878	Cash Account for Half-year ending July, 1878--Kiln wood	£42 17s 7d
January 1879	Cash Account for Half-year ending January, 1879--Kiln Wood	£41 18s 7d
July 1879	Cash Account for Half-year ending July, 1879--No accounts related to mining operations	
July 1880	Cash Account for Half-year ending July, 1880--No accounts <sup>69</sup>	

March 1878. There has been a serious falling off this quarter in the yield of gold, owing chiefly to the suspension of work in nearly all of our deep mines. A great many of our engines are idle and the water is rising. The Linscott's, Eaglehawk United, and Eaglehawk Union Companies have now to battle with the whole of the water along the Eaglehawk and Linscott's lines of reef, and they find it an expensive item to deal with. The Eaglehawk Union Company are still sinking their main shaft; they are now down 1,005 feet. Several hands are employed in the stopes breaking stuff for crushing. The crushing mills are now at work.<sup>70</sup>

June 1878. Mining prospects are not very bright in the Maldon division at present, owing to the stagnation caused by the rising of the water and stoppage of works on our main lines of reef. On the Eaglehawk and German Reef lines there are only three companies at work in the deep ground, viz. the Linscott's, Eaglehawk United, and Eaglehawk Union companies. The Eaglehawk Union Company has completed the contract for sinking the main shaft. They have reached the depth of 1,020 feet perpendicular.<sup>71</sup>

June 1879. The rock borer introduced by Frederick C. White has been used in sinking the Eaglehawk Union Company's shaft, and the result has been that 17 feet was sunk in a fortnight in rock of the hardest kind. It is estimated that from one-half to three-fourths of the cost of sinking will be saved by the use of this machine. Mr

White has also introduced the compressed air-winch for winding the dirt, in lieu of the windlass. The winch will haul five times the quantity, and in one-fifth of the time it would take to do it by the old process.<sup>72</sup>

September 1879. The Eaglehawk Union Company are still sinking their engine shaft; the present depth of the mine is 1,200 feet, 200 feet below the last cross-cut. The rock-borer and compressed air winch are answering well; about 16 feet a fortnight are being sunk through rock of the worst kind, with the water troublesome.<sup>73</sup>

December 1879. The Eaglehawk Union Company has completed their shaft to the depth of 1,220 feet, and have started a cross-cut east, at 1,200 feet, to strike the reef.<sup>74</sup>

March 1880. The Nuggetty line of reef was pegged off last week by Frederick White, the manager of the Eaglehawk Union Company, and a notice of application for a lease posted on the ground.<sup>75</sup>

June 1880. Operations are suspended for the present in the Eaglehawk Union Company's mine, as it is intended to procure a diamond drill for the purpose of prospecting the reef at a lower level. In the cross-cut, at the 1,200-foot level, they have failed to find a payable reef.<sup>76</sup>

March 1882. The Eaglehawk Union Company, at the 700-foot level are boring east with the diamond drill, and are now in about 360 feet, but nothing of importance has been struck.<sup>77</sup>

December 1882. The Eaglehawk Union and Eaglehawk Limited mines have changed hands, and for the present are idle, new companies are being formed to re-work them.<sup>78</sup>

June 1885. The Eaglehawk Union Company, whose battery has been idle for the last two or three years, have now got it in thorough repair, and started crushing quartz about two weeks ago from the Tarrengower Company's mine, on Nuggetty Reef. The first batch of 186 tons washed off last week gave 118 oz 2 dwt of gold. The present prospects of this mine are good, and likely to produce quartz, and to keep the battery going for some time to come.

Treatment of Pyrites. Pyrites are treated by two companies in my division by burning the quartz in open kilns previous to crushing. From the kiln it is taken to the stamps, and after crushing passed over silvered copper plates and ripple tables charged with silver, thence on to blanket tables. The blankets are washed at intervals into tubs by boys. The sand from the tubs is put into revolving barrels charged with quicksilver, and after working for some time at a good speed the stuff is washed into pans, and the amalgam retorted. The sand remaining after panning off is passed through Chilian mills to further pulverise it, and then put through a compound quicksilver cradle, from which the residue is treated in the humid way by acids to destroy any base metals remaining.

Other crushing companies crush the quartz raw, and burn the sand in ovens. After burning it is still further pulverised by Chilian mills, and the amalgamation process is the same as above. The results of the process are not made known by the managers, but the yield is included in the managers' returns of the total yield from each batch of quartz.<sup>79</sup>

1 July 1891. The Union Co. is bailing from the main shaft, and fixing machinery.<sup>80</sup>

1897. The Union Mine. This mine, to the north of the town, occupies a site on the line of the Eaglehawk and Linscott's reef, along which it comprises an extensive property. It formerly included the Eaglehawk Union, North Eaglehawk United, Esperance, Linscott's, and Wellington companies' claims. Unfortunately, no records are retained of the works done by the majority of these companies, but it is believed by old residents in the district that the yield was considerably over an ounce to the ton for a vast amount of stone put through the batteries.<sup>81</sup>

1903. The German and Derby, the South German Extended No. 1, the South British, the Exhibition and Lisle, the Exhibition Consolidated, the Central Columbia, the Mount View, and the old Union Companies are all in the development stage.<sup>82</sup>

1904. The North of England Gold Mining Company, the Union Gold Mining Company, Bell's Reef Gold Mining Company, the Central Columbia Gold Mining Company, the Columbia Gold Mining Company, the South German Extended Gold Mining Company, the Mount Tarrengower Gold Mining Company, the Exhibition Consolidated Company, the Mount View Gold Mining Company, and the South British Company have, with indifferent success, carried on prospecting work during the year as vigorously as the funds at their command would allow.<sup>83</sup>

1906. The Old Union, England Consols, Western Derby, Exhibition Consolidated, Mount View, and Ivy Reef Companies have carried on operations, mostly of a developmental character during the year with an average number of men, varying from three to eight for each company.<sup>84</sup>

1907. The following companies, although doing a large amount of work, have not met with the success deserved, viz. Union, Mount Tarrengower, Nuggetty Extended, Western Derby, South British, and Parkin's Reef.<sup>85</sup>

1909. The Old Union, Mt Tarrengower, and North Lady Brassey Companies continued work throughout the year without meeting with anything payable.<sup>86</sup>

1910. The Old Union Company has continued work with two or three men below ground, but nothing of any moment has been found.<sup>87</sup>

1911. The Old Union Company suspended operations early in the year.<sup>88</sup>

1930s. According to Triad Minerals' submission to the HBC hearing, some of the Union Co. kilns were partially demolished and their building materials removed by destitute prospectors during the 1930s depression.<sup>89</sup>

1947. Lakey and Sons crushed eight tons obtained on Union Hill in 1947 for a return of 103 ounces, an average of almost 13 ounces per ton.<sup>90</sup>

1970s. An attempt was made to rework the upper levels by Lone Star Exploration N.L. in the early 1970s by bulldozing the surface workings into a series of benches. Little, if any, gold was recovered.<sup>91</sup>

1985. In 1985, Triad Minerals NL was issued a planning permit for "limited trial" open cut mining at Union Hill. One of the conditions on the permit required that the existing quartz ovens and old mining machinery emplacements are to be protected from damage at all times.<sup>13</sup>

On 5 June 1990, the Shire of Maldon granted Triad Minerals an amendment to its original planning permit. Following this amendment, four of the remaining six kilns on the site, which were substantially covered by banked-up soil, were demolished. On 7 June 1990, as the remaining two kilns were being dismantled for relocation elsewhere, the HBC placed an Interim Preservation Order on them, pending an investigation of their significance.

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*DESCRIPTION & INTERPRETATION:*

Ten main periods of working:	1854--reef opened up
	c.1859 to 1863--Eaglehawk Union
	c. 1863 to 1871--various tributating parties
	1872 to 1888--Union Co.
	1885 to c. 1891--Eaglehawk Union Co.
	c.1903 to 1911--Old Union Co.
	1930s--fossicking
	1947--Lakey & Sons

1970s--Lone Star Exploration

1985 to 1991--Triad Minerals NL

Last relics surviving of the mine, including the quartz roasting kilns, removed by Triad Minerals' open cut in 1990/91.

*INTEGRITY/CONDITION:* Poor.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because it is the site of one of Maldon's long-term gold producers. The other great Maldon mines were North British Co. and South German.
- Social Significance, because it was the site of a bitter heritage/mining battle in 1989/1990.
- Scientific Significance, because it reflects the face of modern shallow reef mining.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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**SITE NO. & NAME:** 22 Lisle's Reef workings

**LOCATION:** LISLE'S REEF, MOUNT TARRANGOWER

**VHR NO:** H1354

**HI NO:** H7723-0123

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**DIRECTIONS:** Mt Tarrangower, West Maldon. Junction of Mantons and Lises Roads. Workings run north-south along the head of Mantons and Lisle's Gullies. Workings appear to encompass a number of reefs, viz. Lises or Exhibition, and Mount or Brathwaite's reefs.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

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**HISTORY:**

Lises or Exhibition Reef

1854-56. Sensational discoveries followed in quick succession--Eagle Hawk, Bell's Reef and the Beehive in 1854; German, Nuggetty, Victoria and Lisle's Reefs in 1855; Linscott's and Parkin's Reefs in 1856, and many others of lesser value ... Here were riches beyond compare--500 ounces from one ton of quartz obtained at Eagle Hawk (a small fortune in itself of £2,000), 300 to 400 ounces per ton on the Bee Hive rise, 133 ounces per ton at Bell's Reef, 320 ounces per ton from the fabulously rich Nuggetty Reef, and a fortune of £30,000 won by two lucky miners for ten months' work on Lisle's Reef.<sup>1</sup>

1856 onwards. Lisle's Reef was first found by an employee of Dr. Lisle, who in 1856, stumbled over a gold studded rock when searching for the doctors horse. The source of the gold was soon found, and Lisle and Napier (the employee) joined together to work the reef ... during the first 18 months they averaged 470g/tonne. Lennox reef was found at the head of Lisle's Gully, where a small patch of auriferous quartz occurred on the surface. The reef yielded 60g/tonne, but at 6 m the gold values declined, and the mine was abandoned.<sup>2</sup>

Late 1850s/1860s. It was named after Dr. Lisle who discovered it in the late 1850s. Lisle and his partner are reputed to have taken about £34,000 worth of gold from their claim (about 8,500 oz. at the ten price of gold). The tonnage involved is not known, but Ulrich and Brown (1867) reported the reef to carry about 20 to 30 ounces per ton at the surface falling off to two to three ounces per ton a depth. The open cut worked by Lisle can still be seen on Lisle spur, south of Mt. Tarrengower. Brough Smyth (1869) records that 20,000 ounces of gold were won from claims on the reef in the first 12 months after the discovery, valued at about £80,000.<sup>3</sup>

1850s to 1930s. Gold yields from reef. Several mines on Lisle's Reef were dividend paying in the period 1882 to 1885 ... The Exhibition No. 1 paid dividends from 1882 to 1884, including £3,562 in 1884. The Exhibition No 2 paid dividends from 1882 to 1885, including £1,160 from 1884 to 1885. The South Exhibition paid dividends from 1883 to 1885, with £9,2000 as a minimum figure.

Very little work has been done on this reef this century. The Exhibition Consolidated produced a little gold between 1902-1906. In 1915, Rewell and Williams re-equipped the Exhibition and Lises south of the adit, and were driving for the gold shoot ... Stacey and Merlo discovered the continuation of Lises Reef, south of the adit, in 1928. This discovery was reported on by Caldwell (Unpublished Report 1928/30) but evidently little more work was done. In 1933, the Exhibition Company re-opened the Mountaineer mine and carried out prospecting work. They made no attempt to link up with the tunnel workings.

Recorded production for Lisle's Reef (based on Ulrich and Brown, 1867; Brough Smyth, 1869; extracts from *Tarrangower Times* 1859-1877; and Mines Department Quarterly Reports and Annual Reports).

Company	Period	Tons	Oz.
Lisle and Napier	1850s		Est. 8,500
Various parties in first year	1850s		Est. 11,500
Meredith & Co.	1859-1860	7.5	9
Meredith, Benstead & Co.	1860	28	84
Bury and Evans	1860	43	241
Lisles Reef Assoc.	1860	40	15
Holmes, Walker and Co.	1862	86.5	533
Rhenish and Co.	1864	27	39
Tribs Grand Junction	1873		
Grand Junction Co.	1876	24	30
Exhibition No 1	June 1884	700	1948
Exhibition No 2	June 1882	103	254
Exhibition No 3	Dec 1885	21	34
South Exhibition	June 1884	864	1216
Young Nuggetty (TGJ)	1881-1882	286	286
Grand Junction Co.	June 1891	65	27
Exhibition Consolidated	1902-1906	95	55
Rewell and Williams	1917	44	54
Stacey and Merlo	1929	23	10
Total		2617	4880

This gives a total production of close to 25,000 ounces (actual production would probably be more like 40,000 ounces).<sup>4</sup>

1859-1891. In 1859, the Lisles Reef Mining Association was formed by amalgamation of several of the small claims, and erected an engine of four stampers on the mountain. However, lack of water led to a decision to relocate the plant in Mantons Gully. This association was apparently the forerunner of the Grand Junction Association, later to become the Grand Junction Company.

The Grand Junction Co. commenced crushing in February 1861, and held leases over the Lisle's Reef area, and Mantons Reef, further down the gully. This company made unusually extensive use of the system of tribute mining, commencing in 1861, and continuing until 1891. It is frequently impossible to be sure whether gold production should be attributed to Lisle's Reef or Manton's Reef, or both since the company, and its tributors, were operating on both.<sup>5</sup>

December 1859. The Lisle's Reef Quartz-Mining Company is engaged putting up a 15-horse power engine. The boiler, bed-plate, and the small gear are already fixed. The ground in possession of the company is 920 feet by 400 feet.<sup>6</sup>

July 1860. Lisle's Reef Mining Association, Lisle's Reef. Forty tons of bank stuff have been crushed during the last month, yielding 15 oz. Ten men are employed; water supply very limited indeed. In the claim on the north, now down 130 ft., a reef 2 ft. thick has been met with which contains payable gold.<sup>7</sup>

August 1860. Lisle's Reef Company, Lisle's Reef. This company at present has ceased working, with the intention ultimately of removing their engine and crushing plant lower down towards Manton's Gully, as by such an arrangement a more plentiful supply of water can be obtained.<sup>8</sup>

1861-1930s. It was discovered by Braithwaite in 1861, and was afterwards known either by his name, or as "Mount", or "The Mount" reef. Information about the early workings is virtually non-existent, but north of the Mountaineer shaft, there is a continuous line of closely spaced shafts along Braithwaite Reef. Each group of shafts was serviced with a carefully constructed sidling access track off the main track up the spur, giving a terraced effect. These shafts were presumably sunk in the 1860s on claims taken up following the original discovery, the close spacing being a result of prospecting by shaft sinking, the common practice of those days. The reef was apparently lost south of the Mountaineer shaft, as the line of workings breaks into scattered shafts, with no obvious pattern. This might account for Ulrich and Brown showing Braithwaite's and Lisles Reefs as continuous (by a sinuous curve) on Q.S. 14S.W. (1867).

Although gold production figures are very incomplete, it is obvious that this reef never equalled the yield from Lisle's and Manton's Reefs. However, some rich ore was found in the shallow workings. The best recorded crushing was 200 ounces of gold from 14 tons of quartz by Richardson and Co. in September 1863. The known gold production from this reef is 1,827 oz. 7 dwt. from 781 tons of ore, but this figure would be well below the actual yield.

There were only two deep mines on this reef, both of about 300 feet depth. The Mountaineer Co. worked Braithwaite's Reef from 1869, but evidently found it unpayable below 70 feet, as stoping only extends to that depth. At 120 feet it was cut by a strong east slide. Deep working did not take place until 1884 when it was realised that Lisle's Reef would be intersected by deepening the shaft. Prospecting operations east of the shaft at 218 ft level located the offset portion of Braithwaite Reef at 70 feet from the shaft. A winze and a rise were put in from this point. Prospecting carried out by the Mountaineer Company, and in the 1930s by the Exhibition Company, apparently found no payable continuation of Braithwaite's Reef. The shaft is 300 ft. deep, the bottom level being at 290 feet.

The other deep mine was the McIntyre, just north of Mr. Henry's lease, with a vertical shaft to 245 ft and an underlay shaft, presumably on Lisle's Reef, below that point, to a vertical depth of about 300 ft.

Recorded production (based on extracts from *Tarregower Times*) under the name of Braithwaite's Reef:

Company	Period	Tons	Oz
Braithwaite and Co.	1861-1869	111	186
Singleton and Co	1864, 1870	39	133
Graham and Co.	1864, 1868	65.5	84
Tarregower Mount			
Tunnelling Co.	1869	10	10
Mountaineer Claim	1869		
Trib Grand Junction Co.	1869	4	4

Recorded production (based on extracts from *Tarregower Times*) under the name of Mount or The Mount Reef:

Company	Period	Tons	Oz
Pearce and Co.	1863	270	567
Holmes and Co.	1863	16	48
Horne and Co.	1863	4	2
Richardson and Co.	1863	70	480
Scrugham and Co.	1863, 1868	38	64
Griffith and Co.	1872	17	24
Adventure Co.	1873	12	7
Last Chance	1874	32	23. <sup>9</sup>

December 1879. The Old Mount Tarrangower is turning out good stone from Lisle's Reef. Blamy's Tribute Company sent 28 tons to the mills, which yielded 45 oz 5 dwts of gold.<sup>10</sup>

June 1881. Ninety-two tons of stone, from Lisle's Reef, on Mount Tarrangower, gave 132 oz 5 dwts of smelted gold.<sup>11</sup>

September 1881. Tenders have been called and accepted for driving the first 250 feet of a tunnel at Manton's Gully, to strike Lisle's Reef, on the Grand Junction Company's ground. The reef is now producing payable gold, averaging about 1 oz per ton.<sup>12</sup>

1881/1890s. The Grand Junction tunnel was commenced in 1881, with the intention of reaching Lisle's Reef. A rock boring machine purchased for this work was first used in Maldon, and it greatly speeded up progress. Lisle's reef had been reached by September 1882, and the north level met payable ore. The amount of stoping done from the north level suggests that this was one profitable operation, and probably influenced the company's decision to erect a 24 head battery, which had previously belonged to the Eaglehawk Ltd Co.

The profits from Lisle's Reef and tribute operations on Manton's Reef (in the upper levels of the Grand Junction Mine), were apparently absorbed by prospecting the deep ground from the Grand Junction shaft ... The work was carried out from about 1885 to 1890, and it was unfortunate that nothing payable was located by the extensive prospecting operations carried out.<sup>13</sup>

June 1882. The whole of the ground along the line of Lisle's and three other parallel lines of reef, from Parkin's Reef on the south to Target Gully on the north, a distance of a mile and a quarter, has been recently taken up, and several claims are getting gold, especially the Exhibition Company's claims Nos. 1 and 2, the last crushing of 103 tons from which gave 254 oz 17 dwt 12 grs of gold; and the claim known as the Young Nuggetty, on the same line, gave 153 oz 5 dwt from 194 tons, the reef being about 2 feet 6 inches in thickness.

The Grand Junction Company has progressed rapidly with the tunnel in Manton's Gully since the rock-borer was introduced. They will strike the reef in the course of two or three weeks. The work in the mine below the tunnel consists of baling water and the enlargement of the engine-shaft, so as to admit of the introduction of the rock-borer

for the further development of the mine. The rock-borer, as far as mining is concerned, is likely to cause a revolution in Maldon. The rock here is just what the borer is best adapted to deal with.<sup>14</sup>

September 1882. The Grand Junction Company's mine, on Lisle's Reef, Mt Tarrangower, is paying dividends to three tribute companies, and the Exhibition Nos. 1 and 2, adjoining on the north, are also paying well. The Manton's Gully tunnel has cut the reef, and in driving north thereon, payable gold was struck.<sup>15</sup>

December 1882. The run of gold now opened up on Lisle's Reef, Mount Tarrangower is 1,600 feet in length, and the yields vary from 1 oz to 12 oz per ton.<sup>16</sup>

March 1883. The yield of gold for the quarter is less by 900 oz than that of the previous quarter, owing chiefly to the falling off in the Alliance Company's yields. The tribute claims on Lisle's Reef, Mount Tarrangower, are still yielding well and six of them are dividend paying.<sup>17</sup>

June 1883. Lisle's Reef, on Mount Tarrangower, is now opened up for 1,600 feet in length; several of the claims are at present dividend paying, and prospecting is being carried on north and south for a mile and a half on the same line. The Grand Junction mine has produced, this quarter, from 1,394 tons, 2,248 oz 10 dwt of gold.<sup>18</sup>

September 1883. The claims on Mount Tarrangower are looking well, and three of them are paying dividends. The Grand Junction Company has purchased the crushing plant which formerly belonged to the Eaglehawk Limited Company, and is now erecting it on their mine in Manton's Gully; they have recently struck the reef, and a trial crushing of 34 tons of stone gave a yield of 17 oz 15 dwt of gold.<sup>19</sup>

December 1883. The claims on Lisle's Reef are looking well. In the Young Nuggety Tribute claim, the yield fell off considerably in the middle of the quarter, but the owners have discovered a new formation, which is paying handsomely, the last crushing having given an average of 3 oz 14 dwt of gold per ton. The South Exhibition Company, joining the Young Nuggety Company on the north, has also found the same formation, the stone from which looks very well. The Exhibitions Companies No. 1 and No. 2 are still dividend paying.<sup>20</sup>

March 1884. The Lisle's Reef Company, Mount Tarrangower, is still holding its own. Four of the claims, ie., the Young Nuggety and South Exhibition Tributes, and Exhibitions Nos. 1 and 2, have been paying good dividends throughout the quarter, and their prospects are still good.<sup>21</sup>

June 1884. Three companies on Lisle's Reef, Mount Tarrangower, are still paying dividends. The Exhibition No. 1 has crushed for the quarter 700 tons for a yield of 1,948 oz 18 dwt of gold. The South Exhibition Company has crushed 864 tons for a yield of 1,216 oz 4 dwt 2 gr.<sup>22</sup>

September 1884. The South Exhibition and Exhibition Nos. 1 and 2 Companies are still paying dividends. The Mountaineer Company, adjoining them on the east, has come upon a new make of quartz, which contains various kinds of metals, with gold visible in the stone, but not yet payable. This is on the same line of reef as the Exhibition claims, the owners of which have sunk down to their boundary on the east, where the reef had nearly pinched out. The new make in the Mountaineer is below this pinch. The Grand Junction Company has just completed a new 24-head battery for crushing quartz on the mine. They are extending their drives northward along the line of the lode on the Lisle's and Manton's Gully reefs, where they have come upon a large body of quartz containing a little gold, but hitherto not sufficient to pay expenses ... Two dividends have been declared by the South Exhibition Company, one of 2s and the other of 1s 6d per share on 12,000 shares.<sup>23</sup>

December 1884. The No. 1, the No. 2, and the South Exhibition mines, on Lisle's Reef, still continue to pay good dividends. From these mines, during the last three years, over 25,000 oz of gold has been taken, and the prospects are still good.<sup>24</sup>

September 1885. There is a decrease of 563 oz in the yield of gold for the past quarter, owing to the falling off from the mines on Lisle's Reef, Mount Tarrengower, which for the last three years have been giving splendid yields. At present there are only one or two claims paying on this line; but prospecting is being carried on to a considerable extent, with the expectation of striking a second make of stone at a greater depth.<sup>25</sup>

March 1887. The Grand Junction Company is deserving great credit for perseverance to find Lisle's Reef; they have sunk their main shaft to a depth of 700 feet, and are now cross-cutting east and west, eastward for Lisle's Reef, and westward for Parkin's Reef, both of which have been very rich.<sup>26</sup>

March 1888. The New Grand Junction Company has been driving north and south of the course of Parkin's and Lisle's Reef, but hitherto have found nothing to pay expenses.<sup>27</sup>

March 1889. The Grand Junction Company cross-cut west at the 700-foot level is in 513 feet from the main shaft. At 250 feet in from the shaft a well-defined reef 6 feet wide, supposed to be Lisle's reef, was struck on which they drove north 166 feet, but could not get the colour of gold.<sup>28</sup>

June 1891. A good show of gold has been discovered by a party of prospectors on the supposed line of Lisle's Reef northward, and two mining leases have been taken up.<sup>29</sup>

1903. The German and Derby, the South German Extended No. 1, the South British, the Exhibition and Lisle, the Exhibition Consolidated, the Central Columbia, the Mount View, and the old Union Companies are all in the development stage.<sup>30</sup>

1904. North of ... Messrs. Walker and D'Orsa ... the Exhibition mine is situated. Here Mr. White is in charge. There are two shafts, one being down to a depth of 300 feet. The old works left by the early companies are open, and they afford a good opportunity for observations ... In all, 58,501 oz. are said to have been raised from these formations. The present company was formed to follow the line of gold down. No stone under an ounce to the ton is of use to the company at present, as carting and crushing mean such expense.<sup>31</sup>

1915. As I anticipated when reporting last year, the new finds in this division (which were then causing a good deal of excitement, locally) have not proved to be of a permanent nature, and hence mining generally has shown no improvement.

Oswald's Gold Mines Company has continued work with payable results.

The South German Company has recently met with encouraging prospects below the 1,700-ft level.

The New Day Dawn Company (owing to the stone proving unpayable) let the mine on tribute late in the year. One party of tributers struck payable stone on the east, or Cricketers' Reef, and is now busily engaged in breaking stone for the battery.

Rewell and Williams, who have erected a winding plant on the main shaft of the late Exhibition and Lisle Company, which is situated north of Oswald's Gold Mines, have unwatered and repaired the shaft, and commenced to drive for the stone. This work is started with the object of finding the continuation of the very rich shoot of stone worked in the shallow levels many years ago.<sup>32</sup>

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*DESCRIPTION & INTERPRETATION:*

At the head of Manton's and Lisle's Gullies, stretching north towards the summit of Mt. Tarrengower is a line of quartz workings which have been disturbed by bulldozing. Associated with numerous filled/mullock paddocks are many other features, including four quartz loading bays, eight stone buildings (many of which may be blacksmith shops), eight circular stone-retained whim platforms, four blacksmiths' forges, one large loading ramp, and one battery site. These features are described below:

**Situated at the head of the gully on either side of the track, the following features were observed:**

1. Located on the east side of the tracks that runs to the top of the gully is a well defined, 40 ft (12.2 m) diameter, stone-retained whim platform. The whim is associated with a bulldozed mullock paddock and collapsed shaft.
2. 50 m on, west side of track, are the remains of what may be a single-roomed building measuring 22 x 16 ft (6.7 x 4.9 m), with 2-1/2 ft thick walls.
3. 150 m on, east side of track, is a partially quarried, large mullock heap. At the rear (west side) of the mullock heap is a 40 ft diameter, stone-retained, whim platform.
4. 45 m south east of 3 is another well defined, 40 ft diameter, stone-retained, whim platform. Between the whim platform and its bulldozed mullock paddock is a 8-3/4 ft wide, 5 ft deep, stone-retained quartz loading bay. At the rear (west) of the bulldozed mullock paddock are the remains of a small stone building.
5. Opposite side of track to 3 is a partially bulldozed mullock paddock and the remains of a 8-1/2 ft wide, 5 ft deep, stone-retained quartz loading bay.
6. Running along the top of the ridge line as some partially filled open cuts, subsiding shafts and several small surface mullock heaps.
7. Approx 100 m south of the open cuts are some stone walls. The area has been so badly disturbed by bulldozing.
8. 50 m south of 4 is another 40 ft diameter, stone retained whim platform. Situated between the whim platform and its bulldozed mullock paddock are the remains of a 16 ft square stone building. The walls of the structure are 2 ft thick and there is a forge in the south west corner of the building.
- 8A. Located between Sites 7 and 8 is another whim platform.

**Situated on the east side of the north arm of Manton's Gully are:**

9. On the opposite side of the gully to 4 is a partially bulldozed mullock paddock which is associated with a stone forge. 30 m north of the forge, is a well formed track that terminates at a 15 ft wide, 30 ft long, stone retained loading ramp. At the base of the ramp's northern side are the remains of a small stone building.
10. 90 m north of the loading ramp are the remains another 40 ft diameter, whim platform. The platform's stone retaining wall has been demolished. Abutting the whim platform is a partially bulldozed mullock paddock. 10 m west of the mullock paddock is a stone forge.
11. 40 m north is an almost intact mullock paddock and open shaft. A small humpy has been erected on the north side of the mullock paddock. The humpy's roof comprises a up-turned half of a large water tank resting on a concrete slab. It also has a brick fireplace. Earliest graffiti dates to 1980. There is a large mullock heap in the gully below the humpy.
12. 10 m north of the humpy, slightly to the east, is a 40 ft diameter, stone-retained whim platform. The platform has the remains of a loading bay or stone building on its northern side.
13. 20 m north, is a bulldozed mullock heap, subsiding shaft and part of a quartz loading bay.
14. 250 m north of the Gal. Iron humpy are the remains of a large mullock heap. On the slope above the heap is a 40 ft diameter, whim platform. The platform's stone retaining has been bulldozed away.
- 14A. 100 m to the north of the large mullock heap are two bulldozed mullock paddocks. Near the workings are the remains of a small stone building. Only the east side of the building survives. The building has a forge in its south east corner.

- 15 At the head of the gully, 50 m north of 14A, is a bulldozed mullock paddock associated with a 40 ft diameter, stone-retained whim platform. A levelled working area on the north side of the whim platform contains a stone fireplace and a forge. 40 m down the slope from the mullock paddock are the remains of a well preserved 15 ft square stone building. The building has 2 ft thick walls, and appears to have a forge in its north east corner.

**Situated on the west side of the north arm of Manton's Gully are:**

- 16 Head of the gully is a patch of small, partially bulldozed, mullock paddocks, one forge and at least two house sites.
- 17 Opposite 15, slightly to the south, are the remains of a 15 ft square single-roomed stone building. The building has 2 ft thick walls. An old track runs south passed the house site and leads to a battery site.
- 18 Approx 90 m south along the track that runs passed 16 is a battery site which has the remains of a circular stone chimney stack. The stack, constructed from stone set in clay mortar, stands 4-1/2 ft high, has 2 ft thick walls and a 2-1/2 ft wide flue. A 5 m long buried stone flue runs downhill from the chimney stack to an excavated platform. On the platform is a small section of stone boiler setting. 10 m to the north of the chimney stack is a water shaft. The track continues south from the battery.
- 19 Opposite the Gal. Iron humpy is a network of carting tracks. The tracks create the impression that the slope of the gully has been terraced. Above the highest track are some small bulldozed mullock paddocks. One of the mullock paddocks still has a quartz loading bay.
- 20 100 m to the south of the network of tracks are the remains of a 15 ft square stone building. Some of the buildings 2 ft thick walls still stand 2 to 3 ft. The building has a 2-1/2 ft wide entrance. Near the building are some bulldozed mullock paddocks.

*INTEGRITY/CONDITION:* Good.

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***CULTURAL SIGNIFICANCE:***

The site has:

- Scientific Significance, because:
  - a) it has an impressive number of contemporary mullock heaps, whim platforms, carting tracks, and blacksmith shops. These related relics are a rare example of 19th-century small-scale, shallow reef mining.
  - b) the rarity of the site is increased by the presence of the whim platforms.

The site's significance is increased by cumulative value because it is:

- a) part of a group of sites which document mining along the line of reef. These sites are Nos. 12, 13, 14, 26A, 25, and 22A (South Cookmans, Central Cookmans, Cookmans Association, Mount View Co., Grand Junction and Lisle's Reef workings).
- b) part of a group of sites all of which contain the remains of whim platforms. Once extremely common, this site type has (to date) only been found to survive in the Maldon Mining Division. These sites are Nos. 12, 22, 25, 48, and 76 (South Cookmans, Lisle's Reef workings, Grand Junction, Prince Llewellyn, and Thornhill Reef).
- c) set in a rugged and steep valley.

*SIGNIFICANCE RANKING:* Site Listed Heritage Register.  
Site Listed Heritage Inventory.

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**Assessor: David Bannear**
**Date: November 1992.**


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- 1 Williams, p. 15
  - 2 J.C Haupt, 1981, The Mineralogy of the Maldon Goldfield, The Mineralogical Society of Victoria, Monograph No. 1
  - 3 Report on W.B.P Henry's Lease, H. S. Wilkinson, 9th June 1970.
  - 4 Report on W.B.P Henry's Lease, H. S. Wilkinson, 9th June 1970.
  - 5 Report on W.B.P Henry's Lease, H. S. Wilkinson, 9th June 1970.
  - 6 Mining Surveyors' Reports, December 1859
  - 7 Mining Surveyors' Reports, July 1860
  - 8 Mining Surveyors' Reports, August 1860
  - 9 Report on W.B.P Henry's Lease, H. S. Wilkinson, 9th June 1970.
  - 10 Mining Surveyors' Reports, December 1879
  - 11 Mining Surveyors' Reports, June 1881
  - 12 Mining Surveyors' Reports, September 1881
  - 13 Report on W.B.P Henry's Lease, H. S. Wilkinson, 9th June 1970.

- 14 Mining Surveyors' Reports, June 1882
- 15 Mining Surveyors' Reports, September 1882
- 16 Mining Surveyors' Reports, December 1882
- 17 Mining Surveyors' Reports, March 1883
- 18 Mining Surveyors' Reports, June 1883
- 19 Mining Surveyors' Reports, September 1883
- 20 Mining Surveyors' Reports, December 1883
- 21 Mining Surveyors' Reports, March 1884
- 22 Mining Surveyors' Reports, June 1884
- 23 Mining Surveyors' Reports, September 1884
- 24 Mining Surveyors' Reports, December 1884
- 25 Mining Surveyors' Reports, September 1885
- 26 Mining Surveyors' Reports, March 1887
- 27 Mining Surveyors' Reports, March 1888
- 28 Mining Surveyors' Reports, March 1889
- 29 Mining Surveyors' Reports, June 1891
- 30 Annual Report, 1903
- 31 Geological Survey of Victoria, Bulletin No 14 - The Maldon Gold-Field, W M Bradford, 1904.
- 32 Annual Report, 1915

**SITE NO. & NAME:**           **23A            COMMEMMORATIVE CAIRN, LONG GULLY**  
    **23B            LONG GULLY WORKINGS**

**LOCATION:**                   **Long Gully, Maldon Township**

**HI NO:**                   **23A            H7723-0124**  
    **23B            H7723-0125**

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**DIRECTIONS:**            East side of Castlemaine Road, 500 m south from its junction with Newstead Road.  
    Road verge

**MUNICIPALITY:**         Mount Alexander Shire

**LAND STATUS:**         Site 23A--Road  
    Site 23B--Maldon Historic Reserve

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**HISTORY:**

1853-4. A Polish Captain, John G. Mechosk, with a party of eleven hired men were the reputed discoverers of gold at Tarrangower field. On 10 March 1854 he sent a memorial from Muckleford Creek to La Trobe, asking for a reward. He said he commenced prospecting on 5 June 1853. He said he reported his discovery to Commissioner John Bull at Castlemaine in December 1853, and the field in consequence was opened up at Tarrangower

Various newspapers printed notes about Mechosk's discoveries, but added little to his evidence. [*Herald*, 26 May (letter) and 7 July 1854, 20 June 1855. *Mt Alexander Mail*, 13 July 1855]. Commissioner Bull in a special report wrote that the first sign of the gold diggings on Tarrangower was miners going there from Barker's Creek in December 1853. About the same time, Mechosk called upon him and took him to the spot, and found that he and his party had been there, near where the Government Camp was set up, for some weeks. Bull suggested calling the field Menzies Hill Diggings. On 15 December 1853 Bull went to Tarrangower and found about fifty men there.

Local opinion at Maldon has been inclined to scepticism over Mechosk's claim as the discover of the field. A short history of the diggings in 1866 [*Tarrangower Times*, 28 September 1866] claimed that Mechosk only found gold after others had made piles. Diggers from Barker's Creek followed his cart on 6 December, and others followed on 8 December. The writer said that his party caught up with Mechosk on 11 December, and Mechosk had sunk too deep. This shaft was at the foot of Swiper's Reef, and not far from the Derby Co's shaft in 1866. The writer's party then sunk in Long Gully, and a half-ounce of gold was found in every tub. This was the start of the great rush.

In 1864 Jonathan G. Moon wrote a booklet on Tarrangower. [SLVL, Jonathan G. Moon, Vic Hist Pamph, No. 4, Tarrangower, 1864]. He said that Mechosk's party was discovered on 11 December 1853 putting down their second hole "near where the Royal Hotel stands". The next place opened was Long Gully, and two of the first here were Costick and Windy Jack, who got gold near (the later) Welcome Quartz Co. Another booklet says that Mechosk got gold near the site of the present Theatre Royal. It was generally believed that the first gold was found on the site of the monument, near the road in Long Gully, but many old hands contended it was found, "near the old, red-brick building that once stood in Reef Street, near the old Beehive Shaft". [Booklet from Mr Greig, MLC, Maldon]. Bull said that the first holes were not far from the camp.

These places were, however, all more or less in the same locality, not far from the present centre of the town, and it seems reasonably certain that Mechosk's party was indeed the first there. His discovery by others no doubt led to his reporting the find to the authorities in Castlemaine. Bull said that they made their entry into the place by various bush routes, to evade detection.

On 21 January 1854 the *Herald* correspondent said that Bryant's Diggings--as Tarrangower was then called--was discovered by two Germans, whose names he could not spell adequately, but a later report [*Herald*, 15 May 1854] said that Hardimann, a German, and one of Chapman's party from South Australia, named Hardimann's Hill, behind the police station. He said that he was one of the original discoverers of Tarrangower, and got gold on the hill long before the rush. Chapman, one of the original discoverers of gold in South Australia, possibly gave his name to Chapman's Gully at Tarrangower.

By the end of January 1854 twenty gullies were being worked on the field [*Argus*, 31 January 1854] but apart from Long Gully there were only about six main places. Peg Leg Gully, Eaglehawk Gully, Growlers and German Gully, were opened first, and a number of small places, whose rush names failed to stick, and which often did not pay [W. Howitt, *Land, Labour and Gold*]. The gully at the Springs, near the old Brewery, was worked in January 1854, and produced as well as gold a great amount of water, when it was most needed. Porcupine Flat was entered from Peg Leg in April 1854, and Forty Foot Hill was opened then. [*Herald*, 28 April and 15 May 1854]. Sandy Creek, south of Long Gully, was discovered in May 1854 [*Herald*, 15 May 1854], and the bottom end of Nuggetty Flat and hard Hill leads were rushed by 5000 diggers in July. Growler's Gully got its name from the necessary presence of the Commissioner three or four times daily to settle disputes. [*Herald*, 28 February 1854].

Some of the Tarrangower quartz reefs, such as Eaglehawk Reef, were discovered at the first rush, and companies were in the process of being formed in February 1854. [*Herald*, 13 February 1854].

Nearly all the main diggings at Maldon (never a very considerable alluvial diggings, but later an important reefing place) had been opened up by the end of 1854.

The Seventy Foot Lead near Manton's Gully, south of the town, was possibly opened in 1854.<sup>1</sup>

1853. In an editorial published on September 28, 1866, the *Tarrangower Times* presented a pen picture of early happenings on the Diggings which, rightly or wrongly, places Mechosk in a minor role in the moving drama portraying the first actual gold discovery. It states:

The facts are well known to old residents of the place--that the Captain was merely instrumental to the discovery, and that he did not succeed in finding gold until some time after those more fortunate had made on this goldfield large sums of money and, in some instances, fortunes better known by the mining fraternity by the significant title of "a pile".

The Captain used to go through the bush to Barker's Creek with his horse and dray to purchase provisions, and the rumour having obtained that he was doing remarkably well "on the quiet", a few of the miners from the Creek formed a party and tracked the cart wheels as far as Tarrangower. This was on the 6th December (1853), and others followed on the 8th.

It may be mentioned that the present writer and his "chum", both equally innocent of bush knowledge, were actually lost in the bush for two days and three nights in their essay to take a short cut to Bryant's Ranges ... A halt was made and encampment formed in Commissioner's Gully, now High Street, and a delightful spring of beautiful water found nearby.

The forest here was very dense, so much so that although always within coo-ee of the prospectors, the party was unable to discover them until the 11th December, when the Captain and his merry men seemed the reverse of pleased as with a loud hurray the searchers burst upon the view of the sought.

For all practical purposes, however, the result was nil, as the prospectors had sunk through the first bottom and were searching for a second. The result afterwards proved that the Captain was quite out of his calculations, the deep shaft proving to be an unmitigated "duffer". This was at the foot of Swiper's Reef and not far from the splendid rich reef now being worked by the Derby Co.

Look out for yourself was now the order of the day, and it was soon determined to sink a few holes in Long Gully, as it was there and then christened.

To cut the matter short, wash-dirt yielding half an ounce to the tub was found in nearly every claim, and this soon getting noised abroad, before the end of the month "Rush-Ho" had been sounded, and by the time the festivities of Christmas and New Year were over, there were no less than 20,000 diggers and others congregated on Bryant's Ranges.

The place was now known as Tarrangower.<sup>2</sup>

January 1854. The first discovery of golden quartz at Maldon failed to raise a cheer. Men were too busily engaged in the search for gold-dust in the alluvial diggings alongside to take notice. The spot was on a rise overlooking Tarrangower Creek, towards the lower end of Long Gully. Wilson and two mates, McNulty and Hurly, recent arrivals, chanced upon the outcrop partly hidden in a clump of timber. The find was made on January 24, 1854, at a time when thousands of men were rushing Victoria's newest goldfield.<sup>3</sup>

1854. There is a new rush, and a violent one. Thousands and thousands of the people who have come up here [Buckland River] from the Ovens are now off again, helter-skelter, down to a place called The Porcupine, from the Porcupine Inn, beyond Bendigo. These crowds will in less than a fortnight have travelled upwards of three hundred miles after new rushes!

By all accounts the diggings of the Porcupine, or Bryant's Ranges, are totally destitute of water; a hot, burnt-up place, and however rich it may be, will be torn up long before these people, about 5,000 in number, can get there. It lies between Bendigo and Forest Creek, and not more than 60 miles from Ballarat, so that, if it prove good, 80,000 people could be upon it in less than a fortnight.

A host of tents, whitening all the valley as far as we could see, announced a well populated scene. When we came up to the tents, we found them surrounding a part of the valley which was all completely dug up, and throngs of diggers at work.

All here was bustle, and man thronging on man. This was in fact a new rush--the last of many which had taken place here. We could see that thousands of holes had been put down which had proved shicers, that is, blanks: but in the middle the white heaps of pipeclay which were thrown out, and the windlasses at work, showed that there the diggers had struck the gold.

When we came to traverse the whole of the diggings we found them extending about three miles along this valley, which at the upper end turned off to the left and again descended in the opposite direction towards the Forest Creek road, called properly Long Gully. All the way the ground had been turned up with an amazing activity for so short a time, only a few months.

The majority of the holes had yielded little or nothing; others had evidently yielded well, and it is said, very well. We were assured that some men had taken as much as £1,000 out of one hole.

Not one-tenth of the ground turned up at Tarrangower had proved productive, and we saw an instance in which a whole gully had been dug up and no gold found, the lead having commenced in one part of it, then instead of following the gully had taken a most astonishing direction forming the segment of a large circle along the side of a hill. Most of the holes sunk ranged from 10 to 20 feet deep. As we came down Long Gully on the way [to Forest Creek] we saw

heaps of stuff which had been piled up during the summer to await the rains of winter. The diggers have constructed dams across the gully to catch the winter rains.

Truly the whole district is amazingly wanting in water, yet the valleys and uplands are finely swarded and green, and possess a deep, rich soil. The scenery is very pleasant--wooded ranges and hills scattered with crags bounding these fertile slopes and glades, and the diggers are actually digging up and converting into a wilderness of gravel heaps slopes of such verdure as it would make an English farmer's heart ache to see it destroyed.

The people on this goldfield are said to be 18,000 or 20,000, the gold procured from 1,000 to 2,000 ounces a week. A little beyond the present extent of the diggings the country dips rapidly down into the valley of the Loddon ... At the bottom of this valley, before reaching the great plain of the Loddon, water-dealers have sunk wells with great success. They are called The Springs, and here during the summer all the people congregate and pitch their tents for the sake of the water, going to and fro to work.

Here would be the site of a beautiful township ... but as is universally the case, the surveyors have laid out the township on an adjoining barren hill, where the whole ground is stone or stony, and where the people would have to carry up in carts, for nearly a mile, every drop of water they would require.

At the Camp, Mr Bernard Smith is now installed in the full honours of a Gold Commissioner. Mr Smith and Mr Lowther with some half-dozen police were all the officials on whom the whole business and responsibility rested over a population of 20,000.

Numbers who made rushes amounting to 300 miles within the fortnight were dreadfully disappointed, and many went back to the Ovens.

The fact is, that Tarrangower in summer is totally destitute of water to drink or to wash the dirt. To cart the stuff to the Loddon cost £3 per load. Some parties who had tried the surface part of the ranges reported they had got three pounds weight of gold from one cart load. This produced a perfect mania, and crowds began digging up surface stuff and carting it down to the gullies, where they hoped there would be water in winter, paying £1 a load to have it carted. Thousands of tons were piled up, and the sanguine expectants awaited the arrival of rain; but vast was their consternation and amazement when rain came, and they could fairly try their mountains of surface stuff, to find it yield not pounds or ounces, but mere dwts. to the load, and thousands of tons nothing at all.

In consequence of this we expected to find these diggings nearly exhausted; but nothing of the kind. On the contrary, there was the most busy throng that we had ever seen since our first arrival at Spring Creek (Beechworth).<sup>4</sup>

May 1855. Another 8-horse power team crushing machine is in course of erection at Long Gully.<sup>5</sup>

1850s. The largest nugget of which there is any authentic record weighed 480 ounces of pure metal. It was found in Long Gully just opposite to where the pumping station now is [1898]. Two Scotsmen were the finders. They had abandoned the hole as worthless, went to the township, got on the spree, returned to their claim and drove in an untried direction. After half-an-hour their eyes quickly rejoiced at the glorious sight of the valuable mass worth about £1,000. About two years after, another nugget weighing 324 ounces was found near the spot by a party of Germans.

A 100 ounce nugget was found in the same locality during the Fifties by Mr Eddy.<sup>6</sup>

December 1859.

Population:	Sandy Creek	763 Europeans	530 Chinese
	Mia Mia Creek	22	108
	Green Gully	12	18
	Peg Leg	16	-
	Forty-Foot	14	47
	Eagle Hawk Gully	22	16
	Porcupine Flat	16	42
	<b>Long Gully</b>	<b>16</b>	<b>46</b>
	Seventy-Foot	<u>16</u>	<u>50</u>
		897	857 <sup>7</sup>

June 1860. With respect to the supply of water at present available at the different crushing machines throughout the district I have to remark that those at

The Springs have a supply to last	3 months
The Union Company, Eaglehawk Reef	1
Machine at Peg-Leg Gully	3
<b>The four crushing machines at Long Gully</b>	<b>2</b>
Three machines at Sandy Creek	1
Two machines at Green Gully	3
Omega Reef, Green Gully	1 <sup>8</sup>

July 1860. Maldon Mining Association (Alluvial), Long Gully. The usual number of men (30) are employed, and the yield of gold for July is ... 49 oz 17 dwt 2 grs.<sup>9</sup>

August 1860. The Maldon Gold Mining Association. Alluvial. Long Gully. The yield of Gold for the month of August is ... 52 oz 16 dwt 3 grs. The usual number of men (30) continues to be employed.<sup>10</sup>

May 1861. The horse puddling machines on Porcupine Flat are doing very well, but the yields from the company's steam puddling machine has been very indifferent. The Maldon Gold Washing Company in Long Gully is employing 30 men; of these companies the wages have not averaged £2 per week each man.<sup>11</sup>

## March 1864. Miners distributed thus:

Pickpocket & Strangways	78	Growler's Gully	177
Newstead	113	<b>Long Gully</b>	<b>145</b>
Muckleford	137	Peg Leg Gully	148
Frenchman's Gully	51	Porcupine Flat	115
Mia Mia and Gardner's Gully	119	Eaglehawk	182
Sandy Creek	413	Bradford	45
Nuggetty Flat	126 <sup>12</sup>		

## June 1864. Miners distributed thus:

Strangways	39	Growler's Gully	177
Newstead	107	<b>Long Gully</b>	<b>150</b>
Muckleford	140	Peg Leg Gully	162
Frenchman's Gully	32	Porcupine Flat	121
Mia Mia	130	Eaglehawk	203
Sandy Creek	496	Bradford	17
Nuggetty Flat	121 <sup>13</sup>		

## September 1864. Miners distributed thus:

Pickpocket	89	Green Valley	35
Newstead	114	<b>Long Gully Md.</b>	<b>18</b>
Back Creek	44	Peg Leg Gully	67
Frenchman's Gully	42	Porcupine Flat	176
Gardner's Gully	32	Eaglehawk	150
Sandy Creek	250	Bradford	16
Nuggetty Flat	149	Mount Tarrangower	190
Beehive Hill	110	Ironbark	14
Armstrong's	4	Hard Hills	20
Hunter's Rush	27	Fryingpan	8 <sup>14</sup>

## March 1865. Miners distributed thus:

Pickpocket	113	Growler's Gully	82
Newstead	25	<b>Long Gully</b>	<b>16</b>
Green Valley	45	Peg Leg Gully	77
Fryingpan Gully	3	Porcupine	63
Gardner's Gully	28	Eaglehawk	182
Sandy Creek	230	Long Gully, Muckleford	60
Nuggetty	71	Mount Tarrangower	248
Beehive Hill	180	Ironbark Gully	16
Armstrong's	3	Hard Hills	9
Hunter's Rush	17	Back Creek	25 <sup>15</sup>

## September 1865. Miners distributed thus:

Pickpocket	546	Growler's Gully	55
Newstead	36	<b>Long Gully</b>	<b>48</b>
Green Valley	38	Peg Leg Gully	78
Fryingpan Gully	21	Porcupine Flat	86
Gardner's Gully	19	Eaglehawk	176
Sandy Creek	212	Long Gully, Muckleford	39
Nuggetty	65	Mount Tarrangower	226
Beehive Hill	152	Ironbark Gully	33
Armstrong's	7	Hard Hills	25
Hunter's Rush	31	Back Creek	23
Frenchman's Gully	2 <sup>16</sup>		

## March 1866. Miners distributed thus:

Pickpocket and Strangways	855	Growler's Gully	50
Newstead	7	Porcupine Flat	60
Gardner's Gully	16	Eaglehawk	186

Sandy Creek	256	<b>Long Gully</b>	<b>54</b>
Nuggetty	80	Mount Tarrangower	238
Beehive Hill	152	Ironbark Gully	15
Hard Hills	25	Muckleford	221 <sup>17</sup>

September 1866. Miners distributed thus:

Pickpocket	1,200	Growler's Gully	33
Newstead	22	Long Gully	45
Green Valley	49	Peg Leg Gully	63
Fryingpan Gully	14	Porcupine	50
Gardner's Gully	12	Eaglehawk	180
Sandy Creek	219	Long Gully, Muckleford	30
Nuggety	60	Mount Tarrangower	210
Beehive Hill	117	Ironbark Gully	20
Armstrong's Gully	2	Hard Hill	8
Hunter's Rush	8	Back Creek	13
Frenchman's	10 <sup>18</sup>		

December 1866. Miners distributed thus:

Pickpocket	1,200	Growler's Gully	31
Newstead	15	<b>Long Gully</b>	<b>46</b>
Green Valley	45	Peg Leg Gully	65
Fryingpan Gully	3	Porcupine	50
Gardner's Gully	12	Eaglehawk	187
Sandy Creek	205	Long Gully, Muckleford	33
Nuggety	75	Mount Tarrangower	195
Beehive Hill	111	Ironbark Gully	23
Armstrong's Gully	9	Hard Hills	22
Hunter's Rush	17	Back Creek	18
Frenchman's	7 <sup>19</sup>		

March 1867. Miners distributed thus:

Pickpocket	650	Growler's Gully	25
Newstead	65	<b>Long Gully, Maldon</b>	<b>65</b>
Green Valley	59	Peg Leg Gully	76
Fryingpan Gully	19	Porcupine	60
Gardner's Gully	12	Eaglehawk	190
Sandy Creek	180	Long Gully, Muckleford	35
Nuggety	85	Mount Tarrangower	195
Beehive Hill	98	Ironbark Gully	25
Armstrong's Gully	11	Hard Hills	22
Hunter's Rush	18	Back Creek	21 <sup>20</sup>

1988. Long Gully is the site of the discovery of alluvial gold at Maldon in 1853.<sup>21</sup>

1988. This unit contains alluvial workings and the Australasian Bridge at Long Gully which was among the first constructed over Tarrengower Creek. The cyanide battery sand from the South German Mine is located on freehold land adjoining this unit.<sup>22</sup>

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*DESCRIPTION & INTERPRETATION:*

Commemorative cairn

Located on the verge of the Castlemaine Road, west side of Long Gully, is a commemorative cairn constructed from water-worn stone pebbles. The cairn, dated December 1926, bears the words: this cairn is a tribute to the pioneers who first discovered gold near this spot in 1853, and in honour also of all the men by whose enterprise and labour gold has been won in Maldon to the value of £6,000,000.

Alluvial workings

Gully has been sluiced.

*INTEGRITY/CONDITION:*

Poor.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because it is reputedly the site where gold was first discovered at Maldon's in 1853.
- Social Significance, because a cairn was erected near the gully in 1926 to commemorate the first gold discovery.

*SIGNIFICANCE RANKING:*

Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Flett, J., The History of Gold Discovery in Victoria, Poppet Head Press, 1979, pp. 193-201
  - 2 Williams, A.J., Maldon and the Tarrangower Diggings, 1953, reissued 1987, pp. 8-10
  - 3 Williams, p. 15
  - 4 Howitt, W., Land, Labour, and Gold, 1855, quoted in Williams, pp. 10-13
  - 5 Mt Alexander Mail, 25 May 1855
  - 6 Williams, p. 14, quoting George McArthur's letter to 'a local newspaper' in 1898.
  - 7 Mining Surveyors' Reports, December 1859
  - 8 Mining Surveyors' Reports, June 1860
  - 9 Mining Surveyors' Reports, July 1860
  - 10 Mining Surveyors' Reports, August 1860
  - 11 Mining Surveyors' Reports, May 1861
  - 12 Mining Surveyors' Reports, March 1864
  - 13 Mining Surveyors' Reports, June 1864
  - 14 Mining Surveyors' Reports, September 1864
  - 15 Mining Surveyors' Reports, March 1865
  - 16 Mining Surveyors' Reports, September 1865
  - 17 Mining Surveyors' Reports, March 1866
  - 18 Mining Surveyors' Reports, September 1866
  - 19 Mining Surveyors' Reports, December 1866
  - 20 Mining Surveyors' Reports, March 1867
  - 21 Maldon Historic Reserve Management Plan, Department of Conservation, Forests and Lands, 1988
  - 22 Maldon Historic Reserve Management Plan, Department of Conservation, Forests and Lands, 1988

**SITE NO. & NAME:** 24 STATE BATTERY

**LOCATION:** Maldon Township

**VHR NO:** H1264

**HI NO:** H7724-0035

**DIRECTIONS:** West of Reefs Street

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Unreserved Crown Land

**HISTORY:**

The Government battery was established in 1914 and has been recently restored to working order. It is managed by the Department of Industry, Technology and Resources and is still used for quartz crushing. It operates on a demand basis.<sup>1</sup>

1917. A number of small parties have been working in the district with fair results, and keeping the Government battery well employed.<sup>2</sup>

**DESCRIPTION & INTERPRETATION:**

The Maldon State battery is still occasionally used for quartz crushing. The complex has two main buildings: a large Gal. Iron battery shed and a smaller furnace shed. To the east of the furnace shed are 5 U-shaped concrete draining bays filled with tailings. 100 m east of the battery is a 50 m wide, 15 m high, dump of treated tailings.

**INTEGRITY/CONDITION:** Good.

**CULTURAL SIGNIFICANCE:**

The site has:

- Historical Significance, because it is an early government battery, which was erected at Maldon to promote gold prospecting/revitalise a flagging industry.
- Scientific Significance, because it is the only working quartz crushing battery in the Maldon area and thus has a high educational value.

The site's significance is increased by cumulative value, because:

- a) it forms part of an important network of sites that runs parallel to the main commercial area of Maldon. These sites, from north to south, are Nos. 24, 17, 9, 38, 37, 39 and 18A (Maldon State Battery, Alliance, Beehive, Derby United, Caledonian Crushing Mill, Lady Darling and South German).
- b) although not open for public viewing, the battery has tourism potential, especially given the already well-established appeal of Maldon.

**SIGNIFICANCE RANKING:** Site Listed Heritage Inventory.

**Assessor:** David Bannear

**Date:** November 1992.

<sup>1</sup> Maldon Historic Reserve Management Plan, Department of Conservation, Forests and Lands, 1988

<sup>2</sup> Annual Report, 1917

**SITE NO. & NAME:** 25 GRAND JUNCTION MINE  
**LOCATION:** Grand Junction Reef, West Maldon  
**HI NO:** H7723-0126

**DIRECTIONS:** Manton's Gully/Grand Junction Reef, West Maldon.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

**HISTORY:**

Lisle's or Exhibition Reef

Late 1850s-1930s. Historical summary compiled in 1970 which details the company's work on Lisle's Reef. It was named after Dr. Lisle who discovered it in the late 1850s. Lisle and his partner are reputed to have taken about £34,000 worth of gold from their claim (about 8,500 oz. at the ten price of gold). The tonnage involved is not known, but Ulrich and Brown (1867) reported the reef to carry about 20 to 30 ounces per ton at the surface falling off to two to three ounces per ton a depth. The open cut worked by Lisle can still be seen on Lisle spur, south of Mt. Tarrengower. Brough Smyth (1869) records that 20,000 ounces of gold were won from claims on the reef in the first 12 months after the discovery, valued at about £80,000.

In 1859, the Lisle's Reef Mining Association was formed by amalgamation of several of the small claims, and erected an engine of four stampers on the mountain. However, lack of water led to a decision to relocate the plant in Manton's Gully. This association was apparently the forerunner of the Grand Junction Association, later to become the Grand Junction Company.

The Grand Junction Co. commenced crushing in February 1861, and held leases over the Lisle's Reef area, and Manton's Reef, further down the gully. This company made unusually extensive use of the system of tribute mining, commencing in 1861, and continuing until 1891. It is frequently impossible to be sure whether gold production should be attributed to Lisle's Reef or Manton's Reef, or both since the company, and its tributors, were operating on both.

The Grand Junction tunnel was commenced in 1881, with the intention of reaching Lisle's Reef. A rock boring machine purchased for this work was first used in Maldon, and it greatly speeded up progress. Lisle's reef had been reached by September 1882, and the north level met payable ore. The amount of stoping done from the north level suggests that this was one profitable operation, and probably influenced the company's decision to erect a 24 head battery, which had previously belonged to the Eaglehawk Ltd Co.

The profits from Lisle's Reef and tribute operations on Manton's Reef (in the upper levels of the Grand Junction Mine), were apparently absorbed by prospecting the deep ground from the Grand Junction shaft ... The work was carried out from about 1885 to 1890, and it was unfortunate that nothing payable was located by the extensive prospecting operations carried out.

Recorded production for Lisle's Reef (based on Ulrich and Brown, 1867; Brough Smyth, 1869; extracts from *Tarrengower Times* 1859-1877; and Mines Department Quarterly Reports and Annual Reports).

Company	Period	Tons	Oz.
Lisle and Napier	1850s		Est. 8,500
Various parties in first year	1850s		Est. 11,500
Meredith & Co.	1859-1860	7.5	9
Meredith, Benstead & Co.	1860	28	84
Bury and Evans	1860	43	241
Lisles Reef Assoc.	1860	40	15
Holmes, Walker and Co.	1862	86.5	533
Rhenish and Co.	1864	27	39
Tribs Grand Junction	1873		
Grand Junction Co.	1876	24	30
Exhibition No 1	June 1884	700	1948
Exhibition No 2	June 1882	103	254
Exhibition No 3	Dec 1885	21	34
South Exhibition	June 1884	864	1216
Young Nuggetty (TGJ)	1881-1882	286	286
Grand Junction Co.	June 1891	65	27
Exhibition Consolidated	1902-1906	95	55
Rewell and Williams	1917	44	54

Stacey and Merlo	1929	23	10
Total		2617	4880

This gives a total production of close to 25,000 ounces (actual production would probably be more like 40,000 ounces).<sup>1</sup>

References re the Grand Junction Company/Mantons Reef.

Mantons reef. Details of the early history of this reef are given in Board of Science Report for August 1859 (p. 25). It took its name from a proprietor who operated a small crushing machine on the spot, not realising that he had a rich quartz reef under foot. It was first worked in 1856, by a Mr. Rich and the initial crushing ran to 20 oz. per ton. Rich took about 500 ounces from the claim.

In 1859, it was held by the Manton's Gully Mining Company, and they were apparently followed by the Grand Junction Company. Brough Smyth (1869) states that their workings extended 185 feet, and that in six years, £60,000 worth of gold was produced. The reef was from two to six feet wide, and averaged 2-1/2 ounces per ton, with yields as high as 50 ounces per ton.

Much of the gold was obtained by parties working under the tribute system, and some rich yields were obtained. The reef petered out in depth, and was not payable below 180 feet. After about 1869, the yields fell off, but tribute operations continued to at least 1891. The known production is about 13,435 ounces but a significant portion of the 6623 ounces produced by the Grand Junction tributers, with reef unspecified, probably belongs here.

The main shaft was sunk to 1000 feet, but this was a prospecting operation, seeking the continuation of Lisle's Reef, and the gold produced from the Grand Junction mine all came from Manton's Reef, which must have been extensively stoped to the depth within which it was payable.

Recorded production (based on *Tarregower Times* and Quarterly Reports).

Company	Period	Ton	Oz
Rich	1856-1859		Est 500
Grand Junction Co.	1861-1875	547	524
Grand Junction Tribes:			
1. Grist & Co.	1863	13	13
2. Duncan	1864	4	5
3. Cowling and Co.	1864-1866	2038	4349
4. Johnson and Co.	1865	26	20
5. Ward and Co.	1864-1865	300	623
6. Noel and Co.	1864-1866	1511	2154
7. Un-named trib	1864-1891	5422	5188
Cambrian Co.	1871-1872	50	55

To this can be added the estimated 500 ounces won by Mr. Rich, giving about 13,435 ounces known production.<sup>2</sup>

1859. In 1859, the Lisle's Reef Mining Association was formed by amalgamation of several of the small claims, and erected an engine of four stampers on the mountain. However, lack of water led to a decision to relocate the plant in Manton's Gully. This association was apparently the forerunner of the Grand Junction Association, later to become the Grand Junction Company.

The Grand Junction Co. commenced crushing in February 1861, and held leases over the Lisle's Reef area, and Manton's Reef, further down the gully. This company made unusually extensive use of the system of tribute mining, commencing in 1861, and continuing until 1891. It is frequently impossible to be sure whether gold production should be attributed to Lisle's Reef or Manton's Reef, or both since the company, and its tributors, were operating on both.<sup>3</sup>

February 1861. Some good stone has been raised in the Grand Junction Company's ground (Manton's Gully), at the back of Mount Tarrangower. Operations have been commenced, but crushing is interrupted from the scarcity of water.<sup>4</sup>

March 1861. The Grand Junction Company has commenced crushing 154 tons chiefly of bank stuff, the yield from which has been 49 oz of fine gold.<sup>5</sup>

March 1877. The Grand Junction Company has let a contract to sink a new shaft from the surface to strike the lode that was cut off by a dyke in the old mine, and hitherto has never been found south of the said dyke.<sup>6</sup>

June 1877. The New Grand Junction Company has just completed the contract for sinking a new shaft from the surface to 100 feet, and is now driving to find the lode that was cut off by a dyke in the old mine.<sup>7</sup>

March 1879. Quartz mining. This branch of mining shows a decrease of 824 tons in the quantity crushed, and over 350 ozs in the yield of gold, the cause of which in a great measure is the suspension of work in several of our principal mines, viz., the two Nelsons, the Crown claim, the Cymru, the Great Western, the Beehive, six mines on the Eaglehawk line, three mines on the Nuggetty line, the Grand Junction and Welshman's Reef, and three mines on the

Victoria line--making altogether twenty mines in which the engines are idle, and the water within from 100 to 180 feet of the surface. All the work being done in these mines is merely fossicking in the shallow ground.<sup>8</sup>

1881-1890. The Grand Junction tunnel was commenced in 1881, with the intention of reaching Lisle's Reef. A rock boring machine purchased for this work was first used in Maldon, and it greatly speeded up progress. Lisle's reef had been reached by September 1882, and the north level met payable ore. The amount of stopping done from the north level suggests that this was one profitable operation, and probably influenced the company's decision to erect a 24 head battery, which had previously belonged to the Eaglehawk Ltd Co.

The profits from Lisle's Reef and tribute operations on Manton's Reef (in the upper levels of the Grand Junction Mine), were apparently absorbed by prospecting the deep ground from the Grand Junction shaft ... The work was carried out from about 1885 to 1890, and it was unfortunate that nothing payable was located by the extensive prospecting operations carried out.<sup>9</sup>

September 1881. Tenders have been called and accepted for driving the first 250 feet of a tunnel at Manton's Gully, to strike Lisle's Reef, on the Grand Junction Company's ground. The reef is now producing payable gold, averaging about 1 oz per ton.<sup>10</sup>

March 1882. The Grand Junction Company has also started the new plant, and has commenced baling and cutting down the engine shaft.<sup>11</sup>

June 1882. The Grand Junction Company has progressed rapidly with the tunnel in Manton's Gully since the rock-borer was introduced. They will strike the reef in the course of two or three weeks. The work in the mine below the tunnel consists of baling water and the enlargement of the engine-shaft, so as to admit of the introduction of the rock-borer for the further development of the mine. The rock-borer, as far as mining is concerned, is likely to cause a revolution in Maldon. The rock here is just what the borer is best adapted to deal with.<sup>12</sup>

September 1882. The Grand Junction Company's mine, on Lisle's Reef, Mt Tarrangower, is paying dividends to three tribute companies, and the Exhibition Nos. 1 and 2, adjoining on the north, are also paying well. The Manton's Gully tunnel has cut the reef, and in driving north thereon, payable gold was struck.<sup>13</sup>

June 1883. The Grand Junction mine has produced, this quarter, from 1,394 tons, 2,248 oz 10 dwt of gold.<sup>14</sup>

September 1883. The Grand Junction Company has purchased the crushing plant which formerly belonged to the Eaglehawk Limited Company, and is now erecting it on the mine in Manton's Gully; they have recently struck the reef, and a trial crushing of 34 tons of stone gave a yield of 17 oz 15 dwt of gold.<sup>15</sup>

September 1884. The Grand Junction Company has just completed a new 24-head battery for crushing quartz on the mine. They are extending their drives northward along the line of the lode on the Lisle's and Manton's Gully reefs, where they have come upon a large body of quartz containing a little gold, but hitherto not sufficient to pay expenses.<sup>16</sup>

June 1885. The Grand Junction Company has expended a large sum of money in prospecting the Manton's Reef, in Manton's Gully, but hitherto have not come on anything payable.

Treatment of Pyrites. Pyrites are treated by two companies in my division by burning the quartz in open kilns previous to crushing. From the kiln it is taken to the stamps, and after crushing passed over silvered copper plates and ripple tables charged with silver, thence on to blanket tables. The blankets are washed at intervals into tubs by boys. The sand from the tubs is put into revolving barrels charged with quicksilver, and after working for some time at a good speed the stuff is washed into pans, and the amalgam retorted. The sand remaining after panning off is passed through Chilian mills to further pulverise it, and then put through a compound quicksilver cradle, from which the residue is treated in the humid way by acids to destroy any base metals remaining.

Other crushing companies crush the quartz raw, and burn the sand in ovens. After burning it is still further pulverised by Chilian mills, and the amalgamation process is the same as above. The results of the process is not made known by the managers, but the yield is included in the managers' returns of the total yield from each batch of quartz.<sup>17</sup>

September 1885. Plan of Lease No. 1776 (Grand Junction Co.) by Robert Nankivell, Maldon shows 3 kilns, tramway leading to crushing plant, engine and boiler house, flue leading to stack, air-receiver and engine shaft.<sup>18</sup>

March 1887. The Grand Junction Company is deserving great credit for perseverance to find Lisle's Reef; they have sunk the main shaft to a depth of 700 feet, and are now cross-cutting.<sup>19</sup>

December 1887. The Grand Junction Company is driving north and south on the course of the lode (supposed to be Parkins' reef) ... The two parties of tributers working in the shallow ground have crushed during the quarter 104 tons, yielding 215 oz 11 dwt 6 gr of gold.<sup>20</sup>

March 1888. The New Grand Junction Company has been driving north and south of the course of Parkin's and Lisle's Reef, but hitherto have found nothing to pay expenses.<sup>21</sup>

March 1889. The Grand Junction Company cross-cut west at the 700-foot level is in 513 feet from the main shaft. At 250 feet in from the shaft a well-defined reef 6 feet wide, supposed to be Lisle's reef, was struck on which they drove north 166 feet, but could not get the colour of gold.<sup>22</sup>

1897. Grand Junction Mine is situated near the head of Manton's Gully, to the south-west of the township, and was opened up about the year 1856, on the line of Manton's Reef. Payable stone was taken out to 180 feet from the surface, below which it ceased to be payable. An average of 2-1/2 ozs. of gold per ton gave a total yield of about £60,000 ... Since the last crushing of payable stone was made, now many years ago, the company has been steadily prospecting the ground, which to say the least of it, is most uninviting in point of hardness. Neither was encouragement forthcoming in other directions, Lisle's Reef, which was worked with such success in the tunnel a little to the west, was found quite unpayable where met in the lower levels of this mine.<sup>23</sup>

1981. The Grand Junction Mine is located at the head of Manton's Gully and was a rich gold producer in the 1860s. It was worked to a depth of 60 m, with an average yield of 75 g/tonne.<sup>24</sup>

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*DESCRIPTION & INTERPRETATION:*

Three main periods of working: 1856--Reef first opened up

1861--Grand Junction Co

1877 to 1890--New Grand Junction Co.

The New Grand Junction Co. was responsible for the adit and the construction of the kilns in the early 1880s. Kilns appear to have been erected c.1885.

**Battery and mine site**

The site consists of a set of three largely intact roasting kilns contained within a structure measuring 28 m x 8 m, and 4.2 m high. The front wall of the structure faces north and is a facade of coursed hornfels slabs and blocks. The side walls are also retained with stone. The top surface of the structure is sealed with flag stones. Each kiln contains a funnel-shaped roasting bowl made of hornfels blocks. The stone has a very burnt appearance. The three bowls are of different sizes, ranging from 4.7 m in diameter down to 4.2 m. All bowls are approximately 4.2 m deep, have almost vertical back walls and flared sides. As the bowls are partially filled with rubble it was not possible to determine their base diameters. Two, of the three, draught/unloading portals have collapsed. The portal of the most western kiln is largely intact, measures approximately 1.3 m x 1.2 m, and tapers towards the roasting bowl.

35 m north of the kilns, on the other side of the gully, is a battery site. This consists of a line of seven granite mounting blocks, each measuring 1.1 m x 1.0 m. Some of the blocks have been uprooted. A tramway embankment leads from the kilns to the battery site. To the east of the battery site is a small gully which contains a partially quarried large mullock heap. Just above the quarried face of this heap are the remains of a circular stone chimney stack. Above the stack (south) is a whim platform.

There are also several other tracks that head off towards the mine workings to the north and west of the site.

West of the battery site is a 100 m long excavation which leads to an open adit. On the gully slope above the adit is the remains of a mullock heap. At the back of the heap is an excavated platform which contains two stone fireplaces.

*INTEGRITY/CONDITION:* What survives of the kilns are in good condition.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because:
  - a) quartz roasting kilns are evidence of an early treatment process developed on the Victorian goldfields to facilitate quartz crushing and the retrieval of gold.
  - b) Has an open adit.
  - c) it has a whim platform (type of hauling machinery commonly employed throughout the mid to late 19th century for shallow quartz mining).

The site's significance is increased by cumulative value, because it:

- a) is part of a group of sites which all contain the remains of quartz roasting kilns. The surviving kilns are evidence of the variation in kiln design, and also the continuation of the practice of quartz roasting in the Maldon area long after its discontinuation on other Victorian goldfields. These sites are Nos. 9, 10, 12, 14, 25, 31, 37, 51, 61, 69 & 76 (Beehive Co. Bells Reef, South Cookmans, Cookmans Association, Grand Junction, North British, Caledonian, Fentemans, Young Australian, Boswarva Hill and Thornhill Co.).
- b) is part of a group of sites which document mining along the line of reef. These sites are Nos. 12, 13, 14, 26A, 25, & 22A (South Cookmans, Central Cookmans, Cookmans Association, Mount View Co., Grand Junction, and Lisle's Reef workings).
- c) is part of a group of sites which all contain the remains of whim platforms. Once extremely common, this site type has (to date) only been found to survive in the Maldon Mining Division. These sites are 12, 22, 25, 48, and 76 (South Cookmans, Lisle's Reef workings, Grand Junction, Prince Llewellyn, and Thornhill Reef).
- d) is situated in an attractive rugged valley setting.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

**Assessor: David Bannear**

**Date: November 1992.**

- 1 Report on W.B.P Henry's Lease, H. S. Wilkinson, 9th June 1970.
- 2 Report on W.B.P Henry's Lease, H. S. Wilkinson, 9th June 1970.
- 3 Report on W.B.P Henry's Lease, H. S. Wilkinson, 9th June 1970.
- 4 Mining Surveyors' Reports, February 1861
- 5 Mining Surveyors' Reports, March 1861
- 6 Mining Surveyors' Reports, March 1877
- 7 Mining Surveyors' Reports, June 1877
- 8 Mining Surveyors' Reports, March 1879
- 9 Report on W.B.P Henry's Lease, H. S. Wilkinson, 9th June 1970.
- 10 Mining Surveyors' Reports, September 1881
- 11 Mining Surveyors' Reports, March 1882
- 12 Mining Surveyors' Reports, June 1882
- 13 Mining Surveyors' Reports, September 1882
- 14 Mining Surveyors' Reports, June 1883
- 15 Mining Surveyors' Reports, September 1883
- 16 Mining Surveyors' Reports, September 1884
- 17 Mining Surveyors' Reports, June 1885
- 18 Robert Nankivell - plan of lease 1775, 7/9/1885 (DMID Records, Bendigo Office)
- 19 Mining Surveyors' Reports, March 1887
- 20 Mining Surveyors' Reports, December 1887
- 21 Mining Surveyors' Reports, March 1888
- 22 Mining Surveyors' Reports, March 1889
- 23 Department of Mines, Special Reports - Report on the Maldon Gold-Field, R A Moon. 1897
- 24 J.C Haupt, 1981, The Mineralogy of the Maldon Goldfield, The Mineralogical Society of Victoria, Monograph No. 1

**SITE NO. & NAME:**           **26A            MOUNT VIEW CO**  
    **26B            HOUSE SITE**

**LOCATION:**                   **Mount View Reef, West Maldon**

**HI NO:**                       **26A            H7723-0127**  
    **26B            H7723-0128**

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**DIRECTIONS:**           Mount View mine site is located 500 m north of Cookman's quartz kiln. The house site lies 200 m south of the mine site.

**MUNICIPALITY:**           Mount Alexander Shire

**LAND STATUS:**           Maldon Historic Area

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**HISTORY:**

1903. The German and Derby, the South German Extended No. 1, the South British, the Exhibition and Lisle, the Exhibition Consolidated, the Central Columbia, the Mount View, and the old Union Companies are all in the development stage.<sup>1</sup>

1904. To the north (of South Cookman's) on the same system of "plums" and "spur" formations, tunnel works are in progress at the Mount View Mine. The channel in the face is of the "plum" order, and has been followed in for about 750 feet ... Mr Northey, an experienced Maldon miner, is in charge, and Mr. Ralph, of Maldon, is the legal manager. A knowledge of the wealth obtained in this area and on Mount Tarrengower had a lot to do with the Mount View Company being formed. The mines here were known as Lyle's, and great quantities of very rich stone were mined. Messrs. Walker and D'Orsa are now engaged opening small veins of quartz below Lyle's works, in a shaft 100 feet deep on the line.<sup>2</sup>

1904. The North of England Gold Mining Company, the Union Gold Mining Company, Bell's Reef Gold Mining Company, the Central Columbia Gold Mining Company, the Columbia Gold Mining Company, the South German Extended Gold Mining Company, the Mount Tarrengower Gold Mining Company, the Exhibition Consolidated Company, the Mount View Gold Mining Company, and the South British Company have, with indifferent success, carried on prospecting work during the year as vigorously as the funds at their command would allow.<sup>3</sup>

1905. The South of England, England Consols, Mount View, Exhibition Consolidated, Western Derby, Bell's Reef and the Ivy Reef Companies have all done more or less developmental work, without meeting with payable stone.<sup>4</sup>

1906. The Old Union, England Consols, Western Derby, Exhibition Consolidated, Mount View, and Ivy Reef Companies have carried on operations, mostly of a developmental character during the year with an average number of men, varying from three to eight for each company.<sup>5</sup>

1907. The Mount View Company made preparations for the treatment of the payable stone found in its mine during 1906, by erecting a 10-head crushing mill, and winding plant, but unfortunately owing to the dry weather, and to the porous nature of the ground about its dam site, sufficient water has not yet been impounded to start the mill. I am afraid this trouble is likely to continue.<sup>6</sup>

1908. The Mount View Company appears to have been under a cloud. A large amount of money was spent in the erection of crushing plant and other machinery, which the results have in no way warranted.<sup>7</sup>

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**DESCRIPTION & INTERPRETATION:**

Mount View mine operated from 1903 to c.1906. Battery erected in 1906. Located 150 m up the gully from the house site is the Mount View mine. The remains here include:

Water dam

At the head of the gully is a large dam with a high earthen embankment. The embankment has been breached, but still retains a stone by-pass on its eastern side.

Battery site

On the slope above the western end of the water dam's embankment is a small tailings dump. A partially buried stone culvert runs north from the dump, a distance of 20 m, and terminates at a battery site. The battery site has the remains of a stone boiler setting, which has 3 ft thick walls and the overall measurement of 20 x 10-1/2 ft (6.1 x 3.2

m). There is a stone engine bed situated a metre from the north side of the boiler setting. This largely buried bed measures 14 x 3-1/2 ft (4.25 x 1.05 m). The bed's upper surface has been rendered with cement and has 1-1/4 inch mounting bolts. North of the bed are some more concrete rendered foundations, at the rear (west) of which, is a linear excavation. The latter may have where the battery stumps were located. The length of the depression suggests a battery of 8 to 10-head of stamps.

4 m south of the battery site is a partially demolished blacksmith's forge.

Adits and shafts

A well formed track runs north from the battery for a distance of 100 m, where it terminates at a collapsed adit. At the adit's mouth is a levelled area containing a stone fireplace. A sizeable mullock heap, with one main dumping line, runs south from the adit. The dump has been partially quarried. On the eastern slope above the mullock heap is an intact mullock paddock and an open shaft.

20 m up the slope (north) is a small mullock heap associated with a second collapsed adit. At the base of the mullock heap is another open shaft.

Above the second collapsed adit is a small open cut, and 20 m further north, is a third collapsed adit associated with a small mullock heap. The adit's mullock heap has a stone-retained quartz paddock. A track runs downhill from the quartz paddock to the battery site.

All the workings above the third adit, to the crest of the hill, have been bulldozed.

HOUSE SITE

350 m north of the quartz roasting kiln are the remains of a relatively well preserved, single-roomed, stone house. The house is built on a levelled, stone-retained, platform which is situated on the west side of a small gully. The house has 2 ft thick walls and measures 17 x 15 ft. The house has a fairly intact fireplace and small entrance lobby. Some of the walls still stand to a height of 6 ft. The interior walls still bear traces of white-wash.

*INTEGRITY/CONDITION:* Good.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because it has a range of well-defined features (including 3 collapsed adits) which together demonstrate the small-scale mining operations which took place at the mine during the 1900s.

The site's significance is increased by cumulative value, because it:

- a) is part of a group of sites which illustrate mining along the line of reef. These sites are Nos. 12, 13, 14, 26A, 25, & 22A (South Cookmans, Central Cookmans, Cookmans Association, Mount View Co., Grand Junction, and Lisle's Reef workings).
- b) is situated in an attractive valley setting.

*SIGNIFICANCE RANKING:* Sites Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- <sup>1</sup> Annual Report, 1903
- <sup>2</sup> Geological Survey of Victoria, Bulletin No 14 - The Maldon Gold-Field, W M Bradford, 1904.
- <sup>3</sup> Annual Report, 1904
- <sup>4</sup> Annual Report, 1905
- <sup>5</sup> Annual Report, 1906
- <sup>6</sup> Annual Report, 1907
- <sup>7</sup> Annual Report, 1908

**SITE NO. & NAME:**        **27A**            **NUGGETTY FLAT TAILINGS**  
                                      **27B**            **NUGGETTY GULLY WORKINGS**

**LOCATION:**                    **Nuggetty Flat (Nuggetty Ranges)**

**HI NO:**                      **27A**            **H7724-0037**  
                                      **27B**            **H7724-0038**

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**DIRECTIONS:**            Tailings and alluvial workings located on the east side of Nuggetty School Road, 550 m from its junction with Shellbourne Road.

**MUNICIPALITY:**         Mount Alexander Shire

**LAND STATUS:**         Freehold Land

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**HISTORY:**

1853-4. A Polish Captain, John G. Mechosk, with a party of eleven hired men were the reputed discoverers of gold at Tarrangower field. On 10 March 1854 he sent a memorial from Muckleford Creek to La Trobe, asking for a reward. He said he commenced prospecting on 5 June 1853. He said he reported his discovery to Commissioner John Bull at Castlemaine in December 1853, and the field in consequence was opened up at Tarrangower.

Various newspapers printed notes about Mechosk's discoveries, but added little to his evidence. [*Herald*, 26 May (letter) and 7 July 1854, 20 June 1855. *Mt Alexander Mail*, 13 July 1855]. Commissioner Bull in a special report wrote that the first sign of the gold diggings on Tarrangower was miners going there from Barker's Creek in December 1853. About the same time, Mechosk called upon him and took him to the spot, and found that he and his party had been there, near where the Government Camp was set up, for some weeks. Bull suggested calling the field Menzies Hill Diggings. On 15 December 1853 Bull went to Tarrangower and found about fifty men there.

Local opinion at Maldon has been inclined to scepticism over Mechosk's claim as the discover of the field. A short history of the diggings in 1866 [*Tarrangower Times*, 28 September 1866] claimed that Mechosk only found gold after others had made piles. Diggers from Barker's Creek followed his cart on 6 December, and others followed on 8 December. The writer said that his party caught up with Mechosk on 11 December, and Mechosk had sunk too deep. This shaft was at the foot of Swiper's Reef, and not far from the Derby Co's shaft in 1866. The writer's party then sunk in Long Gully, and a half-ounce of gold was found in every tub. This was the start of the great rush.

In 1864 Jonathan G. Moon wrote a booklet on Tarrangower. [SLVL, Jonathan G. Moon, Vic Hist Pamph, No. 4, Tarrangower, 1864]. He said that Mechosk's party was discovered on 11 December 1853 putting down their second hole "near where the Royal Hotel stands". The next place opened was Long Gully, and two of the first here were Costick and Windy Jack, who got gold near (the later) Welcome Quartz Co. Another booklet says that Mechosk got gold near the site of the present Theatre Royal. It was generally believed that the first gold was found on the site of the monument, near the road in Long Gully, but many old hands contended it was found, "near the old, red-brick building that once stood in Reef Street, near the old Beehive Shaft". [Booklet from Mr Greig, MLC, Maldon] Bull said that the first holes were not far from the camp.

These places were, however, all more or less in the same locality, not far from the present centre of the town, and it seems reasonably certain that Mechosk's party was indeed the first there. His discovery by others no doubt led to his reporting the find to the authorities in Castlemaine. Bull said that they made their entry into the place by various bush routes, to evade detection.

On 21 January 1854 the *Herald* correspondent said that Bryant's Diggings--as Tarrangower was then called--was discovered by two Germans, whose names he could not spell adequately, but a later report [*Herald*, 15 May 1854] said that Hardimann, a German, and one of Chapman's party from South Australia, named Hardimann's Hill, behind the police station. He said that he was one of the original discoverers of Tarrangower, and got gold on the hill long before the rush. Chapman, one of the original discoverers of gold in South Australia, possibly gave his name to Chapman's Gully at Tarrangower.

By the end of January 1854 twenty gullies were being worked on the field [*Argus*, 31 January 1854] but apart from Long Gully there were only about six main places. Peg Leg Gully, Eaglehawk Gully, Growlers and German Gully, were opened first, and a number of small places, whose rush names failed to stick, and which often did not pay [W. Howitt, *Land, Labour and Gold*]. The gully at the Springs, near the old Brewery, was worked in January 1854, and produced as well as gold a great amount of water, when it was most needed. Porcupine Flat was entered from Peg Leg in April 1854, and Forty Foot Hill was opened then. [*Herald*, 28 April and 15 May 1854.]. Sandy Creek, south of Long Gully, was discovered in May 1854 [*Herald*, 15 May 1854] and the **bottom end of Nuggetty Flat** and Hard Hill leads were rushed by 5000 diggers in July. Growlers Gully got its name from the necessary presence of the Commissioner three or four times daily to settle disputes. [*Herald*, 28 February 1854].

Some of the Tarrangower quartz reefs, such as Eaglehawk Reef, were discovered at the first rush, and companies were in the process of being formed in February 1854. [*Herald*, 13 February 1854].

Nearly all the main diggings at Maldon (never a very considerable alluvial diggings, but later an important reefing place) had been opened up by the end of 1854.

The Seventy Foot Lead near Manton's Gully, south of the town, was possibly opened in 1854.<sup>1</sup>

1854-59. Gold was subsequently wrought apart from the rich deposits of Porcupine and Long Gully earlier mentioned along leads reaching to Sandy Creek, Muckleford, Walmer, Nuggetty Flat, and Bradford.

A flourishing suburb quickly developed at Eagle Hawk, at the northern end of the field. Its busy shopping street was lined both sides with trading establishments of every description. There were practising doctors, lawyers and chemists, at least three hotels, two churches, a day school, and a large amusement theatre. The area was surrounded by crushing and puddling machines.

Porcupine also became a busy trading centre with three hotels, stores, a day school and Tarrangower's only racecourse.

Sandy Creek and Nuggetty Flat could count a school, church, hotels and stores. There were 1,000 people on Sandy Creek in 1859, including many Chinese and a Chinese Circus.<sup>2</sup>

August 1859. The applications during the month are: for registration, 42; abandoned reefs, 1, of 320 feet, at Ivory's Reef, contiguous to Nuggetty, and 1 at Dunn's Reef--also 320 feet; claim and puddling machine, 1, at Parker's Gully; amalgamation, 1, for 174 feet at Nuggetty Reef; protection to water-holes for domestic purposes, 3--all at Eaglehawk;

**Also one for a heap of tailings at Nuggetty Flat.**<sup>3</sup>

March 1864. Miners distributed thus:

Pickpocket & Strangways	78	Growler's Gully	177
Newstead	113	Long Gully	145
Muckleford	137	Peg Leg Gully	148
Frenchman's Gully	51	Porcupine Flat	115
Mia Mia and Gardner's Gully	119	Eaglehawk	182
Sandy Creek	413	Bradford	45
<b>Nuggetty Flat</b>	<b>126</b> <sup>4</sup>		

June 1864. Miners distributed thus:

Strangways	39	Growler's Gully	177
Newstead	107	Long Gully	150
Muckleford	140	Peg Leg Gully	162
Frenchman's Gully	32	Porcupine Flat	121
Mia Mia	130	Eaglehawk	203
Sandy Creek	496	Bradford	17
<b>Nuggetty Flat</b>	<b>121</b> <sup>5</sup>		

September 1864. Miners distributed thus:

Pickpocket	89	Green Valley	35
Newstead	114	Long Gully Md.	18
Back Creek	44	Peg Leg Gully	67
Frenchman's Gully	42	Porcupine Flat	176
Gardner's Gully	32	Eaglehawk	150
Sandy Creek	250	Bradford	16
<b>Nuggetty Flat</b>	<b>149</b>	Mount Tarrangower	190
Beehive Hill	110	Ironbark	14
Armstrong's	4	Hard Hills	20
Hunter's Rush	27	Fryingpan	8 <sup>6</sup>

March 1865. Miners distributed thus:

Pickpocket	113	Growler's Gully	82
Newstead	25	Long Gully	16
Green Valley	45	Peg Leg Gully	77
Fryingpan Gully	3	Porcupine	63
Gardner's Gully	28	Eaglehawk	182
Sandy Creek	230	Long Gully, Muckleford	60
<b>Nuggetty</b>	<b>71</b>	Mount Tarrangower	248
Beehive Hill	180	Ironbark Gully	16
Armstrong's	3	Hard Hills	9
Hunter's Rush	17	Back Creek	25 <sup>7</sup>

Nuggetty Flat (Nuggetty Ranges)

September 1865. Miners distributed thus:

Pickpocket	546	Growler's Gully	55
Newstead	36	Long Gully	48
Green Valley	38	Peg Leg Gully	78
Fryingpan Gully	21	Porcupine Flat	86
Gardner's Gully	19	Eaglehawk	176
Sandy Creek	212	Long Gully, Muckleford	39
<b>Nuggetty</b>	<b>65</b>	Mount Tarrangower	226
Beehive Hill	152	Ironbark Gully	33
Armstrong's	7	Hard Hills	25
Hunter's Rush	31	Back Creek	23
Frenchman's Gully	2 <sup>8</sup>		

March 1866. Miners distributed thus:

Pickpocket and Strangways	855	Growler's Gully	50
Newstead	7	Porcupine Flat	60
Gardner's Gully	16	Eaglehawk	186
Sandy Creek	256	Long Gully	54
<b>Nuggetty</b>	<b>80</b>	Mount Tarrangower	238
Beehive Hill	152	Ironbark Gully	15
Hard Hills	25	Muckleford	221 <sup>9</sup>

September 1866. Miners distributed thus:

Pickpocket	1,200	Growler's Gully	33
Newstead	22	Long Gully	45
Green Valley	49	Peg Leg Gully	63
Fryingpan Gully	14	Porcupine	50
Gardner's Gully	12	Eaglehawk	180
Sandy Creek	219	Long Gully, Muckleford	30
<b>Nuggetty</b>	<b>60</b>	Mount Tarrangower	210
Beehive Hill	117	Ironbark Gully	20
Armstrong's Gully	2	Hard Hill	8
Hunter's Rush	8	Back Creek	13
Frenchman's	10 <sup>10</sup>		

December 1866. Miners distributed thus:

Pickpocket	1,200	Growler's Gully	31
Newstead	15	Long Gully	46
Green Valley	45	Peg Leg Gully	65
Fryingpan Gully	3	Porcupine	50
Gardner's Gully	12	Eaglehawk	187
Sandy Creek	205	Long Gully, Muckleford	33
<b>Nuggetty</b>	<b>75</b>	Mount Tarrangower	195
Beehive Hill	111	Ironbark Gully	23
Armstrong's Gully	9	Hard Hills	22
Hunter's Rush	17	Back Creek	18
Frenchman's	7 <sup>11</sup>		

March 1867. Miners distributed thus:

Pickpocket	650	Growler's Gully	25
Newstead	65	Long Gully, Maldon	65
Green Valley	59	Peg Leg Gully	76
Fryingpan Gully	19	Porcupine	60
Gardner's Gully	12	Eaglehawk	190
Sandy Creek	180	Long Gully, Muckleford	35
<b>Nuggetty</b>	<b>85</b>	Mount Tarrangower	195
Beehive Hill	98	Ironbark Gully	25
Armstrong's Gully	11	Hard Hills	22
Hunter's Rush	18	Back Creek	21 <sup>12</sup>

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*DESCRIPTION & INTERPRETATION:*

Tailings (20th century).

Small dump of treated tailings. No mine working visible in the vicinity. Closest workings appear to be those around the Old Nuggetty mine area, some 1.2 km to the south.

Alluvial sinkings (19th century).

Running along the gully south of the tailings dump is a 1/2 km long band of well-defined alluvial sinkings.

*INTEGRITY/CONDITION:* Good.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because of its ability to illustrate shallow alluvial sinking. The survey conducted for the Division found only nine localities where shallow alluvial sinkings were still relatively intact and well defined. These are Sites 27B, 45, 47, 60, 67, 68, 74A, 75A and 75B (Nuggetty Flat, Armstrong Gully, Back Creek, Ironbark Gully, Moonlight Gully, Nuggetty Gully (Muckleford), Smiths Reef Gully, and two patches at Sandy Creek.

*SIGNIFICANCE RANKING:* Sites Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Flett, J., The History of Gold Discovery in Victoria, Poppet Head Press, 1979, pp. 193-201
- 2 Williams, pp. 13-14
- 3 Mining Surveyors' Reports, August 1859
- 4 Mining Surveyors' Reports, March 1864
- 5 Mining Surveyors' Reports, June 1864
- 6 Mining Surveyors' Reports, September 1864
- 7 Mining Surveyors' Reports, March 1865
- 8 Mining Surveyors' Reports, September 1865
- 9 Mining Surveyors' Reports, March 1866
- 10 Mining Surveyors' Reports, September 1866
- 11 Mining Surveyors' Reports, December 1866
- 12 Mining Surveyors' Reports, March 1867

**SITE NO. & NAME:** 28 NUGGETTY ALLIANCE CO.

**LOCATION:** Nuggetty Reef

**HI NO:** H7724-0039

**DIRECTIONS:** 1.2 km along Davies Lane from its junction with Rock of Ages Track.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

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**HISTORY:**

1854. German, Nuggetty, Victoria and Lisle's Reefs in 1855; Linscott's and Parkin's Reefs in 1856, and many others of lesser value ... Here were riches beyond compare--500 ounces from one ton of quartz obtained at Eagle Hawk (a small fortune in itself of £2,000), 300 to 400 ounces per ton on the Bee Hive rise, 133 ounces per ton at Bell's Reef, 320 ounces per ton from the fabulously rich Nuggetty Reef, and a fortune of £30,000 won by two lucky miners for ten months' work on Lisle's Reef.<sup>1</sup>

1856. Nuggetty Reef. This reef, on the northern slope of the Nuggetty Range, was first found by a lad, A. Pettitt, whilst searching for stray bullocks in 1856. Twenty claims were taken up along the line of reef, two notable ones being Crystal, Pettitt & Co., and Walker & Co. Exceptional yields are recorded from these claims--Crystal's producing 1,395 kg of gold from a reef 12 m long, 4.3 m wide and 85 m deep, with individual crushings of 2 tonne: 17.4 kg; 1-1/2 tonne: 7.1 kg; and in one week's work, 39 kg of gold. Walker's claim was similarly rich, with 7 kg of gold extracted from 1 tonne of ore. Within 5 years, 9 tonnes of gold was crushed from the reef, mostly with the use of primitive appliances.

The Alliance Company later took over several small claims on the southern (higher) end of the reef and extended the workings to a depth of 130 m, when the reef was cut-off by a granite bar. The continuation of the reef was never found, and collapse of the underground workings resulted in the cessation of mining.<sup>2</sup>

July 1860. The great absence of rain during the preceding month, has very much curtailed the amount of water in the division.

The number of crushing engines now at work and more erecting, all of them of considerable horse-power, require a constant supply of the purest water for mining pursuits. Some of the machines at present in the district, are now using water that is totally unfit for the use to which it is unfortunately applied.

Atlas Company--German Reef. Supply constant; drain from reef. Vivian and Company--Beehive Reef. Supply constant; drain from reef. Isaacson's--Beehive Reef. Not working. Lisle's Reef Company--Lisle's Reef. Supply very limited. Great Western Company--Beehive Reef. Supply constant. Edwards--Maldon. Not working; supply precarious. Kangaroo Reef--South Muckleford. Removed. Omega Reef--Greenfalls. Supply Exhausted. Long Gully--Machines four in No. Supply 1 month. Buttingham's--Green Gully. Supply 6 weeks. Allsop's--Green Gully. Supply 1 month. Fitzgerald--At the Springs. Supply 1 month. Toy's--At the Springs. Supply 1 month. **Hawk's--At Nuggetty. Not working.** Fox, Raus and Co.--Pegleg. Supply 3 weeks. The Union Company--Eaglehawk Reef. Supply very moderate. Dun's Reef--Muckleford. Removed. Smith's Reef--Muckleford. Supply abundant; making dam. Eaglehawk Company--Supply abundant. Beehive Association--Beehive Reef. Supply limited. Welshman's Reef--1 Machine. Supply 2 months. Sandy Creek--3 Machines. Supply 2 months. Tarrangower Creek--Supply abundant. Mia Mia, Newstead--Supply abundant at present. Manton's Gully--Engine erecting. Provision making for water. Wattle Gully Reef--Drain from reef. Porcupine Flat--Alluvial. Large dam at present sufficient.<sup>3</sup>

February 1861. The well-known Nuggetty Reef is still giving considerable returns; one claim has recently crushed 235 tons, which produced over 820 oz of gold. W.T. Millar and party have erected a battery of stampers on their claim, and are crushing the whole of the reef, which is from 5 to 7 feet wide, and giving a good average yield.<sup>4</sup>

March 1861. Most of the claims on Nuggetty Reef are still looking well; 102 tons crushed at the Atlas Company's mill last week, from the claim of Messrs Walker and Company produced 357 oz of fine gold. Several other parties are crushing, but the yields are not yet known.<sup>5</sup>

April 1861. Nuggetty Reef still continues to pay well; most of the claims on this belong to private parties. Gold was struck last week in a claim known as Marshall's. This reef has been hitherto one of the richest reefs on Tarrangower.<sup>6</sup>

May 1861. Nuggetty Reef still keeps its old reputation, out of six claims working on this reef, four are doing well; the average yield from said claims is from 3 to 4 oz of gold per ton, taking the whole of reef. which is from four to six feet wide, at a depth of 240 feet.<sup>7</sup>

September 1866. Quartz. Nuggetty Reef. This reef has been nearly all taken up under leases from the Crown. The claims (which were formerly very small), owing to the depth and hardness of the rock, became too expensive to work by private parties, and these, in order to induce capitalists to assist them in erecting machinery, considered it best to amalgamate. Several claims have therefore been united, and leases obtained. Some of the richest claims on this reef are now merged into the Alliance Company. They have a 25 horse-power engine on the reef for pumping and hauling the dirt. The depth of the shaft is about 450 feet ... The Speculation Company, adjoining the Alliance on the south, is the only company at present on the reef paying dividends. The last crushing of 88 tons from this claim yielded 365 oz 7 dwts.<sup>8</sup>

December 1867. A slip of earth took place in the Alliance Company's claim on Nuggetty Reef on 22nd November, 1867, from about 110 feet under the surface, carrying away with it smith's shop, &c., and other property, destroying the upper portion of the shaft, bob-seating, pumps, &c., necessitating the removal of the whole plant ... In his report for the month of December, Mr John Cogdon, the warden, gives the following account of this occurrence: "On the 15th instant the Nuggetty Alliance Company's claim was almost demolished by a land slip. This claim has been worked for a long period, and has produced a large yield of gold. It is situated on the highest part of the Nuggetty Ranges, and was first worked from the surface to a depth of 70 feet, with payable results, the cutting being open. In the middle of these open workings a shaft was put down to a depth of over 500 feet. At about 60 feet down this shaft a granite ledge appeared, upon which the underlay seemed to rest. A quantity of surface water had been collected in the surface open workings, and this appears to have occasioned the whole to slip the ledge upon which it rested. This so affected the machinery on the surface as to render it inoperative; and as the shaft had been partly filled in, the claim became unworkable, and just at a time when good stone had apparently been struck at the lowest levels. A few days after this another slip took place, and a chasm some 50 feet square opened out. Down went thousands of tons of earth, together with the smith's shop and other buildings; but fortunately the machinery on the surface remained, and being quickly taken to pieces, was removed to a place of safety. The buildings covering it and the stack subsequently were engulfed ... after investigation it was ascertained that the company's underground workings were uninjured, and it may reasonably be expected that this hitherto valuable claim will hereafter prove remunerative".<sup>9</sup>

March 1870. Nuggetty Reef. The New Enterprise Company on this reef is constantly employed in breaking of golden stone, which averages about 1 oz per ton. A crushing of 11 tons from the Alliance Company's claim yielded 33 oz of stone. The tributors in the Speculation Company's claim are crushing as high as 3 oz to the ton.<sup>10</sup>

September 1870. The tributors in the Speculation Company's mine, at Nuggetty Reef, are raising stone from the bottom level which yields 1-1/2 oz per ton.

The stone from the New Enterprise Company, on the same reef, averages about 1 oz per ton.<sup>11</sup>

December 1870. Our best mines have been the Tarrangower Nuggetty Alliance, Speculation, and New Enterprise on Nuggetty Reef; the Great Western, on the Beehive Reef, and the Nelson Extended on Wilson's Reef.

The tributing parties in the Tarrangower Nuggetty Alliance mine have crushed, during the quarter, 158 tons of quartz, for a yield of 226 oz of gold, or an average of 1 oz 8 dwts 14 grs per ton.

The tributors in the Speculation mine are making good wages, the quartz during the quarter having yielded about 1 oz per ton.

The New Enterprise Company have crushed 291 tons for a yield of 199 oz of smelted gold, or an average of 13 dwts 16 grs per ton; but this yield, owing to the hardness of the rock, and the inefficient mode of working, does not pay, a call having recently been made to meet expenses.<sup>12</sup>

March 1871. NUGGETTY REEF. Alliance Company. The various tributing parties in this company's ground are making good wages, the quartz yielding about 1 oz per ton.

New Enterprise Company. This company, having worked the reef until it became too poor to pay expenses, has now let the mine on tribute.

Speculation Company. The tributors are busy at work, and during the quarter have crushed 80 tons, which yielded 65 oz, 11 dwts of gold.<sup>13</sup>

June 1871. NUGGETTY REEF. The Alliance Company has called for tenders for clearing out the old shaft (that caved in some three years ago) and constructing a new one from the surface to the bottom of the slip. The slip on the surface is now 90 feet in width by 2-1/2 chains in length; this body of stuff has settled down to a depth of about 40 feet from the surface; the pumps, ladders, poppet-heads, blacksmith's shop, exhaust tank, and some of the framework of the engine, have also disappeared.

The tributing parties in the Speculation claim are still raising good stone; the last crushing of 60 tons yielded 125-1/2 oz of gold, and the prospects are still good.<sup>14</sup>

September 1871. The Alliance Company, on Nuggetty Reef, has commenced to clear and re-form the deep shaft, which was filled, some three or four years ago, by an earth slip from the surface; they have been induced to do so by the encouraging prospects in the Speculation Company's mine, adjoining them on the south.<sup>15</sup>

December 1871. The Nuggetty Alliance Company is pushing on the sinking of their shaft down the Gulf, through the debris that caved in from the surface some four years ago. In sinking the men have come on to huge blocks of granite which fell from the surface, carrying pumps, ladders, timbers, and all before it; these blocks have had to be blasted as the work proceeded. The shaft is now down about 90 feet, where it has been secured with strong timbers (underneath the frames) let into the solid rock at each end. Another contract is preparing for the sinking to the further depth of 160 feet (which is the water-level), and also for the re-erection of the engine. This company has been induced to start working again through the prospects of the Speculation Company's mine. Adjoining, on the south, in this mine (Speculation), a new reef has recently been discovered diverging from the original reef westward of the old workings; this new reef they are following towards the boundary of the Alliance mine; it is about 4 feet in thickness, the last crushing from which yielded 64 oz of gold from 47 tons of quartz.<sup>16</sup>

June 1872. On the old Nuggetty Reef, the Speculation Company has come on good stone west of the old workings. The mine is let to a tributing company, who is breaking out stone 12 feet in thickness, averaging about 1 oz per ton, at a depth of 360 feet. This old reef is again assuming an appearance of activity. The claims of the north and south are making preparations for a fresh start. Altogether matters are looking healthier than they have done for a considerable time.<sup>17</sup>

September 1872. On the Nuggetty Reef the Speculation Company, owing to the quantity of rain during the quarter, have been occupied nearly the whole time in baling.<sup>18</sup>

December 1872. The Speculation Company's Tribute, Nuggetty Reef, has been compelled to suspend operations for the want of machinery to contend with the water.<sup>19</sup>

March 1873. The Speculation tributers on Nuggetty Reef have again resumed operations, and are erecting a winding-engine on the claim. The Alliance, also on the same reef, have nearly completed erecting a powerful winding and pumping plant, and the prospects generally seem to be improving, which will make a considerable addition in the yields for the ensuing quarter.<sup>20</sup>

June 1873. On the Nuggetty line of reef, both the Alliance, and Speculation Tribute Companies have completed their machinery, and are busy pumping and preparing for opening out the reef.<sup>21</sup>

September 1873. Nuggetty Reef. This line is again in active operation. The Alliance and Speculation Companies have drained the mines and commenced breaking stone for crushing. The Speculation Tribute Company sent 10 tons to the mill a few days since, and obtained 12 oz of gold therefrom.<sup>22</sup>

June 1875. The whole line of Nuggetty Reef is idle at present, as well as the Nelson, the German Reef, Brewer's and Cookman's Reefs.<sup>23</sup>

December 1875. The Alliance Company, on Nuggetty Reef, at the 600-foot level, has driven through a very hard reef over 20 feet in thickness, which does not show the colour of gold; they are now sinking the shaft on the course of the reef, to test it at a greater depth.<sup>24</sup>

March 1876. The Alliance and New Enterprise Companies, on the Nuggetty line of reef, are still persevering, but hitherto have found nothing payable.<sup>25</sup>

March 1877. A party of tributers in the Nuggetty Alliance came on a patch from which 11 tons of stone yielded 143 oz 10 dwts, and have another lot of similar stone at the mills ready from crushing. It was obtained about 100 feet from the surface, being a portion of the reef left alongside of a granite dyke by the original holders of the claim; it was a nice patch for the tributers, but unfortunately it is exhausted. Most of our mines are idle at present (with the exception of a few tributers working the shallow ground), pending the making of new arrangements for the raising of capital.<sup>26</sup>

March 1879. Quartz mining. This branch of mining shows a decrease of 824 tons in the quantity crushed, and over 350 oz in the yield of gold, the cause of which in a great measure is the suspension of work in several of our principal mines, viz. the two Nelsons, the Crown claim, the Cymru, the Great Western, the Beehive, six mines on the Eaglehawk line, three mines on the Nuggetty line, the Grand Junction and Welshman's Reef, and three mines on the Victoria line--making altogether twenty mines in which the engines are idle, and the water within from 100 to 180 feet of the surface. All the work being done in these mines is merely fossicking in the shallow ground.<sup>27</sup>

March 1880. The Nuggetty line of reef was pegged off last week by Frederick White, the manager of the Eaglehawk Union Company, and a notice of application for a lease posted on the ground.<sup>28</sup>

March 1881. Two steam-engines have been erected this quarter, and will be ready for starting--one on the old Nuggetty Reef, and the other on Parkins' Reef.<sup>29</sup>

June 1881. The new steam-engine on the Nuggetty Reef is completed; the manager is now waiting the arrival of a rock-borer to start operations.<sup>30</sup>

September 1881. The Tarrangower Company, on Nuggetty Reef, started to work with the National rock-borer; and, although, the stone is very hard, they are sinking 11 feet a week.<sup>31</sup>

March 1882. The Tarrangower Nuggetty Company has struck the reef in the shaft, and the stone shows a fair prospect of gold.<sup>32</sup>

December 1882. The Tarrangower Company, on Nuggetty Reef, in driving south from the shaft, has come upon payable stone; the last crushing of 42 tons gave 46 oz 4 dwts of gold.<sup>33</sup>

September 1883. The Tarrangower Company, on Nuggetty Reef, has struck gold, and the prospects at present are very encouraging, the last crushing of 42 tons of stone yielding 97 oz 15 dwt of gold.<sup>34</sup>

December 1883. The Tarrangower Company, on Nuggetty Reef, has crushed for the quarter 222 tons of stone which gave 200 oz 1 dwt of gold; they are now driving a cross-cut east, to intercept any reefs in their ground.<sup>35</sup>

March 1885. The Tarrangower Company, of Nuggetty Reef, has also struck gold. The prospects are good.<sup>36</sup>

June 1885. The Eaglehawk Union Company, whose battery has been idle for the last two or three years, has now got it in thorough repair, and started crushing quartz about two weeks ago from the Tarrangower Company's mine, on Nuggetty Reef. The first batch of 186 tons washed off last week gave 118 oz 2 dwt of gold. The present prospects of this mine are good, and likely to produce quartz, and to keep the battery going for some time to come.<sup>37</sup>

March 1887. The Tarrangower Company is still struggling on in the old Nuggetty Reef; they are encouraged occasionally by striking patches of gold, but nothing yet to pay.<sup>38</sup>

1904. As usual in most mining fields, one line of country has received the most attention in Maldon. This was opened on the hills a couple of miles to the north of the town, and followed southward along the eastern side of the town for about two miles and a half. A company, known as the "Old Nuggetty", opened quartz formations belonging to this in a region to the north of the town ... The Nuggetty formations are credited with having yielded more than 301,000 oz. of gold, but the works are now deserted.<sup>39</sup>

1911. The Old Nuggetty Syndicate has continued throughout the year to work their mine with, I am informed, payable results. This syndicate has a 12-head battery driven by suction gas.<sup>40</sup>

1912. The Old Nuggetty Syndicate has continued work with, so far as I am informed, satisfactory results.<sup>41</sup>

1988. Nuggetty Ranges is at the northern extremity of the Maldon Goldfield. The most significant mines are the Old Nuggetty and the Nuggetty Extended. Historic features at these mines remain despite some disturbance caused by recent mining.<sup>42</sup>

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*DESCRIPTION & INTERPRETATION:*

Four main periods of working: 1856--reef first opened and worked by various small claimholders.

Mid 1860s/1870s. Three main companies--Nuggetty Alliance, Speculation and New Enterprise.

1880 to c.1887. Tarrangower Nuggetty Alliance.

1911/1912. Old Nuggetty Syndicate.

Large mullock heap probably the site of the Nuggetty Alliance Co/Tarrangower Nuggetty Alliance.

Workings

The Nuggetty mine site is situated on the west face of an extremely steep hill. At the base of the hill is an open adit, which is secured by an iron gate. Above the adit is a sign that reads "No. 2 adit Nuggetty". In the gully to the west of the adit is a treated tailings dump.

The hill-slope above No. 2 adit is covered by a large mullock dump. The mullock comes from workings located about half way up the hill. These workings have been largely bulldozed by the construction of a track. Above the large mullock heap, on the west side of the track, is a filled, but slightly collapsed shaft. On the opposite side of the track to the shaft, the excavated face of the hill has been retained by a 28 ft (8.5 m) long section of stone wall.

This wall is 15 ft (4.6 m ) high, and running up the hill from the top of the wall is a 15 m long flue depression. The flue terminates at a mound of red bricks. Some of the bricks in the mound are curved chimney stack bricks. The area at the base of the stone wall has been levelled and is littered with brick rubble.

To the north of the flue is a partially filled open cut, which also contains some uprooted bedlogs. On the northern end of the open cut, obscured by a large pepper tree, is a deep open slope.

110 m south of the flue is another open adit which has a small mullock dump.

*INTEGRITY/CONDITION:* Mullock heap intact, rest of workings in poor condition.

*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because it is the site of one of the Division's richest reefs. Nuggetty Reef yielded some 301,000 ounces of gold, much of which was gained in the first few years after the opening of the reef.

The site's significance is increased by cumulative value because:

- The site's large mullock heap is a landscape feature.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

**Assessor: David Bannear**

**Date: November 1992.**

1 Williams, p. 15  
 2 J.C.Haupt, 1981, The Mineralogy of the Maldon Goldfield, The Mineralogical Society of  
 Victoria, Monograph No. 1  
 3 Mining Surveyors' Reports, July 1860  
 4 Mining Surveyors' Reports, February 1861  
 5 Mining Surveyors' Reports, March 1861  
 6 Mining Surveyors' Reports, April 1861  
 7 Mining Surveyors' Reports, May 1861  
 8 Mining Surveyors' Reports, September 1866  
 9 Mining Surveyors' Reports, December 1867  
 10 Mining Surveyors' Reports, March 1870  
 11 Mining Surveyors' Reports, September 1870  
 12 Mining Surveyors' Reports, December 1870  
 13 Mining Surveyors' Reports, March 1871  
 14 Mining Surveyors' Reports, June 1871  
 15 Mining Surveyors' Reports, September 1871  
 16 Mining Surveyors' Reports, December 1871  
 17 Mining Surveyors' Reports, June 1872  
 18 Mining Surveyors' Reports, September 1872  
 19 Mining Surveyors' Reports, December 1872  
 20 Mining Surveyors' Reports, March 1873  
 21 Mining Surveyors' Reports, June 1873  
 22 Mining Surveyors' Reports, September 1873  
 23 Mining Surveyors' Reports, June 1875  
 24 Mining Surveyors' Reports, December 1875  
 25 Mining Surveyors' Report, March 1876  
 26 Mining Surveyors' Reports, March 1877  
 27 Mining Surveyors' Reports, March 1879  
 28 Mining Surveyors' Reports, March 1880  
 29 Mining Surveyors' Reports, March 1881  
 30 Mining Surveyors' Reports, June 1881  
 31 Mining Surveyors' Reports, September 1881  
 32 Mining Surveyors' Reports, March 1882  
 33 Mining Surveyors' Reports, December 1882

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- 34 Mining Surveyors' Reports, September 1883
  - 35 Mining Surveyors' Reports, December 1883
  - 36 Mining Surveyors' Reports, March 1885
  - 37 Mining Surveyors' Reports, June 1885
  - 38 Mining Surveyors' Reports, March 1887
  - 39 Geological Survey of Victoria, Bulletin No. 14, The Maldon Gold-field, W M Bradford, 1904
  - 40 Annual Report, 1911
  - 41 Annual Report, 1912
  - 42 Maldon Historic Reserve Management Plan, Department of Conservation, Forests and Lands, 1988

**SITE NO. & NAME:** 29 NUGGETTY EXTENDED

**LOCATION:** Nuggetty Ranges

**HI NO:** H7724-0040

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**DIRECTIONS:** North of North of England mine site. West of Davies Lane.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Area

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**HISTORY:**

1903. The Nuggetty Extended Gold Mining Company, after sinking to the 500 feet level, and doing a lot of prospecting work at that level, without discovering anything payable, returned during the year to the 200 feet level, from which several crushings of payable stone have been crushed. The lode in this mine is somewhat patchy--the patches, when found, being very rich.<sup>1</sup>

1904. The Nuggetty Extended Gold Mining Company has continued to work in the upper levels, with barely payable results.<sup>2</sup>

1904. South of the old works and a little to the west is the Nuggetty Extended mine. Here Mr Boustead, has a main shaft down about 300 feet on a lode ... The mine has no mill, and its haulage is whim power. There are thousands of tons of low-grade ore ... that would be milled if the company had a mill. At present, nothing but the richest stone is mines, carting and crushing expenses demanding this.<sup>3</sup>

1905. The Nuggetty Extended Company has also continued prospecting work without success. A cross-cut is now being driven west at the 350-foot level, with the object of picking up the continuation of the reef worked by the North of England Company. This company also richly deserves success. The shaft is over 500 feet deep, winding is done by whim, and ten men are employed--seven below and three on surface.<sup>4</sup>

1906. The Nuggetty Extended Company working with an average of ten underground and three surface hands has taken out a few small crushings of payable stone, but during the greater part of the year the men have been employed in developmental work, which up to the present does not indicate payable results.<sup>5</sup>

1907. The following companies, although doing a large amount of work, have not met with the success deserved, viz. Union, Mount Tarrengower, Nuggetty Extended, Western Derby, South British, and Parkin's Reef.<sup>6</sup>

1911. The Nuggetty Extended Company, having amalgamated with the Nuggetty Extended No. 1 Company, resumed work, and is now engaged in driving on the reef (from which, previously, very rich crushings were taken) at the 300-ft level.<sup>7</sup>

1912. The Nuggetty Extended Company has worked throughout the year with indifferent results.<sup>8</sup>

1988. Nuggetty Ranges is at the northern extremity of the Maldon Goldfield. The most significant mines are the Old Nuggetty and the Nuggetty Extended. Historic features at these mines remain despite some disturbance caused by recent mining.<sup>9</sup>

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*DESCRIPTION & INTERPRETATION:*

Nuggetty Extended Co. operated c.1903 to 1912

Line of bulldozed quartz workings. Towards the eastern end of the workings is a open (fenced) shaft and the remains of a bulldozed mullock heap.

*INTEGRITY/CONDITION:* Poor.

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*CULTURAL SIGNIFICANCE:*

The site has little cultural significance

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Annual Report, 1903
  - 2 Annual Report, 1904
  - 3 Geological Survey of Victoria, Bulletin No. 14, The Maldon Gold-field, W M Bradford, 1904
  - 4 Annual Report, 1905
  - 5 Annual Report, 1906
  - 6 Annual Report, 1907
  - 7 Annual Report, 1911
  - 8 Annual Report, 1912
  - 9 Maldon Historic Reserve Management Plan, Department of Conservation, Forests and Lands, 1988

**SITE NO. & NAME:** 30 NORTH OF ENGLAND MINE

**LOCATION:** Nuggetty Ranges

**HI NO:** H7724-0041

**DIRECTIONS:** 500 m along Davies Lane from its junction with Rock of Ages Track. 100 m in from the west side of the track.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

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**HISTORY:**

1903. The North of England Gold Mining Company, having found payable stone in an old shaft, some distance west of the main shaft, and from which 526 tons of stone were crushed during the year for a yield of 217 oz 1 dwt of gold, which, with the concentrates, realised £1,046 7s 5d, are now cutting down and timbering the shaft, with the object of more systematically working the stone.<sup>1</sup>

1904. The North of England Gold Mining Company, the Union Gold Mining Company, Bell's Reef Gold Mining Company, the Central Columbia Gold Mining Company, the Columbia Gold Mining Company, the South German Extended Gold Mining Company, the Mount Tarrengower Gold Mining Company, the Exhibition Consolidated Company, the Mount View Gold Mining Company, and the South British Company have, with indifferent success, carried on prospecting work during the year as vigorously as the funds at their command would allow.<sup>2</sup>

1905. The North of England Company erected an up-to-date 10-heads crushing plant, two Wilfley tables, and a winding winch on its mine during the year, at a cost of about £2,000. Crushing commenced early in November, since when 420 tons of stone were crushed for a yield of 94 oz of gold. This has been disappointing to the shareholders, who expected very much better results. However, the mine manager is sanguine of the mine proving payable, and I sincerely trust he may not be disappointed. Eighteen men were employed by this company, on the average--eleven underground and seven on the surface. The shaft is 240 feet deep, and the stone crushed was taken from the 160-feet and 235-feet levels. The formation is of a spurry nature.<sup>3</sup>

1906. The North England Company found, I regret to state, after spending a large sum of money in erecting an up-to-date crushing plant, and a good winding winch, that the large spurry formation which looked well, prior to the erection of machinery, was so far from being payable, as to render it necessary to practically close down the mine during the latter portion of the year.<sup>4</sup>

1907. The North of England Company which, after working during the first half of the year with unprofitable results, closed down for the remainder of the year, has again resumed work.<sup>5</sup>

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**DESCRIPTION & INTERPRETATION:**

North of England Co--c.1903 to 1907.

**Battery site**

100 m north west from Davies Lane is a large breached water dam. Above the eastern end of the dam's embankment are the remains of a large stone engine bed. This bed measures 20 x 4-1/2 ft (6.1 x 1.35 m) and stands 2.75 m above ground level at its western end. The engine bed is constructed of stone, and the odd brick bat, set in a soft mortar. A harder, concrete mortar, is visible in the areas that surrounded the mounting bolts. Running parallel to the south side of the engine bed is a 5 m long section of a stone boiler setting wall. On the other side of the engine bed are concrete footings which have 1-1/2 inch mounting bolts and stump slots for 10-head of stampers. Running west from the stamper footings is a 30 ft (9.15 m) square concrete floor.

**Machinery site**

A track has been bulldozed past the rear (east end) of the battery site. On the excavated edge of the track is a largely buried, 8 ft square brick winder bed with 1-1/4 inch mounting bolts. The brickwork rests on concrete footings. The winder bed lies approx. 8 m from the battery site.

**Modern machinery site and mine workings**

50 m from the battery site is the remains of a mullock embankment which surrounds a working area that contains an open, but protected, shaft. The shaft is surrounded by four small concrete head-frame pads. The pads are set 9 ft (2.75 m) apart. Near the shaft is a small concrete mounting bed. Running north from this site is a line of bulldozed workings which include several, relatively narrow, open cuts and remains of mullock paddocks and filled shaft sites.

Powder magazine?

Below the battery dam, west side, is a mullock mound that contains an 8 ft (2.45 m) square stone-retained inner chamber. The chamber is accessed through an 11 m long cutting. At the cutting's entrance is a small stone-retained bay which measures 7 x 5-1/4 ft (2.15 x 1.6 m).

*INTEGRITY/CONDITION:* Good.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because it has relatively well-preserved battery footings associated with an intact water dam.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- <sup>1</sup> Annual Report, 1903
- <sup>2</sup> Annual Report, 1904
- <sup>3</sup> Annual Report, 1905
- <sup>4</sup> Annual Report, 1906
- <sup>5</sup> Annual Report, 1907

**SITE NO. & NAME:**       **31**               **NORTH BRITISH CO.**  
                                      **32**               **INDEPENDENT CO.**  
                                      **33**               **NORTH BRITISH EXTENDED**

**LOCATION:**                   **Oswalds Estates Mine, Parkin's Reef, West Maldon**

**HI NO:**                     **31**               **H7723-0129**  
                                      **32**               **H7723-0130**  
                                      **33**               **H7723-0131**

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**DIRECTIONS:**           Independent shaft--north side of Parkins Reef Road, opposite the North British Mine Site. Approx 100 m in from the road.  
                                   North British mine--south side of Parkins Reef Road.  
                                   North British Extended—400 m along South Parkins Road, from its junction with Parkins Reef Road.

**MUNICIPALITY:**         Mount Alexander Shire

**LAND STATUS:**         Maldon Historic Reserve

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**HISTORY:**

Pre Oswalds Estates Mines

1854. German, Nuggetty, Victoria and Lisle's Reefs in 1855; Linscott's and **Parkin's Reefs** in 1856, and many others of lesser value ... Here were riches beyond compare--500 ounces from one ton of quartz obtained at Eagle Hawk (a small fortune in itself of £2,000), 300 to 400 ounces per ton on the Bee Hive rise, 133 ounces per ton at Bell's Reef, 320 ounces per ton from the fabulously rich Nuggetty Reef, and a fortune of £30,000 won by two lucky miners for ten months' work on Lisle's Reef.<sup>1</sup>

1857. It would appear that the auriferous lode was found during 1857. For 68 years the mines have been in continuous activity, probably a records for this State. Credence is given to the statement that the reef was found by Messrs. Gallagher and Singleton, who saw gold in the outcrop of what is now regarded as the main or Parkins's reef. While in the act of pegging out their claims they are said to have found Parkins resting on the outcrop of reef. The latter was taken into partnership in the syndicate; hence, probably the lode was named Parkins' Reef. Records show, however, that Parkins was working his own claim on the 1st May, 1859, when he obtained 400 oz. of gold from 30 tons of quartz. Prior to February, 1859, Singleton and party won an average of 6 oz. per load from an unstated tonnage. Parkins disposed of his interest to Lear and party, who worked to a depth of 190 feet. The reef is stated to have been lost at a depth of 50 feet and was not seen again, or remained unpayable, till a depth of 88 feet was reached. Another rich claim was held by Cousins, Horne and party, whose first milling of 9-1/2 tons gave 155 oz. 14dwt of gold. In March 1858, they treated 190-1/2 tons for 1,120 oz. Oswald, Robinson, Bell and party's claim, which was opened by two prospectors named Ned and Mick, was one of the richest, having yielded prior to July, 1858, 2,100 oz. from 300 tons ... Isaacson and party obtained 728 oz from an unstated tonnage during 18 months preceding March 1859, while several other parties successfully operated other claims.<sup>2</sup>

1857 to 1924. Parkins Reef & Oswald's Gold Mines.

Formerly known as Parkins Reef, the lode was discovered by a man of that name in the early part of 1857. No one now resident in the locality remembers the finding of the reef, but Mr. W. Faulkner, engineer of the mine, informs me that the reef was found outcropping a few yards west from the manager's office. The site is marked by an open cut since fallen in, but the footwall of the reef still remains exposed. It is related in regard to its discovery that a man was sitting on top of the reef, which outcropped several feet above the surface, when he observed a number of men pegging out claims around him. He asked them the reason why they were pegging the ground, they simply pointed to the gold richly studded in the very reef on which he was resting. About 100 ft east from this outcrop another reef of larger proportions was also found, in which gold was also seen. On the two formations some 25 claims each about 42 ft in length, were pegged out, most of which were successfully worked by individual prospectors to water level, which was then regarded as about 120 ft. The stone at this point was worth from 3 oz to 5 oz per ton, but the flow of water made it too costly to work without machinery. These claims, approximating 1000 ft in length, were amalgamated, and at the end of 1860 the first company was formed.

Within three years of its discovery Parkins Reef returned to the claim holders gold to the value of £45,000. From 1861 to the end of 1863 returns are not yet available. The yield from 1864 to June 1924 is approx. 205,695 oz from 268,596 tons, while the total return will probably exceed 220,00 oz. The following are some of the rich yields won in

the early days from the reef--14tons/140 oz; 30 tons/400 oz.; 9-1/2 tons/155 oz; 300 tons/2,100; 12 tons/204 oz. Though the detailed history of mine is like a sealed book in some respects it is entitled to rank among the leading gold producers of the State. The property lies to the south of Mt. Tarrengower, and about 1-1/2miles from the Maldon post office. For many years it has been privately owned, its management having been carried on by the trustees of the Oswald estate.<sup>3</sup>

1859 onwards. Towards the end of 1859 the numerous holdings, which were only about 50 feet in length along the line of reef, were almost worked out down to water level (then considered to have been about 120 feet), and, consequently, became too costly for small parties to develop profitably. The various claims were amalgamated into two groups that were later known as Parkins's Association and the Young Independent Association. The latter commenced to sink the Independent shaft, which had reached a depth of 300 feet, at the end of 1864, while in the early part of the year the interests of the Parkins's Association were acquired by the North British Company. During the four years succeeding 1860 the operations of each company did not prove successful. It is believed that, during this period of quietude the late R.D. Oswald, after whom the mines are named, secured the controlling interest in the North British Mine, and later, became the sole proprietor. Subsequently he purchased the Independent mine and, until quite recently (1926), the property has been owned by the Oswald family.<sup>4</sup>

January 1861. The Parkins Reef Association is making preparations for working systematically, their machinery is in course of erection, and a contract has been let for sinking an engine shaft to a depth of 200 feet.<sup>5</sup>

February 1861. The Parkins Reef Association is proceeding rapidly with the machinery. The new engine shaft is down about 90 feet. A new company has also started on this reef, under the title of the Independent Quartz Mining Association. A lease of the ground has been applied for, and preparations are being made for the erection of machinery.<sup>6</sup>

March 1861. The Parkin's Reef Company is still proceeding with their machinery, shaft, &c., and will shortly be ready for crushing.

The Independent Association, at the north end of Parkin's Reef, has constructed two dams and entered into a contract for the erection of machinery for crushing, &c.<sup>7</sup>

April 1861. The machinery of the Parkin's Reef Association is expected to be ready on the 8th instant ... Two large dams have been excavated ... The engine shaft is down 188 feet, at which depth water has been struck.

The Independent Company, on the same reef, is erecting machinery for pumping, crushing etc. Two dams have been constructed and a contract has been let for sinking an engine shaft to the depth of 150 feet.

There are two private claims on this reef, but they are both registered pending the erection of machinery by the two companies.<sup>8</sup>

May 1861. Quartz mining has also improved during the past month; the machines of three companies, viz.: Parkins's, Cookman's and Concord, are ready for work as soon as water is available, the quartz now being raised from Parkins's and Cookman's Reefs gives every indication of good yields.<sup>9</sup>

1864. Parkin's Reef Quartz Mining Association failed ... Bought by Ward, Robinson and Oswald. Re-named it North British.<sup>10</sup>

1865. First mention of quartz kilns.<sup>11</sup>

1866-1901. Total yield of gold from Oswald's Estate Mines is therefore:

Year	Tons crushed	Oz. obtained
1866	1007	1330
1867	2091	2791
1868	938	731
1869	1895	1641
1870	746	187
1871	1198	170
1872	417	20
1873	79	73
1874	32	17
1875	84	148
1876	672	832
1877	643	972
1878	1895	1098
1879	709	677
1880	3788	6869
1881	4044	4796
1882	1259	735
1883	726	499
1884	1148	637
1885	3303	6493
1886	6497	12,498
1887	10,207	14,756
1888	7275	7959
1889	8315	6011
1890	8420	5396
1891	6035	3784
1892	1496	647
1893	4264	2886
1894	8400	4380
1895	2534	696
1896	1498	451
1897	1932	1617
1898	2395	1068
1899	2593	1918
1900	2458	969
1901	4531	3582
Total	105,573	99,360--14,332 (tributers from 1870to 1873)--113,692. <sup>12</sup>

March 1870. Parkins' Reef. The tributers in the Independent Company's ground are raising quartz which averages from 1/2 oz to 1 oz per ton.<sup>13</sup>

March 1876. The North British mine, on Parkin's Reef, has been producing payable quartz during the quarter, 203 tons having been crushed, which yielded 275 oz 12 dwts of gold. It was discovered by a man in sinking a shaft to work some alluvial ground, and it is supposed to be a continuation of a quartz vein that was worked some years ago and lost. It is now being opened up by parties of tributers, and as far as they have gone it has proved payable.<sup>14</sup>

March 1877. The greater portion of the gold has been obtained from the following mines, viz. The North Eaglehawk United, the Charcoal Reef, and the North British Companies.<sup>15</sup>

June 1877. The Parkins' Reef Company is also paying the tribute parties pretty well, and giving good dividends to the owner.<sup>16</sup>

September 1877. The owner of the North British mine has made several improvements to the mine. A winding engine has been erected, the shaft divided and put in good order,<sup>17</sup> and a contract let to sink 50 feet, to test the reef at a deeper level.

December 1877. The only other mines doing any work of any consequence are the North Eaglehawk United, the Linscott's, and North British mines. There is no improvement in alluvial mining.<sup>18</sup>

March 1878. The prospects in the North British mine have very much improved this quarter. The reef, 5 feet in thickness, has been struck in the bottom cross-cut, at a distance of 34 feet west from the shaft. A drive has been put in southward about 40 feet, and it shows good golden stone the whole distance. Two kilns of stone have been burnt, and are now ready for crushing. The depth from which the stone is taken is 400 feet. Should it turn out according to expectation an extra number of hands will be employed to open up the mine.<sup>19</sup>

June 1878. The prospects in the North British mine have still further improved during the quarter ... from 457 tons of stuff crushed during the quarter the yield has been 310 oz 4 dwts. This has been taken from the bottom of the mine, at a depth of 400 feet. About 30 men are employed in opening up the mine at the different levels and breaking out quartz for crushing.<sup>20</sup>

September 1878. The prospects at Parkins' Reef are still good. In the bottom drive, which is 410 feet from the surface, the reef is from 8 to 12 feet in thickness, and looks well ... 1,129 tons of quartz have been crushed during the quarter, yielding 501 oz 2 dwts of gold. 34 men are now employed, and the mine is being opened up, with a view of placing on more hands as soon as possible.<sup>21</sup>

December 1878. The North British mine is now opened at the bottom (400-foot level), about 187 feet north from the cross-cut ... The 230-foot level is also being pushed on northward for the purpose of draining and opening up the old Independent mine, which can be worked by the machinery now on the North British mine.<sup>22</sup>

December 1879. The North British Tribute Company has finished the contract for sinking; their shaft is now down 500 feet; they are driving on the lode, and stoping the back. The last crushing, 30 tons, gave 32 oz 1 dwt 12 grs of gold.<sup>23</sup>

March 1880. The North British Tribute Company, after paying 25 per cent to the owner, is giving good dividends to the shareholders; the bottom level, at 500 feet, has been driven over 100 feet along the line of reef, carrying gold the whole way; 429 tons have been crushed during the quarter for a yield of 891 oz 2 dwts of gold; this has been taken from the drive and stoping the back. The engine-shaft is being sunk to a greater depth, in order to enable the company to stope the bottom of the drive as well as the back.<sup>24</sup>

June 1880. The North British Tribute Company is still giving good dividends. They have crushed for the quarter 967 tons of quartz, and obtained 2,108 oz 5 dwts 1 grs of gold. In sinking the shaft, the reef has been struck thirty feet below the bottom drive, and the prospects are good, the reef widening out.<sup>25</sup>

September 1880. The North British Tribute Company has crushed during the quarter 259 tons of quartz, the average yield being 1 oz 7 dwts 22,09 grs per ton; the present prospects are good and likely to continue. The owner, Mr R. Oswald, is erecting another steam engine of 25 horse-power to work the northern portion of the mine, from which good yields were obtained some years ago, when, for want of proper appliances, operations were discontinued.<sup>26</sup>

December 1880. The North British Tribute Company still pay good dividends; 1,255 tons of stone have been crushed, yielding 2,486 oz 14 dwts of gold. The company has recently purchased a boring machine with air compressor; having tested it, they find that it will require some little alterations before it can be used to advantage. When the repairs are finished, the company expects to considerably increase the quantity of stone for crushing. On the adjoining lease, No. 1831, the owner has erected a steam-engine of 25-horse power, and it will soon be ready for work.<sup>27</sup>

March 1881. The last quarter shows a falling off in quantity of quartz crushed ... owing partly to an accident to the machinery at Parkins' Reef Company, which caused some delay, and the cutting off by a dyke or flaw of the reef in Locke's claim, on Irish Billy's Reef.

The North British mine is still yielding stone producing 1 oz 6 dwts of gold per ton. The rock-boring machine has been repaired, and is now at work, and we may presume that a much larger quantity of stone will be sent to the surface weekly.

Two steam-engines have been erected this quarter, and will be ready for starting--one on the old Nuggety Reef, and the other on Parkins' Reef.<sup>28</sup>

June 1881. This quarter shows an improvement in the yield of gold, there being 4,295 oz 19 dwts 9 grs, as against 2,860 oz 13 dwts 2 grs for last quarter.

The North British mine is still paying good dividends, and, to all appearance, is likely to continue to do so for some time to come. Mr Oswald has erected a steam-engine on the mine adjoining (known as the Independent) for baling water and hauling dirt. The mine has been drained, and parties set on to work below.<sup>29</sup>

September 1881. The past quarter shows a falling off of 878 oz 7 dwts 14 grs in the quartz yield alone. This is owing to the North British Tribute Company having been engaged in sinking their shaft a further depth of 50 feet, and not being able to get at crush-dirt until the reef was drained.

The Independent Company, adjoining, since draining the mine, has been cutting down the shaft and driving south, where they have struck a new make of reef which had been lost on a former working. The stone looks favourable.<sup>30</sup>

September 1882. In the North British mine the rock borer has been started, and gold struck at the 500-foot level. The battery of twenty-four heads, which has been idle for several years, is now being put in good order, with a new set of blanket-tables, and is likely to be kept in constant work, so we may expect that the yield this quarter will be much greater than for the last. The lode in Locke's mine, which was displaced by a slide or dyke, has again been found; the last crushing gave 111 oz of gold from 26 tons of stone.<sup>31</sup>

June 1883. The South Parkins Reef Company has purchased an engine; it has just arrived on the ground, and will be erected as early as possible.<sup>32</sup>

September 1883. The South Parkins Reef Company has completed the erection of their machinery, and are at present sinking on the reef, but as yet nothing payable has been found.<sup>33</sup>

December 1883. The South Parkins Reef Company is still sinking the engine shaft. The reef shows good indications in metals, and occasionally gold is seen.<sup>34</sup>

March 1884. On Parkin's Reef golden stone has been struck in the Independent mine, a quantity of which is now being burnt previous to crushing.<sup>35</sup>

December 1884. On the Independent mine, Parkin's Reef, a new shoot of gold has been recently struck, from which the last 30 tons crushed yielded 67 oz of gold, and the prospects are improving as the mine is being opened up.<sup>36</sup>

1885: A new battery (east of shaft) constructed.<sup>37</sup>

March 1885. The North British Company has recently opened out upon a fine run of golden stone ... The reef is about 6 feet in thickness, and the first crushing has yielded 554 oz 5 dwt 18 gr from 330 tons. The stone is improving as they proceed.<sup>38</sup>

September 1885. The prospects at Mr R.D. Oswald's North British and Independent mines, Parkin's Reef, are better than ever, the last crushing of 45 tons yielding 5 oz to the ton ... During the quarter the Independent shaft has been sunk a further depth of 60 feet, and a cross-cut started eastward to strike the reef.<sup>39</sup>

December 1885. Mr R.D. Oswald's North British and Independent mines are in a flourishing condition, having produced excellent yields during the last quarter, and the prospects at the present are looking better than ever.<sup>40</sup>

March 1886. Mr R.D. Oswald's mine, on the Parkin's Reef, are still giving good returns. From 774 tons a yield of 1,884 oz 15 dwt 12 gr has been obtained, and there are between 1,000 and 2,000 tons on the mine of the same quality ready for the mills. The reef has been opened up for over 700 feet in length, and varies in thickness from 3 to 5 feet. The prospects throughout the whole length show the same quality of stone. It is without doubt the best run of gold that has been seen in Maldon.<sup>41</sup>

June 1886. The North British, owned by Mr R.D. Oswald, is still giving good returns and extending southward. It is now opened for about 1,000 feet in length; the last crushing of 68 tons gave 162 oz 18 dwt. The lucky owner has recently been offered £100,000 for his mine, but refused it.<sup>42</sup>

September 1886. The North British mine is still keeping up to the mark, the shoot of gold still extending in length, and the prospects improving. The owner, Mr R.D. Oswald, has purchased two new rock-drills, for facilitating the breaking out of quartz, to supply his two splendid batteries of 24 heads each, which are now fitted up with the newest and most improved appliances for crushing the quartz and saving the gold, and that much larger quarterly

yields may be expected in future. The shoot of gold surpasses in extent and richness everything seen in Maldon since the opening of our quartz reefs.<sup>43</sup>

March 1887. The North British Mine is still turning out well, although they have been working in the poorest part of the mine during the quarter, the stone has been yielding from one to two ounces per ton. The proprietor (Mr Oswald) has recently started a new engine shaft from surface to strike the reef at a considerable depth, and is erecting new machinery to carry on the work.<sup>44</sup>

June 1887. The three principal mines, viz. the Great Western Cymru, New Beehive, and the North British mines [have] been engaged doing dead work in the erection of machinery, sinking their main shafts, and cross-cutting to strike the lodes.<sup>45</sup>

September 1887. The North British mine is still turning out good gold. The quantity for the quarter is 3,266 oz 14 dwt, which averaged 1 oz 19 dwt 10.33 gr per ton. The prospects of the mine are just as good as ever, and the owner during the quarter has been erecting new machinery on the new engine-shaft to work the south end of the mine.<sup>46</sup>

1887. The North British described as one of the richest mines in the world. Winding engine renewed. Shaft deepened.<sup>47</sup>

March 1888. Our principal mines (with the exception of the North British) are not looking very bright at present. The North British main shaft is now down 625 feet where a drive has been put in south 280 feet. The reef is about 12 feet wide here, and showing payable prospects. Mr Oswald has let a contract to erect another battery of 28 heads of stampers.<sup>48</sup>

December 1888. The quarter just ended showed no improvement in mining generally. There was an increase of 471 oz 6 dwt 14 gr, but this was chiefly from the South German and North British mines.<sup>49</sup>

June 1889. The South Parkin's Reef Company are now sinking their main shaft a further depth of 150 feet which will make a total of 573 feet from surface, where they intend cross-cutting for Parkin's reef.<sup>50</sup>

September 1889. The Parkin's Reef Company has completed sinking operations, and are now cross-cutting at 573 feet eastward, to strike Parkin's Reef.<sup>51</sup>

December 1889. The North British and Independent shafts have been sunk to a depth of 700 feet ... The Parkin's Reef Company are still cross-cutting east for Parkin's Reef.<sup>52</sup>

1890s. Events that took place included:

- Fire
- Chlorination plant installed
- Boiler and winder house rebuilt
- New winder
- New Pump engine and vertical condenser.<sup>53</sup>

June 1891. The yield of gold for the quarter is 2,477 oz, being an increase of 508 oz on the previous quarter, and there is every prospect of a larger yield being recorded next quarter now that work at the North British mine has been resumed, and considering the improvement that has lately been shown in the South German and Lock's United mines.<sup>54</sup>

September 1891. Payable gold is still being obtained at the North British and Independent mines.<sup>55</sup>

1891. Oswald died. Compound engine installed.<sup>56</sup>

1892. The North British Mine. Messrs. Oswald's North British mine, Maldon has long been a household word in the district ... The chlorination works are the nearest the road and were taken first. The plant is new and was erected at a cost of £700. The furnace is an upright rotary, and has eight tiers with a side floor for finishing. The pyrites is trucked from the ground to the furnace platform, a small steam winch being used for the hauling. The barrel holds a charge of 32 cwt, which is subjected to treatment for 4 to 5 hours before being discharged into a vat beneath. The liquor is then pumped in the usual way to the filters, which latter are kept in a locked room ... In the battery house there are 23-head of stamps and 16 Frue vanners (Parke and Lacy Company, Sydney). These latter are placed right

up front of the boxes only a short length of copper plate intervening ... There are two engines in this shed. One 18-in cyl. and 3 ft 6-in stroke for the battery, and one 14-in, 2 ft 6-in stroke for the vanners; also a Root's blower, and a Tangye's pump to feed the boilers, of which there are three.

The winding engine next door has an 18-in cylinder, 3 ft 6-in stroke. The ropes used are Langlay patent, 1-in diameter. Here, too, is a pretty little engine which works the machines in the fitting shop attached ... The fitting shop itself contains all conveniences for making and repairing machinery for the mine, viz., one planing machine, to plane 8 ft x 3 ft; one 10-in centre lathe, 15 ft bed; a single geared drilling machine; one emery wheel, etc ... The plant also includes a pumping engine, 18-in cylinder, 3 ft stroke, and another battery engine, 21-1/2 cylinder, 4 ft stroke, which drives the 24-head of stamps in No. 2 shed, and two pairs Chilian Mills, and two more winding engines for shafts Nos. 2 and 3, with necessary boilers, etc. There are also two air compressors, one a National, the other from Thompson & Co., Castlemaine, and adjoining the other buildings is the large blacksmith's shop, with steam hammer, etc. The smelting room contains a muffled furnace for burning charcoal, assay furnace, smelting furnace, etc. This I think, finishes a list of very extensive plant which the late Mr Oswald (and present owner, Mr R. D. Oswald, his son) erected at various times. It is naturally somewhat celebrated in the district.

Five kilns for burning quartz are also on the ground, and when rich stone is found near it is generally sent to these kilns, while some of the North British stone, too, is treated in them, though not so much as formerly.

In a previous article (March 21) I dealt fully with this interesting question of burning quartz, and I will only add here that Mr. Oswald subsequently showed me at his house a specimen from the kilns, which seemed to fully bear out the opinions of those who believed in burning. On all the faces of the stone the gold had run together in globules, which would give little trouble to save.<sup>57</sup>

1901. Cyanide plant installed.<sup>58</sup>

November 1901. The leases. The property of the North British Mines consist of two Leases, which comprise a total area of 71 acre, 3 roods, 7 per ... The leases include a length of 2500 feet along the outcrop of the main (Parkins reef), this length being augmented northwards to a total inclusion of 4000 feet along the line of this reef in the deeper ground, say, from 1500 to 3000 feet in depth.

Excellent accommodation is afforded within the leases for shafts, and winding and crushing machinery; also, the natural contour of the ground has allowed of the construction of several dams for storage and reticulation purposes, as also for the stacking of the tailings and slimes, and the construction of the leaching plants in connection with the winning of the gold from the residues.

Shafts. There are three principal shafts sunk on the property each being securely timbered from the surface to the bottom.

North British Shaft (10 feet x 5 feet) is 1260 feet deep and carries a substantial pump column to the 1100 feet level, below which the mine being comparatively dry, the water is hauled in tanks to that level and thence pumped to the surface.

The Independent shaft (8 feet x 5 feet) is 710 feet in depth, and owing to the water being considerably drained off by the deeper North British shaft, tanks on the winding ropes has been found sufficient to entirely cope with the mine water. The same remark applies to the North British Extended shaft, at which comparatively little work has been done.

Machinery. Each of the shafts is supplied with engines and boilers for winding purposes, these being throughout in excellent order. The North British shaft is further equipped with an efficient pumping engine, with balance bob and fitting complete.

The crushing plant consists of a 20 head battery on the west side of the shaft and a 23 head battery on the east side, the latter being further furnished with a set of Wilfley tables for concentrating the pyrites.

An incline rotating oven and barrel chlorinator with engine occupy another building where the pyrites may be treated for contained gold, although lately this product has been sold to outside gold-saving firms.

An air compressing plant supplies the motive power to 4 rock drills constantly at work underground.

A well furnished smithy, with steam hammer and compressed air furnaces occupies a site convenient to the North British shaft. Adjoining the Winding-engine room is a capacious fitting shop furnished with up to date and costly machines for planing, shaping, turning and drilling, where a quantity of work is done for local mines, etc.

A complete cyanide plant has just been erected and is now in full and successful work on the mine residues.<sup>59</sup>

December 1901. Report on Oswald's Estates Mines, Maldon.

These mines are situated on the Southern slope of Mount Tarrengower and are on one of the main line of reefs in the Maldon District. This reef, known as Parkins Reef, is a true fissure lode and has been proved for a distance of nearly two miles and averages in width from 2 feet to 30 feet. There have been several companies formed to work the reef, namely from the South Parkins Reef Company on the South, the new Parkin Reef, North British and Independent, Grand Junction and Target Reef Companies on the North, about half a mile further North of the Target Reef Company the reef is cut off by granite.

There are three shafts sunk on this property and machinery has been erected on each of them. The south or Parkins Reef shaft is 10' x 3'6" close timbered with ladder-way to the bottom and is 120 feet in depth. An air winch has been erected to work at this shaft and is capable of sinking it to a depth of 400 feet.

At the North British shaft the shaft has been sunk to 1250 feet and timbered ... At this shaft, which is the working shaft, most of the machinery has been erected and comprises one 18" cylinder Winding Engine, 18" cylinder pumping engine having a 3 feet stroke running ten strokes per minute and is capable of lifting 6000 gallons per hour. Also a small engine to work the lathe and connections in the engineering shop. Also one 18" cylinder engine to work the battery of 23 heads of stamps fitted with the latest gold-saving appliances. A complete chlorination plant, a new cyanide plant has just been completed to treat all the tailings and is now in full swing.

There is also four kilns for burning the quartz if necessary. The battery on the south of the shaft is driven by one 21-1/2" cylinder engine and consists of 24 head of stamps.

Also a smithy with a patent steam hammer, a retort house and offices; there are boilers for steam. At the Independent the shaft is close timbered three compartments and is sunk to a depth of 723 feet. There is an 18" cylinder winding engine and boiler.<sup>60</sup>

May 1902. Report on Estate's Mines known as the Independent, North British and North British Extended. The Independent shaft is the most Northerly, being 600 feet north of the North British, and is equipped with a winding plant and air compressor, the shaft is sunk to 750 feet and in good working order. The North British Mine is where the principal work has been carried out and is now employing sixty men. The shaft has been sunk to a depth of 1,260 feet and is in good repair. The plant consists of a winding engine capable of winding from 2,000 feet, pumping engine, air compressor, a twenty-three head battery in good working order, with Wilfley Concentrators, Chlorination Plant, and Cyanide Plant complete. North British Extended mine is equipped with a winding plant capable of winding from 2,000 feet. The shaft is situated 1,100 feet south of the North British shaft and is down 250 feet and well timbered. The cyanide plant consists of five leaching vats, three settling vats and three solution vats, assay room, and everything up to date, and is capable of treating 1,000 tons of tailings per month. The Chlorination Plant is on the barrel process, and is capable of treating 30 tons of Concentrates a month. The quantity of old tailings stored on the mine is estimated to be 15,000 tons and will average 3-1/2dwts per ton.<sup>61</sup>

September 1902. The price required for the property comprising Mining Leases, Machinery, Crushing and Winding Plant, Concentrators, Cyanide Plants, Chlorination Plant, Stores, Tailings, Firewood and all effects including Engineering Shop and content: £200,000 payable as follows: £150,000 in cash and £50,000 in fully paid up shares on £1 each in any company formed with a capital not exceeding £500,000 ... The estimated value of the Machinery, Plant etc including Tailings on the property, is £100,000 irrespective of the Mines. The mine has been working continuously since 1858.<sup>62</sup>

1903. Quartz mining generally in this division has been in a depressed state during the year, although Oswald's North British and the Eaglehawk Consolidated Companies' mines have returned considerable profits. The total yield of gold obtained (from all sources) at Oswald's North British mine for the year is 16,099 oz 5 dwt, value £65,212. An average number of 83 men has been employed by this company. The main shaft is 1,250 feet deep. A splendid new air compressor (the best in the whole of my district), capable of driving 14 rock drills, was supplied by A. Roberts and Sons, of Bendigo, and erected during the year, together with an up-to-date high-pressure steel multi-tubular boiler, with Fox's corrugated flue. The working pressure of the boiler is 120 lbs.<sup>63</sup>

1904. I regret to report that the depression which existed in this division in 1903 has continued through 1904. Oswald's North British Mine, and the Eaglehawk Consolidated Gold Mining Company Limited have continued to return payable yields, and to employ a large number of hands, but few, if any, of the other mines throughout the division have cleared expenses.<sup>64</sup>

1904. The mine is paying well at present. Mr. Couchman is in charge. There are a 23-head mill and cyaniding facilities on the mine ... To the present, its yield of gold totals 122,431 oz.<sup>65</sup>

1905. Quartz mining in this division has continued dull, the total yield of gold being below that of 1901. Oswald's North British mine, which, as its name indicates, is privately owned, again heads the list as a gold-producer. The total yield obtained from all sources at this mine, during the year, was 7,642 oz. Work has been carried on from the North British (or main) shaft at the 700-feet, 800-feet, 900-feet, 1,000-feet and 1,200-feet levels, and from the Independent (or No. 2) shaft at the 600-feet and 700-feet levels. A considerable amount of developmental work has been done, but no shaft sinking. The deepest shaft, viz. the North British, is 1,250 feet. Eighty-two men, on the average, have been employed, half of whom worked on the surface. The large cyanide and chlorination works, which are carried on in connection with this mine, accounts for the large proportion of surface hands employed.<sup>66</sup>

1906. Work has been carried on during the year at Oswald's North British mine with highly payable results. The main or North British shaft has been sunk a further depth of 200 feet, making its total depth 1,450 feet. An average of 98 men has been employed, 54 on the surface, and 44 below ground. A large number of the surface hands are employed in connection with the extensive chlorination and cyanide plants in use on the mine.<sup>67</sup>

1907. Oswald's North British mine stands out well with a yield from all sources, of 9,944 oz. Ninety-eight men on the average have been employed on the mine. A considerable amount of developmental work has been done during the year at the different levels down to 1,450 feet. The steam power has been supplemented by the addition of a new high pressure boiler of the multi-tubular type.<sup>68</sup>

1908. At Oswald's North British mine a decided falling off in the yields has occurred. There has also been a considerable reduction in the number of hands employed; the average being 65, as against 98 for 1907.<sup>69</sup>

1909. At Oswald's North British Mine operations have been continued during the year, with an average of 65 hands. The main shaft has been sunk to a depth of 1,673 feet.<sup>70</sup>

1910. At Oswald's North British mine operations have been carried on at different levels, from the 1,650-ft upwards. Unfortunately, nothing of a very favourable nature has been found in the deep levels.<sup>71</sup>

1911. At Oswald's North British mine the prospects are good, as favourable developments at [various] levels have taken place during the year.<sup>72</sup>

1912. Oswald's North British has continued to work with very profitable results, and the prospects for 1913 are reasonably good.<sup>73</sup>

October 1912. Mining Notices. Oswald Estate Gold Mine, Parkin Reef, Maldon.  
For Sale by Public Tender

The mine which at present is being worked to advantage and profit by the trustees is fully equipped with all the necessary machinery and plant (including cyanide and chlorination plants). It has been worked for about 50 years, during which time, according to the information available, 298,000 oz. of gold, realising about £1,147,300, has been produced. During the last two years, viz. from the 10th September, 1910, to 13th July, 1912, the amount of gold obtained was 10,809 oz. realising £41,615 ... about 70 to 80 hands are at present employed under the management of J.T.Couchman.<sup>74</sup>

1913. The company went public. Jaw crusher installed.<sup>75</sup>

May 1920. Oswald Gold Mines NL--7th Annual Meeting.  
Mine Manager's Report--1/2 yearly ending 30th April 1920.  
Battery--crushed 1,575 tons for 428 oz.  
Cyanide--treated 1,947 tons of sand and slime for 230 oz.  
Chlorination--We forwarded for treatment to Messrs Leggo & Co., Bendigo, 42 tons of concentrates which produced 216 oz.<sup>76</sup>

1924. The company was re-formed.<sup>77</sup>

August 1924. New Oswald Gold Mining Company N.L. Prospectus.  
The agreement with the vendor Company provides that in consideration of the transfer of its assets it shall be paid the above mentioned 20,000 shares (10/- each) and £4250.  
The Company is being formed to acquire Mining Lease from the Crown No. 7459, embracing 164 acres, 1 rood 14 perches, Parish of Maldon, County of Talbot, Mining District of Castlemaine, together with the mine plant and assets of the Oswalds Gold Mines No Liability.  
The plant comprises up-to-date winding, crushing, and or compressing machinery, cyanide plant, up-to-date foundry, and a large quantity of general mining equipment, tools and gear.<sup>78</sup>

May 1925. Mine Manager's Report. Mine being worked between 230 feet and 500 feet levels ... Work at the lower levels has been suspended for the present as the mine is not in a financial position to carry out more prospecting work.<sup>79</sup>

1926. A few months ago these mines were taken over by the New Oswald's Gold Mining Company No Liability, which is prospecting between the 230-ft and 700-ft levels.  
Machinery and Equipment. The North British (main) shaft is in good order. It is surmounted by wooden poppet legs 72 feet high. A pump capable of lifting 4,000 gallons an hour is installed. The following are details of the plant:  
Pumping Engine--Compound Edward's condenser; high pressure cylinder, 12 inches; low-pressure cylinder, 22 inches; 3-ft stroke. Very heavy gear, complete, with 1,000 feet of 8-in pumps.  
Winding Engine--Horizontal 18-in cylinder, 3-ft. 6-in. stroke, geared drums, 9 feet in diameter; 4,400 feet wire rope.  
Electric Lighting Plant--Steam cylinder, 4 inches, 4-in. stroke; 100 to 110 volts.  
Air Compressor--Capacity, 20 drills; compound steam, 15-in. cylinder, 30-in. stroke; air cylinders, 15 inches and 24 inches; water heater and air receiver.  
Crushing Engine--Horizontal, 16-in cylinder; 3-ft 6-in. stroke; water heater and condenser.

Battery consists of 23 heads (three 5-head and two 4-head), 23 cams on shaft; three Wilfley Tables; Berdam pan; self-feeders, on wood and iron foundation. Slime plant; engine, 14-in. cylinder, 24-in. stroke. Rock breaker, vertical engine, 10-in. cylinder, 10-in. stroke; 150 feet conveyor belt.

Engineer's Shop--Horizontal Engine, 8-1/2-in. cylinder; one 10-in. surface screw-cutting lathe; one Sundale milling machine, table; one Gruder cutter, with attachments; one pipe-screwing machine; one Mandle press; one No. 2 piston drill; one single-gear drilling machine; one hack-saw machine, and planing machine.

Boilers--Two H.P. 7-ft 6-in. diameter, 16 feet long, 1/2-in. plate, working pressure 120 lb. to square inch; one Cornish flue, 6 ft 6-in, 22 feet long, pressure 75 lbs; one Cornish flue, 6 ft 6 in, 26 feet long.

Sample room and blacksmith's shop well equipped, a steam hammer being installed in the latter.

Independent shaft--Poppet legs, 50 feet high, in poor repair; one horizontal winding engine, 18-in cylinder, 36-in stroke, two 8-ft drums. Compressor; steam cylinder, 12 inches, stroke 18 inches, air cylinder 11 inches; one air receiver, 1/2 inch plate; 26 ft long, 6 ft 6-in. in diameter; two Cornish flue boilers, Galloway tubes, 28 feet long, 6 ft 6-in. in diameter. Other shafts within the lease are not equipped with machinery. The cyanide plant is modern and complete in detail.<sup>80</sup>

August 1928. New Oswald Gold Mining Company. Annual Meeting.

Mine Manager's Report: Work carried out during the past 12 months between the 600 and 700 feet levels.

For the past term 1583 tons of quartz was crushed for 1002 oz of gold.

Cyanide treated 2430 tons for 227 oz.

Tributors crushed 496 tons for 378 oz.

In conclusion, I might state that although the past term has not been successful in locating a permanent run of gold we are hopeful that the cross-cut south which is being pushed out will locate a reef, which we hope will be a payable proposition seeing that it is all in new country--Geo. Kingsley.<sup>81</sup>

June 1929. Sale by Auction of Extensive Mining, Engineering and Cyanide Plants--New Oswald Mines, Maldon. Catalogue of Sale (Summary).

Independent shaft:	contents of Engine House--including 18" cylinder winding engine & cross compound National air compressor
	contents of Stone storeroom
North British Shaft	contents of Blacksmith shop
	contents On Flat--including Oregon leaching, liquor and settling vats.
	contents of Filter Houses 1 & 2
	contents of Assay Room
	contents of Yard around shaft
	contents of Changing House
	contents of Battery House, No 2
	contents Battery House No 1--including 8-head battery, 15-head battery, 16in and 14 cylinder engines
	contents of Winding Engine House--including 4in high speed vertical engine, 18-in cylinder winding engine, and compound pumping engine
	contents of Compressor House--including Cross Compound Two Stage Air Compressor.
	contents of Engineers' Shop. <sup>82</sup>

July 1929. New Oswald Gold Mining Co. Notice of Extraordinary Meeting

Business. To pass a resolution requiring the Company to be voluntarily wound up.<sup>83</sup>

1988. Unit 1, Parkins Reef

North British Mine site displays one of the most intact collections of evidence in Victoria of the evolution of the technology of gold extraction. The site contains a shaft, mine dams, mullock heaps, sand heaps and a pump bob pit as well as the foundations of a steam engine, winder and winder engine, battery, boiler house, compressor, quartz roasting kilns, jaw crusher, chlorination plant, blacksmith's shop and engineering shop.

Carman's tunnel--425 metres long, is an authentic nineteenth century tunnel now operated as tourist attraction.

Alluvial workings. The historic fabric of the shallow alluvial phase of mining includes remains of shafts, an adit, puddlers, dams and diversion banks.

Other sites. The Independent Mine, the North British Extended Mine, and the South British mine.

The battery which has recently been set up near the North British Mine site was brought to Maldon from East Gippsland.<sup>84</sup>

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*DESCRIPTION & INTERPRETATION:*

Five main periods of mining:

<b>1856:</b>	<b>Parkins Reef opened up and worked by small claim holders</b>
<b>c. 1861:</b>	<b>Two companies working the reef--Parkins Reef Association and Independent Quartz Mininmg Co.</b>
<b>1864/65:</b>	<b>Parkins Reef Association failed, taken over by Ward, Robinson and Oswald, renamed North British. Soon mine was totally controlled by Oswald</b>
1881:	Oswald erects steam engine at Independent shaft
1882:	North British's battery repaired
1885:	Second battery installed at North British
1890:	Fire--winding and pumping equipment being replaced. Chlorination plant erected.
1901:	Cyanidation plant installed.
1912:	Private company sold--collectively known as Oswald Estate Gold Mine
<b>1913--1924:</b>	<b>Public company formed--Oswalds Gold Mines NL</b>
<b>1924--1929:</b>	<b>New Oswald Gold Mining Co.</b>

Most of the features surveyed appear to date from periods 4 and 5 (1871 to 1914). Possibility that several of the kilns may date to the 1860s.

North British mine site. Main features include:

**Quartz roasting kilns**--On top of the four kilns is a dray track.

**New Battery footings**--At the rear (west) of the kilns, slightly to the south, is a large stone battery engine bed, which is capped with machine-made (Northcote manufactured) red bricks. The engine bed, with numerous 1-1/2 inch mounting bolts, measures 47 x 7 ft (14.3 x 2.13 m), and stands to a height of 6 ft (1.8 m). The engine bed still retains sections of wooden bedlogs. To the north of the engine bed is a line of largely buried wooden battery stumps. The visible stumps appear to belong to four battery boxes of 5-head of stamps. Most of the stumps have decayed leaving only protruding iron bolts. There are sections of concrete floor visible in front (east) of the battery stumps. Running along the rear (west) of the battery footings is a massive stone-walled loading ramp.

**Compressor footings.** To the south of the battery's engine bed is a large stone (hornsfel block set in concrete mortar) compressor bed which is capped with machine-made (Northcote manufactured) red bricks. The compressor bed, standing to a height of 6 ft, comprises two parallel footings, set 4-1/2 ft apart. The western footing measures 34-1/2 x 4-1/2 ft (10.36 x 1.37 m); the eastern 45 x 4-1/2 ft (13.7 x 1.37 m). The southern ends the twin footings are enlarged so that the gap is only 2-1/2 ft.

**Winder Footings.** Several metres from the western side of the compressor bed are the foundations for the winder and winding engine. These foundations comprise a winder bed which is constructed of hornsfel blocks set in a soft mortar. The bed stands 7 ft high, measures 17 x 13 ft (5.18 x 3.95 m) and has 1-1/2 inch mounting bolts. On the eastern side of the winder footing is the winding engine bed. Although primarily constructed out of hornsfel blocks, the winding engine bed is capped with hand-made red bricks, and is one foot taller than its neighbour.

**Pumping engine footings.** Several metres from the western end of the winding footings are the pump foundations. These consist of two parallel beds. The northern bed is constructed of hornsfel blocks and has granite corner stones. Like the engine footing for the new battery, this bed still retains sections of its wooden bedlogs. The bed measures 20 x 8 ft (6 x 2.43 m) and is slightly less in height than the winder bed. The southern pumping bed's fabric appears to illustrate two construction stages. The earliest phase, appears to make up the middle section of the bed, which is constructed out of hornsfel blocks and has granite corner stones. The two ends of the bed are constructed out of a mixture of red brick, granite blocks and hornsfel. It therefore appears that the bed has been enlarged to give it an overall measurement of 32 x 5-1/4 ft (9.75 x 1.6 m).

At the base of the front end of the northern pumping bed is a stone lined bob-pit. The inner chamber of the bob-pit is 7 ft (2.13 m) deep, and is approx. 22 ft (6.7 m) long and 6 ft wide. At the western end of the bob-pit is an open shaft. Most of the bob-pit (plus shaft) is fenced-off.

**Boiler house.** Running along the northern side of the pumping and winding foundations is brickwork belonging to the flue systems of four boilers. According to Christopher Davey, who excavated the boiler house the mid 1980s, there are two types of boilers, and a sequence of boiler installations, reflected in the brickwork:

There were two designs of boiler foundation. The south-west and north-east foundations are plain in section along their entire length and were for Cornish flue boilers, 26 feet (7.9 m) long by 6 feet 6 inches (2 m diameter). The other two foundations are shorter, and have their brick sides scalloped out in two places on each side to form the flues ... These foundations were for high pressure return tube boilers, 16 feet (4.9 m) long by 7 feet 6 inches (2.3 m) diameter.

The bricks forming the south-west foundations were of a local variety indicating that the foundation was built before the arrival of the railway in 1876 ... The plan of the brick and stone work reveals that the south-west ... boiler ... was a discrete unit which was built before the others to provide steam for the pump engine and maybe the first winder.

An underground flue runs west from the rear end of the south-west boiler. This flue becomes visible again, profiled in the eastern face of an excavation, approx. 12 m from the flues commencement. The site's interpretative track now passes the exposed flue. On the other side of the interpretative track, obscured by a pepper tree is a mound of brick rubble, obviously indicating the site of the chimney stack to which the flue was destined.

**Old Battery site.** Located 2 m west from the shaft's boundary fence is a stone-walled loading ramp. At the base of the ramp, running west, is a 26 ft (8 m) long linear depression which once would have contained the battery stumps. These have now rotted away, leaving only protruding mounting bolts. There appears to be four battery boxes (of 5-head of stamps each). At the western end of the linear depression is a largely buried stone engine bed. This bed is 4-1/2-ft wide and at least 18 ft (5.5 m) long. Running across the western end of the stone engine bed is the embankment for the square dam. This dam appears to have been created by erecting all four sides, rather than damming a gully. The interior of the dam appears to be stone lined.

There is a largely buried stone boiler setting, measuring 23 x 6-1/2-ft (7 x 2 m) to the north of the battery's engine bed. There is a possibility of a second boiler setting to the south. The rear, or flue end, of the exposed boiler setting lines up with the mound of brick rubble already mentioned as the destination for the south-west boiler associated with the winding and pumping beds. It appears that both these boilers hooked into the same stack.

To the south of the battery's battery footings are some protruding 2 inch diameter mounting bolts. It is difficult to establish any pattern for the bolts as this part of the site is covered by a small mullock heap. There is also a more intact stone bed at the base of the mullock heap's southern side. This bed is 3-1/2-ft (1.1 m) wide, stands 1 metre high and is at least 5.2 m long. The bed with several 1 inch mounting bolts, has granite corner stones. 10 m to the west of this bed is a partially buried stone-lined vat or tank.

**Stone flue?** Running across the rear of the battery site, in a southerly direction, is a 9 m section of what appears to be a stone flue. The flue has 2 ft thick walls, and a 3 ft wide inner chamber. The flues southern end becomes lost, buried by a mullock heap. The surviving section is quite similar to flues recorded on two other Maldon mine sites--the South German and Beehive.

**Stone culvert?** To the west of the mullock heap that covers the flue, in the face of an excavation, is the profile of another flue, or more likely, a stone culvert. The culvert has 2 ft thick walls and an inner chamber that is 1-3/4 ft wide. The culvert appears to head in the direction of the old battery site.

**Cyanide plant footings.** 10 m west of the compressor bed are two intact, circular concrete cyanide vats. The vats have 6 ft (1.8 m) high sides and are 19-1/2 ft (6 m) wide. The vats are above ground, resting on four parallel stone footings. These footings are each 80 ft (24.4 m) long, 2 ft (60 cm) thick, and set 4-1/2 ft (1.4 m) apart. As the two tanks span only two thirds of the footings, it is likely that a third vat once existed. At the base the western most stone vat stand are some treated tailings. Visible in the tailings are the outlines of 3 more parallel vat stands. These are somewhat smaller, being only 40 ft (12.2 m) long.

15 m to the east of the buried vat stands are three buried concrete vats. The most western vat is 20 ft (6.1 m) wide, the other two vats are smaller, being are only 14 ft (4.25 m). 6 m north of the buried vat stands is a small, largely buried, brick sump. The sump has two concrete rendered compartments, and has an overall measurement of 14-1/2 x 5-1/2 ft (4.4 x 1.7 m). Near the brick sump is a small brick engine bed.

**Tailings dump.** To the east and north of the mine site are massive treated dumps.

#### Independent mine site

Located on the north east corner of the machinery site is a 7-1/4 ft (2.2 m) square granite chimney stack base. A remains of a brick chimney stack runs north, from the east side of the granite base. Running, south, from the granite base, along the front of the engine beds is a square stone flue. The flue is visible for some 4.5 m before disappearing below ground. The flue would run a distance of 40 ft (12.2 m) before connecting with a boiler setting. The nearest of the machinery beds to the granite stack base is a large stone winder bed with central drum pit. The bed is constructed of large hornfels blocks (set in a hard concrete mortar) and has granite cornerstones. The winder bed, with 1-1/2 inch mounting bolts, measures 20 ft x 10-1/2 ft (6.1 x 3.12 m), and stands to a height of 6 ft (1.8 m). The pit for the winding drum measures 12-1/2 ft X 5-1/2 ft (3.8 x 1.67 m) and its west and east ends are lined with red bricks.

3-1/4 ft (1 m) to the south of the winder bed is a large stone engine bed which measures 19 ft X 5 ft (5.8 x 1.5 m) and stands 5 ft. This engine bed is also constructed of hornfels blocks, with granite cornerstones and has 1-1/2-inch mounting bolts. The winder and its engine bed are connected by a 1-1/2 ft X 9 inch decaying wooden beam.

4-1/2 ft (1.37 m) south of the engine bed is a fairly intact, 30 ft (9.15 m) long, stone wall belonging to a boiler setting. The inner face of this stone wall is brick-lined, as too is the back (west) end of the boiler setting. The back end of the boiler setting still has a well preserved flue entry and damper plate. The other side of the boiler setting has been demolished and lies buried by a mound of rubble.

The winding engine beds are still enclosed by sections of the engine house stone walls. Bits of the wall survive at the south and north corners.

Abutting the north corner of the winding engine house is a compressor bed. This bed runs across the eastern ends of the winding engine beds. The compressor bed, with 1 inch mounting bolts, measures 13 ft X 8 ft (3.96 x 2.4 m), and stands 5 ft high. It is also constructed of hornfels and has granite cornerstones.

23 m west of the winder bed is a filled shaft. All that is visible of the shaft is a section of its wooden collar. 15 m to the north is another filled, but collapsing shaft. Between the two shafts are two iron poppet head wheels. The remains of a largely quarried mullock heap lie to the south west of the shafts. The line of workings extend north up the hill from the two shafts but have been almost obliterated by shaft filling work.

#### North British Extended Mine.

Located a 100 m in from the south side of South Parkins Road is a largely bulldozed mullock heap associated with a filled, but slightly subsided shaft. 20 m east of the shaft is an excavated platform containing some fragments of stone footings. On the south side of the platform is a boiler setting depression. Near the depression is a bulldozed heap of brick rubble. The bricks are hand-made and have a hard concrete mortar adhering to them.

*INTEGRITY/CONDITION:* Remains at the Independent and North British mine sites are in good condition. Little survives of the third mine, North British Extended, that made up Oswalds Estate group of mines.

#### *CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because it:
  - a) was one of Maldon's premier long-term gold producers, the other major Maldon mines being the South German and Eaglehawk Union.
  - b) Mine was owned and operated by R. D. Oswald, who, with the profits of this mine and other mining ventures, became, during the later years of the 19th century, one of the richest men in Victoria.
- Social Significance, because it is a major Maldon tourist attraction managed by the Department of Conservation and Natural Resources.
- Scientific Significance, because the site displays one of the most comprehensive and intact collections of relics surviving in Victoria of a late 19th/early 20th century gold mine and tailings re-treatment works.

The site's significance is increased by cumulative value, because it:

- forms part of a group of sites which together document aspects of quartz and alluvial mining. These sites are Nos. 31, 32, 33 and 42 (North British, Independent, North British Extended Co. and Tarrangower Creek workings).

*SIGNIFICANCE RANKING:* Sites Listed Heritage Inventory.

**Assessor: David Bannear**

**Date: November 1992.**

- <sup>1</sup> Williams, p. 15
- <sup>2</sup> Department of Mines, Bulletins - No49, Some Mines at Maldon, J.J Caldwell, H.S. Whitelaw & D.J Mahony, 1926
- <sup>3</sup> Bendigo Advertiser 1/9/1924
- <sup>4</sup> Department of Mines, Bulletins - No49, Some Mines at Maldon, J.J Caldwell, H.S. Whitelaw & D.J Mahony, 1926
- <sup>5</sup> Mining Surveyors' Reports, January 1861

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- 6 Mining Surveyors' Reports, February 1861  
7 Mining Surveyors' Reports, March 1861  
8 Mining Surveyors' Reports, April 1861  
9 Mining Surveyors' Reports, May 1861  
10 North British Mine Chronology - S. Balderstone (Historic Places Branch) 1986  
11 North British Mine Chronology - S. Balderstone (Historic Places Branch) 1986  
12 R.L. Nankivell (Govt Mining Surveyor), Report on Oswald's Estates Mines, Maldon, 24 Dec 1901. [DCE Hanging Files - Research Files]  
13 Mining Surveyors' Reports, March 1870  
14 Mining Surveyors' Report, March 1876  
15 Mining Surveyors' Reports, March 1877  
16 Mining Surveyors' Reports, June 1877  
17 Mining Surveyors' Reports, September 1877  
18 Mining Surveyors' Reports, December 1877  
19 Mining Surveyors' Reports, March 1878  
20 Mining Surveyors' Reports, June 1878  
21 Mining Surveyors' Reports, September 1878  
22 Mining Surveyors' Reports, December 1878  
23 Mining Surveyors' Reports, December 1879  
24 Mining Surveyors' Reports, March 1880  
25 Mining Surveyors' Reports, June 1880  
26 Mining Surveyors' Reports, September 1880  
27 Mining Surveyors' Reports, December 1880  
28 Mining Surveyors' Reports, March 1881  
29 Mining Surveyors' Reports, June 1881  
30 Mining Surveyors' Reports, September 1881  
31 Mining Surveyors' Reports, September 1882  
32 Mining Surveyors' Reports, June 1883  
33 Mining Surveyors' Reports, September 1883  
34 Mining Surveyors' Reports, December 1883  
35 Mining Surveyors' Reports, March 1884  
36 Mining Surveyors' Reports, December 1884  
37 North British Mine Chronology - S. Balderstone (Historic Places Branch) 1986  
38 Mining Surveyors' Reports, March 1885  
39 Mining Surveyors' Reports, September 1885  
40  
41 Mining Surveyors' Reports, March 1886  
42 Mining Surveyors' Reports, June 1886  
43 Mining Surveyors' Reports, September 1886  
44 Mining Surveyors' Reports, March 1887  
45 Mining Surveyors' Reports, June 1887  
46 Mining Surveyors' Reports, September 1887  
47 North British Mine Chronology - S. Balderstone (Historic Places Branch) 1986  
48 Mining Surveyors' Reports, March 1888  
49 Mining Surveyors' Reports, December 1888  
50 Mining Surveyors' Reports, June 1889  
51 Mining Surveyors' Reports, September 1889  
52 Mining Surveyors' Reports, December 1889  
53 North British Mine Chronology - S. Balderstone (Historic Places Branch) 1986  
54 Mining Surveyors' Reports, June 1891  
55 Mining Surveyors' Reports, September 1891  
56 North British Mine Chronology - S. Balderstone (Historic Places Branch) 1986  
57 The Australian Mining Standard, Vol 5, 1892, p335 [DCE Hanging Files - Research Files]  
58 North British Mine Chronology - S. Balderstone (Historic Places Branch) 1986  
59 R A Moon - letter to Trustees in the Estate of the late R.D.Oswald, Esq., 22nd Nov 1901 [DCE Hanging Files - Research Files]  
60 R.L. Nankivell (Govt Mining Surveyor), Report on Oswald's Estates Mines, Maldon, 24 Dec

- 
1901. [DCE Hanging Files - Research Files]  
61 John Couchman (Mining Manager) - letter to Trustees of Oswald's Estate's Mines, 15 May  
1902. [DCE Hanging Files - Research Files]  
62 W.B.Donald - Letter to W.H Hart Esq of 26 Old Broad Street, London, 25th Sept 1902. [DCE  
Hanging Files - Research Files]  
63 Annual Report, 1903  
64 Annual Report, 1904  
65 Geological Survey of Victoria, Bulletin No. 14, The Maldon Gold-field, W M Bradford,  
1904  
66 Annual Report, 1905  
67 Annual Report, 1906  
68 Annual Report, 1907  
69 Annual Report, 1908  
70 Annual Report, 1909  
71 Annual Report, 1910  
72 Annual Report, 1911  
73 Annual Report, 1912  
74 Mining Notice - unsourced and undated - [DCE Hanging Files - Research Files]  
75 North British Mine Chronology - S. Balderstone (Historic Places Branch) 1986  
76 Oswald Gold Mines N.L. Notice for Seventh Annual Meeting, W B Arnold, 24/5/1920.  
[DCE Hanging Files - Research Files]  
77 North British Mine Chronology - S. Balderstone (Historic Places Branch) 1986  
78 Prospectus, New Oswald Gold Mining Company NL, 2 August 1924. [DCE Hanging Files -  
Research Files]  
79 New Oswald Gold Mining Company NL - Mine Manger's Report - 25th May 1925.  
80 Department of Mines, Bulletins - No49, Some Mines at Maldon, J.J Caldwell, H.S. Whitelaw  
& D.J Mahony, 1926  
81 New Oswald Gold Mining Company - Annual Report, 14 August 1928.  
82 Catalogue of Sale, Alexander Bell & Co. - New Oswald Mines. Sale held 12th and 13th June  
1929, [DCE Hanging Files - Research Files]  
83 New Oswald Gold Mining Co - Notice of Extraordinary Meeting, 3 July 1929, [DCE  
Hanging Files - Research Files]  
84 Maldon Historic Reserve Management Plant, Department of Conservation, Forests and  
Lands, 1988

**SITE NO. & NAME:** 34 SOUTH BRITISH MINE SITE

**LOCATION:** Parkins Reef, West Maldon

**HI NO:** H7723-0132

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**DIRECTIONS:** 750 m along South Parkins Road from its junction with Parkins Reef Road.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

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**HISTORY:**

1903. The German and Derby, the South German Extended No. 1, the South British, the Exhibition and Lisle, the Exhibition Consolidated, the Central Columbia, the Mount View, and the old Union Companies are all in the development stage.<sup>1</sup>

1904. South of the (North British), and on the same system of formations, is the South British mine. Mr Grenfell, late a "shift boss" in the North British is in charge. A main shaft is down 800 feet and works at the 600-foot level are being extended ... There is a 12-head mill on the mine.<sup>2</sup>

1904. The North of England Gold Mining Company, the Union Gold Mining Company, Bell's Reef Gold Mining Company, the Central Columbia Gold Mining Company, the Columbia Gold Mining Company, the South German Extended Gold Mining Company, the Mount Tarrengower Gold Mining Company, the Exhibition Consolidated Company, the Mount View Gold Mining Company, and the South British Company have, with indifferent success, carried on prospecting work during the year as vigorously as the funds at their command would allow.<sup>3</sup>

1905. The South British Company has continued to prospect without payable results throughout the year. Work is at present confined to the 1,000-foot level, where an eastern crosscut is being driven, with the hope of meeting with what is known as the Spur Reef, which proved very rich in Oswald's North British mine, adjoining. This company's mine is well equipped with winding and crushing machinery, and the company is very deserving of success. Nine men are now employed.<sup>4</sup>

1906. The South British Company has continued prospecting with an average of six underground and four surface hands. Nothing payable has, I regret to report, been found. The Nuggetty Extended Company working with an average of ten underground and three surface hands has taken out a few small crushings of payable stone, but during the greater part of the year the men have been employed in developmental work, which up to the present does not indicate payable results.<sup>5</sup>

1907. The following companies, although doing a large amount of work, have not met with the success deserved, viz. Union, Mount Tarrengower, Nuggetty Extended, Western Derby, South British, and Parkin's Reef.<sup>6</sup>

1912. The South British Syndicate Company has sunk a main shaft on the South British line of reef at Maldon West to a depth of 207 feet.<sup>7</sup>

1913. The South British Syndicate Company has continued prospecting without having met with the continuation of the payable shoot of stone that was worked at the shallow level.<sup>8</sup>

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**DESCRIPTION & INTERPRETATION:**

South British Co--c. 1903 to 1913

Mine site

Little survives of this mine site, except for the shaft and a small section of its surrounding mullock paddock. Quarrying has left the shaft area standing like a small island. To the south west of the shaft is a mound of brick and stone rubble. There are also two small dry dams close to the shaft.

*INTEGRITY/CONDITION:* Poor.

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*CULTURAL SIGNIFICANCE:*

The site has little historical significance and its integrity has been diminished to such an extent that it has little historical significance.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Annual Report, 1903
- 2 Geological Survey of Victoria, Bulletin No 14 - The Maldon Gold-Field, W M Bradford, 1904.
- 3 Annual Report, 1904
- 4 Annual Report, 1905
- 5 Annual Report, 1906
- 6 Annual Report, 1907
- 7 Annual Report, 1912
- 8 Annual Report, 1913

**SITE NO. & NAME:**       **35A**           **PEG LEG GULLY WORKINGS**  
                                   **35B**           **POLLARDS TAILINGS DUMP**

**LOCATION:**               **Peg Leg Gully, North Maldon**

**HI NO:**                 **35A**           **H7724-0042**  
                                   **35B**           **H7724-0043**

**DIRECTIONS:**         Pegleg Gully runs west from Union Hill to Porcupine Flat

**MUNICIPALITY:**       Mount Alexander Shire

**LAND STATUS:**        Maldon Historic Reserve

**HISTORY:**

1853-4. A Polish Captain, John G. Mechosk, with a party of eleven hired men were the reputed discoverers of gold at Tarrangower field. On 10 March 1854 he sent a memorial from Muckleford Creek to La Trobe, asking for a reward. He said he commenced prospecting on 5 June 1853. He said he reported his discovery to Commissioner John Bull at Castlemaine in December 1853, and the field in consequence was opened up at Tarrangower.

Various newspapers printed notes about Mechosk's discoveries, but added little to his evidence [*Herald*, 26 May (letter) and 7 July 1854, 20 June 1855. *Mt Alexander Mail*, 13 July 1855]. Commissioner Bull in a special report wrote that the first sign of the gold diggings on Tarrangower was miners going there from Barker's Creek in December 1853. About the same time, Mechosk called upon him and took him to the spot, and found that he and his party had been there, near where the Government Camp was set up, for some weeks. Bull suggested calling the field Menzies Hill Diggings. On 15 December 1853 Bull went to Tarrangower and found about fifty men there.

Local opinion at Maldon has been inclined to scepticism over Mechosk's claim as the discover of the field. A short history of the diggings in 1866 [*Tarrangower Times*, 28 September 1866] claimed that Mechosk only found gold after others had made piles. Diggers from Barker's Creek followed his cart on 6 December, and others followed on 8 December. The writer said that his party caught up with Mechosk on 11 December, and Mechosk had sunk too deep. This shaft was at the foot of Swiper's Reef, and not far from the Derby Co's shaft in 1866. The writer's party then sunk in Long Gully, and a half-ounce of gold was found in every tub. This was the start of the great rush.

In 1864 Jonathan G. Moon wrote a booklet on Tarrangower. [SLVL, Jonathan G. Moon, Vic Hist Pamph, No. 4, Tarrangower, 1864]. He said that Mechosk's party was discovered on 11 December 1853 putting down their second hole "near where the Royal Hotel stands". The next place opened was Long Gully, and two of the first here were Costick and Windy Jack, who got gold near (the later) Welcome Quartz Co. Another booklet says that Mechosk got gold near the site of the present Theatre Royal. It was generally believed that the first gold was found on the site of the monument, near the road in Long Gully, but many old hands contended it was found, "near the old, red-brick building that once stood in Reef Street, near the old Beehive Shaft". [Booklet from Mr Greig, MLC, Maldon] Bull said that the first holes were not far from the camp.

These places were, however, all more or less in the same locality, not far from the present centre of the town, and it seems reasonably certain that Mechosk's party was indeed the first there. His discovery by others no doubt led to his reporting the find to the authorities in Castlemaine. Bull said that they made their entry into the place by various bush routes, to evade detection.

On 21 January 1854 the *Herald* correspondent said that Bryant's Diggings--as Tarrangower was then called--was discovered by two Germans, whose names he could not spell adequately, but a later report [*Herald*, 15 May 1854] said that Hardimann, a German, and one of Chapman's party from South Australia, named Hardimann's Hill, behind the police station. He said that he was one of the original discoverers of Tarrangower, and got gold on the hill long before the rush. Chapman, one of the original discoverers of gold in South Australia, possibly gave his name to Chapman's Gully at Tarrangower.

By the end of January 1854 twenty gullies were being worked on the field [*Argus*, 31 January 1854] but apart from Long Gully there were only about six main places. Peg Leg Gully, Eaglehawk Gully, Growlers and German Gully, were opened first, and a number of small places, whose rush names failed to stick, and which often did not pay. [W. Howitt, *Land, Labour and Gold*]. The gully at the Springs, near the old Brewery, was worked in January 1854, and produced as well as gold a great amount of water, when it was most needed. Porcupine Flat was entered from Peg Leg in April 1854, and Forty Foot Hill was opened then [*Herald*, 28 April and 15 May 1854]. Sandy Creek, south of Long Gully, was discovered in May 1854 [*Herald*, 15 May 1854], and the bottom end of Nuggetty Flat and hard Hill leads were rushed by 5000 diggers in July. Growlers Gully got its name from the necessary presence of the Commissioner three or four times daily to settle disputes [*Herald*, 28 February 1854].

Some of the Tarrangower quartz reefs, such as Eaglehawk Reef, were discovered at the first rush, and companies were in the process of being formed in February 1854 [*Herald*, 13 February 1854].

Nearly all the main diggings at Maldon (never a very considerable alluvial diggings, but later an important reefing place) had been opened up by the end of 1854.

The Seventy Foot Lead near Manton's Gully, south of the town, was possibly opened in 1854.<sup>1</sup>

April 1855. Tarrangower. Two large quartz crushing machines are in course of erection, the engines being 18-horse power each.

The new rush across Peg Leg Gully has not yet answered expectations of diggers. Digging to the north of Forty foot hill progressing favourably.

One Berdan's, middle size [already on field]; this week we have a horse Berdan's, the largest ball of which weighs 4 cwt 3 grs.

Parties are at work on a new reef, at the back of the Australasian Hotel.

Part of a 14-horsepower steam-engine, with rollers of 2-1/2 tons weight, has also arrived.<sup>2</sup>

April 1855. Tarrangower. Quite a miniature township is rising in Peg Leg Gully ... The yield of gold ... ranges from 1-6 dwt the tub ... Great numbers of puddling machines are being erected.<sup>3</sup>

December 1859.

Population:-	Sandy Creek	763 Europeans	530 Chinese
	Mia Mia Creek	22	108
	Green Gully	12	18
	<b>Peg Leg 16</b>	-	
	Forty-Foot	14	47
	Eagle Hawk Gly	22	16
	Porcupine Flat	16	42
	Long Gully	16	46
	Seventy-Foot	<u>16</u>	<u>50</u>
		897	857 <sup>4</sup>

June 1860. With respect to the supply of water at present available at the different crushing machines throughout the district I have to remark that those at

The Springs have a supply to last	3 months
The Union Company, Eaglehawk Reef	1
<b>Machine at Peg-Leg Gully</b>	<b>3</b>
The four crushing machines at Long Gully	2
Three machines at Sandy Creek	1
Two machines at Green Gully	3
Omega Reef, Green Gully	1 <sup>5</sup>

July 1860. The great absence of rain during the preceding month, has very much curtailed the amount of water in the division.

The number of crushing engines now at work and more erecting, all of them of considerable horse-power, require a constant supply of the purest water for mining pursuits. Some of the machines at present in the district, are now using water that is totally unfit for the use to which it is unfortunately applied.

Atlas Company--German Reef. Supply constant; drain from reef. Vivian and Company--Beehive Reef. Supply constant; drain from reef. Isaacson's--Beehive Reef. Not working. Lisle's Reef Company--Lisle's Reef. Supply very limited. Great Western Company--Beehive Reef. Supply constant. Edwards--Maldon. Not working; supply precarious. Kangaroo Reef--South Muckleford. Removed. Omega Reef--Greenfalls. Supply Exhausted. Long Gully--Machines four in No.; supply 1 month. Buttingham's--Green Gully. Supply 6 weeks. Allsop's--Green Gully. Supply 1 month. Fitzgerald--At the Springs. Supply 1 month. Toy's--At the Springs. Supply 1 month. Hawk's--At Nuggetty. Not working. Fox, Raus and Co.--Pegleg. Supply 3 weeks. The Union Company--Eaglehawk Reef. Supply very moderate. Dun's Reef--Muckleford. Removed. Smith's Reef--Muckleford. Supply abundant; making dam. Eaglehawk Company. Supply abundant. Beehive Association--Beehive Reef. Supply limited. Welshman's Reef--1 Machine. Supply 2 months. Sandy Creek--3 Machines. Supply 2 months. Tarrangower Creek--Supply abundant. Mia Mia--Newstead. Supply abundant at present. Manton's Gully--Engine erecting. Provision making for water. Wattle Gully Reef--Drain from reef. Porcupine Flat--Alluvial. Large dam at present sufficient.<sup>6</sup>

February 1861. A new reef has been discovered within the last week, and a prospecting claim taken up; it is situate at Pegleg Gully, about a mile north-east of the township of Maldon. An alluvial rush has also taken place in the same locality (shallow sinking), yielding from 1 to 2 dwt per tub.<sup>7</sup>

March 1864 Miners distributed thus:

Pickpocket & Strangways	78	Growler's Gully	177
Newstead	113	Long Gully	145

Muckleford	137	<b>Peg Leg Gully</b>	<b>148</b>
Frenchman's Gully	51	Porcupine Flat	115
Mia Mia and Gardner's Gully	119	Eaglehawk	182
Sandy Creek	413	Bradford	45
Nuggetty Flat	126 <sup>8</sup>		

## June 1864 Miners distributed thus:

Strangways	39	Growler's Gully	177
Newstead	107	Long Gully	150
Muckleford	140	<b>Peg Leg Gully</b>	<b>162</b>
Frenchman's Gully	32	Porcupine Flat	121
Mia Mia	130	Eaglehawk	203
Sandy Creek	496	Bradford	17
Nuggetty Flat	121 <sup>9</sup>		

## September 1864 Miners distributed thus:

Pickpocket	89	Green Valley	35
Newstead	114	Long Gully Md.	18
Back Creek	44	<b>Peg Leg Gully</b>	<b>67</b>
Frenchman's Gully	42	Porcupine Flat	176
Gardner's Gully	32	Eaglehawk	150
Sandy Creek	250	Bradford	16
Nuggetty Flat	149	Mount Tarrangower	190
Beehive Hill	110	Ironbark	14
Armstrong's	4	Hard Hills	20
Hunter's Rush	27	Fryingpan	8 <sup>10</sup>

## March 1865 Miners distributed thus:

Pickpocket	113	Growler's Gully	82
Newstead	25	Long Gully	16
Green Valley	45	<b>Peg Leg Gully</b>	<b>77</b>
Fryingpan Gully	3	Porcupine	63
Gardner's Gully	28	Eaglehawk	182
Sandy Creek	230	Long Gully, Muckleford	60
Nuggetty	71	Mount Tarrangower	248
Beehive Hill	180	Ironbark Gully	16
Armstrong's	3	Hard Hills	9
Hunter's Rush	17	Back Creek	25 <sup>11</sup>

## September 1865 Miners distributed thus:

Pickpocket	546	Growler's Gully	55
Newstead	36	Long Gully	48
Green Valley	38	<b>Peg Leg Gully</b>	<b>78</b>
Fryingpan Gully	21	Porcupine Flat	86
Gardner's Gully	19	Eaglehawk	176
Sandy Creek	212	Long Gully, Muckleford	39
Nuggetty	65	Mount Tarrangower	226
Beehive Hill	152	Ironbark Gully	33
Armstrong's	7	Hard Hills	25
Hunter's Rush	31	Back Creek	23
Frenchman's Gully	2 <sup>12</sup>		

## September 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	33
Newstead	22	Long Gully	45
Green Valley	49	<b>Peg Leg Gully</b>	<b>63</b>
Fryingpan Gully	14	Porcupine	50
Gardner's Gully	12	Eaglehawk	180
Sandy Creek	219	Long Gully, Muckleford	30
Nuggetty	60	Mount Tarrangower	210
Beehive Hill	117	Ironbark Gully	20
Armstrong's Gully	2	Hard Hill	8
Hunter's Rush	8	Back Creek	13
Frenchman's	10 <sup>13</sup>		

December 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	31
Newstead	15	Long Gully	46
Green Valley	45	<b>Peg Leg Gully</b>	<b>65</b>
Fryingpan Gully	3	Porcupine	50
Gardner's Gully	12	Eaglehawk	187
Sandy Creek	205	Long Gully, Muckleford	33
Nuggety	75	Mount Tarrangower	195
Beehive Hill	111	Ironbark Gully	23
Armstrong's Gully	9	Hard Hills	22
Hunter's Rush	17	Back Creek	18
Frenchman's	7 <sup>14</sup>		

March 1867 Miners distributed thus:

Pickpocket	650	Growler's Gully	25
Newstead	65	Long Gully, Maldon	65
Green Valley	59	<b>Peg Leg Gully</b>	<b>76</b>
Fryingpan Gully	19	Porcupine	60
Gardner's Gully	12	Eaglehawk	190
Sandy Creek	180	Long Gully, Muckleford	35
Nuggety	85	Mount Tarrangower	195
Beehive Hill	98	Ironbark Gully	25
Armstrong's Gully	11	Hard Hills	22
Hunter's Rush	18	Back Creek	21 <sup>15</sup>

December 1870. A nugget, weighing a little over 5 oz, was found at Fiddler's Flat about a fortnight since, and another about the same weight has been found at Peg-leg Gully, by a man fossicking in the old lead.<sup>16</sup>

Early 1950s. Sluicing. Credit is due to Tom Baxter for his enterprise in successfully sluicing Maldon's long deserted alluvial gullies in face of almost insurmountable difficulties. To overcome a water problem, he installed powerful pumps on abandoned mine shafts to tap huge underground reservoirs. A steady flow is often directed a considerable distance to the operational head-works.<sup>17</sup>

#### Cyaniding--Maldon Division

1903. There is practically no alluvial mining done in the Tarrangower Division, but a large number of men are employed in treating sand by cyanide.

There are between 40 and 50 cyanide plants working in the Division at present.<sup>18</sup>

1904. There is practically no alluvial mining in this division, but the treatment of sand by the cyanide process has continued to be a very live industry, giving employment to a large number of hands.<sup>19</sup>

1905. The treatment of sand by the cyanide process continues to be a flourishing industry in this division. At least 46 plants have been in active operation during the year, employing not fewer than 245 hands and about 80 horses and drays. The yield of gold from this source, which, although I am unable to give, is, I know, considerable.<sup>20</sup>

1906. There are still about 40 cyanide plants at work in this division, employing about an average of 200 men, and a large number of horses and drays.<sup>21</sup>

1907. 150 men ... were engaged in cyaniding the quartz tailings in different parts of the division.<sup>22</sup>

1911. A number of parties in this division continue to treat the old tailings heaps by the cyanide process, but there is practically no alluvial mining being carried on.<sup>23</sup>

September 1940. Residues from the old mines are being treated by cyanide plants, and several prospecting parties are at work in the Maldon district where some good returns have been obtained.<sup>24</sup>

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#### *DESCRIPTION & INTERPRETATION:*

Gully most probably sluiced in the 1950s.

No references for Pollards battery. Main times that cyaniding flourished at Maldon was in the early 1900s and in the 1940s.

Alluvial workings

Gully sampled in three locations:

1. Junction of Reefs Street and Spring Gully Road.
2. Where Telfords Lane crosses Peg Leg Gully.
3. Where dismantled railway line to Shelbourne crosses the gully.

In all places sampled the alluvial workings, primarily reflecting the results of hydraulic sluicing, were found to be badly obscured by vegetation. The guts of the gully has been deeply sluiced, and is now a confusing landscape of deep channels and mounds of washed gravel. There is the odd surviving shaft, especially in the area of Telfords Lane, where the sinking was through a cap of cemented gravels. One puddler has been recorded by the Victoria Archaeological Survey in the gully.

Pollards tailings dump

Dump of treated tailings located at the head of the gully, near Union Hill. Known as Pollards, this dump is currently being quarried.

*INTEGRITY/CONDITION:* Alluvial workings have some integrity.

*CULTURAL SIGNIFICANCE:*

Site 35A has:

- Historical Significance, because it was one of Maldon's richest and earliest alluvial gullies. Others in this category are Long Gully, Eaglehawk Gully, Growlers Gully and German Gully.
- Scientific Significance, because it is the only site in the Division to contain a relatively intact landscape that illustrates the effects of hydraulic sluicing.

Site 35B has negligible significance.

*SIGNIFICANCE RANKING:* Sites Listed Heritage Inventory.

**Assessor: David Bannear**

**Date: November 1992.**

- 1 Flett, J., The History of Gold Discovery in Victoria, Poppet Head Press, 1979, pp. 193-201
- 2 Mt Alexander Mail, 4 April 1855
- 3 Mt Alexander Mail, 27 April 1855
- 4 Mining Surveyors' Reports, December 1859
- 5 Mining Surveyors' Reports, June 1860
- 6 Mining Surveyors' Reports, July 1860
- 7 Mining Surveyors' Reports, February 1861
- 8 Mining Surveyors' Reports, March 1864
- 9 Mining Surveyors' Reports, June 1864
- 10 Mining Surveyors' Reports, September 1864
- 11 Mining Surveyors' Reports, March 1865
- 12 Mining Surveyors' Reports, September 1865
- 13 Mining Surveyors' Reports, September 1866
- 14 Mining Surveyors' Reports, December 1866
- 15 Mining Surveyors' Reports, March 1867
- 16 Mining Surveyors' Reports, December 1870
- 17 Williams, p. 30
- 18 Annual Report, 1903
- 19 Annual Report, 1904
- 20 Annual Report, 1905
- 21 Annual Report, 1906
- 22 Annual Report, 1907
- 23 Annual Report, 1911
- 24 Mining and Geological Journal, September 1940

**SITE NO. & NAME:** 36 **PORCUPINE FLAT DREDGE**

**LOCATION:** **Porcupine Flat**

**HI NO:** **H7724-0044**

**DIRECTIONS:** 2 km east of Maldon. West side of Lockwood Road, running north from Allans Road to the junctions of Fogarty Gap and Lockwood Roads.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

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**HISTORY:**

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In 1864 Jonathan G. Moon wrote a booklet on Tarrangower. [SLVL, Jonathan G. Moon, Vic Hist Pamph, No. 4, Tarrangower, 1864]. He said that Mechosk's party was discovered on 11 December 1853 putting down their second hole "near where the Royal Hotel stands". The next place opened was Long Gully, and two of the first here were Costick and Windy Jack, who got gold near (the later) Welcome Quartz Co. Another booklet says that Mechosk got gold near the site of the present Theatre Royal. It was generally believed that the first gold was found on the site of the monument, near the road in Long Gully, but many old hands contended it was found, "near the old, red-brick building that once stood in Reef Street, near the old Beehive Shaft". [Booklet from Mr Greig, MLC, Maldon] Bull said that the first holes were not far from the camp.

These places were, however, all more or less in the same locality, not far from the present centre of the town, and it seems reasonably certain that Mechosk's party was indeed the first there. His discovery by others no doubt led to his reporting the find to the authorities in Castlemaine. Bull said that they made their entry into the place by various bush routes, to evade detection.

On 21 January 1854 the *Herald* correspondent said that Bryant's Diggings--as Tarrangower was then called--was discovered by two Germans, whose names he could not spell adequately, but a later report [*Herald*, 15 May 1854] said that Hardimann, a German, and one of Chapman's party from South Australia, named Hardimann's Hill, behind the police station. He said that he was one of the original discoverers of Tarrangower, and got gold on the hill long before the rush. Chapman, one of the original discoverers of gold in South Australia, possibly gave his name to Chapman's Gully at Tarrangower.

By the end of January 1854 twenty gullies were being worked on the field [*Argus*, 31 January 1854] but apart from Long Gully there were only about six main places. Peg Leg Gully, Eaglehawk Gully, Growlers and German Gully, were opened first, and a number of small places, whose rush names failed to stick, and which often did not pay [W. Howitt, *Land, Labour and Gold*]. The gully at the Springs, near the old Brewery, was worked in January 1854, and produced as well as gold a great amount of water, when it was most needed. Porcupine Flat was entered from Peg Leg in April 1854, and Forty Foot Hill was opened then [*Herald*, 28 April and 15 May 1854]. Sandy Creek, south of Long Gully, was discovered in May 1854 [*Herald*, 15 May 1854], and the bottom end of Nuggetty Flat and hard Hill leads were rushed by 5000 diggers in July. Growlers Gully got its name from the necessary presence of the Commissioner three or four times daily to settle disputes [*Herald*, 28 February 1854].

Some of the Tarrangower quartz reefs, such as Eaglehawk Reef, were discovered at the first rush, and companies were in the process of being formed in February 1854 [*Herald*, 13 February 1854].

Nearly all the main diggings at Maldon (never a very considerable alluvial diggings, but later an important reefing place) had been opened up by the end of 1854.

The Seventy Foot Lead near Manton's Gully, south of the town, was possibly opened in 1854.<sup>1</sup>

1854. There is a new rush, and a violent one. Thousands and thousands of the people who have come up here [Buckland River] from the Ovens are now off again, helter-skelter, down to a place called The Porcupine, from the Porcupine Inn, beyond Bendigo. These crowds will in less than a fortnight have travelled upwards of three hundred miles after new rushes!

By all accounts the diggings of the Porcupine, or Bryant's Ranges, are totally destitute of water; a hot, burnt-up place, and however rich it may be, will be torn up long before these people, about 5,000 in number, can get there. It lies between Bendigo and Forest Creek, and not more than 60 miles from Ballarat, so that, if it prove good, 80,000 people could be upon it in less than a fortnight.

A host of tents, whitening all the valley as far as we could see, announced a well populated scene. When we came up to the tents, we found them surrounding a part of the valley which was all completely dug up, and throngs of diggers at work.

All here was bustle, and man thronging on man. This was in fact a new rush--the last of many which had taken place here. We could see that thousands of holes had been put down which had proved shicers, that is, blanks: but in the middle the white heaps of pipeclay which were thrown out, and the windlasses at work, showed that there the diggers had struck the gold.

When we came to traverse the whole of the diggings we found them extending about three miles along this valley, which at the upper end turned off to the left and again descended in the opposite direction towards the Forest Creek road, called properly Long Gully. All the way the ground had been turned up with an amazing activity for so short a time, only a few months.

The majority of the holes had yielded little or nothing; others had evidently yielded well, and it is said, very well. We were assured that some men had taken as much as £1,000 out of one hole.

Not one-tenth of the ground turned up at Tarrangower had proved productive, and we saw an instance in which a whole gully had been dug up and no gold found, the lead having commenced in one part of it, then instead of following the gully had taken a most astonishing direction forming the segment of a large circle along the side of a hill. Most of the holes sunk ranged from 10 to 20 feet deep. As we came down Long Gully on the way (to Forest Creek) we saw heaps of stuff which had been piled up during the summer to await the rains of winter. The diggers have constructed dams across the gully to catch the winter rains.

Truly the whole district is amazingly wanting in water, yet the valleys and uplands are finely swarded and green, and possess a deep, rich soil. The scenery is very pleasant--wooded ranges and hills scattered with crags bounding these fertile slopes and glades, and the diggers are actually digging up and converting into a wilderness of gravel heaps slopes of such verdure as it would make an English farmer's heart ache to see it destroyed.

The people on this goldfield are said to be 18,000 or 20,000, the gold procured from 1,000 to 2,000 ounces a week.

A little beyond the present extent of the diggings the country dips rapidly down into the valley of the Loddon ... At the bottom of this valley, before reaching the great plain of the Loddon, water-dealers have sunk wells with great success. They are called The Springs, and here during the summer all the people congregate and pitch their tents for the sake of the water, going to and fro to work.

Here would be the site of a beautiful township ... but as is universally the case, the surveyors have laid out the township on an adjoining barren hill, where the whole ground is stone or stony, and where the people would have to carry up in carts, for nearly a mile, every drop of water they would require.

At the Camp, Mr Bernard Smith is now installed in the full honours of a Gold Commissioner. Mr Smith and Mr Lowther with some half-dozen police were all the officials on whom the whole business and responsibility rested over a population of 20,000.

Numbers who made rushes amounting to 300 miles within the fortnight were dreadfully disappointed, and many went back to the Ovens.

The fact is, that Tarrangower in summer is totally destitute of water to drink or to wash the dirt. To cart the stuff to the Loddon cost ... £3 per load. Some parties who had tried the surface part of the ranges reported they had got three pounds weight of gold from one cart load. This produced a perfect mania, and crowds began digging up surface stuff and carting it down to the gullies, where they hoped there would be water in winter, paying £1 a load to have it carted. Thousands of tons were piled up, and the sanguine expectants awaited the arrival of rain; but vast was their consternation and amazement when rain came, and they could fairly try their mountains of surface stuff, to find it yield not pounds or ounces, but mere dwts. to the load, and thousands of tons nothing at all.

In consequence of this we expected to find these diggings nearly exhausted; but nothing of the kind. On the contrary, there was the most busy throng that we had ever seen since our first arrival at Spring Creek (Beechworth).<sup>2</sup>

1854-59. There was a general exodus from the diggings before the end of 1854, a large number joining in a wild rush of diggers to another rich alluvial field recently discovered at Simpson's Ranges (Maryborough), 20 miles westward; but the alluvial leads of Tarrangower were by no means worked out.

Gold was subsequently wrought apart from the rich deposits of Porcupine and Long Gully earlier mentioned along leads reaching to Sandy Creek, Muckleford, Walmer, Nuggetty Flat, and Bradford.

A flourishing suburb quickly developed at Eagle Hawk, at the northern end of the field. Its busy shopping street was lined both sides with trading establishments of every description. There were practising doctors, lawyers and chemists, at least three hotels, two churches, a day school, and a large amusement theatre. The area was surrounded by crushing and puddling machines.

Porcupine also became a busy trading centre with three hotels, stores, a day school and Tarrangower's only racecourse.

Sandy Creek and Nuggetty Flat could count a school, church, hotels and stores. There were 1,000 people on Sandy Creek in 1859, including many Chinese and a Chinese Circus.<sup>3</sup>

May 1855. Another steam quartz-crushing machine is being erected on the Porcupine Flat.<sup>4</sup>

August 1859. Porcupine Flat Company. The engine, engine-house, and carpenter's shop are already fixed. The company has an abundant supply of water, and will commence operations as soon as arrangements are made for the completion of the puddling-machines, which are intended to be driven by steam power.<sup>5</sup>

December 1859

Population:-	Sandy Creek	763 Europeans	530 Chinese
	Mia Mia Creek	22	108
	Green Gully	12	18
	Peg Leg	16	-
	Forty-Foot	14	47
	Eagle Hawk Gly	22	16
	<b>Porcupine Flat</b>	<b>42</b>	
	Long Gully	16	46
	Seventy-Foot	<u>16</u>	<u>50</u>
		897	857 <sup>6</sup>

December 1859. The Porcupine Flat Gold-Mining Company has the dam excavated, a new cut into the creek formed, and the sluice-head in position; also a well for the pump, and a drive 30 feet in length finished.

Applications for leases:

Crown Reef Co., Mt Tarrengower, quartz	£10,000 capital	£2,000 machine
Manton's Gully Mining Co., quartz	10,000	2,000
Palmer's Reef - The Great Britain Quartz-Mining Assn.	10,000	4,000
Tarrengower Steam Puddling Co., lease 20 acres	5,000	2,000
Lease of 500 yards, south end of Eagle Hawk Reef	20,000	2,000
Vulcan Company, quartz. Lease 600 x 600 yards	10,000	3,000
Pluto Mining Assn, quartz. Lease 600 x 200 yards.	12,000	2,000
<b>Porcupine Gold Mining Co., already obtained by grant from Warden's Court</b>	3,000	2,000
Tarrengower Reform Assn, quartz-mining	15,000	4,500
Golden Hope Co., Linscott's Reef	<u>12,000</u>	<u>3,000</u>
Totals	£107,000	£26,500 <sup>7</sup>

June 1860. Puddling machines and dams (4). At Porcupine Flat, Sandy Creek, Seventy-Foot, and Eaglehawk Gullies.<sup>8</sup>

April 1861. Owing to the rains during the present month mining has received a fresh impetus, two alluvial companies, viz. the Maldon and Porcupine Gold Washing Associations, have recommenced working, with good prospects, and the horse puddling machines are averaging fair returns.<sup>9</sup>

May 1861. The horse puddling machines on Porcupine Flat are doing very well, but the yields from the company's steam puddling machine has been very indifferent. The Maldon Gold Washing Company in Long Gully is employing 30 men; of these companies the wages have not averaged £2 per week each man.<sup>10</sup>

March 1864 Miners distributed thus:

Pickpocket & Strangways	78	Growler's Gully	177
Newstead	113	Long Gully	145
Muckleford	137	Peg Leg Gully	148
Frenchman's Gully	51	<b>Porcupine Flat</b>	<b>115</b>
Mia Mia and Gardner's Gully	119	Eaglehawk	182
Sandy Creek	413	Bradford	45
Nuggetty Flat	126 <sup>11</sup>		

June 1864 Miners distributed thus:

Strangways	39	Growler's Gully	177
Newstead	107	Long Gully	150
Muckleford	140	Peg Leg Gully	162
Frenchman's Gully	32	<b>Porcupine Flat</b>	<b>121</b>
Mia Mia	130	Eaglehawk	203
Sandy Creek	496	Bradford	17
Nuggetty Flat	121 <sup>12</sup>		



## September 1864 Miners distributed thus:

Pickpocket	89	Green Valley	35
Newstead	114	Long Gully Md.	18
Back Creek	44	Peg Leg Gully	67
Frenchman's Gully	42	<b>Porcupine Flat</b>	<b>176</b>
Gardner's Gully	32	Eaglehawk	150
Sandy Creek	250	Bradford	16
Nuggetty Flat	149	Mount Tarrangower	190
Beehive Hill	110	Ironbark	14
Armstrong's	4	Hard Hills	20
Hunter's Rush	27	Fryingpan	8 <sup>13</sup>

## March 1865 Miners distributed thus:

Pickpocket	113	Growler's Gully	82
Newstead	25	Long Gully	16
Green Valley	45	Peg Leg Gully	77
Fryingpan Gully	3	<b>Porcupine</b>	<b>63</b>
Gardner's Gully	28	Eaglehawk	182
Sandy Creek	230	Long Gully, Muckleford	60
Nuggetty	71	Mount Tarrangower	248
Beehive Hill	180	Ironbark Gully	16
Armstrong's	3	Hard Hills	9
Hunter's Rush	17	Back Creek	25 <sup>14</sup>

## September 1865 Miners distributed thus:

Pickpocket	546	Growler's Gully	55
Newstead	36	Long Gully	48
Green Valley	38	Peg Leg Gully	78
Fryingpan Gully	21	<b>Porcupine Flat</b>	<b>86</b>
Gardner's Gully	19	Eaglehawk	176
Sandy Creek	212	Long Gully, Muckleford	39
Nuggetty	65	Mount Tarrangower	226
Beehive Hill	152	Ironbark Gully	33
Armstrong's	7	Hard Hills	25
Hunter's Rush	31	Back Creek	23
Frenchman's Gully	2 <sup>15</sup>		

## March 1866 Miners distributed thus:

Pickpocket and Strangways	855	Growler's Gully	50
Newstead	7	<b>Porcupine Flat</b>	<b>60</b>
Gardner's Gully	16	Eaglehawk	186
Sandy Creek	256	Long Gully	54
Nuggetty	80	Mount Tarrangower	238
Beehive Hill	152	Ironbark Gully	15
Hard Hills	25	Muckleford	221

In the locality of Muckleford the numbers employed are about the same as usual, and there, as well as at Porcupine Flat, a general complain prevails on the part of the miners that the diggings have become very poor.<sup>16</sup>

## September 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	33
Newstead	22	Long Gully	45
Green Valley	49	Peg Leg Gully	63
Fryingpan Gully	14	<b>Porcupine</b>	<b>50</b>
Gardner's Gully	12	Eaglehawk	180
Sandy Creek	219	Long Gully, Muckleford	30
Nuggetty	60	Mount Tarrangower	210
Beehive Hill	117	Ironbark Gully	20
Armstrong's Gully	2	Hard Hill	8
Hunter's Rush	8	Back Creek	13

Frenchman's

10<sup>17</sup>

December 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	31
Newstead	15	Long Gully	46
Green Valley	45	Peg Leg Gully	65
Fryingpan Gully	3	<b>Porcupine</b>	<b>50</b>
Gardner's Gully	12	Eaglehawk	187
Sandy Creek	205	Long Gully, Muckleford	33
Nuggety	75	Mount Tarrangower	195
Beehive Hill	111	Ironbark Gully	23
Armstrong's Gully	9	Hard Hills	22
Hunter's Rush	17	Back Creek	18
Frenchman's	7 <sup>18</sup>		

March 1867 Miners distributed thus:

Pickpocket	650	Growler's Gully	25
Newstead	65	Long Gully, Maldon	65
Green Valley	59	Peg Leg Gully	76
Fryingpan Gully	19	<b>Porcupine</b>	<b>60</b>
Gardner's Gully	12	Eaglehawk	190
Sandy Creek	180	Long Gully, Muckleford	35
Nuggety	85	Mount Tarrangower	195
Beehive Hill	98	Ironbark Gully	25
Armstrong's Gully	11	Hard Hills	22
Hunter's Rush	18	Back Creek	21 <sup>19</sup>

March 1881. Alluvial mining. Three sluicing parties (Chinese) have taken advantage of the water now being pumped from the Alliance Company's mine, and have started operations at Porcupine Flat.<sup>20</sup>

December 1887. The Government prospectors, on Porcupine Flat, have sunk about twenty holes, varying from 7 to 50 feet in depth. Wash-dirt was found in some of the deepest holes, but not payable. They have been removed to another place, where several holes have been sunk, varying in depth from 9 to 24 feet, but hitherto without any profitable result.<sup>21</sup>

1973 to 1984. This unit until recently contained a unique collection of features associated with alluvial mining dating from the first discovery of gold. Porcupine Flat was only mined for alluvial gold, the last operation being the dredging of the area between 1973 and 1984. The relics in this locality included numerous miners' holes, remains of dams and horse puddling operations, remains of a nozzling operation, dredging ponds, a dredge, a drag line and associated equipment. Porcupine Flat was once a well established community with a racecourse, church, hotel, shops and houses.<sup>22</sup>

1987. Triad Mining NL was granted a Mining Area Licence to establish a gold ore treatment plant on the public land at Porcupine Flat. Most of the historic features mentioned above have been destroyed by this development.<sup>23</sup>

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*DESCRIPTION & INTERPRETATION:*

Alluvial workings

Modern re-treatment works--earlier alluvial workings have been largely obliterated.

Dredge and drag line (1973 to 1984)

Intact dredge and dragline.

*INTEGRITY/CONDITION:* Dredge and drag line in good condition.

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*CULTURAL SIGNIFICANCE:*

The Porcupine Flat dredge has:

- Social Significance because, in its present location, it is a tourist attraction.
- Scientific Significance because of the intactness and condition of the plant.

*SIGNIFICANCE RANKING:* Sites Listed Heritage Inventory.

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Assessor: David Bannear

Date: November 1992.

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- 1 Flett, J., The History of Gold Discovery in Victoria, Poppet Head Press, 1979, pp. 193-201
- 2 Howitt, W., Land, Labour, and Gold, 1855, quoted in Williams, pp. 10-13
- 3 Williams, pp. 13-14
- 4 Mt Alexander Mail, 18 May 1855
- 5 Mining Surveyors' Reports, August 1859
- 6 Mining Surveyors' Reports, December 1859
- 7 Mining Surveyors' Reports, December 1859
- 8 Mining Surveyors' Reports, June 1860
- 9 Mining Surveyors' Reports, April 1861
- 10 Mining Surveyors' Reports, May 1861
- 11 Mining Surveyors' Reports, March 1864
- 12 Mining Surveyors' Reports, June 1864
- 13 Mining Surveyors' Reports, September 1864
- 14 Mining Surveyors' Reports, March 1865
- 15 Mining Surveyors' Reports, September 1865
- 16 Mining Surveyors' Reports, March 1866
- 17 Mining Surveyors' Reports, September 1866
- 18 Mining Surveyors' Reports, December 1866
- 19 Mining Surveyors' Reports, March 1867
- 20 Mining Surveyors' Reports, March 1881
- 21 Mining Surveyors' Reports, December 1887
- 22 Maldon Historic Reserve Management Plan, Department of Conservation, Forests and  
Lands, 1988
- 23 Maldon Historic Reserve Management Plan, Department of Conservation, Forests and  
Lands, 1988

**SITE NO. & NAME:** 37 CALEDONIAN CRUSHING MILL

**LOCATION:** Caledonian Gully, Swiper's Reef, Derby Hill.

**HI NO:** H7723-0101

**DIRECTIONS:** Main Street, Maldon township, 200m north of junction of Castlemaine and Newstead roads

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Freehold land, but within Maldon Historic Reserve

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**HISTORY:**

1857. Sale of town lots at Maldon in 1857. List of improvements existing on land to be auctioned included: Edwards Crushing Machine, £2,500.<sup>1</sup>

July 1860. The number of crushing engines now at work and more erecting, all of them of considerable horse-power, require a constant supply of the purest water for mining pursuits. Some of the machines at present in the district, are now using water that is totally unfit for the use to which it is unfortunately applied.

Atlas Company--German Reef: supply constant; drain from reef. Vivian and Company--Beehive Reef: supply constant; drain from reef. Isaacson's--Beehive Reef: not working. Lisle's Reef Company--Lisle's Reef: supply very limited. Great Western Company--Beehive Reef: supply constant. **Edwards--Maldon: Not working;** supply precarious. Kangaroo Reef--South Muckleford: removed. Omega Reef--Greenfalls: supply exhausted. Long Gully--Machines four in No: supply 1 month. Buttingham's--Green Gully: supply 6 weeks. Allsop's--Green Gully: supply 1 month. Fitzgerald--At the Springs: supply 1 month. Toy's--At the Springs: supply 1 month. Hawk's--At Nuggety: not working. Fox, Raus and Co.--Pegleg: supply 3 weeks. The Union Company--Eaglehawk Reef: supply very moderate. Dun's Reef--Muckleford: removed. Smith's Reef--Muckleford: supply abundant; making dam. Eaglehawk Company: supply abundant. Beehive Association--Beehive Reef: supply limited. Welshman's Reef--1 Machine: supply 2 months. Sandy Creek--3 Machines: supply 2 months. Tarrangower Creek: supply abundant. Mia Mia--Newstead: supply abundant at present. Manton's Gully: engine erecting--provision making for water. Wattle Gully Reef: drain from reef. Porcupine Flat--Alluvial: large dam at present sufficient.<sup>2</sup>

c.1859. There are no references to the building of kilns by the Parkin's Reef Quartz Mining Company, and the first mention of kilns is in 1865, one year after Oswald and Company acquired the mine. The kilns have the same design as those of the Caledonian crushing mills, located in Long Gully, Maldon, and owned and operated by Oswald from about 1859.<sup>3</sup>

[Reference March 1868 suggests that this is the date for the construction of the crushing mill, presumably the kilns were constructed then].

1866. As early as 1866 there were no less than thirty-four [crushing] machines on Maldon, but many were small and crudely constructed, allowing much gold to escape, and an over-all loss of one and half ounces per ton was estimated. Batteries crushing for the public included the Great Eastern (Eagle Hawk), erected 1858, twenty-four stampers and two Chilian mills, described as the most perfect yet invented; Morgan's (Eagle Hawk), Fitzpatrick's (Springs), Pollard's (Peg Leg Gully), Atlas (German Gully), renamed Phoenix after partly demolished by fire in 1863, Chrystal's renamed Caledonian by R.D. Oswald, successor to David Chrystal, and Edwards Bros.<sup>4</sup>

March 1868. The Caledonian Company has also been erecting new and expensive machinery, consisting of a condensing engine of 50-horse power, 24 heads of stampers, and a new tailings pump. The plant was started this week, and appears to answer well; the owner considers that he will save on firewood at least 25 per cent.<sup>5</sup>

September 1886. The total yield of gold for the past quarter is 855 oz 8 dwt 13 gr more than the previous one. It would have been greater but for the Caledonian mills having been stopped for a month for repairs, and cleaning the boilers. They started again about a fortnight since, and are likely to be kept in constant work.<sup>6</sup>

1888. The Caledonian Battery was one of the largest in Maldon and was closely linked to the operation of the Beehive Mine. It was owned by Robert Oswald who lived in High Street opposite the site. In dry spells water was channelled from the mine to the Battery along the gutters of Main Street to enable the battery to operate. The mine closed in the early 1900s.<sup>7</sup>

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*DESCRIPTION & INTERPRETATION:*

Caledonian Crushing Mill--reference dated March 1868 suggests that this is the date for the construction of the crushing mill, (the remains of which survive today) presumably the kilns were constructed at the same time.

Crushing mill

An open culvert (town drain) runs along the east side of Main Street. North of the battery site, the culvert is V-shaped and constructed of concrete. South of the northern edge of the battery site, the culvert becomes rectangular in shape and is stone-lined. The initial 13 m of the rectangular culvert is 7 ft deep and 4 ft wide (2.1 x 1.2 m) and covered by aged timber slabs. South of the timber-covered section, the culvert is 2 ft (60 cm) shallower. A bridge crosses the culvert 27.4 m south of the timber-covered section. The remains of the bridge consist of three stone abutments, spanned by three timber stringers. The bridge is 14 ft (4.3 m) wide and has a span of 34 ft (10.4 m). South of the bridge, the depth of the culvert is reduced by a further 60 cm, to 0.9 m (3 ft).

Abutting the north side of the bridge is the edge of a stone-walled dam, now empty of water. The dam wall is intact, but for its eastern side. The dam measures approximately 25 x 16 m. North of the stone-walled dam is a larger dam. This second dam is larger and has a earthen embankment.

East of the dam are sections of stone walls of a battery house. The walls are 2 ft (60 cm) thick and the building's overall dimensions would have been 72 x 44 ft (22 x 13 m). Only a section of the eastern wall stands above ground level, to a height of 3 m. The building's interior is filled with rubble, but remains of two bedlogs are visible. Adjoining the building's south end is a large stone engine bed, 24 x 4 ft (7.3 x 1.2 m) and 1 m high. One-inch diameter mounting bolts protrude from the bed's upper face. The stonework is being disturbed by pepper tree roots and ivy. Immediately south is a mound of stone rubble and handmade bricks, to the east of which is a small section of stone wall--possibly the remains of a flue.

Uphill, 20 m from the battery house, are the remains of four exposed, and one largely buried, quartz roasting kilns. Only the back wall, and the rear sections of the roasting bowls, survive. The roasting bowls are constructed of hornfels slabs and blocks which have been burnt a red colour. The bowls, set 2 m (6-1/2 ft) apart, have characteristically straight backs and flared sides ... are over 2.5 m deep, and approx. 4.5 m (14-1/2 ft) wide at the top and 2.5 m (8-1/4 ft) wide at the base.

*INTEGRITY/CONDITION:* Good.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because the crushing mill was associated with R. D. Oswald, who, through various mining ventures in the late 19th century, became one of Victoria's richest men and best known mining entrepreneurs.
- Scientific Significance, because:
  - a) the quartz roasting kilns are evidence of an early treatment process developed on the Victorian goldfields to facilitate quartz crushing and the retrieval of gold.
  - b) the site contains a broad range of components which clearly illustrate the treatment process which took place on the site.
  - c) it is a rich archaeological site, which is visible from the main tourist precinct of Maldon.

The site's significance is increased by cumulative value, because it:

- a) forms part of an important network of sites that runs parallel to the main commercial area of Maldon. These sites, from north to south, are Nos. 24, 17, 9, 38, 37 and 18 (Maldon State Battery, Alliance, Beehive, Derby United, Caledonian Crushing Mill, South German).
- b) is part of a group of sites all of which contain the remains of quartz roasting kilns. The surviving kilns are evidence of the variation in kiln design, and also the continuation of the practice of quartz roasting in the Maldon area long after its discontinuation on other Victorian goldfields. These sites are 9, 10, 12, 14, 25, 31, 37, 51, 61, 69 & 76 (Beehive Co. Bells Reef, South Cookmans, Cookmans Association, Grand Junction, North British, Caledonian, Fentemans, Young Australian, Boswarva Hill and Thornhill Co.).

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

**Assessor: David Bannear**

**Date: November 1992.**

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<sup>1</sup> Williams, p. 79

<sup>2</sup> Mining Surveyors' Reports, July 1860

<sup>3</sup> Davey (undated) - The North British Mine Site: A Preliminary Report on its History and Archaeology

<sup>4</sup> Williams,

- 
- <sup>5</sup> Mining Surveyors' Reports, March 1868
  - <sup>6</sup> Mining Surveyors' Reports, September 1886
  - <sup>7</sup> Maldon Historic Reserve Management Plan, Department of Conservation, Forests and Lands, 1988

**SITE NO. & NAME:** 38 DERBY UNITED CO.

**LOCATION:** Swiper's Reef, Derby Hill, Maldon Township

**HI NO:** H7723-0133

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**DIRECTIONS:** South-west corner of the Derby Hill. Accommodation Centre, approximately 200 m north from the Caledonian battery site.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

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**HISTORY:**

1853. In an editorial published on September 28, 1866, the *Tarrangower Times* presented a pen picture of early happenings on the Diggings which, rightly or wrongly, places Mechosk in a minor role in the moving drama portraying the first actual gold discovery. It states:

"The facts are well known to old residents of the place--that the Captain was merely instrumental to the discovery, and that he did not succeed in finding gold until some time after those more fortunate had made on this goldfield large sums of money and, in some instances, fortunes better known by the mining fraternity by the significant title of "a pile".

The Captain used to go through the bush to Barker's Creek with his horse and dray to purchase provisions, and the rumour having obtained that he was doing remarkably well "on the quiet", a few of the miners from the Creek formed a party and tracked the cart wheels as far as Tarrangower. This was on the 6th December (1853), and others followed on the 8th.

It may be mentioned that the present writer and his "chum", both equally innocent of bush knowledge, were actually lost in the bush for two days and three nights in their essay to take a short cut to Bryant's Ranges ... A halt was made and encampment formed in Commissioner's Gully, now High Street, and a delightful spring of beautiful water found nearby.

The forest here was very dense, so much so that although always within coo-ee of the prospectors, the party was unable to discover them until the 11th December, when the Captain and his merry men seemed the reverse of pleased as with a loud hurray the searchers burst upon the view of the sought.

For all practical purposes, however, the result was nil, as the prospectors had sunk through the first bottom and were searching for a second. The result afterwards proved that the Captain was quite out of his calculations, the deep shaft proving to be an unmitigated "duffer". This was at the foot of Swiper's Reef and not far from the splendid rich reef now being worked by the Derby Co.<sup>1</sup>

December 1866. Some of the companies continue to get rich yields; the Pioneer have been obtaining from 5 to 6 oz; and the Derby, in a cross-cut at 300 feet level ... has struck the reef again with a very good prospect; the Union claim has improved, and still continues profitable.<sup>2</sup>

June 1867. The result of mining operations in this division for the quarter shows a small increase in the total yield of gold as compared with the previous quarter. The average yield is not quite so good, but the quantity of quartz crushed is 1,991 tons more.

During the quarter a considerable amount of work has been done by the Derby, Nelson, and Beehive Companies, in opening up new ground, and preparing for future operations.

There is not much doing in alluvial except amongst the Chinese at Strangways; and those at Maldon are chiefly engaged in washing quartz tailings from the different machines, by agreement with the various proprietors. They appear to be getting good returns.<sup>3</sup>

December 1867. The Derby Company also has been sinking the shaft, and consequently has not raised so much golden stone.<sup>4</sup>

March 1868. The Derby Company is in 40 feet from the shaft, and expects to strike the reef in a few days.<sup>5</sup>

June 1868. The public crushings have been generally low, and the parcels small, which may be accounted for by the large amount of prospecting going on in old reefs, many men during the quarter being out of constant employment, consequent on the Union, Beehive, Great Western and Derby Companies having, more or less, ceased work or reduced their hands underground.<sup>6</sup>

June 1870. In some of our principal mines, ie. the Alliance, Wellington, Linscott's, Eaglehawk, Beehive, Derby, Cymru, German Reef, Pioneer, and Brewer's Reef Companies, owing to poverty and the want of a cheaper process of crushing, operations in the deep ground have been suspended for some time past, consequently some of our quartz miners have gone to other diggings.<sup>7</sup>

June 1885. The Derby Union Company has succeeded in floating the claim, and is now waiting for the registration of the same, when they will elect a board of directors to determine on future proceedings, and to start work at once.<sup>8</sup>

September 1885. The Derby United Company has commenced operations, a contract having been let to enlarge two shafts, one on the north end and the other on the south end of the leased land. There is already a steam-engine on the south shaft, and one has been purchased for the north shaft, portions of which have arrived here.<sup>9</sup>

December 1885. The Derby United Company is actively engaged cutting down and securing the Derby and Darling shafts. A contract has also been let for erecting steam machinery, consisting of pumping and winding engines. The contractors have made good progress, and I expect the erection of the plant will be completed before the end of the ensuing quarter.<sup>10</sup>

March 1886. The Derby United has completed the erection of the machinery and the timbering and skidding of their two shafts, and is now ready to bale out the mine.<sup>11</sup>

June 1886. The Derby Company has now started to drain the mine, which will soon be completed, when they will start to work to find the old rich reef which was cut off by a dyke, and never afterwards found.<sup>12</sup>

Pre 1886. The reefs are located behind the line of shops in the main street of Maldon. The Victoria was the main mine opened on the Victoria Reef, which together with several smaller claims, yielded a conservative 3,100 kg of gold by 1886.<sup>13</sup>

1886. In 1886, the Derby United Company was formed and took over several of the old claims on both the reefs. Arrangements were made with the Beehive Company to crush the ore, which was carted by horse tramway to their plant. The company worked the reefs to a depth of approx. 400 m for a return of 1,400 kg of gold.<sup>14</sup>

March 1887. The Derby Company has been driving a cross-cut eastward since draining the mine, but has not succeeded in striking the reef.<sup>15</sup>

September 1887. The Derby United Company has just struck the reef in their shaft at the 700-foot level, and opened about 4 feet in width, but are not yet through it. The stone looks well, and shows gold freely. The shares have gone up in price considerably in the market.<sup>16</sup>

December 1887. The Derby United Company is driving south on the lode, which looks very promising, containing a little gold, and a large quantity of pyrites and other metals usually found in all the rich lodes of this division.<sup>17</sup>

March 1888. The Derby United Company has been driving north and south on the course of the lode. They have seen a little gold, and a large quantity of pyrites and other metals, but nothing payable. They are now preparing to sink the shaft to a greater depth.<sup>18</sup>

June 1888. The Derby United Company, is driving south at the 700-foot level, struck gold, and are saving the quartz. The lode is about 5 feet wide, and prospects improving as they proceed.<sup>19</sup>

September 1888. The Derby United Company is driving on the course of the reef, north and south, and dish prospects show a little gold.<sup>20</sup>

March 1889. The Derby United Company has sunk the engine shaft to a depth of 840 feet.<sup>21</sup>

June 1889. The Derby United Company, during the quarter has been driving north and south on the course of the lode, and has had gold in dish prospects but not payable.<sup>22</sup>

September 1889. The Derby United Company finding nothing payable in the 820-foot level, have also started to sink another 100 feet.<sup>23</sup>

December 1889. The Derby United Company has completed the sink of 100 feet, making a total of 940 feet from the surface. In sinking, near the bottom, they came upon a large reef about 12 feet thick, which had never been seen before in this mine.<sup>24</sup>

December 1890. An increased yield is ... shown in this division for the quarter. The prospects of the Derby United Company are very good, the average yield in this mine being 12 dwt 14 grs per ton.<sup>25</sup>

March 1891. The Derby United Company has obtained an average of 10 dwt 10 gr per ton.<sup>26</sup>

September 1891. The Derby United Company has sunk the shaft a further depth of 100 feet, making a total depth of 1,035 feet from the surface. From the lode at the 920-ft level 180 tons of stone were crushed for a yield of 16 dwt of gold per ton.<sup>27</sup>

1897. Derby Mine. This mine, in the heart of Maldon, occupies a site on the Victoria reef ... Many thousands of tons of quartz have been crushed from this mine, the average yield of gold being rather less than 1/2oz to the ton, whilst a barrel-process chlorination plant yields about 1oz. to the ton from blanket concentrates.<sup>28</sup>

1897. The Derby United Co., as at present situated, was formed in 1886, and holds 53 acres. It has a record of 45,258 oz. of gold which enabled it to distribute £25,000 in dividends. It is situated on Victoria Reef, and another line, known by the suggestive cognomen of Swiper's Reefs ... and both were extremely rich as to the upper formations. It adjoins the South German.<sup>29</sup>

1903. The Beehive and German Consolidated Company, after years of vigorous prospecting without success, during the last quarter of the year suspended operations. It is now proposed to amalgamate this company with the Derby United Company. The Derby United Company's mine has been shut down during the whole year.<sup>30</sup>

1904. I regret to report that the depression which existed in this division in 1903 has continued through 1904 ... the Maldon Gold-fields and German and Derby Companies closed down and sold their machinery.<sup>31</sup>

1905. The Derby United Company resumed underground operations, after a long suspension, in March last, and has since continued prospecting work at different levels, from the 500-feet to the 1,220-feet, without finding anything payable. Work is now being carried on at the 1,220-feet level only. Twenty-one men were employed in connection with the mining operations, and fifteen in connection with a cyanide plant, by which the sand wrought by the company in years past, and stacked on the lease, is being treated. The gold obtained from the sand has very materially helped to pay the expenses incurred in prospecting the mine.<sup>32</sup>

1906. Work has been carried on at the Derby United Company's mine during the year, with more or less payable results. An average of 49 hands has been employed, 30 on the surface, and 19 underground. Of the surface hands 14 were employed in connection with the cyanide plant.<sup>33</sup>

1907. The Derby United Company having continued work at the Derby shaft during the first quarter of the year, with unprofitable results, decided to temporarily suspend work at this shaft, and to direct its attention to developing the different levels in the Beehive, and Beehive and German shafts, also within the boundaries of their holding. Seventeen hundred tons of stone, taken principally from the Beehive shaft, have been crushed for a yield of 475 oz of gold, and 589 oz of gold have been obtained from 13,200 tons of sand treated by cyanide, &c. An average of forty-seven men was employed.<sup>34</sup>

1908. The Derby United Company has pluckily continued to carry on developmental work. Nothing payable, unfortunately, has yet been found. An average of 39 men has been employed.<sup>35</sup>

1909. The Derby United Company continued work during the greater part of the year with a few tributers only, and the present prospects are not encouraging.<sup>36</sup>

1910. A little work has been done on the Derby United Company's lease by a few tributers.<sup>37</sup>

1911. The Derby United Company, having obtained fresh capital, resumed work, and almost immediately struck payable stone. Work in this mine is now being carried on with renewed vigour.<sup>38</sup>

1912. The Derby United Company having struck payable stone in 1911 continued to operate thereon during 1912 with results that have scarcely come up to expectations. Work is still being carried on with vigour, and the principal shareholders appear to be very hopeful, regarding the future of the mine.<sup>39</sup>

1913. The Derby United Company has experienced an unsuccessful year, being obliged to make an occasional call to pay expenses.<sup>40</sup>

1914. Notwithstanding the excitement recently caused in this division by some new finds, I do not think any real improvement has occurred, since I am of opinion that the closing down of one more of the old established mines, viz., the Derby United, more than counterbalances the whole of the new finds.<sup>41</sup>

1918. The Derby Company, not meeting with success, suspended work at its mine during the year, and sold the machinery.<sup>42</sup>

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*DESCRIPTION & INTERPRETATION:*

Four main periods of working: 1850s--reef opened up

1860s--Derby Co.

1885 to 1903--Derby United Co.

1903 to 1918--amalgamation with Beehive and German Consolidated Co.

Remains date to Derby United Co--machinery installed in 1885. Tramway dates to the last period of mining, when the property was amalgamated with Beehive and German Consolidated. Ore was trammed from the Derby United's shaft and crushed at the New Beehive.

Derby Mine site

Site consists of the remains of a bulldozed, once very large, mullock heap. At the rear of the mullock heap, northern end, runs a 40 m long excavated working platform. At the northern end of this platform is a set of partially demolished brick winding engine beds. The beds are constructed of hand-made bricks which are set in hard mortar. What survives of the brickwork rests on stone foundations. The beds, standing 1 m high, are set 2-1/2 ft (76 cm) apart, and are 4 ft (1.2 m) wide and at least 5 m long. Both beds have 1-1/4 inch mounting bolts.

Several metres north of the parallel beds is a brick winder bed, which has a convex-shaped upper surface. The winder bed, with one surviving 1-1/2 inch mounting bolt, measures 8 x 6 ft (2.4 x 1.8 m) and stands 1 m high. Immediately to the north of this bed is a spread of brick rubble from which protrudes several mounting bolts.

Tramway embankment

Below the brick foundations at the Derby Mine site is what appears to be a small section of a tramway embankment. Historically this tramway once ran north from the mine to a battery located on the Beehive Company's lease. More substantial evidence of the tramway survives near the junction of Vincent and Derby Hill Roads. Here sections of the tramway can be found either side of Vincent Road. On the south side of the road, running between two house blocks, is a 65 m long tramway cutting; and, on the north side of the road, is a 45 m section of raised embankment which crosses the head of a small gully. The latter section has a stone retaining wall on its eastern side.

*INTEGRITY/CONDITION:* Good.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because it is the site of one of Maldon's established mines.
- Scientific Significance, because it has some relatively well-preserved brick engine footings, and has some archaeological potential.

The site's significance is increased by cumulative value, because it:

- forms part of an important network of sites that runs parallel to the main commercial area of Maldon. These sites from north to south are Nos. 24, 17, 9, 38, 37, and 18 (Maldon State Battery, Alliance, Beehive, Derby United, Caledonian Crushing Mill, South German).

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Williams, A.J., Maldon and the Tarrangower Diggings, 1953, reissued 1987, pp. 8-10
- 2 Mining Surveyors' Reports, December 1866
- 3 Mining Surveyors' Reports, June 1867
- 4 Mining Surveyors' Reports, December 1867
- 5 Mining Surveyors' Reports, March 1868
- 6 Mining Surveyors' Reports, June 1868
- 7 Mining Surveyors' Reports, June 1870
- 8 Mining Surveyors' Reports, June 1885
- 9 Mining Surveyors' Reports, September 1885
- 10
- 11 Mining Surveyors' Reports, March 1886

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12	Mining Surveyors' Reports, June 1886
13	J.C Haupt, 1981, The Mineralogy of the Maldon Goldfield, The Mineralogical Society of Victoria, Monograph No. 1
14J	J.C Haupt, 1981, The Mineralogy of the Maldon Goldfield, The Mineralogical Society of Victoria, Monograph No. 1
15	Mining Surveyors' Reports, March 1887
16	Mining Surveyors' Reports, September 1887
17	Mining Surveyors' Reports, December 1887
18	Mining Surveyors' Reports, March 1888
19	Mining Surveyors' Reports, June 1888
20	Mining Surveyors' Reports, September 1888
21	Mining Surveyors' Reports, March 1889
22	Mining Surveyors' Reports, June 1889
23	Mining Surveyors' Reports, September 1889
24	Mining Surveyors' Reports, December 1889
25	Mining Surveyors' Reports, December 1890
26	Mining Surveyors' Reports, March 1891
27	Mining Surveyors' Reports, September 1891
28	Department of Mines, Special Reports - Report on the Maldon Gold-Field, R A Moon. 1897
29	Australian Mining Standard, Special Edition 1897?
30	Annual Report, 1903
31	Annual Report, 1904
32	Annual Report, 1905
33	Annual Report, 1906
34	Annual Report, 1907
35	Annual Report, 1908
36	Annual Report, 1909
37	Annual Report, 1910
38	Annual Report, 1911
39	Annual Report, 1912
40	Annual Report, 1913
41	Annual Report, 1914
42	Annual Report, 1918

**SITE NO. & NAME:** 39 LADY DARLING MINE  
**LOCATION:** Victoria Reef, Derby Hill, Maldon Township  
**HI NO:** H7723-0134

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**DIRECTIONS:** East side of Maldon's main street, on southern slope of Derby Hill. The mine site is located 100 m south south -west of the Caledonian battery site.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

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**HISTORY:**

December 1875. The Darling shaft, on the Victoria Reef, has been sunk a further depth of 80 feet, and a cross-cut put through the reef which is 33 feet in width, but no gold visible.<sup>1</sup>

December 1885. The Derby United Company is actively engaged cutting down and securing the Derby and Darling shafts. A contract has also been let for erecting steam machinery, consisting of pumping and winding engines. The contractors have made good progress, and I expect the erection of the plant will be completed before the end of the ensuing quarter.<sup>2</sup>

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**DESCRIPTION & INTERPRETATION:**

Remains probably date to the mid 1880s when the shaft was worked by the Derby United Co.

Mine and machinery site

The site has a 30 m wide, 10 m high, mullock heap made up of crushed quartz lumps and surface material. The heap's western side has been quarried. At the base of the heap, western side, is a filled shaft. 21 m west of the shaft is an 8 ft square stone winder bed which has 1-1/4-inch mounting bolts. Running parallel to the winder bed's southern side are the fragmented remains of a stone engine bed. The engine bed is approx. 20 ft long, 4 ft wide and has 1-1/4-inch mounting bolts. Both the winder and engine beds are hidden by rubble, blackberry bushes and a pepper tree.

To the north of the winder bed is a largely buried stone boiler setting measuring approx. 20 ft x 8-1/2 ft. 5 m north of the boiler setting is a possible chimney stack site--large spread of red bricks associated with a stone foundation. Littered around the site are both hand and machine-made brick bats. The latter were manufactured by Northcote. There are also some lumps of granite blocks visible in the rubble associated with the machinery site.

**INTEGRITY/CONDITION:** Good.

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**CULTURAL SIGNIFICANCE:**

The site has:

- Historical Significance, because it was associated with one of Maldon's established mines, the Derby United.
- Scientific Significance, because it has a number of well-defined features which together demonstrate the small-scale mining operations which took place at the mine during the mid 1880s.

The site's significance is increased by cumulative value, because:

- a) it forms part of an important network of sites that runs parallel to the main commercial area of Maldon. These sites from north to south are 24, 17, 9, 38, 37, 39 and 18 (Maldon State battery, Alliance, Beehive, Derby United, Caledonian Crushing Mill, Lady Darling and South German).
- b) its mullock heap is a landscape feature.

**SIGNIFICANCE RANKING:** Site Listed Heritage Inventory.

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**Assessor:** David Bannear

**Date:** November 1992.

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<sup>1</sup> Mining Surveyors' Reports, December 1875



**SITE NO. & NAME:** 40 EARLY BATTERY SITE

**LOCATION:** Long Gully, Derby Hill

**HI NO:** H7723-0135

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**DIRECTIONS:** Overlooking Maldon's main street. The site is situated 50 m south of the Caledonian battery.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

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**HISTORY:**

May 1855. Another 8-horse power team crushing machine is in course of erection at Long Gully.<sup>1</sup>

June 1860. With respect to the supply of water at present available at the different crushing machines throughout the district I have to remark that those at

The Springs have a supply to last	3 months
The Union Company, Eaglehawk Reef	1
Machine at Peg-Leg Gully	3
<b>The four crushing machines at Long Gully</b>	2
Three machines at Sandy Creek	1
Two machines at Green Gully	3
Omega Reef, Green Gully	1 <sup>2</sup>

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**DESCRIPTION & INTERPRETATION:**

Long Gully was a favoured location of crushing works in the early days of quartz reefing, eg. 4 batteries recorded at Long Gully in 1860.

Battery site?

50 m south of the Caledonian battery's southern most kiln is an excavated platform measuring approx. 11-1/2 m x 6 m. Situated in the middle of this platform are two, 2 ft square, granite post pads. The pads are set 11 ft (3.35 m) apart and have 7-inch square (18 cm) chiselled-out slots. At the south end of the platform is a largely buried stone foundation (perhaps an engine bed). The platform is littered with red, hand-made, brick bats.

**INTEGRITY/CONDITION:**

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**CULTURAL SIGNIFICANCE:**

The site has:

- Historical Significance, because of its association with the pioneering years of quartz crushing at Maldon.

**SIGNIFICANCE RANKING:** Site Listed Heritage Inventory.

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**Assessor:** David Bannear

**Date:** November 1992.

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<sup>1</sup> Mt Alexander Mail, 25 May 1855

<sup>2</sup> Mining Surveyors' Reports, June 1860

**SITE NO. & NAME:** 41A TARGET REEF CO.  
41B ADIT

**LOCATION:** Target Gully

**HI NO:** 41A H7724-0045  
41B H7724-0046

**DIRECTIONS:** West side of Maldon Quarry

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

**HISTORY:**

June 1879. A new reef has been opened on the north-east side of Mount Tarrangower, known as the Target Gully Reef. Several crushings have been taken out, and the yield has been from 10 dwts to 1-1/2 oz per ton. Fifteen claims have been taken up along the line, several of them showing gold.<sup>1</sup>

September 1879. The new reef, known as Target Gully Reef, on the north-east side of Mount Tarrangower, is being worked with varied success; two of the claims are getting payable stone, and two or three others have gold, but not as yet in payable quantities.<sup>2</sup>

June 1882. The whole of the ground along the line of Lisle's and three other parallel lines of reef, from Parkin's Reef on the south to Target Gully on the north, a distance of a mile and a quarter, has been recently taken up, and several claims are getting gold, especially the Exhibition Company's claims Nos. 1 and 2, the last crushing of 103 tons from which gave 254 oz 17 dwts 12 grs of gold; and the claim known as the Young Nuggetty, on the same line, gave 153 oz 5 dwts from 194 tons, the reef being about 2 feet 6 inches in thickness.<sup>3</sup>

1897. The Target Reef mine, situated on one of the southern branches of the Brewery Gully, to the north-west of the township, and nearly north of Mount Tarrangower, was started not very many years ago to work with greater facility the main reef, which was found payable at certain points on or near the surface a little higher up the hill. The returns from the hill workings varied from 7 dwts. to rather more than 2 oz. of gold per ton, and hence the inducement to undertake the work by extending a tunnel into the heart of the mount.<sup>4</sup>

1897. The Target Reef is better known as the Exhibition Reef, but the company has adopted the former title. Occupying 24 acres of the side of the hill, the company is driving a tunnel to work the two reefs known to traverse the lease. It has only been lately taken in hand by the present proprietary, but like most ventures at Maldon, it was one rich, and the records are 25,000 oz.<sup>5</sup>

May 1905. The Target Mine. Here an adit has been driven about 900 feet along the strike of the strata; then a cross-cut has been put in east for about 300 feet; then a level north 150 feet and south 100 feet. A rise of 80 feet has been made from where the level and cross-cut join. The reef is irregular in thickness, but is now being worked on a bulge.<sup>6</sup>

**DESCRIPTION & INTERPRETATION:**

Target Reef Co. c. 1897 to c.1905.

Adit

120 m west of the quarry's boundary fence, north side of the gully, is a collapsed adit. The area immediately east of the adit has been quarried. Traces of mullock at the front of the adit.

Site 41B: Adit & dam

350m up Target Gully (west) from the quarry, on the north side, is a collapsed adit. At the front of the adit is a small mullock heap. There is a dam in the gully below the adit.

**INTEGRITY/CONDITION:** Poor.

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*CULTURAL SIGNIFICANCE:*

Site 41A. The site's integrity has been reduced to such an extent that it holds little cultural significance.

Site 41B. Has some scientific significance due to the survival of the adit, mullock heap and water dam.

*SIGNIFICANCE RANKING:* Sites Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Mining Surveyors' Reports, June 1879
- 2 Mining Surveyors' Reports, September 1879
- 3 Mining Surveyors' Reports, June 1882
- 4 Department of Mines, Special Reports - Report on the Maldon Gold-Field, R A Moon, 1897
- 5 Australian Mining Standard, Special Edition, 1897
- 6 Geological Survey Records, Vol 2 (1), p.19

**SITE NO. & NAME:** 42 TARRANGOWER CREEK WORKINGS

**LOCATION:** Tarrangower Creek

**HI NO:** H7723-0136

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**DIRECTIONS:** Tarrangower Creek runs south from Maldon

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

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**HISTORY:**

Tarrangower Creek, continuation of Sandy Creek.

January 1854. The first discovery of golden quartz at Maldon failed to raise a cheer. Men were too busily engaged in the search for gold-dust in the alluvial diggings alongside to take notice. The spot was on a rise overlooking Tarrangower Creek, towards the lower end of Long Gully. Wilson and two mates, McNulty and Hurly, recent arrivals, chanced upon the outcrop partly hidden in a clump of timber. The find was made on January 24, 1854, at a time when thousands of men were rushing Victoria's newest goldfield.<sup>1</sup>

1854. Sandy Creek, south of Long Gully, was discovered in May 1854 [*Herald*, 15 May 1854].<sup>2</sup>

1854-59. There was a general exodus from the diggings before the end of 1854, a large number joining in a wild rush of diggers to another rich alluvial field recently discovered at Simpson's Ranges (Maryborough), 20 miles westward; but the alluvial leads of Tarrangower were by no means worked out.

Gold was subsequently wrought apart from the rich deposits of Porcupine and Long Gully earlier mentioned along leads reaching to Sandy Creek, Muckleford, Walmer, Nuggetty Flat, and Bradford.

A flourishing suburb quickly developed at Eagle Hawk, at the northern end of the field. Its busy shopping street was lined both sides with trading establishments of every description. There were practising doctors, lawyers and chemists, at least three hotels, two churches, a day school, and a large amusement theatre. The area was surrounded by crushing and puddling machines.

Porcupine also became a busy trading centre with three hotels, stores, a day school and Tarrangower's only racecourse.

Sandy Creek and Nuggetty Flat could count a school, church, hotels and stores. There were 1,000 people on Sandy Creek in 1859, including many Chinese and a Chinese Circus.<sup>3</sup>

June 1855. Many persons have gone, during the last fortnight, to Sandy Creek, but some who have returned give a very bad account of it; likewise of the Muckleford diggings.<sup>4</sup>

1855-7. There was a rush to Sandy Creek in June 1855 [*Mt Alexander Mail*, 23 November 1855], but there was no actual mention of the Seventy Foot until 1856, when it was referred to as the "Old Seventy Foot". Manton's Gully was rushed after the discovery of Lisle's Reef in 1856, and was named from Manton's crusher [*Mt Alexander Mail*, 9 & 16 May 1856]. Sandy Creek was rushed in 1857.<sup>5</sup>

December 1859.

Population:-	<b>Sandy Creek</b>	<b>763 Europeans</b>	<b>530 Chinese</b>
	Mia Mia Creek	22	108
	Green Gully	12	18
	Peg Leg	16	-
	Forty-Foot	14	47
	Eagle Hawk Gully	22	16
	Porcupine Flat	16	42
	Long Gully	16	46
	Seventy-Foot	<u>16</u>	<u>50</u>
		897	587

No new rushes have occurred during the month, but a report reached me yesterday that an extension of the rush at Sandy Creek, previously reported, was attracting large numbers to a locality near the Seventy-Foot Diggings.<sup>6</sup>

July 1860. The great absence of rain during the preceding month, has very much curtailed the amount of water in the division.

The number of crushing engines now at work and more erecting, all of them of considerable horse-power, require a constant supply of the purest water for mining pursuits. Some of the machines at present in the district, are now using water that is totally unfit for the use to which it is unfortunately applied.

Atlas Company, German Reef--supply constant; drain from reef. Vivian and Company, Beehive Reef--supply constant; drain from reef. Isaacson's, Beehive Reef--not working. Lisle's Reef Company, Lisle's Reef--supply very limited. Great Western Company, Beehive Reef--supply constant. Edwards, Maldon--not working; supply precarious. Kangaroo Reef, South Muckleford--removed. Omega Reef, Greenfalls--supply exhausted. Long Gully, Machines four in No.--supply 1 month. Buttingham's, Green Gully--supply 6 weeks. Allsop's, Green Gully--supply 1 month. Fitzgerald, At the Springs--supply 1 month. Toy's, At the Springs--supply 1 month. Hawk's, At Nuggety--not working. Fox, Raus and Co., Pegleg--supply 3 weeks. The Union Company, Eaglehawk Reef--supply very moderate. Dun's Reef, Muckleford--removed. Smith's Reef, Mucklefor--supply abundant; making dam. Eaglehawk Company--supply abundant. Beehive Association, Beehive Reef--supply limited. Welshman's Reef: 1 Machine --supply 2 months. Sandy Creek: 3 Machines--supply 2 months. **Tarrangower Creek--Supply abundant.** Mia Mia, Newstead--supply abundant at present. Manton's Gully: engine erecting--provision making for water. Wattle Gully Reef--drain from reef. Porcupine Flat, Alluvial--large dam at present sufficient.<sup>7</sup>

June 1860. Puddling machines and dams (4). At Porcupine Flat, Sandy Creek, Seventy-Foot, and Eaglehawk Gullies. With respect to the supply of water at present available at the different crushing machines throughout the district I have to remark that those at

The Springs have a supply to last	3 months
The Union Company, Eaglehawk Reef	1
Machine at Peg-Leg Gully	3
The four crushing machines at Long Gully	2
<b>Three machines at Sandy Creek</b>	<b>1</b>
Two machines at Green Gully	3
Omega Reef, Green Gully	1 <sup>8</sup>

March 1864 Miners distributed thus:

Pickpocket & Strangways	78	Growler's Gully	177
Newstead	113	Long Gully	145
Muckleford	137	Peg Leg Gully	148
Frenchman's Gully	51	Porcupine Flat	115
Mia Mia and Gardner's Gully	119	Eaglehawk	182
<b>Sandy Creek</b>	<b>413</b>	Bradford	45
Nuggetty Flat	126 <sup>9</sup>		

June 1864 Miners distributed thus:

Strangways	39	Growler's Gully	177
Newstead	107	Long Gully	150
Muckleford	140	Peg Leg Gully	162
Frenchman's Gully	32	Porcupine Flat	121
Mia Mia	130	Eaglehawk	203
<b>Sandy Creek</b>	<b>496</b>	Bradford	17
Nuggetty Flat	121 <sup>10</sup>		

September 1864 Miners distributed thus:

Pickpocket	89	Green Valley	35
Newstead	114	Long Gully Md.	18
Back Creek	44	Peg Leg Gully	67
Frenchman's Gully	42	Porcupine Flat	176
Gardner's Gully	32	Eaglehawk	150
<b>Sandy Creek</b>	<b>250</b>	Bradford	16
Nuggetty Flat	149	Mount Tarrangower	190
Beehive Hill	110	Ironbark	14
Armstrong's	4	Hard Hills	20
Hunter's Rush	27	Fryingpan	8 <sup>11</sup>

March 1865 Miners distributed thus:

Pickpocket	113	Growler's Gully	82
Newstead	25	Long Gully	16
Green Valley	45	Peg Leg Gully	77
Fryingpan Gully	3	Porcupine	63
Gardner's Gully	28	Eaglehawk	182

<b>Sandy Creek</b>	<b>230</b>	Long Gully, Muckleford	60
Nuggetty	71	Mount Tarrangower	248
Beehive Hill	180	Ironbark Gully	16
Armstrong's	3	Hard Hills	9
Hunter's Rush	17	Back Creek	25 <sup>12</sup>

September 1865 Miners distributed thus:

Pickpocket	546	Growler's Gully	55
Newstead	36	Long Gully	48
Green Valley	38	Peg Leg Gully	78
Fryingpan Gully	21	Porcupine Flat	86
Gardner's Gully	19	Eaglehawk	176
<b>Sandy Creek</b>	<b>212</b>	Long Gully, Muckleford	39
Nuggetty	65	Mount Tarrangower	226
Beehive Hill	152	Ironbark Gully	33
Armstrong's	7	Hard Hills	25
Hunter's Rush	31	Back Creek	23
Frenchman's Gully	2 <sup>13</sup>		

March 1866 Miners distributed thus:

Pickpocket and Strangways	855	Growler's Gully	50
Newstead	7	Porcupine Flat	60
Gardner's Gully	16	Eaglehawk	186
<b>Sandy Creek</b>	<b>256</b>	Long Gully	54
Nuggetty	80	Mount Tarrangower	238
Beehive Hill	152	Ironbark Gully	15
Hard Hills	25	Muckleford	221 <sup>14</sup>

September 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	33
Newstead	22	Long Gully	45
Green Valley	49	Peg Leg Gully	63
Fryingpan Gully	14	Porcupine	50
Gardner's Gully	12	Eaglehawk	180
<b>Sandy Creek</b>	<b>219</b>	Long Gully, Muckleford	30
Nuggetty	60	Mount Tarrangower	210
Beehive Hill	117	Ironbark Gully	20
Armstrong's Gully	2	Hard Hill	8
Hunter's Rush	8	Back Creek	13
Frenchman's	10		

At Sandy Creek about the usual number of miners, say 250, are employed. Here the old system of washing with the tub and cradle is still adhered to. About a fortnight ago a nugget weighing 70 oz was found, which caused a small rush, but nothing else of importance has been discovered.<sup>15</sup>

December 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	31
Newstead	15	Long Gully	46
Green Valley	45	Peg Leg Gully	65
Fryingpan Gully	3	Porcupine	50
Gardner's Gully	12	Eaglehawk	187
<b>Sandy Creek</b>	<b>205</b>	Long Gully, Muckleford	33
Nuggetty	75	Mount Tarrangower	195
Beehive Hill	111	Ironbark Gully	23
Armstrong's Gully	9	Hard Hills	22
Hunter's Rush	17	Back Creek	18
Frenchman's	7 <sup>16</sup>		

March 1867 Miners distributed thus:

Pickpocket	650	Growler's Gully	25
Newstead	65	Long Gully, Maldon	65

Green Valley	59	Peg Leg Gully	76
Fryingpan Gully	19	Porcupine	60
Gardner's Gully	12	Eaglehawk	190
<b>Sandy Creek</b>	<b>180</b>	Long Gully, Muckleford	35
Nuggety	85	Mount Tarrangower	195
Beehive Hill	98	Ironbark Gully	25
Armstrong's Gully	11	Hard Hills	22
Hunter's Rush	18	Back Creek	21 <sup>17</sup>

March 1877. A small rush has taken place at Sandy Creek; a party working some alluvial ground came upon a small flat quartz leader, from which a prospect was obtained by dish trials. A few tons have since been sent to the crushing mills and yielded 12 dwts per ton, which caused the rush. The prospector was in possession of a 10-acre paddock on the opposite side of the road adjoining his claim, which he sold to a party of miners for £100. The party has sunk several holes, but can find nothing, and now consider themselves sold.<sup>18</sup>

March 1886. Alluvial mining. The Company for Mining on Private Property, Gibson's paddock, Sandy Creek, is sinking a new shaft from the surface, and has purchased a small steam-engine for baling and hauling dirt.<sup>19</sup>

20thC (date?) Cyaniding. One leading firm, Williams and Rewell (Jim Williams and Bill Rewell) commenced operations on a rich deposit of sand washed down Sandy Creek to Joyce's Creek, six miles away. They successfully extended operations to several mining fields throughout the State, and employed a large staff of managers and workmen.<sup>20</sup>

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*DESCRIPTION & INTERPRETATION:*

Alluvial workings

Sampled in two places:

1. west of North British mine where the alluvial workings are part Parkins Reef Management Unit.
2. along Back Sandy Creek Track.

**West of the North British Mine**

Alluvial workings

1 km long, 100 m wide band of well defined shallow sinkings/small mullock heaps bounded on the east and west by deeply sluiced channels.

Puddler No 1

At least one puddling machine site associated with the alluvial workings. This puddler is signposted, part of the interpretative trail. The puddler has a diameter of 22 ft (6.7 m) and has a well defined inner mound (post hole visible) and puddling trench. Several large trees grow on the puddler.

House sites

Remains of several stone fireplaces.

**Along Back Sandy Creek Road**

Alluvial workings

Main channel of the creek is deeply sluiced and as the creek runs through freehold land any surviving shallow sinkings etc. have been reclaimed for pasture. Dotted along the main channel, east side are several large sand dumps and the ruins of at least 3 mud brick houses. There is a patch of shallow sinkings surviving on Crown Land, approx. 2.5 km along Back Sandy Creek Track (on west side) from its junction with the Castlemaine Road. These sinkings (shallow shafts and small mullock mounds), bounded on the west of Back Sandy Creek Track, and the east by the Mia Mia Track, have been badly disturbed by surfacing.

Tailings Dump

On the slope above the surviving patch of shallow sinkings is a large dump of treated tailings.

*INTEGRITY/CONDITION:* Good

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*CULTURAL SIGNIFICANCE:*

The site has:

- Social Significance, because it is part of the North British Interpretative Site
- Scientific Significance, because it contains relatively intact features which demonstrate many aspects of shallow alluvial mining.

The site's significance is increased by cumulative value, because:

- it forms part of a group of sites which together document aspects of quartz and alluvial mining. These sites are 31, 32, 33 and 42 (North British, Independent, North British Extended Co. and Tarrangower Creek workings).

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Williams, p. 15
  - 2 Flett, J., The History of Gold Discovery in Victoria, Poppet Head Press, 1979, pp. 193-201
  - 3 Williams, pp. 13-14
  - 4 Mt Alexander Mail, 1 June 1855
  - 5 Flett, J., The History of Gold Discovery in Victoria, Poppet Head Press, 1979, pp. 193-201
  - 6 Mining Surveyors' Reports, December 1859
  - 7 Mining Surveyors' Reports, July 1860
  - 8 Mining Surveyors' Reports, June 1860
  - 9 Mining Surveyors' Reports, March 1864
  - 10 Mining Surveyors' Reports, June 1864
  - 11 Mining Surveyors' Reports, September 1864
  - 12 Mining Surveyors' Reports, March 1865
  - 13 Mining Surveyors' Reports, September 1865
  - 14 Mining Surveyors' Reports, March 1866
  - 15 Mining Surveyors' Reports, September 1866
  - 16 Mining Surveyors' Reports, December 1866
  - 17 Mining Surveyors' Reports, March 1867
  - 18 Mining Surveyors' Reports, March 1877
  - 19 Mining Surveyors' Reports, March 1886
  - 20 Williams, p. 30

**SITE NO. & NAME:** 43 GREAT WESTERN CO.

**LOCATION:** Tivertons Reef, Maldon township

**HI NO:** H7723-0137

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**DIRECTIONS:** On north-east corner of the junction of Vincent and Derby Hill Streets.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

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**HISTORY:**

1850s. The first gold on the property was alluvial, the whole hillside to the creek bed for a distance of 100 metres being extensively and profitably worked. Part of the alluvium was associated with a tertiary conglomerate which partly caps the hill.<sup>1</sup>

July 1860. The great absence of rain during the preceding month, has very much curtailed the amount of water in the division.

The number of crushing engines now at work and more erecting, all of them of considerable horse-power, require a constant supply of the purest water for mining pursuits. Some of the machines at present in the district, are now using water that is totally unfit for the use to which it is unfortunately applied.

Atlas Company, German Reef--supply constant; drain from reef. Vivian and Company, Beehive Reef--supply constant; drain from reef. Isaacson's, Beehive Reef--not working. Lisle's Reef Company, Lisle's Reef--supply very limited. Great Western Company, Beehive Reef--supply constant. Edwards, Maldon--not working; supply precarious. Kangaroo Reef, South Muckleford--removed. Omega Reef, Greenfalls--supply exhausted. Long Gully, Machines four in No.--supply 1 month. Buttingham's, Green Gully--supply 6 weeks. Allsop's, Green Gully--supply 1 month. Fitzgerald, At the Springs--supply 1 month. Toy's, At the Springs--supply 1 month. Hawk's, At Nuggety--not working. Fox, Raus and Co., Pegleg--supply 3 weeks. The Union Company, Eaglehawk Reef--supply very moderate. Dun's Reef, Muckleford--removed. Smith's Reef, Mucklefor--supply abundant; making dam. Eaglehawk Company--supply abundant. Beehive Association, Beehive Reef--supply limited. Welshman's Reef: 1 Machine --supply 2 months. Sandy Creek: 3 Machines--supply 2 months. **Tarrangower Creek--Supply abundant.** Mia Mia, Newstead--supply abundant at present. Manton's Gully: engine erecting--provision making for water. Wattle Gully Reef--drain from reef. Porcupine Flat, Alluvial--large dam at present sufficient.<sup>2</sup>

December 1866. The long pending law suit between the Alpha Company and the Great Western, has at length been finally settled in favour of the former, which, in consequence, will doubtless soon resume operations.<sup>3</sup>

March 1868. Our two principal mines, viz., the Nelson Company and the Great Western Company have been erecting machinery.<sup>4</sup>

June 1868. The public crushings have been generally low, and the parcels small, which may be accounted for by the large amount of prospecting going on in old reefs, many men during the quarter being out of constant employment, consequent on the Union, Beehive, Great Western and Derby Companies having, more or less, ceased work or reduced their hands underground.

The Great Western Company tried their machinery some days since, and will commence work underground shortly.<sup>5</sup>

September 1868. The Cymru Company, Tiverton Reef, now over 480 feet deep, cannot be long before they strike the Great Western lode.

The Great Western has worked only about three weeks in this quarter, and the return of gold given is from the stamper boxes and ripples only, the blanket sand being stacked, pending erecting of burning oven and wheels for amalgamation.<sup>6</sup>

June 1870. In some of our principal mines, ie. the Alliance, Wellington, Linscott's, Eaglehawk, Beehive, Derby, **Cymru**, German Reef, Pioneer, and Brewer's Reef Companies, owing to poverty and the want of a cheaper process of crushing, operations in the deep ground have been suspended for some time past, consequently some of our quartz miners have gone to other diggings.

The Great Western Company's Mine has also fallen off considerably this quarter ... I consider this to be the best conducted mine in my division; 3 dwts per ton, at a depth of 400 feet, covers the whole of the working and crushing expenses, while the mines of twice the average yield, and the same kind of rock, do not pay expenses.<sup>7</sup>

September 1870. The increased yield from quartz this quarter is chiefly from the Great Western Company's mine; the average yield per ton has also risen from 3 dwts 3.71grs to 6 dwts 21.11 grs.<sup>8</sup>

December 1870. Our best mines have been the Tarrangower Nuggety Alliance, Speculation, and New Enterprise on Nuggety Reef; the Great Western, on the Beehive Reef, and the Nelson Extended on Wilson's Reef.<sup>9</sup>

March 1871. BEEHIVE REEF. Beehive Company. The tributing parties are obtaining but slight returns from the shallow ground; the deep ground is still lying idle.

The Great Western Company has commenced to sink another 50 feet, to try for the reef which wedged out at the 447-foot level.<sup>10</sup>

June 1871. BEEHIVE REEF. Great Western Company. The prospects in this mine during the last fortnight have considerably improved, especially in the bottom level (470 feet) going south; the reef is about 4 feet thick, with a good show of gold. The company are sinking their engine-shaft another 100 feet, which, when completed, will be a good test for the deep ground.

The Beehive Company's mine is let on tribute to various parties, who, for the most part, are making wages.<sup>11</sup>

December 1871. The Great Western Company's prospects in the bottom drive are also favourable. The company has sunk the shaft another 80 feet, and is pushing on a cross-cut west to strike the reef at the 530-foot level. The distance of the reef from the shaft is supposed to be 130 feet ... This company in sinking the last 50 feet had a great quantity of water to contend with, owing to the accumulation of water in the adjoining claims, where it has lowered some 40 or 50 feet and is still gradually sinking; and, but for the substantial and efficient machinery of this company, they would before this have been overpowered and obliged to cease working.<sup>12</sup>

March 1872. The Great Western Company is still driving their bottom cross-cut west at the 530-foot level, to strike the reef. They are in over 100 feet, and expect to meet with the reef in another 20 feet. Nearly the whole of the quarter has been occupied in opening dead ground, making preparations for future working.<sup>13</sup>

June 1872. The Great Western Company, in driving north at the 470-foot level, has recently come upon a good reef, containing gold below the dyke that cut off the reef in the Beehive Company's ground. The new reef is about 100 feet below the dyke, and is likely to be traced northward through the company's mine.<sup>14</sup>

September 1872. The Great Western Company has struck the reef in their bottom cross-cut, 130 feet west of the shaft; when first struck it was not 6 inches thick; in driving north 20 feet it has opened out to 18 inches, and contains gold.<sup>15</sup>

December 1872. The Great Western Company is driving north and south on the course of the reef at the 550-foot level, where the reef looks promising; at the 470-foot level northward the reef has been much improved. Had the quartz taken from this portion of the mine been crushed separately, it is estimated that the yield would have been from 4 oz to 6 oz per ton. This looks well for the Old Beehive Company's ground (See plan and sections of the Great Western Company's mine).

[Report includes plan of Great Western Quartz Mining Co.'s mine on Beehive Reef, with Beehive and Cymru Co.'s adjoining].<sup>16</sup>

September 1873. The Great Western Company has stopped work at the bottom of the mine, but in driving south at the 470-foot level they have struck gold; the lode is about 10 feet in thickness, and looks very promising; they are also driving a cross-cut east at this level to strike a reef known as Cranswick's Reef, about 200 feet distant. The Cymru Company is enlarging the engine-shaft to make it practicable for hauling and pumping; an engine has been purchased during the last week for this purpose, and will be erected at once.<sup>17</sup>

December 1873. The Great Western Company, owing to the poverty of the reef, and water heavy, has suspended operations in the deep ground at present, and let the upper ground on tribute, until the Cymru Company, adjoining, who are erecting a new steam-engine to work the deep ground, get down to take a portion of the water, and lighten the expense of sinking.<sup>18</sup>

September 1875. The Great Western and Cymru Companies mines is yielding good payable stone; the Great Western especially have been working some rich leaders of quartz, west of the old reef, giving 12 and 14 oz of gold per ton, at about 50 feet from the surface. Operations in the deep ground have been suspended for some time past.<sup>19</sup>

December 1875. The Great Western Company has been working this quarter on some small quartz leaders on the west of the main reef ... the last crushing of 19 tons, from surface to 45 feet, gave 25 oz per ton.<sup>20</sup>

December 1877. The Old Beehive, Great Western, and Cymru companies are working the shallow ground in their mines on tribute. There are 300 feet of water in the mines, and the engines all idle.<sup>21</sup>

March 1879. Quartz mining. This branch of mining shows a decrease of 824 tons in the quantity crushed, and over 350 oz in the yield of gold, the cause of which in a great measure is the suspension of work in several of our principal mines, viz. the two Nelsons, the Crown claim, the Cymru, the Great Western, the Beehive, six mines on the Eaglehawk line, three mines on the Nuggetty line, the Grand Junction and Welshman's Reef, and three mines on the Victoria line--making altogether twenty mines in which the engines are idle, and the water within from 100 to 180 feet of the surface. All the work being done in these mines is merely fossicking in the shallow ground.<sup>22</sup>

June 1881. The new company, known as the Great Western Cymru, having been floated, is now preparing to start pumping, in order to drain the mine, after which a number of men will be employed to break out quartz for the crushing mills.<sup>23</sup>

December 1881. The Great Western Cymru Company is still pumping, and will have the mine drained in a week or two. The stamp batteries are being overhauled and repaired, in readiness for crushing operations. In driving at the 200-foot level they have struck good stone, the quantity of which is estimated at 7,000 tons.<sup>24</sup>

March 1882. The Great Western Cymru have also started crushing, the first washing-off from 250 tons of stone gave 252-1/2 oz of gold, and from No. 3 drive good stone is being got.<sup>25</sup>

June 1882. Quartz mining has considerably improved during the quarter; the yield of gold has more than doubled, owing to the good returns from the Great Western Cymru Company ... Since starting, they have paid off liabilities of £3,000 to the original company for their engines and plant, and also a dividend to the shareholders of 1s per share on 30,000 shares. The prospects of the mine are still good.<sup>26</sup>

September 1882. The Western Cymru Company, during the quarter, has given 1s 6d per share dividend on 30,000 shares. Since breaking through to the Cymru shaft, the mine has become ventilated, and the crushing plant is now kept constantly at work, with prospects still good.<sup>27</sup>

December 1882. The Great Western Cymru Company has fallen off considerably, so much so that the crushing plant is stopped for want of payable stone. They are now prospecting the mine.<sup>28</sup>

March 1884. The New Beehive Company, adjoining the Great Western Cymru on the north, has also been fortunate in striking a good shoot of gold at the 600-foot feet, from which 152 tons of stone have been crushed, the yield averaging 1 oz 9 dwt 9 grs of gold per ton. According to previous prospects, this mine promises to be one of the best in the division.<sup>29</sup>

June 1884 [Decrease in gold yield] is owing to the falling off in the Great Western Cymru Company's returns. This company has been delayed about one month in the erection of percussion tables for treating the sand from the mills; they are now preparing to sink their main shaft a further depth of 120 feet, to drain the mine, so as to enable them to work the run of gold gone down from the present bottom level.<sup>30</sup>

September 1884. One of our principal mines, the Great Western Cymru, has had to suspend work in various parts of the mine, in order to enable them to sink the main shaft to a greater depth, for the purpose of opening up the mine. Their battery has been idle nearly all the quarter, having only crushed 150 tons.<sup>31</sup>

December 1884. The Great Western Cymru Company has nearly completed the sinking of the shaft to the depth of 670 feet. This done they will start a cross-cut to the west to strike the reef passed through in the level above, where they left a shoot of good golden stone 70 feet in length on which they could not sink for the water, but which will now be drained, so as to enable them to stope the ground from the backs. They will also start again to break out quartz for crushing in the various parts of the mine, where they had to suspend operations while sinking the shaft.<sup>32</sup>

March 1885. The Great Western Cymru Company has sunk the main shaft a further depth of 120 feet, making a total of 670 feet from surface ... They have also started the crushing plant which has been idle since they commenced sinking the shaft. The quartz for supplying the stamps is being taken from the upper levels.<sup>33</sup>

June 1885. The Great Western Cymru Gold Mining Company since striking the reef in the bottom cross-cut, at about 154 feet westward from the engine-shaft, has been rising on the lode to meet the winze sunk from the level above. A contract has been let to drive along the course of the reef northward, and as soon as the winze is through, so

as to give ventilation, it is intended to let another contract to drive southward, to strike the shoot of gold passed through in the 550-foot level.<sup>34</sup>

September 1885. The Great Western Cymru Company is driving north and south on the course of the lode. During the quarter they have passed through two dykes.<sup>35</sup>

March 1886. The Great Western Cymru Company is driving northward towards the New Beehive boundary; the stone in the end shows gold and the stone saved for crushing. They are also stopping from the winze in the south drive, from which good golden stone is being raised and sent to the mills, and shortly dividends may be expected.<sup>36</sup>

June 1886. The Great Western Cymru Company has driven to the northern boundary, and they have come to terms with the New Beehive Company to break through for the purpose of ventilation, when they will be able to work their mine to much greater advantage.<sup>37</sup>

September 1886. The Great Western Cymru Company has been prospecting to all directions for some time, but not having succeeded in finding anything payable, they have decided to sink their main shaft another 100 feet or more, to test the lode at a lower level. At the present level the lode is large, and in many places has a very promising appearance, containing various metals generally found in gold-bearing lodes. Gold is also visible in many places, but not found in payable quantities. Blank spots are found in most of our best mines, but in this, as in many other cases, I have not the slightest doubt that the reef will again, at a lower level, turn as rich as ever it has been.<sup>38</sup>

December 1886. The Great Western Cymru Company is sinking the engine shaft, and is now down 750 feet. They intend sinking another 50 feet before starting a cross-cut towards the reef.<sup>39</sup>

March 1887. Three of our principal mines [are] still engaged in doing dead work. The Great Western Cymru has just completed sinking their main shaft another 145 feet.<sup>40</sup>

June 1887. The Great Western Cymru Company are in with their 800-foot cross-cut about 100 feet west ... Mr R.D. Oswald has erected a new winding engine of 32-horse power, and new poppet-heads 75 feet over the main shaft, and is now engaged in improving and repairing the crushing plant, and will soon be ready for underground operations, when he will be prepared to employ more labour in breaking out quartz, and greatly increase the quantity for crushing and the yield of gold.<sup>41</sup>

September 1887. The Great Western Cymru Company has struck the reef 167 feet west from the shaft, at the 800-foot level, and at the end of the cross-cut they have risen up on the reef and knocked through to the winze from the level above, which has given them a plentiful supply of fresh air to work the mine below. They are now driving north on the reef.<sup>42</sup>

December 1887. The Great Western Cymru Company is still extending the drives at the 800-foot level.<sup>43</sup>

March 1888. The New Beehive Mine is just paying expenses. The Great Western Cymru Company during the quarter has been driving south on the lode and putting a rise up from the 800 to the 680-foot levels. They have knocked through, but hitherto have found nothing payable, and are now prospecting in other parts of the mine.<sup>44</sup>

June 1888. The Great Western Cymru Company has been opening up their mine by rising on the lode at the back of the 800-foot level, and driving levels to test the reef. In their south drive a promising lode was struck, containing a quantity of metal which generally accompanies gold in our quartz veins, and is likely to lead on to gold within a short distance.<sup>45</sup>

September 1888. The New Beehive, Great Western Cymru, and the Tarrangower Companies have not yet come upon anything payable, and no crushing has been done by them for the quarter.<sup>46</sup>

December 1888. The quarter just ended showed no improvement in mining generally. There was an increase of 471 oz 6 dwt 14 gr, but this was chiefly from the South German and North British mines. The Great Western Cymru, New Beehive, Eaglehawk Consolidated, German Reef, and Tarrangower Companies have been sinking, driving, and prospecting in the deep ground, and hitherto without any payable discovery. The lode in each of the mines referred to is large and well defined, with promising looking stone, gold being visible, but not existing in payable quantities. The only chance now is to sink deeper, but this will require increase of capital, and, in some instances, more powerful machinery.<sup>47</sup>

1897. Great Western and Cymru Mine. This mine, lying close by the township to the east, comprises the properties formerly known as the Great Western and the Cymru mines respectively, and though each was successfully worked for some time both shafts have now lain idle for several years. Small parties, however, are still at work in the shallow ground along the line of reef, and are, I understand, meeting with some success.<sup>48</sup>





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- 32 Mining Surveyors' Reports, December 1884
  - 33 Mining Surveyors' Reports, March 1885
  - 34 Mining Surveyors' Reports, June 1885
  - 35 Mining Surveyors' Reports, September 1885
  - 36 Mining Surveyors' Reports, March 1886
  - 37 Mining Surveyors' Reports, June 1886
  - 38 Mining Surveyors' Reports, September 1886
  - 39 Mining Surveyors' Reports, December 1886
  - 40 Mining Surveyors' Reports, March 1887
  - 41 Mining Surveyors' Reports, June 1887
  - 42 Mining Surveyors' Reports, September 1887
  - 43 Mining Surveyors' Reports, December 1887
  - 44 Mining Surveyors' Reports, March 1888
  - 45 Mining Surveyors' Reports, June 1888
  - 46 Mining Surveyors' Reports, September 1888
  - 47 Mining Surveyors' Reports, December 1888
  - 48 Department of Mines, Special Reports - Report on the Maldon Gold-Field, R A Moon, 1897

**SITE NO. & NAME:** 44 SOUTH GERMAN EXTENDED MINE

**LOCATION:** Wilsons Reef, Long Gully, Maldon township

**HI NO:** H7723-0138

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**DIRECTIONS:** East side of Long Gully, virtually opposite the commemorative cairn situated on the Castlemaine Road

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

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**HISTORY:**

December 1859. Mole's Reef, Long Gully, is supposed by some to be a continuation of Wilson's, and for some months received a large amount of attention, but with no good results. Simmons's Reef, opened by Mr Simmons, for a little time showed favourably, and has lately improved slightly. Two or three claims are at work, with an average amount of success. Wages only can be obtained, even with the present moderate rate of crushing.<sup>1</sup>

September 1866. The best paying reefs at present in this division are the Old Beehive, Victoria, and Wilson's. The engine shaft of the Beehive Company is 360 feet in depth ... The new lode at the bottom speaks well for the future of the mine.<sup>2</sup>

June 1867. During the quarter a considerable amount of work has been done by the Derby, Nelson, and Beehive Companies, in opening up new ground, and preparing for future operations.<sup>3</sup>

March 1868. Our two principal mines, viz., the Nelson Company and the Great Western Company have been erecting machinery.

The Nelson Company has about 400 tons of stone stacked, waiting for the starting of the new crushing plant, which is nearly ready.<sup>4</sup>

September 1868. The blanket sand from the Nelson Company's works has yielded 12 oz to the ton of sand, when the stampers and ripples produced about 1-3/4 oz of gold to the ton of quartz, and the chute sand beyond has been proved to contain 1-1/2 oz to the ton. This mine still yields splendidly.

A twelve-horse power pumping and winding plant has been erected on the next claim south.<sup>5</sup>

March 1870. Wilson's Reef. The Nelson Company is about to erect another battery of 10 heads of stampers to crush some thousands of tons of backs which are standing in their mine, and which they expect to yield from 6 to 8 dwts per ton. The Nelson Extended Company on this reef is steadily at work breaking out quartz which averages from 1-1/2 oz to 2 oz of gold per ton.<sup>6</sup>

September 1870. The Nelson Extended (Tributing) Company is obtaining payable gold, but, owing to hard ground and water, they are not able to declare any dividends.<sup>7</sup>

December 1870. Our best mines have been the Tarrangower Nuggety Alliance, Speculation, and New Enterprise on Nuggety Reef; the Great Western, on the Beehive Reef, and the Nelson Extended on Wilson's Reef.

The Nelson Extended Tributing Company has crushed 359 tons, with an average yield of 1 oz 1 dwt 13 grs per ton; but from the same causes as mentioned above, with the addition of twenty-five per cent paid to the owners of the mine, no dividends have hitherto been declared.

The expectations of the Nelson Company, adjoining the Nelson Extended on the north, have not been realised; instead of 8 dwts per ton, only 5 dwts 8 grs has been obtained during the quarter.<sup>8</sup>

March 1871. WILSON'S REEF. The Nelson Company's mine has been let on tribute, the company being unable to make it pay.

The Nelson Extended (Tribute) Company is about to be wound up, the company being unable to make the mine pay, on account of the high percentage, and the cost of raising stone, although the quartz averages about 1 oz per ton.<sup>9</sup>

June 1871. WILSON'S REEF. The Nelson Company's mine is let to two or three tribute parties, who, during the past quarter, have crushed 341 tons, which averaged 15 dwts 13 grs of gold per ton. This yield, after paying expenses, leaves a good profit to the tributors.<sup>10</sup>

March 1872. The Nelson Extended (Vivian and Co.) has completed the erection of their machinery for pumping. The mine is baled out, and men are employed in breaking quartz for crushing. The Old Nelson Company, on Wilson's Reef, whose mine paid good dividends for several years, have done but little work during the quarter. They have lost the reef in the bottom of the mine, where it has been cut off by a dyke, and no effort is being made to strike it below. The backs have been let on tribute to several parties, but the men, finding it too poor to pay wages, have left it.<sup>11</sup>

March 1875. These remarks apply especially to the Nelson, German, Reef, Vittoria, and South Eaglehawk Companies.<sup>12</sup>

June 1875. The whole line of Nuggetty Reef is idle at present, as well as the Nelson, the German Reef, Brewer's and Cookman's Reefs.<sup>13</sup>

March 1876. The prospects at present are not very encouraging. Two only (ie.) the North Eaglehawk United and the North British, have paid dividends; two others, the Nelson and Thornhill's Reef mines, have been sold by the sheriff's officer to pay the overdrafts on the banks.<sup>14</sup>

March 1879. Quartz mining. This branch of mining shows a decrease of 824 tons in the quantity crushed, and over 350 oz in the yield of gold, the cause of which in a great measure is the suspension of work in several of our principal mines, viz., the two Nelsons, the Crown claim, the Cymru, the Great Western, the Beehive, six mines on the Eaglehawk line, three mines on the Nuggetty line, the Grand Junction and Welshman's Reef, and three mines on the Victoria line--making altogether twenty mines in which the engines are idle, and the water within from 100 to 180 feet of the surface. All the work being done in these mines is merely fossicking in the shallow ground.<sup>15</sup>

March 1880. A new company has also been formed for working the Old Nelson and Nelson Extended mines; the shares have all been sold, and preparations are being made to start work. A new company is also being formed, by gentlemen of Sandhurst, for working the Old Beehive mine; the last crushing from the bottom of this mine, 530 feet in depth, gave 22 dwts of gold per ton. The Nuggetty line of reef was pegged off last week by Frederick White, the manager of the Eaglehawk Union Company, and a notice of application for a lease posted on the ground.<sup>16</sup>

June 1880. The Nelson Company is still pumping, and will shortly have the mine drained, when it is considered that a small outlay in cross-cutting will lead to the discovery of the rich reef that was cut off by a dyke some few years ago.<sup>17</sup>

March 1881. In the Old Nelson mine nothing new has yet been discovered. A party of men has been put on to break out 40 tons of stone from the old workings, as a trial crushing.<sup>18</sup>

December 1882. The Nelson Company in driving south have struck the lode, which shows gold, but no stone having been crushed, the value of the discovery is as yet not known.<sup>19</sup>

March 1883. The Great Nelson Company has not yet come upon payable stone; since striking the reef, they have crushed 58 tons of stone for 17 oz 18 dwts of gold; the reef is large, and the stone shows a quantity of galena and other metals which is considered a good indication of gold being near at hand.<sup>20</sup>

September 1884. A recently formed company, the "New Nelson", consisting chiefly of local men, who have purchased the mine and plant from the former owners, and have succeeded in floating the whole of the shares, will start work as soon as possible.<sup>21</sup>

December 1885. The New Nelson Company struck a reef 40 feet thick about 400 feet east of the engine shaft.<sup>22</sup>

March 1886. The New Nelson Company is pushing on the north and south drives. In the south drive gold is seen in the stone, but hitherto there has been none crushed to tests its value.<sup>23</sup>

December 1886. The New Nelson Company is now putting in a cross-cut from the bottom of the shaft.<sup>24</sup>

March 1887. The Nelson Company has sunk the shaft to a depth of 700 feet, and is now cross-cutting east to find the reef that was cut off by a dyke at the 350-foot level, where it was very rich, but has never yet been discovered below.<sup>25</sup>

December 1889. The New Nelson Company has sunk their shaft to a depth of 913 feet.<sup>26</sup>

1897. This mine, as the name implies, is contiguous to the south of that of the South German Company. I was first opened up in the early days of this gold-field to work the old Nelson (since called Wilson's) reef, which was to some depth was worked with considerable profit. The present company has done a considerable amount of prospecting and several auriferous patches, including a little payable gold, have been worked; but still the company has been very much of an up-hill nature.<sup>27</sup>

1897. The South German Extended mine was first worked by the Nelson, and afterwards the New Nelson companies to a depth of 400 feet for 51,381 oz. of gold. The present company has not made its appearance on the dividend list yet but has every prospect of doing so, as a splendid reef is being worked at 1350 feet and 1450 feet respectively. The stone is heavily mineralised and is gold-bearing and local opinion indicates that it will shortly become one of the leading mines. When in the hands of a co-operative company of 13 shares this property returned £6,000 per share in dividends equal to £78,000.<sup>28</sup>

1903. The South German Extended Company has been working with a limited number of men for some time on payable stone at the 1,100 feet level. The shaft is 1,500 feet deep, and the mine is equipped with a good winding, crushing, and air compressing plant.

The German and Derby, the South German Extended No. 1, the South British, the Exhibition and Lisle, the Exhibition Consolidated, the Central Columbia, the Mount View, and the old Union Companies are all in the development stage.<sup>29</sup>

1904. The North of England Gold Mining Company, the Union Gold Mining Company, Bell's Reef Gold Mining Company, the Central Columbia Gold Mining Company, the Columbia Gold Mining Company, the South German Extended Gold Mining Company, the Mount Tarengower Gold Mining Company, the Exhibition Consolidated Company, the Mount View Gold Mining Company, and the South British Company have, with indifferent success, carried on prospecting work during the year as vigorously as the funds at their command would allow.<sup>30</sup>

1904. North of England Mine, Nuggetty Ranges. Here, Mr Rodda, the mining manager, is operating on a lode that appears to be a higher part of the lode cut in the cross-cut at the 500-foot level of the Nuggetty Extended ... There is a whip hauling plant, and the stone is carted to the south German Extended mine for treatment.<sup>31</sup>

1904. The next mine (from South German) is the South German Extended. Its shaft is situated 1,100 feet south of the shaft of the South German Company ... the main shaft is down 1,500 feet. Work is confined to the 1,100-foot level at present ... The company is said to have raised 54,261 oz. of gold. It has a 10-head mill.<sup>32</sup>

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*DESCRIPTION & INTERPRETATION:*

At least 5 periods of mining: c. 1859--Reef opened up  
 1867 to 1879--Nelson Co.  
 1870 to 1883--Great Nelson Co.  
 1884 to c.1889--New Nelson Co.  
 1903/1904--South German Extended

Mine site

Located on the east side of Long Gully are the remains of a largely quarried, but once quite large, mullock heap. At the rear (east end) of the mullock heap are some bulldozed machinery foundations: mounds of building stone rubble/brick bats from which protrude several 1 inch diameter mounting bolts. The site is covered by blackberry bushes and pepper trees.

*INTEGRITY/CONDITION:* Poor, but possibility that the removal of vegetation and rubble would expose intact foundations.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because it was the site of one of Maldon's established mines the Nelson Co.
- Scientific Significance, because it has potential as an archaeological site.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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Assessor: David Bannear

Date: November 1992.

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- 1 Mining Surveyors' Reports, December 1859
  - 2 Mining Surveyors' Reports, September 1866
  - 3 Mining Surveyors' Reports, June 1867
  - 4 Mining Surveyors' Reports, March 1868
  - 5 Mining Surveyors' Reports, September 1868
  - 6 Mining Surveyors' Reports, March 1870
  - 7 Mining Surveyors' Reports, September 1870
  - 8 Mining Surveyors' Reports, December 1870
  - 9 Mining Surveyors' Reports, March 1871
  - 10 Mining Surveyors' Reports, June 1871
  - 11 Mining Surveyors' Reports, March 1872
  - 12 Mining Surveyors' Reports, March 1875
  - 13 Mining Surveyors' Reports, June 1875
  - 14 Mining Surveyors' Report, March 1876
  - 15 Mining Surveyors' Reports, March 1879
  - 16 Mining Surveyors' Reports, March 1880
  - 17 Mining Surveyors' Reports, June 1880
  - 18 Mining Surveyors' Reports, March 1881
  - 19 Mining Surveyors' Reports, December 1882
  - 20 Mining Surveyors' Reports, March 1883
  - 21 Mining Surveyors' Reports, September 1884
  - 22
  - 23 Mining Surveyors' Reports, March 1886
  - 24 Mining Surveyors' Reports, December 1886
  - 25 Mining Surveyors' Reports, March 1887
  - 26 Mining Surveyors' Reports, December 1889
  - 27 Department of Mines, Special Reports - Report on the Maldon Gold-Field, R A Moon, 1897
  - 28 Australian Mining Standard, Special Edition, 1897
  - 29 Annual Report, 1903
  - 30 Annual Report, 1904
  - 31 Geological Survey of Victoria, Bulletin No. 14, The Maldon Gold-field, W M Bradford, 1904
  - 32 Geological Survey of Victoria, Bulletin No. 14, The Maldon Gold-field, W M Bradford, 1904

**SITE NO. & NAME:** 45 **ARMSTRONG GULLY**  
**ALLUVIAL SINKINGS**

**LOCATION:** Armstrong Gully, Muckleford

**HI NO:** H7723-0139

**DIRECTIONS:** Gully crosses the Red White and Blue Track 1 km from the junction with Golf Links Track, and runs south-east onto private property.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

**HISTORY:**

September 1864 Miners distributed thus:

Pickpocket	89	Green Valley	35
Newstead	114	Long Gully Md.	18
Back Creek	44	Peg Leg Gully	67
Frenchman's Gully	42	Porcupine Flat	176
Gardner's Gully	32	Eaglehawk	150
Sandy Creek	250	Bradford	16
Nuggetty Flat	149	Mount Tarrangower	190
Beehive Hill	110	Ironbark	14
<b>Armstrong's</b>	<b>4</b>	Hard Hills	20
Hunter's Rush	27	Fryingpan	8 <sup>1</sup>

September 1865 Miners distributed thus:

Pickpocket	546	Growler's Gully	55
Newstead	36	Long Gully	48
Green Valley	38	Peg Leg Gully	78
Fryingpan Gully	21	Porcupine Flat	86
Gardner's Gully	19	Eaglehawk	176
Sandy Creek	212	Long Gully, Muckleford	39
Nuggetty	65	Mount Tarrangower	226
Beehive Hill	152	Ironbark Gully	33
<b>Armstrong's</b>	<b>7</b>	Hard Hills	25
Hunter's Rush	31	Back Creek	23
Frenchman's Gully	2 <sup>2</sup>		

December 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	31
Newstead	15	Long Gully	46
Green Valley	45	Peg Leg Gully	65
Fryingpan Gully	3	Porcupine	50
Gardner's Gully	12	Eaglehawk	187
Sandy Creek	205	Long Gully, Muckleford	33
Nuggetty	75	Mount Tarrangower	195
Beehive Hill	111	Ironbark Gully	23
<b>Armstrong's Gully</b>	<b>9</b>	Hard Hills	22
Hunter's Rush	17	Back Creek	18
Frenchman's	7 <sup>3</sup>		

March 1867 Miners distributed thus:

Pickpocket	650	Growler's Gully	25
Newstead	65	Long Gully, Maldon	65
Green Valley	59	Peg Leg Gully	76
Fryingpan Gully	19	Porcupine	60
Gardner's Gully	12	Eaglehawk	190
Sandy Creek	180	Long Gully, Muckleford	35

Armstrong Gully alluvial sinkings

Nuggety	85	Mount Tarrangower	195
Beehive Hill	98	Ironbark Gully	25
<b>Armstrong's Gully</b>	<b>11</b>	Hard Hills	22
Hunter's Rush	18	Back Creek	21 <sup>4</sup>

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*DESCRIPTION & INTERPRETATION:*

Alluvial workings (19th century)

Narrow band of poorly defined and fairly dispersed shallow sinkings. East of the Red White and Blue Track the sinkings are obscured by undergrowth; west side they are very visible due to an absence of understorey.

Reef workings (19th century)

There is a small patch of reef workings on the north side of the gully (west side of Red White and Blue Track) which include two open shafts with wooden collars.

*INTEGRITY/CONDITION:* Sinkings poorly defined.

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*CULTURAL SIGNIFICANCE:*

The site has little historical importance and its integrity has been diminished to such an extent that it has little cultural significance.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Mining Surveyors' Reports, September 1864
  - 2 Mining Surveyors' Reports, September 1865
  - 3 Mining Surveyors' Reports, December 1866
  - 4 Mining Surveyors' Reports, March 1867

**SITE NO. & NAME:** 46 **PUDDLERS**

**LOCATION:** Bacon Gully, Back Creek

**HI NO:** H7723-0040

**DIRECTIONS:** Twin puddlers in Bacon Gully, tributary of Back Creek 450 m south along Talbots Track from its junction with Maldon Road.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

**HISTORY:**

No references found for Bacon Gully (name appears on 1860s Parish Plan)--part of Back Creek Diggings.

Back Creek Diggings

1854-55. Muckleford. On about 27 February 1854, a gold commissioner went there, to what was then termed Wattle Flat, "give miles from Castlemaine, just after crossing the Back Creek at Muckleford Flat, where the roads to Bryant and Menzies separates" [Commissioners' and Wardens' Reports, 28 February 1854]. The spot was an old diggings, and there were then 300 diggers, sinking deep. He said that Middleton had reported sixty-seventy men there twelve months before. The neighbourhood of "Wattle Flat" led to Bryant's Ranges, where there were fifty men working, also. Tarrangower rush was then at its height, with 20,000 on the field. On 11 March 1854 the diggers at Wattle Flat had dispersed into the ranges.

In 1855 gold was again discovered at Muckleford, and the main lead was worked along what was then the Adelaide Road (the main road today). The spot was east of the first rush. In June 1855 Gardiners Gully and Green Gully, about four miles south of this rush, with Bosworva Hill and Gully, where a reef was known, were opened up [*Mt Alexander Mail*, 22 June 1855. *Age*, 18 July 1855].

After the first rush about 700 men settled into these places.<sup>1</sup>

September 1864 Miners distributed thus:

Pickpocket	89	Green Valley	35
Newstead	114	Long Gully Md.	18
<b>Back Creek</b>	<b>44</b>	Peg Leg Gully	67
Frenchman's Gully	42	Porcupine Flat	176
Gardner's Gully	32	Eaglehawk	150
Sandy Creek	250	Bradford	16
Nuggetty Flat	149	Mount Tarrangower	190
Beehive Hill	110	Ironbark	14
Armstrong's	4	Hard Hills	20
Hunter's Rush	27	Fryingpan	8 <sup>2</sup>

September 1865 Miners distributed thus:

Pickpocket	546	Growler's Gully	55
Newstead	36	Long Gully	48
Green Valley	38	Peg Leg Gully	78
Fryingpan Gully	21	Porcupine Flat	86
Gardner's Gully	19	Eaglehawk	176
Sandy Creek	212	Long Gully, Muckleford	39
Nuggetty	65	Mount Tarrangower	226
Beehive Hill	152	Ironbark Gully	33
Armstrong's	7	Hard Hills	25
Hunter's Rush	31	<b>Back Creek</b>	<b>23</b>
Frenchman's Gully	2 <sup>3</sup>		

December 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	31
Newstead	15	Long Gully	46
Green Valley	45	Peg Leg Gully	65
Fryingpan Gully	3	Porcupine	50
Gardner's Gully	12	Eaglehawk	187

Sandy Creek	205	Long Gully, Muckleford	33
Nuggety	75	Mount Tarrangower	195
Beehive Hill	111	Ironbark Gully	23
Armstrong's Gully	9	Hard Hills	22
Hunter's Rush	17	<b>Back Creek</b>	<b>18</b>
Frenchman's	7 <sup>4</sup>		

March 1867 Miners distributed thus:

Pickpocket	650	Growler's Gully	25
Newstead	65	Long Gully, Maldon	65
Green Valley	59	Peg Leg Gully	76
Fryingpan Gully	19	Porcupine	60
Gardner's Gully	12	Eaglehawk	190
Sandy Creek	180	Long Gully, Muckleford	35
Nuggety	85	Mount Tarrangower	195
Beehive Hill	98	Ironbark Gully	25
Armstrong's Gully	11	Hard Hills	22
Hunter's Rush	18	<b>Back Creek</b>	<b>21</b> <sup>5</sup>

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*DESCRIPTION & INTERPRETATION:*

Two puddlers (19th century).

On the west side of Talbot's Track are two full water dams. The largest dam is on Crown Land; the other is on Freehold. Between the two dams is an extensive bank of washed gravel. The bank covers an area of approx. 50 m square and stands 1 m high. The bank has been partly quarried on its western side. On the bank of wash are two poorly defined puddlers. One of the puddlers is on Crown Land, the other on Freehold. Both puddlers have a diameter of 22 ft (6.7 m), and are set 15 m apart. In the gully below the puddlers is a poorly defined band of alluvial sinkings; and the hill-slope above has been extensively surfaced.

*INTEGRITY/CONDITION:* Puddlers still retain portions of their banks of wash. Site therefore has good integrity.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because it is part of the Back Creek Diggings which appear to have been linked to the first discovery of gold in the Maldon Mining Division.
- Scientific Significance, because of the well-preserved puddlers and the rare survival of the puddlers' bank of wash. Site has high educational value.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- <sup>1</sup> Flett, pp. 201-202
  - <sup>2</sup> Mining Surveyors' Reports, September 1864
  - <sup>3</sup> Mining Surveyors' Reports, September 1865
  - <sup>4</sup> Mining Surveyors' Reports, December 1866
  - <sup>5</sup> Mining Surveyors' Reports, March 1867

**SITE NO. & NAME:** 47 **BACK CREEK ALLUVIAL WORKINGS**

**LOCATION:** **Back Creek, Muckleford**

**HI NO:** **H7723-0141**

**DIRECTIONS:** Shallow alluvial sinkings. On south side of Pullens Road, 500 m west of its junction with Maldon Road.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

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**HISTORY:**

1854-55. Muckleford. On about 27 February 1854, a gold commissioner went there, to what was then termed Wattle Flat, "give miles from Castlemaine, just after crossing the Back Creek at Muckleford Flat, where the roads to Bryant and Menzies separates" [Commissioners' and Wardens' Reports, 28 February 1854]. The spot was an old diggings, and there were then 300 diggers, sinking deep. He said that Middleton had reported sixty-seventy men there twelve months before. The neighbourhood of "Wattle Flat" led to Bryant's Ranges, where there were fifty men working, also. Tarrangower rush was then at its height, with 20,000 on the field. On 11 March 1854 the diggers at Wattle Flat had dispersed into the ranges.

In 1855 gold was again discovered at Muckleford, and the main lead was worked along what was then the Adelaide Road (the main road today). The spot was east of the first rush. In June 1855 Gardiners Gully and Green Gully, about four miles south of this rush, with Bosworva Hill and Gully, where a reef was known, were opened up [*Mt Alexander Mail*, 22 June 1855. *Age*, 18 July 1855].

After the first rush about 700 men settled into these places...<sup>1</sup>

September 1864 Miners distributed thus:

Pickpocket	89	Green Valley	35
Newstead	114	Long Gully Md.	18
<b>Back Creek</b>	<b>44</b>	Peg Leg Gully	67
Frenchman's Gully	42	Porcupine Flat	176
Gardner's Gully	32	Eaglehawk	150
Sandy Creek	250	Bradford	16
Nuggetty Flat	149	Mount Tarrangower	190
Beehive Hill	110	Ironbark	14
Armstrong's	4	Hard Hills	20
Hunter's Rush	27	Fryingpan	8 <sup>2</sup>

September 1865 Miners distributed thus:

Pickpocket	546	Growler's Gully	55
Newstead	36	Long Gully	48
Green Valley	38	Peg Leg Gully	78
Fryingpan Gully	21	Porcupine Flat	86
Gardner's Gully	19	Eaglehawk	176
Sandy Creek	212	Long Gully, Muckleford	39
Nuggetty	65	Mount Tarrangower	226
Beehive Hill	152	Ironbark Gully	33
Armstrong's	7	Hard Hills	25
Hunter's Rush	31	<b>Back Creek</b>	<b>23</b>
Frenchman's Gully	2 <sup>3</sup>		

December 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	31
Newstead	15	Long Gully	46
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Sandy Creek	205	Long Gully, Muckleford	33

Nuggety	75	Mount Tarrangower	195
Beehive Hill	111	Ironbark Gully	23
Armstrong's Gully	9	Hard Hills	22
Hunter's Rush	17	<b>Back Creek</b>	<b>18</b>
Frenchman's	7 <sup>4</sup>		

March 1867 Miners distributed thus:

Pickpocket	650	Growler's Gully	25
Newstead	65	Long Gully, Maldon	65
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Fryingpan Gully	19	Porcupine	60
Gardner's Gully	12	Eaglehawk	190
Sandy Creek	180	Long Gully, Muckleford	35
Nuggety	85	Mount Tarrangower	195
Beehive Hill	98	Ironbark Gully	25
Armstrong's Gully	11	Hard Hills	22
Hunter's Rush	18	<b>Back Creek</b>	<b>21</b> <sup>5</sup>

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*DESCRIPTION & INTERPRETATION:*

Shallow alluvial workings (19th century).

50 m wide band of well-defined, relatively undisturbed, shallow alluvial sinkings. Shafts located 1 to 3 m apart, no puddlers or house sites were observed.

*INTEGRITY/CONDITION:* Good.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because it is part of the Back Creek Diggings which appear to have been linked to the first discovery of gold in the Maldon Mining Division.
- Scientific Significance, because the alluvial sinkings are still quite visible and thus have some educational value.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- <sup>1</sup> Flett, pp. 201-202
  - <sup>2</sup> Mining Surveyors' Reports, September 1864
  - <sup>3</sup> Mining Surveyors' Reports, September 1865
  - <sup>4</sup> Mining Surveyors' Reports, December 1866
  - <sup>5</sup> Mining Surveyors' Reports, March 1867

**SITE NO. & NAME:** 48 PRINCE LLEWELLYN CO.

**LOCATION:** Yorkshire Hill, Sandy Creek

**HI NO:** H7723-0142

**DIRECTIONS:** North side Baxters Track, 400 m east of its junction with Back Sandy Creek Track.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

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**HISTORY:**

April 1861. The Prince Llewellyn Company, at Yorkshire Hill, Sandy Creek, has during the last fortnight crushed 60 tons from their claim, which yielded 30 oz. of gold.<sup>1</sup>

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**DESCRIPTION & INTERPRETATION:**

The database compiled for the Maldon Mining Division contains references for eight quartz mines, located in the vicinity of Sandy Creek. These are Concord Co. (Dunn's Reef); Prince Llewellyn Co. (Yorkshire Hill); Irish Billy's Reef; Watson's Freehold; Lock's United; Otago Co.; Welcome Reef Syndicate; and Annaud Brothers. Only the Prince Llewellyn Co. and Watson's Freehold mines could not be accurately located. As the latter is obviously on Freehold land, then it is the Prince Llewellyn Co's mine that is most likely to be the one at the southern end of Baxter's Track.

**Prince Llewellyn Co (c. 1860s)**

Whim platform

50 m north from Baxters Track is a raised whim platform which has been constructed on relatively level ground. The bulk of the platform survives standing to a height of 4 ft. Unfortunately the platform's outer stone retaining wall has been removed. The platform, minus its stone retaining wall, is 35 ft wide and has a well preserved central post hole.

Mine and machinery site

20 m north of the whim platform is a filled, but slightly collapsed shaft. The collapse has revealed a section of the southern wall of a stone bob-pit. The stone is set in a lime mortar, and the exposed section of wall is 2 ft (60 cm) thick, 4 m long and stands 1-1/2 m high. 7 m north of the bob-pit is a machinery site having mounds of brick (red, hand-made type), stone and mortar rubble, and a boiler depression.

Mullock heap

6 m north of the shaft is a partly quarried linear mullock heap. What survives of the heap is 50 m long and stands 5 m high.

**INTEGRITY/CONDITION:** Good.

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**CULTURAL SIGNIFICANCE:**

The site has:

- Scientific Significance, because the whim platform is evidence of a type of hauling machinery commonly employed throughout the mid to late 19th century for shallow quartz mining.

The site's significance is increased by cumulative value, because:

- a) it is part of a group of sites all of which contain the remains of whim platforms. Once extremely common, this site type has (to date) only been found to survive in the Maldon Mining Division. These sites are Nos. 12, 22, 25, 48, and 76 (South Cookmans, Lises Reef workings, Grand Junction, Prince Llewellyn, and Thornhill Reef).

**SIGNIFICANCE RANKING:** Site Listed heritage Inventory.

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**Assessor:** David Bannear

**Date:** November 1992.

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<sup>1</sup> Mining Surveyors' Reports, April 1861

**SITE NO. & NAME:**       **49A     BLOW REEF QUARTZ WORKINGS**  
                                   **49B     TREATED TAILINGS**  
                                   **49C     OMEGA REEF QUARTZ WORKINGS**

**LOCATION:**               **Blow/Omega Reefs, Muckleford**

**HI NO:**                 **49A    H7723-0143**  
                                   **49B    H7723-0144**  
                                   **49C    H7723-0145**

**DIRECTIONS:**         Mine is located 700 m north along the Blow Mine Track from its junction with the Golf Links Track. Bulk of the workings are on western side of the track.

**MUNICIPALITY:**       Mount Alexander Shire

**LAND STATUS:**        State Forest

**HISTORY:**

December 1859. The Muckleford Reefs. Some six or seven reefs have been opened at Muckleford; they are, however, worthy of no especial remark, except Thornehill's Reef, which was opened in the early part of 1856 by Mr Thornehill. Some surface-stones promised exceedingly well; indeed, this has been the characteristic of all the Muckleford Reefs. Good stones are nearly always found on the surface, delighting the prospectors only to disgust and disappoint their expectations. A rush took place on the first stones being discovered amongst the payable claims--namely, the Brittingham's, Kenworthy's, Fisher's, and Down's. The former proved the most lasting, and is still occupied by its prospectors., who have a steam-engine and a dam near the reef. For the first six or seven months about £1,000 was netted from this claim, all the stuff being crushed by Messrs Woodfall and Co., who at that time owned a machine on the reef. Messrs Down and Co. sold out to a party of Cornishmen, who erected a machine, and are now being tolerably well remunerated. Messrs Brittingham and Co.'s stuff averaged about 1-1/2oz to the ton. This paid well, as the auriferous part of the reef was of great width. As much as 13 oz to the ton were at one time obtained. This was the exception; 1 oz was the average.

The Blow-up Reef--Mosquito and Nuggetty are the other reefs opened in this district, the latter turning out at first to its discoverers (Messrs S. and J. Woodfall) quartz which promised a return of at least 100 oz per ton. This unfortunately only lasted for a length of 8 feet by about 18 inches in depth. It then completely ran out. [A table lists gold yields from the following reefs: Eagle Hawk, Brewer's, Bell's, Tiverton, Fentiman's, Eagle Hawk (cement), Nuggetty, Manton's Gully, Beehive, Swipers', Linscott's, Perkin's, German Reef, Hill's (Mount), Eyrie, Lisle's (Mount), Allan's, Thornehill's, **Omega**, Kangaroo, New Wattle Gully] <sup>1</sup>

June 1860. With respect to the supply of water at present available at the different crushing machines throughout the district I have to remark that those at

The Springs have a supply to last	3 months
The Union Company, Eaglehawk Reef	1
Machine at Peg-Leg Gully	3
The four crushing machines at Long Gully	2
Three machines at Sandy Creek	1
Two machines at Green Gully	3
<b>Omega Reef, Green Gully</b>	1 <sup>2</sup>

July 1860. The number of crushing engines now at work and more erecting, all of them of considerable horse-power, require a constant supply of the purest water for mining pursuits. Some of the machines at present in the district, are now using water that is totally unfit for the use to which it is unfortunately applied.

Atlas Company, German Reef--supply constant; drain from reef. Vivian and Company, Beehive Reef--supply constant; drain from reef. Isaacson's, Beehive Reef--not working. Lisle's Reef Company, Lisle's Reef--supply very limited. Great Western Company, Beehive Reef--supply constant. Edwards, Maldon--not working; supply precarious. Kangaroo Reef, South Muckleford--removed. **Omega Reef, Greenfalls--supply exhausted.** Long Gully Machines four in No.--supply 1 month. Buttingham's, Green Gully--supply 6 weeks. Allsop's, Green Gully--supply 1 month. Fitzgerald, At the Springs--supply 1 month. Toy's, At the Springs--supply 1 month. Hawk's, At Nuggetty--not working. Fox, Raus and Co., Pegleg--supply 3 weeks. The Union Company, Eaglehawk Reef--supply very moderate. Dun's Reef, Muckleford--removed. Smith's Reef, Muckleford--supply abundant; making dam. Eaglehawk Company--supply abundant. Beehive Association, Beehive Reef--supply limited. Welshman's Reef, 1 Machine--supply 2 months. Sandy Creek, 3 Machines--

supply 2 months. Tarrangower Creek--supply abundant. Mia Mia, Newstead--supply abundant at present. Manton's Gully, Engine erecting--provision making for water. Wattle Gully Reef--drain from reef. Porcupine Flat, Alluvial--large dam at present sufficient.<sup>3</sup>

April 1861. At Omega Reef, South Muckleford, Ramsden and party crushed a trial lot of 4 tons, from a heap about 70 tons, at the Atlas Company's mills, which yielded 22-1/2 dwt to the ton; this trial was made at the Atlas, in consequence of their being dissatisfied with the yields obtained at their own engine, which only yielded 8 dwt per ton. The process of amalgamation adopted was that of shaking tables, while at the Atlas is the Chilian basin.<sup>4</sup>

1866. Omega Reef. Young Hope Co--910 tons/318 oz.<sup>5</sup>

1868. Galatea Co. Omega Reef--585 tons/120 oz.<sup>6</sup>

June 1888. The Dividend Company, on what is known as the Blow Reef, in Mia Mia, parish of Tarrenpower, from prospects obtained in their mine, have been induced to sink a new shaft from the surface for the proper working of the mine, and have purchased a battery of stampers which is now being erected, and will soon be ready for work.<sup>7</sup>

1912. The Blow Reef Company commenced operations early in 1912, since when it has completed a good main shaft to a depth of 292 feet, erected a steam winding plant, opened out at 280 feet, drove and cross-cut east and west, and struck stone in each cross-cut ... From the first chute 10 tons were crushed for a yield of 14 oz 12 dwt.<sup>8</sup>

1913. The Blow Reef Company sunk the shaft a further distance of 80 feet, making the total depth 360 feet. The expected payable shoot of stone had not been met with to the 15th December; but the mine manager was then expecting to strike it any day.<sup>9</sup>

1914. The Blow Reef Company, owing to the reef proving unpayable, closed down late in the year, and sold the winding plant, &c., to the Concord Company.<sup>10</sup>

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*DESCRIPTION & INTERPRETATION:*

Blow Reef was mined on three main occasions: reef opened c.1859; Dividend Co. (late 1880s); and Blow Reef Co. (c.1912 to 1914). Battery site appears to have been operated by Dividend Co in late 1880s, the mullock heap probably produced by Blow Reef Co. in the 1900s.

Battery site and mine workings

These workings on the west side of the track consists of a partially filled open cut associated with several filled, but subsiding shafts. Below the open cut is a largely quarried mullock heap. At the back of this heap (north end) is an open adit which leads into the open cut. Below the mullock heap (south) is a small dam, and a partially quarried in-situ tailings dump, which is still contained by a 30 m long earthen embankment.

A battery site is located on the slope above the tailings. This site consists of a levelled area containing brick and stone rubble.

To the south of the above mentioned features, is a very deep open cut associated with three open shafts. These workings lie very close to the track.

Tailings

300 m of south of the mine workings, in the main gully, is a large dam still retaining water. There is a very extensive dump of treated tailings on the west side of this dam. No remains of vats were found. 10 m north of the dam is what appears to be another battery site. This site has a loading ramp, at the base of which is a poorly defined linear depression. No traces of battery stumps were observed in this depression. Lying around the site is a scatter of stone rubble and red hand-made bricks.

On the east side of the track, opposite the dam, is a small section of trenching and two open shafts with intact mullock paddocks.

**Omega Reef**

Reef workings

300 m west of the from the Blow mine's mullock heap is a patch of reef workings consisting of: 3 partly bulldozed mullock paddocks/filled shafts; one intact mullock paddock with two open shafts; and a deep, but relatively short section, of open stoping.

*INTEGRITY/CONDITION:* Good.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because it has a range of well-preserved features, especially the open cut, which have some educational value.

The site's significance is increased by cumulative value, because it:

- a) forms part of a group of sites which contain a number of features illustrating the scope and scale of quartz and alluvial mining in the area. These sites are Nos. 79, 49A, 49C, 61, 67, 73 and 60 (Demo Track alluvial workings, Blow Reef, Omega Reef, Kangaroo Reef, Moonlight Gully , Golden Age mine and Ironbark gully workings).
- b) is set in an attractive, rugged bush setting.

*SIGNIFICANCE RANKING:* Sites Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Mining Surveyors' Reports, December 1859
- 2 Mining Surveyors' Reports, June 1860
- 3 Mining Surveyors' Reports, July 1860
- 4 Mining Surveyors' Reports, April 1861
- 5 Mining Surveyors' Reports 1866 - gold yields from various crushings
- 6 Mining Surveyors' Reports 1868 - gold yields from various crushings
- 7 Mining Surveyors' Reports, June 1888
- 8 Annual Report, 1912
- 9 Annual Report, 1913
- 10 Annual Report, 1914

**SITE NO. & NAME:** 50 DUNNS REEF WORKINGS

**LOCATION:** Dunn's Reef , Muckleford

**HI NO:** H7723-0146

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**DIRECTIONS:** North side of Dunn's Reef Track, 550 m from its junction with Red White and Blue Track.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

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**HISTORY:**

August 1859. The applications during the month are for registration, 42; abandoned reefs, 1, of 320 feet, at Ivory's Reef, contiguous to Nuggetty, and 1 at Dunn's Reef--also 320 feet.<sup>1</sup>

December 1859. The applications for abandoned reefs recur at Nuggetty Reef, South Muckleford, Mining Board Reef, Long Gully, Welchman's, Smith's Reef (two instances), Dunn's, and Kangaroo Reef, North Muckleford. The Muckleford Reefs. Some six or seven reefs have been opened at Muckleford; they are, however, worthy of no especial remark, except Thornehill's Reef, which was opened in the early part of 1856 by Mr Thornehill.<sup>2</sup>

July 1860. The following applications ... have been made during the month of July.

Dams and puddling machines (2)--At Sandy and Bradford Creeks

Registration--Fourteen cases

Protection to water-holes for domestic purposes (1)--At Eaglehawk Creek

Amalgamation (5)--At the following places: German Reef, 800 feet; **Dunn's Reef**, Sandy Creek, 1,600 feet; Bell's Reef, 160 feet; Tiverton Reef, 465 feet.

Abandoned Reefs (6)--In all cases 320 feet granted at Kangaroo and **Dunn's Reefs**.

The number of crushing engines now at work and more erecting, all of them of considerable horse-power, require a constant supply of the purest water for mining pursuits. Some of the machines at present in the district, are now using water that is totally unfit for the use to which it is unfortunately applied. [Machines are] ... Atlas Company, German Reef--supply constant; drain from reef. Vivian and Company, Beehive Reef--supply constant; drain from reef. Isaacson's, Beehive Reef--not working. Lisle's Reef Company, Lisle's Reef--supply very limited. Great Western Company, Beehive Reef--supply constant. Edwards, Maldon--not working; supply precarious. Kangaroo Reef, South Muckleford--removed. **Omega Reef, Greenfalls--supply exhausted.** Long Gully Machines four in No.--supply 1 month. Buttingham's, Green Gully--supply 6 weeks. Allsop's, Green Gully--supply 1 month. Fitzgerald, At the Springs--supply 1 month. Toy's, At the Springs--supply 1 month. Hawk's, At Nuggetty--not working. Fox, Raus and Co., Pegleg--supply 3 weeks. The Union Company, Eaglehawk Reef--supply very moderate. Dun's Reef, Muckleford--removed. Smith's Reef, Muckleford--supply abundant; making dam. Eaglehawk Company--supply abundant. Beehive Association, Beehive Reef--supply limited. Welshman's Reef, 1 Machine--supply 2 months. Sandy Creek, 3 Machines--supply 2 months. Tarrangower Creek--supply abundant. Mia Mia, Newstead--supply abundant at present. Manton's Gully, Engine erecting--provision making for water. Wattle Gully Reef--drain from reef. Porcupine Flat, Alluvial--large dam at present sufficient.<sup>3</sup>

March 1861. The Concord Association, at Dunn's Reef, has not yet commenced crushing, owing to the contractor being unable to finish his contract within the specified time, but expect to be ready in course of the ensuing month. Mining is still being carried on below with fair prospects.<sup>4</sup>

February 1861. The Concord Company, at Sandy Creek, is progressing rapidly with the machinery; prospects from this reef are also very encouraging.<sup>5</sup>

April 1861. The Concord Association at Sandy Creek made a trial start of their new battery of stampers this week, and will soon be ready for crushing operations.<sup>6</sup>

May 1861. Quartz mining has also improved during the past month; the machines of three companies, viz.: Parkins's, Cookman's and Concord, are ready for work as soon as water is available.<sup>7</sup>

September 1875. The Dunn's Reef Company, at Muckleford, has started work in the mine, with very fair prospects; a cross-cut has been put in at the 200-foot level, where the reef was struck, showing payable gold; but none has yet been crushed to test its value. There is but little doing in alluvial mining at present.<sup>8</sup>

1876. Dunns Reef Co.--160 tons/40oz.<sup>9</sup>

September 1882. The plants on the Eaglehawk Limited lease and the Prince of Wales and Dunn's Reef mines have been sold. The two latter have been removed from the division.<sup>10</sup>

1884. Mackay & Party--22 tons/6oz.<sup>11</sup>

1914. The Blow Reef Company, owing to the reef proving unpayable, closed down late in the year, and sold the winding plant, &c., to the Concord Company.

The Concord Company commenced work late in the year, when a main shaft has been sunk to about 100 feet, and a steam winding plant erected. The mine manager of this company informed me that the shaft would be sunk to 200 feet before opening out.<sup>12</sup>

1915. The Concord and Maloney's Red White and Blue companies closed down during the year.<sup>13</sup>

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*DESCRIPTION & INTERPRETATION:*

Dunn's Reef was mined on four main occasions: reef opened late 1850s; Concord Association (early 1860s); Dunn's Reef Co. (c.1875 to 1882); and Concord Co. (1914/15). The only battery erected at the mine appears to have been by the Dunn's Reef Co.

Dunns Reef Co's battery

Track leads north off Dunn's Reef Track and runs to a large open cut. On the west side of this track are the remains of a loading ramp. At the base of the ramp is a rectangular levelled area measuring 13 x 6 m, which contains a spread of brick rubble (re, hand-made variety). In the gully below the battery site is a large water dam. Upstream from the dam are two sludge ponds.

Treated tailings

Below the large water dam are the remnants of a quarried dump of treated tailings.

Mine workings

Main focus of the workings appears to be a large, relatively shallow open cut. The open cut is partially filled with debris. There are also several bulldozed mullock paddocks and filled shafts in the area.

*INTEGRITY/CONDITION:* Poor.

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*CULTURAL SIGNIFICANCE:*

The site has little historical importance and its integrity has been diminished to such an extent that it has little cultural significance.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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<sup>1</sup> Mining Surveyors' Reports, August 1859

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- 2 Mining Surveyors' Reports, December 1859
  - 3 Mining Surveyors' Reports, July 1860
  - 4 Mining Surveyors' Reports, March 1861
  - 5 Mining Surveyors' Reports, February 1861
  - 6 Mining Surveyors' Reports, April 1861
  - 7 Mining Surveyors' Reports, May 1861
  - 8 Mining Surveyors' Reports, September 1875
  - 9 Mining Surveyors' Reports 1876 - gold yields from various crushings
  - 10 Mining Surveyors' Reports, September 1882
  - 11 Mining Surveyors' Reports 1884 - gold yields from various crushings
  - 12 Annual Report, 1914
  - 13 Annual Report, 1915

**SITE NO. & NAME:** 51 ALBERT CO.  
**LOCATION:** FentEmans Reef workings, Muckleford

**HI NO:** H7724-0047

**DIRECTIONS:** 1.9 km east along railway from where it crosses Lockwood Road

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

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**HISTORY:**

1855. Smith's and Fentimen's Reefs were scenes of excitement in 1855.<sup>1</sup>

August 1859. (W.A. Hadwen, Mining Surveyor). [Table shows gold yields from the following reefs: Perkins', Victorian, Beehive, Bell's, Eaglehawk, Swipers', Nuggetty, Manton's, Fenteman's, Brewer's, Linscott's, German, Welchman's].<sup>2</sup>

1859. Dieslu & Makerns. 17 tons/148 oz (at Jeffrey's battery); Mertons--19 tons/19 oz; Stubbs & Co.--4 tons/12 oz.<sup>3</sup>

June 1860. [Table lists gold yields from the following reefs: Beehive, Brewer's, Fenteman's, Perkin's, Linscott's, Eaglehawk, Swiper's, Ladies', Nuggety, Welshman's, Irish Billy's, Thornhill's, Wilson's]<sup>4</sup>

1860. Mertons--14 tons/140 oz (depth of 235 ft); Mooney & Co.--57 tons/150 oz.<sup>5</sup>

April 1861. Fenteman's Reef, which is situated about 2-1/2 miles from the township of Maldon: this reef is remarkable for its regularity, its being nearly of the same breadth throughout as far as opened up; the claimholders purpose forming a company to work the reef by the aid of machinery, in consequence of the usual difficulty--influx of water.<sup>6</sup>

1861. Gregg & Co.--40 tons/30 oz.; Mertons--averaging 5 oz per ton.<sup>7</sup>

April 1866. Albert Quartz Mining Co.--40 acres, leased for 15 years. Fentemans Reef, about 2 miles from Beehive East. The ground was held prior to 1862 in small claims worked by co-operative miners, with great success, the quartz, it is said, yielding as high as 14 oz. The worked to water level—235 ft. In spite of the effort made to overcome the obstacle by horsepower, owing to the great depth, the shaft having been sunk on the underlay, they were unsuccessful. Abortive attempts were then made to form a company, at a time when many bubble schemes were being formed on the market. The shareholders registered their claims, but neglecting to rework, possession was taken up by Mr. Mitchell, who crushed all the quartz and debris found on the surface. The present company was formed about 6 months since, to work the deeper ground.<sup>8</sup>

October 1866. The late White Stars Co's plant purchased by this company, has been erected in good order, working from two shafts; baling carried out from No. 1 shaft ... Another kiln is ready, which will be considered a fair test of the reef. Being satisfied with the prospects, the directors have determined to erect stampers at once.<sup>9</sup>

1867. Albert Co.--180 tons/90 oz.<sup>10</sup>

June 1868. The Albert Company, on Fenteman's Reef, has 4 feet of stone, at about 400 feet deep, with gold visible in the stone. [Report also has a section drawing of Albert Company's workings on Fenteman's Reef]<sup>11</sup>

July 1868. Albert Quartz Mining Co.--12ft driven on 400ft. level ... Tramway completed from engine shaft to kiln. Expect new kiln completed this week ... 120 tons crushed from 290ft level for 242ozs.<sup>12</sup>

August 1868. Crushing suspended for nearly 4 days in fixing stampers and repairs to machinery ... About 80 tons crushed from 400 ft. level for 320 oz. of amalgam.<sup>13</sup>

September 1868. 250 tons crushed past month for 228 oz ... 4th dividend of 1/- per share declared ... An additional 16-inch cylinder engine and boiler to be erected for crushing ... Present engine will be used then for winding and pumping ... Directors in treaty for plant (engine, boiler, and stamps) and erection.<sup>14</sup>

1867. Albert Quartz Mining Co--1217 tons/350 oz.<sup>15</sup>

September 1868. The Albert Company, Fenteman's Reef, still continues to get good yields from the 400 feet level.<sup>16</sup>

October 1868. Reef poor in sinking from 300 ft. level, hence falling off in yield ... 268 tons for 176 oz.<sup>17</sup>

December 1868. Crushing delayed due to alterations and erection of new machinery. Expected to be completed in 3 weeks, when engine shaft will be started to sink 100 feet deeper to 500 ft.<sup>18</sup>

1868. Albert Co--1569 tons/842 oz.<sup>19</sup>

1869. Albert Co.--426 tons/248 oz.<sup>20</sup>

1870. Albert Co—100 tons/30 oz.<sup>21</sup>

June 1880. Five new companies have been formed during the quarter, and leases have been applied for on the Nuggetty, Eaglehawk, and Fenteman's lines of reef.<sup>22</sup>

March 1889. The Golden Crown Company has sunk the shaft a further depth of 60 feet, making a total of 140 feet. Their object in sinking is to cut Fenteman's reef at about 500 feet from the surface.<sup>23</sup>

1904. A mile to the east of the Bell's Reef mine, and a little to the south, is situated the Fentiman's mine. A 10-head mill is on the mine, and a steam winch does the haulage. Mr. Caudry is in charge.<sup>24</sup>

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*DESCRIPTION & INTERPRETATION:*

Fenteman's Reef open in 1855; worked by Albert Co. (c. 1866 to 1870s); and by Golden Crown Co. (late 1880s).

Roasting kilns

Remains relating to quartz crushing appear to belong to the Albert Co. which worked the reef from c. 1866 to 1870s. The remains consist of two south facing, largely intact roasting kilns. The kilns have been excavated out of the natural sandstone of the hill slope. Each kiln contains a 4.6 m circular roasting bowl with vertical sides. The bowls are approximately 4 m deep. The draught/unloading portals of the two kilns have been formed by tunnelling through the natural rock. Each portal is approx 1.6 m square and 4.2 m long. The portal of eastern kiln has collapsed. Running from the portals of both kilns are 1.6 m wide, approx 17 m long trenches. The trenches are angled so as to meet at a common point.

The two kilns are 18 m apart, and between them are earthworks (partially excavated bowl and trench) of what was intended to be a third kiln.

Battery site

Approximately 60 m south west from the point where the two kilns' entrances converge is a battery site. The site consists of an excavated platform measuring 7 m x 5 m. Running along the south west side of the platform is a small section of stone wall. Little survives on the platform except for seven protruding engine bolts which have been drilled into natural sandstone, a scatter of building stone and red, hand-made bricks, and some rough concrete stamper footings. Above the stamper footings is the remains of a loading ramp.

Dam and workshop

To the south of the battery site is large dam connected to a water race and 25 m west is a workshop site containing a small furnace. The furnace is mostly buried but still retains a section of its stack. The site is littered with fragments of iron.

Sludge ponds

20 m north of the battery site is the first of five small, adjoining, sludge ponds. The first pond is 35 m wide and contains a 1 m thick deposit of in-situ sludge. The second pond is 7.6 m wide and contains a similarly thick deposit of sludge. The next pond is not so well defined, but is approx. 4.25 m wide. Below this third pond are two earthen embankments that hold only traces of tailings.

Treated Dumps

Below the earthen embankments of the last two sludge ponds are three small dumps of treated tailings. A well defined ditch drains from the battery site to the area of these treated dumps.

Open cut and haulage adit

20 m above the ponds which still contain thick deposits of sludge is a partially filled, long, but relatively narrow, open cut. At the south eastern end of the open cut is a collapsed haulage adit. The adit is located just above the upper surface of the first sludge pond.

Mullock heaps

South east of the battery site is the remnant of a large linear mullock heap which still retains two short dumping lines. The heap stands about 10 m high. Near this heap is a small, pointy mullock heap.

*INTEGRITY/CONDITION:* Good.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because:
  - a) it has a large number of well-preserved components which together illustrate operations which took place on the site.
  - b) of the possibility of buried remains.
  - c) the site's quartz roasting kiln is evidence of an early treatment process developed on the Victorian goldfields to facilitate quartz crushing and the retrieval of gold.

The site's significance is increased by cumulative value, because:

- a) it is also part of a group of sites which all contain the remains of quartz roasting kilns. The surviving kilns are evidence of the variation in kiln design, and also the continuation of the practice of quartz roasting in the Maldon area long after its discontinuation on other Victorian goldfields. These sites are Nos. 9, 10, 12, 14, 25, 31, 37, 51, 61, 69 & 76. (Beehive Co., Bells Reef, South Cookmans, Cookmans Association, Grand Junction, North British, Caledonian, Fentemans, Young Australian, Boswarva Hill and Thornhill Co.).
- b) it is located in an attractive, rugged bush setting.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Flett
  - 2 Mining Surveyors' Reports, August 1859
  - 3 Gold yields obtained from *Tarrangower Times* [DMID records, Bendigo Office]
  - 4 Mining Surveyors' Reports, June 1860
  - 5 Gold yields obtained from *Tarrangower Times* [DMID records, Bendigo Office]
  - 6 Mining Surveyors' Reports, April 1861
  - 7 Gold yields obtained from *Tarrangower Times* [DMID records, Bendigo Office]
  - 8 Dickers Mining Record, Vol 6, April 7 1866, p262
  - 9 Dickers Mining Record, Vol 6, Oct 16 1866, p243
  - 10 Gold yields obtained from *Tarrangower Times* [DMID records, Bendigo Office]
  - 11 Mining Surveyors' Reports, June 1868
  - 12 Dickers Mining Record, Vol 11, July 1868, p4
  - 13 Dickers Mining Record, Vol 11, August 1868, p29
  - 14 Dickers Mining Record, Vol 11, Sept 1868, p58
  - 15 Mining Surveyors' Reports 1867 - gold yields from various crushings
  - 16 Mining Surveyors' Reports, September 1868
  - 17 Dickers Mining Record, Vol 11, Oct 10th 1868, p87
  - 18 Dickers Mining Record, Vol 11, Dec 7 1868, p141
  - 19 Mining Surveyors' Reports 1868 - gold yields from various crushings
  - 20 Gold yields obtained from *Tarrangower Times* [DMID records, Bendigo Office]
  - 21 Mining Surveyors' Reports 1867 - gold yields from various crushings
  - 22 Mining Surveyors' Reports, June 1880
  - 23 Mining Surveyors' Reports, March 1889
  - 24 Geological Survey of Victoria, Bulletin No 14 - The Maldon Gold-Field, W M Bradford, 1904

**SITE NO. & NAME:** 52 FRENCHMANS GULLY ALLUVIAL WORKINGS

**LOCATION:** Frenchman's Gully, Muckleford

**HI NO:** H7723-0147

**DIRECTIONS:** Gully runs north west from junction of Tunnel and Break Point Tracks.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

**HISTORY:**

1857-8. Mia Mia diggings became established in May 1857 [*Mt Alexander Mail*, 5 June and 2 August 1857]. In December that year a huge rush began to Sawpit Gully, three miles from Maldon [*Mt Alexander Mail*, 11 December 1857]. This became known as "Sawpit Rush" or "Hunter's Rush", and it eventually joined the diggings on the main road. It was here that the township of Muckleford ... was built.

The two leads at Mia Mia--**Frenchman's** and Nuggetty--were worked with Mia Mia in 1857-58.<sup>1</sup>

August 1860: The following applications ... have been made during the month:

Registration--Fifteen cases.

Dams and puddling machines (3)--At Porcupine Flat, the Mia Mia, and Frenchman's Gully, North Muckleford.<sup>2</sup>

March 1864 Miners distributed thus:

Pickpocket & Strangways	78	Growler's Gully	177
Newstead	113	Long Gully	145
Muckleford	137	Peg Leg Gully	148
<b>Frenchman's Gully</b>	<b>51</b>	Porcupine Flat	115
Mia Mia and Gardner's Gully	119	Eaglehawk	182
Sandy Creek	413	Bradford	45
Nuggetty Flat	126 <sup>3</sup>		

September 1865 Miners distributed thus:

Pickpocket	546	Growler's Gully	55
Newstead	36	Long Gully	48
Green Valley	38	Peg Leg Gully	78
Fryingpan Gully	21	Porcupine Flat	86
Gardner's Gully	19	Eaglehawk	176
Sandy Creek	212	Long Gully, Muckleford	39
Nuggetty	65	Mount Tarrangower	226
Beehive Hill	152	Ironbark Gully	33
Armstrong's	7	Hard Hills	25
Hunter's Rush	31	Back Creek	23
<b>Frenchman's Gully</b>	<b>2<sup>4</sup></b>		

December 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	31
Newstead	15	Long Gully	46
Green Valley	45	Peg Leg Gully	65
Fryingpan Gully	3	Porcupine	50
Gardner's Gully	12	Eaglehawk	187
Sandy Creek	205	Long Gully, Muckleford	33
Nuggetty	75	Mount Tarrangower	195
Beehive Hill	111	Ironbark Gully	23
Armstrong's Gully	9	Hard Hills	22
Hunter's Rush	17	Back Creek	18
<b>Frenchman's</b>	<b>7<sup>5</sup></b>		

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*DESCRIPTION & INTERPRETATION:*

Workings appear to belong to the 19th century.

2 Puddlers and band of alluvial sinkings

On west side of the road is a weathered-looking 22 ft (6.7 m) diameter puddler (No. 1) which has a well-defined inner mound and puddling trench. The puddler's central pivot post has not survived. There are two dams associated with the puddler. Running down the gully is a narrow band of poorly defined shallow alluvial sinkings. After running for some 200 m the alluvial sinkings have been obliterated by some extensive surfacing. At the western end of the surfacing is a full water dam. On the southern end of the dam's embankment is a weathered-looking puddler (no. 2). The puddler's inner mound has virtually vanished.

8 stone Fireplaces

In close proximity to the first puddler are at least eight stone fireplaces in vary states of preservation. 14 m south west of the puddler is a group of 4 stone fireplaces; two more fireplaces are located 80 m to the north west; and there are two well preserved fireplaces 50 m to the north east.

*INTEGRITY/CONDITION:*

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*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because of the rare survival of a number of alluvial mining features: puddlers, alluvial sinkings and stone fireplaces. Site has high educational value.

The site's significance is increased by cumulative value, because it:

- forms part of a group of sites which document small-scale alluvial and quartz mining. These sites are Nos. 52 and 53 (Frenchman's Gully and Frenchman's Reef).

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 
- 1 Flett, pp. 201-202
  - 2 Mining Surveyors' Reports, August 1860
  - 3 Mining Surveyors' Reports, March 1864
  - 4 Mining Surveyors' Reports, September 1865
  - 5 Mining Surveyors' Reports, December 1866

**SITE NO. & NAME:** 53 FRENCHMAN'S REEF QUARTZ WORKINGS

**LOCATION:** Frenchman's Reef, Muckleford

**HI NO:** H7723-0148

**DIRECTIONS:** On the east side of Tunnel Road, 50 m south of its junction with Break Point Track.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

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**HISTORY:**

June 1889. A party of two men have been prospecting on Frenchman's reef, Mia-mia, and at a depth of 40 feet, they recently struck the cap of the reef from which a crushing of 10 tons gave a yield of 17 oz 9 dwt 18 gr. The reef appears to be looking better under foot, and claims have been marked out north and south of the prospectors.<sup>1</sup>

1889. Giffith & Bailey--10 tons/17 oz.<sup>2</sup>

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**DESCRIPTION & INTERPRETATION:**

Reef workings (19th century)

Open adit with intact mullock heap which has four dumping lines. On the crown of the hill are some bulldozed mullock paddocks and three open shafts.

**INTEGRITY/CONDITION:** Good.

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**CULTURAL SIGNIFICANCE:**

The site has:

- Scientific Significance, because of the intact tunnel and mullock dump. The site has high educational value.

The site's significance is increased by cumulative value, because:

- it forms part of a group of sites which document small-scale alluvial and quartz mining. These sites are Nos. 52 and 53 (Frenchman's Gully and Frenchman's Reef).

**SIGNIFICANCE RANKING:** Site Listed Heritage Inventory.

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**Assessor:** David Bannear

**Date:** November 1992.

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<sup>1</sup> Mining Surveyors' Reports, June 1889

<sup>2</sup> Mining Surveyors' Reports 1889 - gold yields from various crushings

**SITE NO. & NAME:** 54 WELCOME REEF SYNDICATE BATTERY

**LOCATION:** Welcome Reef/Frying Pan Reef, Gough Ranges, Welshman's Reef

**HI NO:** H7723-0149

**DIRECTIONS:** 200 m west of the junction of Goughs Ranges Road and the new road to Triad Co's open cut.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

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**HISTORY:**

September 1864 Miners distributed thus:

Pickpocket	89	Green Valley	35
Newstead	114	Long Gully Md.	18
Back Creek	44	Peg Leg Gully	67
Frenchman's Gully	42	Porcupine Flat	176
Gardner's Gully	32	Eaglehawk	150
Sandy Creek	250	Bradford	16
Nuggetty Flat	149	Mount Tarrangower	190
Beehive Hill	110	Ironbark	14
Armstrong's	4	Hard Hills	20
Hunter's Rush	27	<b>Fryingpan</b>	<b>8<sup>1</sup></b>

March 1865 Miners distributed thus:

Pickpocket	113	Growler's Gully	82
Newstead	25	Long Gully	16
Green Valley	45	Peg Leg Gully	77
<b>Fryingpan Gully</b>	<b>3</b>	Porcupine	63
Gardner's Gully	28	Eaglehawk	182
Sandy Creek	230	Long Gully, Muckleford	60
Nuggetty	71	Mount Tarrangower	248
Beehive Hill	180	Ironbark Gully	16
Armstrong's	3	Hard Hills	9
Hunter's Rush	17	Back Creek	25 <sup>2</sup>

September 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	33
Newstead	22	Long Gully	45
Green Valley	49	Peg Leg Gully	63
<b>Fryingpan Gully</b>	<b>14</b>	Porcupine	50
Gardner's Gully	12	Eaglehawk	180
Sandy Creek	219	Long Gully, Muckleford	30
Nuggetty	60	Mount Tarrangower	210
Beehive Hill	117	Ironbark Gully	20
Armstrong's Gully	2	Hard Hill	8
Hunter's Rush	8	Back Creek	13
Frenchman's	10 <sup>3</sup>		

March 1867 Miners distributed thus:

Pickpocket	650	Growler's Gully	25
Newstead	65	Long Gully, Maldon	65
Green Valley	59	Peg Leg Gully	76
<b>Fryingpan Gully</b>	<b>19</b>	Porcupine	60
Gardner's Gully	12	Eaglehawk	190
Sandy Creek	180	Long Gully, Muckleford	35
Nuggetty	85	Mount Tarrangower	195
Beehive Hill	98	Ironbark Gully	25

Armstrong's Gully	11	Hard Hills	22
Hunter's Rush	18	Back Creek	21 <sup>4</sup>

1911. The Welcome Reef Syndicate erected a 12-head crushing plant on its lease (situated near Sandy Creek), and commenced mining operations in June last, since when operations have continued with, I understand, payable results.<sup>5</sup> [Possibly the battery at Frying Pan Reef].

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*DESCRIPTION & INTERPRETATION:*

Welcome Reef Syndicate's battery? (operating around 1912).

Remains appear to belong to the Welcome Reef Syndicate. The battery site has a line of decaying battery stumps belonging to two battery boxes. The rough concrete footings for the eastern battery box contains a 7-1/2 ft long line of stamper footings, made up of six, 1-1/2 ft thick, stumps. The western battery box has only a 4 ft long line of stumps. This arrangement suggests a battery having 12-head of stumps. A bedlog with 1 inch mounting bolts separates the two battery boxes. In front (north ) of the stumps, on their north side, is a largely buried concrete engine bed which measures 6 x 2-3/4 ft. The bed has 1 inch mounting bolts. 3 m north of the engine bed, in direct alignment, are two small concrete beds. The smallest of the two concrete beds is 2 ft square and has a 1-1/2 ft diameter impression. Presumably this was a base for a gas-producer. The other bed is 3 ft square, but has no circular impression. Below the battery site is a 50 m wide sludge pond. The pond contains a small dump of treated tailings. In the gully below the tailings, upstream from the battery, is a large breached water dam.

Mine workings

Located above the battery are some mine workings which have been badly disturbed through shaft filling.

Mud brick house

200 m east of the battery site is the remains of a small, single-roomed mud brick hut which is associated with domestic rubbish. The rubbish would date to the 1930s onwards.

*INTEGRITY/CONDITION:*

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*CULTURAL SIGNIFICANCE:*

The site has some scientific significance due to the survival of the battery.

*SIGNIFICANCE RANKING:*

Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

- 
- 1 Mining Surveyors' Reports, September 1864
  - 2 Mining Surveyors' Reports, March 1865
  - 3 Mining Surveyors' Reports, September 1866
  - 4 Mining Surveyors' Reports, March 1867
  - 5 Annual Report, 1911

**SITE NO. & NAME:** 55 GARDNER'S GULLY WORKINGS

**LOCATION:** Gardner's Gully, Muckleford

**HI NO:** H7723-0150

**DIRECTIONS:** 500 m north of Newstead Road

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

**HISTORY:**

June 1855. Muckleford. The majority of diggers are doing well. The favourite locality at present is the lead which has been discovered to the left of Gardiner's Gully ... A party of 4 having a claim here, have sold 5 lbs weight of gold within the last 10 days ... The sinking varies very much in depth: at one end of this lead some holes have been sunk 95 ft without reaching the bottom, whilst several adjoining claims have been bottomed at 30 ft. The reefs all run north and south, whilst the veins of gold take a direction east and west. This is a feature, we believe, peculiar to Muckleford, as also is the extreme irregularity of bottom ... The main gully, which is traversed by the old road is now comparatively neglected, but all the adjacent gullies are being worked. Boswarva gully, and the hill alongside, have turned out some tolerable specimens of gold in quartz, but the quartz claims have not yet had a fair trial, from the lack of crushing machines. Switch stamps are in course of erection, but it is to be feared that these primitive machines, with their single stamp, will not be adequate to the reduction of a paying quantity in a given time. On Boswarva hill a few loads of auriferous quartz have been broken up and roasted in a kiln, ready for the stampers. About a mile from the first discovered workings at Muckleford, a place called Green Gully has been extensively rushed ... Muckleford is beginning to assume a more settled aspect, the tents have a permanent and comfortable appearance, and several bark huts are in course of erection. Stores are rapidly increasing, and one or two wooden buildings are going up ... a few puddling machines are working on the creek.<sup>1</sup>

August 1860. The following applications ... have been made during the month:

Registration--Fifteen cases.

Dams and puddling machines (3)--At Porcupine Flat, the Mia Mia, and Frenchman's Gully, North Muckleford

Abandoned Reefs (5)--At Parkin's, Wattle Gully Reef, **Gardiner's Reef**, Mosquito Reef, and

Telegraph Reef; in each case, 320 feet.<sup>2</sup>

March 1864 Miners distributed thus:

Pickpocket & Strangways	78	Growler's Gully	177
Newstead	113	Long Gully	145
Muckleford	137	Peg Leg Gully	148
Frenchman's Gully	51	Porcupine Flat	115
Mia Mia and <b>Gardiner's Gully</b>	<b>119</b>	Eaglehawk	182
Sandy Creek	413	Bradford	45
Nuggetty Flat	126 <sup>3</sup>		

March 1865 Miners distributed thus:

Pickpocket	113	Growler's Gully	82
Newstead	25	Long Gully	16
Green Valley	45	Peg Leg Gully	77
Fryingpan Gully	3	Porcupine	63
<b>Gardner's Gully</b>	<b>28</b>	Eaglehawk	182
Sandy Creek	230	Long Gully, Muckleford	60
Nuggetty	71	Mount Tarrangower	248
Beehive Hill	180	Ironbark Gully	16
Armstrong's	3	Hard Hills	9
Hunter's Rush	17	Back Creek	25 <sup>4</sup>

December 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	31
Newstead	15	Long Gully	46
Green Valley	45	Peg Leg Gully	65
Fryingpan Gully	3	Porcupine	50
<b>Gardner's Gully</b>	<b>12</b>	Eaglehawk	187
Sandy Creek	205	Long Gully, Muckleford	33
Nuggety	75	Mount Tarrangower	195
Beehive Hill	111	Ironbark Gully	23
Armstrong's Gully	9	Hard Hills	22
Hunter's Rush	17	Back Creek	18
Frenchman's	7 <sup>5</sup>		

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*DESCRIPTION & INTERPRETATION:*

Puddler and massive bank of wash (19th century).

Below the western end of the dam's embankment is a weathered puddler with poorly defined inner mound (post hole visible) and puddling trench. The puddler is 22 ft (6.7 m) wide and has been constructed on the western end of a massive bank of washed gravel. This bank, presumably an accumulation from a succession of puddlers, is 50 m long, 20 m wide and stands 2 m high in places. An outlet drain leads from the puddler. The gully below the puddler has been filled with slum, giving it a very flat appearance.

Mud brick house

On the eastern side of the dam, slightly to the north, is the remains of a single roomed mud brick hut.

Alluvial workings

The gully slope between the puddler and the ? mine has been surfaced. The main channel of Gardiner's Gully has been "puddled-out" (completely excavated) leaving only a fringe of alluvial sinkings.

*INTEGRITY/CONDITION:* Puddler site has high integrity.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because of its rarity, viz., a puddler associated with a massive, unquarried bank of wash.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- <sup>1</sup> Mt Alexander Mail, 22 June 1855
- <sup>2</sup> Mining Surveyors' Reports, August 1860
- <sup>3</sup> Mining Surveyors' Reports, March 1864
- <sup>4</sup> Mining Surveyors' Reports, March 1865
- <sup>5</sup> Mining Surveyors' Reports, December 1866

**SITE NO. & NAME:** 56 GOLDSBOROUGH GOLD MINING CO.

**LOCATION:** Goughs Reef, Welshman's Reef

**HI NO:** H7723-0151

**DIRECTIONS:** 1.45 km along Sells Road, 300 m south of road.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Freehold Land

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**HISTORY:**

1926. The reports and accounts of the Goldsborough G.M. Co., N.L., Maldon, Vic., for the period ending January 31 show that the prospects of the company have improved. At 185 ft. intermediate levels have been driven north and south on a reef for 154 ft., and good values are showing on both ends. In the south end the reef has opened out to 10 ft. in width, and is estimated to be worth 17 dwt. from the battery. The shaft is down 216 ft., and plats will be cut at 200 ft. for a main level, after which the sinking of the main shaft to open up another level at 300 ft. will be resumed. The company has a 10-head battery, but owing to the lack of boiler power it has only been possible to crush with 5 head one shift, and since December, 325 tons of ore from the intermediate levels have returned 247-1/2 oz. of gold, valued at £973. A crushing of 22 tons from the shaft gave 12-1/4 oz. An efficient boiler has been purchased, and when this is in commission shortly, it is proposed to run five head of the mill three shifts, and later the ten head.

Operations during the period were chiefly of a developmental nature, and resulted in a loss of £2,752, raising the debit balance in working account to £10,214. At January 31, gold in transit was valued at £175. The liabilities consisted of Victorian government loan and accrued interest, £1,972; sundry creditors, £281, and bank overdraft, £143. There is a contingent liability of £600, being the amount payable to vendors from gold won.<sup>1</sup>

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**DESCRIPTION & INTERPRETATION:**

Goldsborough G.M. Co (c. 1926)

Remnant of mullock heap and a collapsed (deep) shaft. 11 m north of the shaft is a largely buried 8 ft (2.45 m) square concrete winder bed with 1 inch mounting bolts. On the western side of the winder bed is the fragmented remains of a brick and stone boiler setting. Near the rear of the boiler setting are the largely buried remains of a circular chimney stack which has 3-1/2 ft (1.1 m) internal diameter with 1-1/2 ft thick wall. The outer face of the stack is stone with the inner chamber lined with hand-made red bricks. Below the boiler setting, to the west, is a large dump of ash.

Stone structure

3 m north of the chimney stack are some sections of stone walls.

Battery site

5 m east of the stone walls are the concrete foundations for two battery boxes belonging to a 10-head battery. Each of the stamper foundations measures 5-1/2 (1.7 m) x 3-1/2 ft, stands 2-1/2 ft high, and contains 1-1/2 ft diameter mounting bolts. A concrete floor, measuring 13 x 8 m, is located on the east side of the battery foundations. It more than likely that concrete once covered the area in front of the battery boxes. The concrete floor contains two concrete mounting beds, the largest being an 8 ft square engine foundation with 1 inch mounting bolts. On the eastern side of the engine bed is a 7 ft (2.15 m) square pit that is over 1 m deep. An open culvert runs from this pit. Behind the battery boxes is a loading ramp. On the west side of this ramp are some largely buried bedlogs with 1 inch mounting bolts.

Treated tailings

A large dump of treated tailings is located 20 m east of the battery site.

Sludge ponds

Below the dump of treated tailings are two sludge ponds.

**INTEGRITY/CONDITION:** Good

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**CULTURAL SIGNIFICANCE:**

The site has:

- Scientific Value, because it has a large number of components which together illustrate the mining operations which took place on the site in the 1920s.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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<sup>1</sup> Chemical Engineering & Mining Review, Vol 18, 1925-1926, p335

**SITE NO. & NAME:** **57A: GREAT SOUTH GERMAN CO.  
57B: ALLUVIAL WORKINGS**

**LOCATION:** **Great South German and Excelsior Reefs, Muckleford**

**HI NO:** **57A & 57B H7723-0152**

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**DIRECTIONS:** 100 m west of South German Track, 350 m from its junction with Bells Lane Track.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

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**HISTORY:**

1863. Cleaves, Hughes & Co--20 tons/49 oz.<sup>1</sup>

1864. Teetotallers Reef--Crockett, Morris & Co.--185 tons/216 oz.<sup>2</sup>

1865. Rowell & Co.--12 tons/43 oz.; Simmonds & Co.--19 tons/13 oz.; Stanford & Co.--35 tons/250 oz.<sup>3</sup>

1866. Lewis & Co.--25 tons/58 oz.; Cleaves, Hughes & Co.--163 tons/230 oz.; Rowell & Co.--34 tons/126 oz.<sup>4</sup>

1866. Excelsior and Teetotal Reefs. Welsh & English--460 tons/365 oz.<sup>5</sup>

1867. Rowell & Co.--23 tons/40 oz.<sup>6</sup>

1868. Rowell & Co.--58 tons/107 oz; Pervill & Co.--17 tons/51 oz.<sup>7</sup>

1870. Rowell & Co.--12 tons/57 oz.; Simmonds & Co.--8 tons/71 oz.<sup>8</sup>

1873. Lewis & Co--10 tons/10 oz; Welcome Party--14 tons/14 oz.<sup>9</sup>

September 1879. The Prince of Wales Company, on the Excelsior Reef, has just completed the erection of their plant, consisting of a steam-engine for pumping, and a battery of stampers. The manager is confident that, with a battery on the ground, he will make the mine pay.<sup>10</sup>

December 1879. The Prince of Wales Company, on the Excelsior Reef, when sinking the new shaft came upon a fair prospect, gold being visible in the stone; now that they have a battery of stampers on the ground the mine is likely to give dividends as soon as they get a supply of water for crushing purposes; there are two good dams on the ground, and all that seems to be wanting is a good downpour of rain.<sup>11</sup>

1880. Prince of Wales--892 tons/55 oz.<sup>12</sup>

March 1881. The Prince of Wales Company has been prospecting extensively in their mine, by driving and sinking, but has not yet struck any payable reef.<sup>13</sup>

September 1882. The plants on the Eaglehawk Limited lease and the Prince of Wales and Dunn's Reef mines have been sold. The two latter have been removed from the division.<sup>14</sup>

June 1887. The Loddon Reef Gold Mining Company, on the Excelsior reef (on private property), are erecting steam machinery, viz, two steam engines for pumping, winding, and working a battery of ten heads of stamps, and will be ready for starting in about a month. The engine-shaft is 113 feet deep, and is now being cut down and made clear; men are also employed in breaking out quartz. The lode is 18 feet wide, about 6 feet of which is being taken and shows good prospects, likely to prove payable.<sup>15</sup>

September 1887. The Loddon Reef Company has completed the erection of the pumping and crushing machinery, but for the want of water have not been able to do much in the way of crushing. They have had one crushing, but the stuff did not turn out as good as was expected. They have now decided to sink the shaft to a greater depth, expecting to get a better supply of water by so doing.<sup>16</sup>

1887. Exploration Reef. Loddon Reef Co.--115 tons/30 oz.<sup>17</sup>

September 1888. The Loddon Reef Company have sunk their shaft a further depth of 60 feet, and, till Saturday last, were opening up their mine, when from some cause or other, the men were all discharged and work stopped.<sup>18</sup>

1905. The Great South German Amalgamated Company's mine, situated about five miles south of Maldon, has continued work with a few men, principally tributers. The work has been confined to the 110-foot level, and from that to the surface. I am of opinion that this company is wasting its time in fossicking about amongst the old workings, which were well worked by experienced miners many years ago, and if it wishes to get an adequate return for its outlay will have to go below water-level for it. The mine is well-equipped with a winding plant and a 15-heads crushing plant.<sup>19</sup>

1906. The Great South German Amalgamated Company has continued, as in previous years, pottering about above water level, with an average of four men. Success in the circumstances cannot be reasonably expected.<sup>20</sup>

1909. The Great South German Amalgamated Company continues to prospect at shallow levels.<sup>21</sup>

1910. The Great South German Company has worked on during the year with three or four men below ground, without finding anything sensational.<sup>22</sup>

1911. The Great South German Company has continued work with indifferent results.<sup>23</sup>

1912. The Great South German Company has continued to work, but nothing of any importance has been found. A few men only have been employed.<sup>24</sup>

1913. Two men only have been employed in prospecting in the shallow ground on the Great South German Company's lease. A few small quantities of poor stone have been crushed.<sup>25</sup>

1915. The Great South German Company still continues to carry on work on a very limited scale above water level; nothing promising has been found.<sup>26</sup>

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*DESCRIPTION & INTERPRETATION:*

57A. Prince of Wales Co and Great South German Co. (late 1870s to First World War)

Quartz crushing carried out on the site by two companies--the Prince of Wales Co. (late 1870s to early 1880s) and Great South German Co. (1900s to First World War). Tailings on the site presumably the result of both companies operations. The remains of the crushing battery most probably date to the later Great South German Co.

Battery site

Site consists of the rough concrete footings for a battery box which contains four, 2 ft (60 cm) square, stumps. Only two, of the four stumps, stand above ground level. A second battery box, minus stumps, is also visible. The remains of the loading ramp runs along the rear of the battery stumps. Near the eastern end of the stumps are the bulldozed remains (hand-made red brick and stone rubble) of some machinery footings.

To the east of the battery is a large dump of treated tailings. There are also deposits of tailings above the battery.

Mine site

20 m south east of the battery site is a capped shaft. Surrounding the shaft are traces of a what must have been a large mullock heap. The line of workings runs south from this shaft. The workings include some shallow open cuts and numerous bulldozed mullock paddocks and filled shafts.

57B. Alluvial workings

Dams and puddler

In the gully below (north of) the battery are two large dams. The upper dam, which abuts German Reef Track, is full of water. The lower dam is much larger but has been breached. On the dam's embankment northern end is a weathered-looking 22 ft (6.7 m) diameter puddler. To the north of the puddler are two stone fireplaces.

*INTEGRITY/CONDITION:* Poor.

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*CULTURAL SIGNIFICANCE:*

Site 57A has little historical value and its integrity has been diminished to such an extent that it has little historical significance.

Site 57B has scientific significance, because it has a well-preserved puddler.

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 SIGNIFICANCE RANKING:

Site Listed Heritage Inventory.

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 Assessor: David Bannear

Date: November 1992.

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- |    |   |
|----|---|
| 1  | Gold yields obtained from <i>Tarrangower Times</i> [DMID records, Bendigo Office] |
| 2  | Gold yields obtained from <i>Tarrangower Times</i> [DMID records, Bendigo Office] |
| 3  | Gold yields obtained from <i>Tarrangower Times</i> [DMID records, Bendigo Office] |
| 4  | Gold yields obtained from <i>Tarrangower Times</i> [DMID records, Bendigo Office] |
| 5  | Mining Surveyors' Reports 1866 - yields per various crushings.                    |
| 6  | Gold yields obtained from <i>Tarrangower Times</i> [DMID records, Bendigo Office] |
| 7  | Gold yields obtained from <i>Tarrangower Times</i> [DMID records, Bendigo Office] |
| 8  | Gold yields obtained from <i>Tarrangower Times</i> [DMID records, Bendigo Office] |
| 9  | Gold yields obtained from <i>Tarrangower Times</i> [DMID records, Bendigo Office] |
| 10 | Mining Surveyors' Reports, September 1879   |
| 11 | Mining Surveyors' Reports, December 1879  |
| 12 | Mining Surveyors' Reports 1866 - yields per various crushings.                    |
| 13 | Mining Surveyors' Reports, March 1881   |
| 14 | Mining Surveyors' Reports, September 1882   |
| 15 | Mining Surveyors' Reports, June 1887  |
| 16 | Mining Surveyors' Reports, September 1887   |
| 17 | Mining Surveyors' Reports 1887 - yields per various crushings.                    |
| 18 | Mining Surveyors' Reports, September 1888   |
| 19 | Annual Report, 1905   |
| 20 | Annual Report, 1906   |
| 21 | Annual Report, 1909   |
| 22 | Annual Report, 1910   |
| 23 | Annual Report, 1911   |
| 24 | Annual Report, 1912   |
| 25 | Annual Report, 1913   |
| 26 | Annual Report, 1915   |

**SITE NO. & NAME:** 58 HARD & WHITE HILLS CEMENT WORKINGS

**LOCATION:** Hard & White Hills, Muckleford

**HI NO:** H7723-0153

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**DIRECTIONS:** West of the junction of Talbots Track and Dunn's Track.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

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**HISTORY:**

Main cement mining period appears to have been the mid 1860s.

September 1864 Miners distributed thus:

Pickpocket	89	Green Valley	35
Newstead	114	Long Gully Md.	18
Back Creek	44	Peg Leg Gully	67
Frenchman's Gully	42	Porcupine Flat	176
Gardner's Gully	32	Eaglehawk	150
Sandy Creek	250	Bradford	16
Nuggetty Flat	149	Mount Tarrangower	190
Beehive Hill	110	Ironbark	14
Armstrong's	4	<b>Hard Hills</b>	<b>20</b>
Hunter's Rush	27	Fryingpan	8 <sup>1</sup>

March 1865 Miners distributed thus:

Pickpocket	113	Growler's Gully	82
Newstead	25	Long Gully	16
Green Valley	45	Peg Leg Gully	77
Fryingpan Gully	3	Porcupine	63
Gardner's Gully	28	Eaglehawk	182
Sandy Creek	230	Long Gully, Muckleford	60
Nuggetty	71	Mount Tarrangower	248
Beehive Hill	180	Ironbark Gully	16
Armstrong's	3	<b>Hard Hills</b>	<b>9</b>
Hunter's Rush	17	Back Creek	25 <sup>2</sup>

September 1865 Miners distributed thus:

Pickpocket	546	Growler's Gully	55
Newstead	36	Long Gully	48
Green Valley	38	Peg Leg Gully	78
Fryingpan Gully	21	Porcupine Flat	86
Gardner's Gully	19	Eaglehawk	176
Sandy Creek	212	Long Gully, Muckleford	39
Nuggetty	65	Mount Tarrangower	226
Beehive Hill	152	Ironbark Gully	33
Armstrong's	7	<b>Hard Hills</b>	<b>25</b>
Hunter's Rush	31	Back Creek	23
Frenchman's Gully	2 <sup>3</sup>		

March 1866 Miners distributed thus:

Pickpocket and Strangways	855	Growler's Gully	50
Newstead	7	Porcupine Flat	60
Gardner's Gully	16	Eaglehawk	186
Sandy Creek	256	Long Gully	54
Nuggetty	80	Mount Tarrangower	238
Beehive Hill	152	Ironbark Gully	15
<b>Hard Hills</b>	<b>25</b>	Muckleford	221 <sup>4</sup>

## September 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	33
Newstead	22	Long Gully	45
Green Valley	49	Peg Leg Gully	63
Fryingpan Gully	14	Porcupine	50
Gardner's Gully	12	Eaglehawk	180
Sandy Creek	219	Long Gully, Muckleford	30
Nuggety	60	Mount Tarrangower	210
Beehive Hill	117	Ironbark Gully	20
Armstrong's Gully	2	<b>Hard Hill</b>	<b>8</b>
Hunter's Rush	8	Back Creek	13
Frenchman's	10 <sup>5</sup>		

## December 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	31
Newstead	15	Long Gully	46
Green Valley	45	Peg Leg Gully	65
Fryingpan Gully	3	Porcupine	50
Gardner's Gully	12	Eaglehawk	187
Sandy Creek	205	Long Gully, Muckleford	33
Nuggety	75	Mount Tarrangower	195
Beehive Hill	111	Ironbark Gully	23
Armstrong's Gully	9	<b>Hard Hills</b>	<b>22</b>
Hunter's Rush	17	Back Creek	18
Frenchman's	7 <sup>6</sup>		

## March 1867 Miners distributed thus:

Pickpocket	650	Growler's Gully	25
Newstead	65	Long Gully, Maldon	65
Green Valley	59	Peg Leg Gully	76
Fryingpan Gully	19	Porcupine	60
Gardner's Gully	12	Eaglehawk	190
Sandy Creek	180	Long Gully, Muckleford	35
Nuggety	85	Mount Tarrangower	195
Beehive Hill	98	Ironbark Gully	25
Armstrong's Gully	11	<b>Hard Hills</b>	<b>22</b>
Hunter's Rush	18	Back Creek	21 <sup>7</sup>

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**DESCRIPTION & INTERPRETATION:**19th century cement workings

Cement sinkings have been largely obliterated by gravel extraction.

**INTEGRITY/CONDITION:** Poor.

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**CULTURAL SIGNIFICANCE:**

The site has little historical value and its integrity has been reduced to such an extent that it has little cultural significance.

**SIGNIFICANCE RANKING:** Site Listed Heritage Inventory.

**Assessor: David Bannear**

**Date: November 1992.**

- 
- 1 Mining Surveyors' Reports, September 1864
  - 2 Mining Surveyors' Reports, March 1865
  - 3 Mining Surveyors' Reports, September 1865

- 
- 4 Mining Surveyors' Reports, March 1866
  - 5 Mining Surveyors' Reports, September 1866
  - 6 Mining Surveyors' Reports, December 1866
  - 7 Mining Surveyors' Reports, March 1867

**SITE NO. & NAME:**       **59A     IRISH BILLY/OTAGO REEF WORKINGS**  
**59B     LOCK'S UNITED CO.**

**LOCATION:**               **Lock's (or Irish Billy or Otago) Reef, Welshman's reef**

**HI NO:**                 **59A & 59B H7723-0154**

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**DIRECTIONS:**         2.1 km along Seers Road from its junction with Newstead Road, 500 m north of road.

**MUNICIPALITY:**       Mount Alexander Shire

**LAND STATUS:**        Freehold Land

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**HISTORY:**

June 1860. [Table lists gold yields from the following reefs: Beehive, Brewer's, Fenteman's, Perkin's, Linscott's, Eaglehawk, Swiper's, Ladies', Nuggety, Welshman's, Irish Billy's, Thornhill's, Wilson's].<sup>1</sup>

May 1861. Irish Billy's Reef, Sandy Creek, has been taken up again, and the stuff crushed has yielded about 13 dwt per ton. One party on this reef has about 60 tons ready for crushing, which is expected to yield about an ounce to the ton.<sup>2</sup>

March 1879. A party of men--four brothers, named Locke--farmers on the Loddon, to fill up their spare time since harvest, started prospecting near Irish Billy's Reef, and this week discovered a lode, at a depth of 25 feet, 10 inches thick, a ton of stone from which produced 14 oz of retorted gold.<sup>3</sup>

June 1879. Irish Billy' Reef is also turning out well; 100 tons of quartz yielded 391 oz 10 dwts, and the owners are now crushing.<sup>4</sup>

September 1879 ... the last crushing from Locke and Company's claim on Irish Billy's Reef gave 256 oz 14 dwts from 33 tons of stone; there is another crushing now on hand, which, to all appearances, is likely to yield 10 oz per ton. Twelve other claims have been taken up, but there is only one besides Locke's getting gold. This line of reef is an extension of Old Irish Billy's, which was profitably worked many years ago; it was taken out to a depth of 90 feet, and some of the stone gave 12 oz per ton.<sup>5</sup>

December 1879. Locke and Company, on Irish Billy's Reef, has sunk a new shaft about 90 feet, and are now breaking out stone for the mills. They have crushed this quarter 35 tons, which gave 265 oz 10 dwts of gold.<sup>6</sup>

March 1880. Locke and Company, on Irish Billy's Reef, have, for the last fortnight, been timbering their shaft, with a view of sinking deeper, as the reef is still good and likely to continue; the last crushing of 10 tons gave 85 ozs 15 dwts of gold. One other claim, No. 2 North, on this line is getting gold; but the claims on the south are not yet deep enough to strike Locke's run of gold.<sup>7</sup>

June 1880. Locke and Co. has crushed 25 tons of stone from Irish Billy's Reef, which gave 253 oz of smelted gold. Owing to the recent heavy rains, they are troubled with an influx of water, and are now erecting a horse whim for baling. The reef in the bottom of the mine shows as good as ever. The claim owners to the north and south have not yet come upon anything payable.<sup>8</sup>

September 1880. Locke and Company, from Irish Billy's Reef, have crushed for the quarter 150 tons, averaging 2 oz 11 dwts 10.28 grs per ton. The present prospects are better than anything yet seen in the mine. The claimholders south of Locke and Company have amalgamated and applied for gold-mining leases, and have entrusted the formation of two companies to Melbourne and Ballarat brokers.<sup>9</sup>

December 1880. Locke and Co., at Irish Billy's reef, have lost the lode, it having been cut off by a fault and thrown east; they expect to strike it again shortly. The lease known as Locke's Extended has been floated, and nearly all the shares disposed of; work will be commenced in a short time.<sup>10</sup>

1880s. Lock's United, Sandy Creek, was one of the few bright shows in the dull Eighties. Lock & Sons obtained 10,000 ounces within three years, then a company was formed to take over, and from 5,543 tons an additional 13,400 ounces were obtained, bringing the total yield in all to 23,400 ounces.<sup>11</sup>

December 1881. Locks' Gold Mining Company, Irish Billy's Reef, is still producing good stone, averaging 5 oz 0 dwts 5,09 grs per ton.<sup>12</sup>

December 1882. Locke's Company's mine, at Irish Billy's Reef, is still looking well; the last crushing of 40 tons gave 422 oz 9 dwts of smelted gold. The holders of the adjoining claim on the south, known as Locke's Extended, have started to sink a shaft to strike the same lode at a depth of about 400 feet.<sup>13</sup>

March 1883. From 157 tons of stone crushed during the quarter from Locke's claim, on Irish Billy's Reef, a yield of 1,083 oz 16 dwts of gold was obtained.<sup>14</sup>

September 1883. Locke's Company, on Irish Billy's Reef, has crushed during the quarter 368 tons of stone, which yielded 1,601 oz 11 dwt 4 gr of gold; they are now erecting steam machinery on the ground for hauling the dirt, the shaft being too deep to work with a whim.<sup>15</sup>

October 1883. Locks Co., Sandy Creek: Crosscut at the 440 feet level are carting to battery as usual. Contractors making good progress with erection of machinery.<sup>16</sup>

December 1883. Locks' mine, on Irish Billy's Reef, is still holding its own. A steam engine of 35 horse-power has been erected for baling and hauling, and a battery of stampers is being erected for crushing purposes.<sup>17</sup>

September 1884. Governor Loch Company, on Irish Billy's Reefs, since starting their battery of 10 heads have crushed 580 tons, which gave a yield of 9 dwt per ton. In this mine the yield has fallen off considerably of late, and no dividends have been declared by them during the quarter.<sup>18</sup>

December 1884. The Otago Company, Sandy Creek, has also been very fortunate. In sinking the shaft they struck good golden stone, a trial crushing from which gave an average per ton of 3 oz 3 dwt 9 gr of gold, and during the week splendid specimens have been lodged on the manager's office for inspection by the shareholders, who are mostly local men.<sup>19</sup>

March 1886. Lock's Company in driving south at the bottom level have struck a new make of stone, which looks very promising, and has been the cause of raising the shares considerably.<sup>20</sup>

March 1888. The yield for this quarter shows an increase ... This is owing chiefly to a rich patch being struck by a party of tributors in lease No. 1,947, on Irish Billy's Reef, where two crushings of 23 and 25 tons of quartz yielded 643 oz 12 dwt of gold.<sup>21</sup>

September 1889. The tributors in Lock's United Company came upon golden stone last week, the prospects of which look very promising.<sup>22</sup>

March 1891. The Lock's United Company has also struck a new reef, 4 feet in thickness, and carrying nice gold, but no trial crushing has yet been taken.<sup>23</sup>

September 1891. Fair results are still being met with in the South German and Lock's United mines.<sup>24</sup>

May 1892. Lock's United Co.--during the past fortnight but a small quantity of stone has been crushed owing to a leakage in boiler taking place ... The two dams are now full of water ... Ten tenders were received for erection and connection of machinery.<sup>25</sup>

May 1892. Lock's United Co.--batteries will be started on Monday next.<sup>26</sup>

July 1892. Lock's United--new crushing engine trial.<sup>27</sup>

Feb 1898. New Otago crushed 40 tons at Union Mills.<sup>28</sup>

1909. The North Otago Company has had a successful year, and the prospects for the current year appear to be reasonably good. The Pioneer Otago and Lock's New Find Companies have yet to prove the reefs now being prospected as payable.<sup>29</sup>

1910. The North Otago Company has continued work, but, owing to the quality of the stone not keeping up to the standard of that crushed during 1909, the profits have been small. The Pioneer Otago Company continued prospecting during the year, but did not meet with the success it deserved.<sup>30</sup>

1911. Lock's Syndicate has continued prospecting throughout the year without having met with success.<sup>31</sup>
1911. The North Otago and Pioneer Otago Companies (whose leases adjoin) amalgamated during the year, and are now, after having suspended work for a period, about to enter on further prospecting work.<sup>32</sup>
1912. Through want of capital, the Pioneer Otago Company has been obliged to be intermittent in its operations. A fresh start is now being made, and it is hoped success will follow.<sup>33</sup>
1913. The Pioneer Otago Company has continued work below ground with two men only. Up to the end of 1913 nothing payable had been found.<sup>34</sup>
1914. The Pioneer Otago Company has continued prospecting work, but has not yet found payable stone.<sup>35</sup>
1915. The Pioneer Otago has done very little work, and the work done failed to discover anything payable.<sup>36</sup>
1926. Northey's reef, originally known as the Otago reef, is situated about 4 miles south-west from the Maldon Post Office. It was discovered 1861, by R. Robins and party, whose first crushing of 1 ton gave a return of 1oz. 1 dwt. Several lines of reef run through the property, but the Otago lode is the prospecting objective of the present company ... Numerous shafts have been sunk on and adjacent to the outcrop. These vary in depth from a few feet to 315 feet, but most of them, owing to their unsafe condition, could not be inspected ... Westerly from the Otago line, other lines of reefs--Hokitika, Annand's, Brassey, Austin's, Butterfly, Irish Billy's and Lock's reefs (the latter two were very rich)--occur within a distance of 20 chains.<sup>37</sup>

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*DESCRIPTION & INTERPRETATION:*

Reef opened in the late 1850s. Main period of deep mining commenced in 1879 and culminated in the erection of a crushing battery by Lock's United Co. (also called Governor Loch Co.) in 1884. The battery appears to have been updated in 1892.

Quartz workings

Running north south across a steep ridge are three separate lines of reef workings. The most easterly line of workings has two small mullock heaps associated with open (fenced) shafts; some small sections of open cutting; and two small mullock paddocks surrounding open (fenced) shafts. The next line of workings, some 70 m to the west, has been mainly obliterated through shaft filling. The eastern line of workings comprises several mullock heaps and some open shafts.

Battery site (Site assessed at a distance).

At the southern end of the eastern line of workings, near the base of the ridge, is a battery site. The site has a large loading ramp. At the base of the ramp are some well preserved wooden battery stumps and a brick engine bed. The number of stumps visible suggests that the battery had 12-head of stamps. Below the battery is a full water dam, and further down the slope, is a small dump of tailings.

*INTEGRITY/CONDITION:* Poor.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because it has a wide range of components which together illustrate the mining activities which took place on the site.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Mining Surveyors' Reports, June 1860
- 2 Mining Surveyors' Reports, May 1861
- 3 Mining Surveyors' Reports, March 1879
- 4 Mining Surveyors' Reports, June 1879

- 
- 5 Mining Surveyors' Reports, September 1879
  - 6 Mining Surveyors' Reports, December 1879
  - 7 Mining Surveyors' Reports, March 1880
  - 8 Mining Surveyors' Reports, June 1880
  - 9 Mining Surveyors' Reports, September 1880
  - 10 Mining Surveyors' Reports, December 1880
  - 11 Williams, p. 27
  - 12 Mining Surveyors' Reports, December 1881
  - 13 Mining Surveyors' Reports, December 1882
  - 14 Mining Surveyors' Reports, March 1883
  - 15 Mining Surveyors' Reports, September 1883
  - 16 Mt. Alexander Mail, 8/10/1883
  - 17 Mining Surveyors' Reports, December 1883
  - 18 Mining Surveyors' Reports, September 1884
  - 19 Mining Surveyors' Reports, December 1884
  - 20 Mining Surveyors' Reports, March 1886
  - 21 Mining Surveyors' Reports, March 1888
  - 22 Mining Surveyors' Reports, September 1889
  - 23 Mining Surveyors' Reports, March 1891
  - 24 Mining Surveyors' Reports, September 1891
  - 25 Mt. Alexander Mail, 23/5/1892
  - 26 Mt. Alexander Mail, 30/5/1892
  - 27 Mt. Alexander Mail, 25/7/1892
  - 28 Mt. Alexander Mail, 22/2/1898
  - 29 Annual Report, 1909
  - 30 Annual Report, 1910
  - 31 Annual Report, 1911
  - 32 Annual Report, 1911
  - 33 Annual Report, 1912
  - 34 Annual Report, 1913
  - 35 Annual Report, 1914
  - 36 Annual Report, 1915
  - 37 Department of Mines, Bulletins - No. 49, Some Mines at Maldon, J.J Caldwell,  
H.S. Whitelaw & D.J Mahony, 1926

**SITE NO. & NAME:** 60 0 IRONBARK GULLY ALLUVIAL SINKINGS  
60.1 IRONBARK GULLY PUDDLER

**LOCATION:** Ironbark Gully, Muckleford

**HI NO:** 60.0 H7723-0155  
60.1 H7723-0156

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**DIRECTIONS:** Alluvial workings run north from the Red White and Blue mine site; workings run parallel with the west side of Blow Mine track. Puddler--located 1.9 km along Talbots Track from its junction with the Maldon Road.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

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**HISTORY:**

September 1864 Miners distributed thus:

Pickpocket	89	Green Valley	35
Newstead	114	Long Gully Md.	18
Back Creek	44	Peg Leg Gully	67
Frenchman's Gully	42	Porcupine Flat	176
Gardner's Gully	32	Eaglehawk	150
Sandy Creek	250	Bradford	16
Nuggetty Flat	149	Mount Tarrangower	190
Beehive Hill	110	<b>Ironbark</b>	<b>14</b>
Armstrong's	4	Hard Hills	20
Hunter's Rush	27	Fryingpan	8 <sup>1</sup>

March 1865 Miners distributed thus:

Pickpocket	113	Growler's Gully	82
Newstead	25	Long Gully	16
Green Valley	45	Peg Leg Gully	77
Fryingpan Gully	3	Porcupine	63
Gardner's Gully	28	Eaglehawk	182
Sandy Creek	230	Long Gully, Muckleford	60
Nuggetty	71	Mount Tarrangower	248
Beehive Hill	180	Ironbark Gully	16
Armstrong's	3	<b>Hard Hills</b>	<b>9</b>
Hunter's Rush	17	Back Creek	25 <sup>2</sup>

September 1865 Miners distributed thus:

Pickpocket	546	Growler's Gully	55
Newstead	36	Long Gully	48
Green Valley	38	Peg Leg Gully	78
Fryingpan Gully	21	Porcupine Flat	86
Gardner's Gully	19	Eaglehawk	176
Sandy Creek	212	Long Gully, Muckleford	39
Nuggetty	65	Mount Tarrangower	226
Beehive Hill	152	<b>Ironbark Gully</b>	<b>33</b>
Armstrong's	7	Hard Hills	25
Hunter's Rush	31	Back Creek	23
Frenchman's Gully	2 <sup>3</sup>		

March 1866 Miners distributed thus:

Pickpocket and Strangways	855	Growler's Gully	50
Newstead	7	Porcupine Flat	60
Gardner's Gully	16	Eaglehawk	186
Sandy Creek	256	Long Gully	54

Ironbark Gully alluvial sinkings

Nuggetty	80	Mount Tarrangower	238
Beehive Hill	152	<b>Ironbark Gully</b>	<b>15</b>
Hard Hills	25	Muckleford	221 <sup>4</sup>

## September 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	33
Newstead	22	Long Gully	45
Green Valley	49	Peg Leg Gully	63
Fryingpan Gully	14	Porcupine	50
Gardner's Gully	12	Eaglehawk	180
Sandy Creek	219	Long Gully, Muckleford	30
Nuggety	60	Mount Tarrangower	210
Beehive Hill	117	<b>Ironbark Gully</b>	<b>20</b>
Armstrong's Gully	2	Hard Hill	8
Hunter's Rush	8	Back Creek	13
Frenchman's	10 <sup>5</sup>		

## December 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	31
Newstead	15	Long Gully	46
Green Valley	45	Peg Leg Gully	65
Fryingpan Gully	3	Porcupine	50
Gardner's Gully	12	Eaglehawk	187
Sandy Creek	205	Long Gully, Muckleford	33
Nuggety	75	Mount Tarrangower	195
Beehive Hill	111	<b>Ironbark Gully</b>	<b>23</b>
Armstrong's Gully	9	Hard Hills	22
Hunter's Rush	17	Back Creek	18
Frenchman's	7 <sup>6</sup>		

## March 1867 Miners distributed thus:

Pickpocket	650	Growler's Gully	25
Newstead	65	Long Gully, Maldon	65
Green Valley	59	Peg Leg Gully	76
Fryingpan Gully	19	Porcupine	60
Gardner's Gully	12	Eaglehawk	190
Sandy Creek	180	Long Gully, Muckleford	35
Nuggety	85	Mount Tarrangower	195
Beehive Hill	98	<b>Ironbark Gully</b>	<b>25</b>
Armstrong's Gully	11	Hard Hills	22
Hunter's Rush	18	Back Creek	21 <sup>7</sup>

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*DESCRIPTION & INTERPRETATION:*19th century Alluvial workings.

1 km long band of alluvial workings--sluiced main channel fringed by shallow sinkings--that runs north from the water dams belonging to the Red White and Blue mine.

Puddler

Well defined 22 ft (6.7 m) diameter puddler with a pronounced inner mound and deep, relatively unweathered, puddling trench. The puddler's inner mound still retains fragments of the pivot post and both the inlet and outlet drains are visible. The puddler is located at a point in the gully where the main channel does a sharp dog-leg, which in turn, has been utilised (with supplementary earthworks) for water storage.

*INTEGRITY/CONDITION:* Good.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because it has well-defined alluvial sinkings and puddler. The site has high educational value.

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The site's significance is increased by cumulative value, because:

- forms part of a group of sites which contain a number of features which document the scope and scale of quartz and alluvial mining in the area. These sites are Nos. 79, 49A, 49C, 61, 67, 73 and 60 (Demo Track alluvial workings, Blow Reef, Omega Reef, Kangaroo Reef, Moonlight Gully, Golden Age mine and Ironbark Gully workings).

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November.**

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- 1 Mining Surveyors' Reports, September 1864
- 2 Mining Surveyors' Reports, March 1865
- 3 Mining Surveyors' Reports, September 1865
- 4 Mining Surveyors' Reports, March 1866
- 5 Mining Surveyors' Reports, September 1866
- 6 Mining Surveyors' Reports, December 1866
- 7 Mining Surveyors' Reports, March 1867

**SITE NO. & NAME:** 61 YOUNG AUSTRALIAN CO.

**LOCATION:** Kangaroo Reef, Muckleford

**HI NO:** H7723-0157

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**DIRECTIONS:** West side of Golf Link Track, 300 m north of the track's junction with the Blow Mine Track

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

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**HISTORY:**

December 1859. The applications for abandoned reefs recur at Nuggetty Reef, South Muckleford, Mining Board Reef, Long Gully, Welchman's, Smith's Reef (two instances), Dunn's, and Kangaroo Reef, North Muckleford. Those for amalgamation are at Eagle Hawk Reef (two instances), Nuggetty, Bell's, Parkin's, Tiverton, Kangaroo, and Victoria Reefs.<sup>1</sup>

July 1860. The following applications ... have been made during the month of July (include) ... Abandoned Reefs (6) ... In all cases 320 feet granted at Kangaroo and Dun's Reefs.

The number of crushing engines now at work and more erecting, all of them of considerable horse-power, require a constant supply of the purest water for mining pursuits. Some of the machines at present in the district, are now using water that is totally unfit for the use to which it is unfortunately applied.

Atlas Company, German Reef--supply constant; drain from reef. Vivian and Company, Beehive Reef--supply constant; drain from reef. Isaacson's, Beehive Reef--not working. Lisle's Reef Company, Lisle's Reef--supply very limited. Great Western Company, Beehive Reef--supply constant. Edwards, Maldon--not working; supply precarious. Kangaroo Reef, South Muckleford--removed. **Omega Reef, Greenfalls--supply exhausted.** Long Gully Machines four in No.--supply 1 month. Buttingham's, Green Gully--supply 6 weeks. Allsop's, Green Gully--supply 1 month. Fitzgerald, At the Springs--supply 1 month. Toy's, At the Springs--supply 1 month. Hawk's, At Nuggetty--not working. Fox, Raus and Co., Pegleg--supply 3 weeks. The Union Company, Eaglehawk Reef--supply very moderate. Dun's Reef, Muckleford--removed. Smith's Reef, Muckleford--supply abundant; making dam. Eaglehawk Company--supply abundant. Beehive Association, Beehive Reef--supply limited. Welshman's Reef, 1 Machine--supply 2 months. Sandy Creek, 3 Machines--supply 2 months. Tarrangower Creek--supply abundant. Mia Mia, Newstead--supply abundant at present. Manton's Gully, Engine erecting--provision making for water. Wattle Gully Reef--drain from reef. Porcupine Flat, Alluvial--large dam at present sufficient.<sup>2</sup>

June 1888. The Young Australian Company, who has recently obtained a lease on Kangaroo Reef, in Mia Mia, north of the Dividend Company's mine, has also purchased a battery, which is now in course of erection, and repaired an old dam in the gully to supply the battery with water when erected.<sup>3</sup>

September 1888. The Young Australian Company is erecting a battery of 12 head of stampers and will be ready to start in about a month.<sup>4</sup>

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**DESCRIPTION & INTERPRETATION:**

Reef opened up in the late 1850s/early 1860s. Mining plant foundations (including kiln) probably date to the late 1880s (Young Australian Co.).

**Battery site**

75 m west of the dam, located on a hill slope is a battery site. The site consists of a 24 ft wide, 5 ft high, loading ramp which still retains sections of dry stone walling. At the base of the loading ramp (east side) is a linear depression showing traces of decayed battery stumps. The surviving line of stumps suggests the battery contained 12-head of stampers. 10 ft to the north of the stumps is a largely buried stone boiler setting. Running uphill (westerly direction) from the back of the boiler setting is a 15 m long flue depression which terminates at a circular mound of stone rubble (site of stone chimney stack).

Quartz roasting kiln and quartz workings

At the crown of the hill, 100 m west of the battery site is a quartz roasting kiln. The kiln has been excavated out of the hill and made larger by the addition of three course of stone blocks. Typically, the kiln is oval shaped, measuring 17 ft from side to side and 14-1/2 ft from back to front. A trench, 10 ft wide and some 50 ft long runs east from the kiln's portal or flue. The latter has some wooden lintels visible.

Above the kiln is a partially filled open cut and several subsiding shafts. On the other side of the mine workings, on the west side of the hill, is what appears to be another quartz kiln. This structure is a lot cruder, comprising a small (7 ft across) irregular shaped, and quite shallow, excavation. On the west side of the excavation is a wooden lintel and a U-shaped stone retained entrance.

50 m to the south of the kilns, on the next hill are more mine workings. These consists of 1 collapsed shaft; a line of 3 shafts/mullock paddocks and an open adit; and a line of six shafts, filled but now subsiding.

*INTEGRITY/CONDITION:* Good.

*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because:
  - a) its quartz roasting kiln is evidence of an early treatment process developed on the Victorian goldfields to facilitate quartz crushing and the retrieval of gold.
  - b) it has a range of components which together illustrate small-scale shallow quartz mining.

The site's significance is increased by cumulative value, because:

- a) it forms part of a group of sites which contain a number of features which illustrate the scope and scale of quartz and alluvial mining in the area. These sites are Nos. 79, 49A, 49C, 61, 67, 73 and 60 (Demo Track alluvial workings, Blow Reef, Omega Reef, Kangaroo Reef, Moonlight Gully, Golden Age mine and Ironbark gully workings);
- b) it is also part of a group of sites all of which contain the remains of quartz roasting kilns. The surviving kilns are evidence of the variation in kiln design, and also the continuation of the practice of quartz roasting in the Maldon area long after its discontinuation on other Victorian goldfields. These sites are Nos. 9, 10, 12, 14, 25, 31, 37, 51, 61, 69 & 76. (Beehive Co., Bells Reef, South Cookmans, Cookmans Association, Grand Junction, North British, Caledonian, Fentemans, Young Australian, Boswarva Hill and Thornhill Co.).

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

**Assessor: David Bannear**

**Date: November 1992.**

- 1 Mining Surveyors' Reports, December 1859
- 2 Mining Surveyors' Reports, July 1860
- 3 Mining Surveyors' Reports, June 1888
- 4 Mining Surveyors' Reports, September 1888

**SITE NO. & NAME:** 62 LADY BRASSEY CO.  
**LOCATION:** Lady Brassey Reef, Welshman's Reef  
**HI NO:** H7723-0158

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**DIRECTIONS:** 900 m along Fishermans Road from its junction with Maldon Road. 150 m south of the road.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Unreserved Crown Land

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**HISTORY:**

1890s. The Brassey mines came to light in the Nineties with several rich crushings ... The Lady Brassey worked only to 325 feet and crushed 6,293 tons for 2,723 ounces.<sup>1</sup>

January 1898. Lady Brassey G. M. Co. On the Tarrangower line four parties of Tributors. Cyanide treatment shed have been used instead of chlorination. Crushing and hauling done for Central Brassey Co.<sup>2</sup>

January 1898. Lady Brassey Co. Battery cleaned; working towards where Pedlar got their good gold.<sup>3</sup>

1903. On the Lady Brassey line of reef matters are very quiet indeed. The Lady Brassey and North Lady Brassey Companies each have their main shaft sunk to a depth of 600 feet, where the country is very much disturbed in both mines. I think the hope for this line of reef lies in the shafts being sunk a further distance of at least 300 feet, where, I think it will be found the lode is more defined, that it will have resumed its proper underlie, viz. westerly, whereas it is now underlying east, and that, as in the upper levels, when it had a westerly underlie, it will again carry payable gold. The existence of the Central Lady Brassey mine depends on what the Lady Brassey or North Lady Brassey Companies decide to do, since it has no shaft or machinery of its own, having done all, or almost all, its work up to the present through the Lady Brassey Company's shaft.<sup>4</sup>

1904. Very little work has been done in the Lady Brassey, the Central Lady Brassey, and the North Lady Brassey Gold Mining Companies' mines during the year. All work, underground, has been suspended in the North Lady Brassey Company's mine for some time, and only a few hands have been employed by the Lady Brassey and Central Lady Brassey Companies. There is now, I understand, every probability of an amalgamation being effected between the Lady Brassey and Central Lady Brassey Companies. This should have been done long ago, and the main shaft--which, although in the Lady Brassey Company's ground, has done duty for both companies--sunk a further depth of 200 to 300 feet.<sup>5</sup>

1905. On the Brassey line of reef very little work has been done during the year. The Lady Brassey Company employed five men, three below and two on the surface. The work done below was in the shallow levels. There is, I understand, a probability of the Lady Brassey and the North lady Brassey companies combining, in order that one of the main shafts may be sunk sufficiently deep to prove whether the lode, which carried payable gold down to about 500 feet, will assume a payable character with depth. I think this matter should have been decided by these companies long since.<sup>6</sup>

July 1937. On the old Brassey line a prospecting claim worked by Messrs Pitts & Cox recently yielded 66-1/2 oz from 30 tons.<sup>7</sup>

January 1938. A new company recently formed and known as "South Maldon Development Limited" has commenced operations at Welshman's Reef on the old Brassey line of reef, in the vicinity of which Messrs Pitts and Cox have been obtaining some very good returns. There are still many prospectors around Maldon.<sup>8</sup>

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**DESCRIPTION & INTERPRETATION:**

Workings etc. belong to the Lady Brassey Co. which operated 1898 to c.1905.

Mine and machinery site

Partially quarried heap which is about 70 m long, 7 m high and has six dumping lines. The north end has been quarried away and the shaft filled. The shaft has collapsed slightly and now used as a rubbish dump. 14 m north east of the shaft is a bulldozed machinery site: mainly a scatter of hand-made brick, stone and mortar rubble and one protruding mounting bolt; and a linear boiler setting depression. Numerous small dumps of treated tailings lie to the east, on the hillside above the site and in the next gully.

*INTEGRITY/CONDITION:* Poor.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because it is the site of one of Welshmans Reef's richest mines.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Williams, p. 27
- 2 Mt. Alexander Mail, 26/1/1898
- 3 Mt. Alexander Mail, 24/1/1898
- 4 Annual Report, 1903
- 5 Annual Report, 1904
- 6 Annual Report, 1905
- 7 Mining and Geological Journal, July 1937
- 8 Mining and Geological Journal, January 1938

**SITE NO. & NAME:** 63 CENTRAL LADY BRASSEY CO.

**LOCATION:** Lady Brassey Reef, Welshman's Reef.

**HI NO:** H7723-0159

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**DIRECTIONS:** 75 m south-west of South Brassey Mine site

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Unreserved Crown land

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**HISTORY:**

1890s. The Brassey mines came to light in the Nineties with several rich crushings ... Central Lady Brassey crushed 9,151 tons for 9,034 ounces and closed down at 405 feet.<sup>1</sup>

January 1898. Lady Brassey G. M. Co. On the Tarrangower line four parties of Tributors. Cyanide treatment shed has been used instead of chlorination. Crushing and hauling done for Central Brassey Co.<sup>2</sup>

January 1898. Splendid crushing by Central Lady Brassey Co. (Messrs House and Keidel)--further impetus to future prosperity of mining industry at Sandy Creek. Mr Keidel commenced operations six years ago; he and a miner named Lahn worked the claim for several years. No luck. Mr House joined party. Formed a company--now rewarded at last. Shilling dividend, absorbing £1500.<sup>3</sup>

January 1898. Central Lady Brassey. Battery cleaned up.<sup>4</sup>

February 1898. Sandy Creek. Robertys Bros. cleaned up 48 tons for the Central Brassey Co.<sup>5</sup>

May 1901. Byron Reef had a very nice yield, which has placed the mine once more in public favour. Gold very fine. The other mines on this line of reef are sinking. German Reef is erecting necessary winding machinery. North Lady Brassey, Central Lady Brassey etc.<sup>6</sup>

1903. On the Lady Brassey line of reef matters are very quiet indeed. The Lady Brassey and North Lady Brassey Companies each have their main shaft sunk to a depth of 600 feet, where the country is very much disturbed in both mines. I think the hope for this line of reef lies in the shafts being sunk a further distance of at least 300 feet, where, I think it will be found the lode is more defined, that it will have resumed its proper underlie, viz. westerly, whereas it is now underlying east, and that, as in the upper levels, when it had a westerly underlie, it will again carry payable gold. The existence of the Central Lady Brassey mine depends on what the Lady Brassey or North Lady Brassey Companies decide to do, since it has no shaft or machinery of its own, having done all, or almost all, its work up to the present through the Lady Brassey Company's shaft.<sup>7</sup>

1904. Very little work has been done in the Lady Brassey, the Central Lady Brassey, and the North Lady Brassey Gold Mining Companies' mines during the year. All work, underground, has been suspended in the North Lady Brassey Company's mine for some time, and only a few hands have been employed by the Lady Brassey and Central Lady Brassey Companies. There is now, I understand, every probability of an amalgamation being effected between the Lady Brassey and Central Lady Brassey Companies. This should have been done long ago, and the main shaft--which, although in the Lady Brassey Company's ground, has done duty for both companies--sunk a further depth of 200 to 300 feet.<sup>8</sup>

July 1937. On the old Brassey line a prospecting claim worked by Messrs Pitts & Cox recently yielded 66-1/2 oz from 30 tons.<sup>9</sup>

January 1938. A new company recently formed and known as "South Maldon Development Limited" has commenced operations at Welshman's Reef on the old Brassey line of reef, in the vicinity of which Messrs Pitts and Cox have been obtaining some very good returns. There are still many prospectors around Maldon.<sup>10</sup>

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*DESCRIPTION & INTERPRETATION:*

Workings etc. belong to Central Lady Brassey which operated c. 1898 to c.1905.

Mine and machinery site

Partially quarried small mullock heap. At the base of the heap, east side, is a filled, but slightly collapsed shaft. 18 m north east of this shaft is a bulldozed machinery site. All that survives of the site above ground are some small mounds of brick and stone rubble. At the other end of the mullock heap to the shaft are two sludge ponds and to the south west, on freehold land, is a dump of treated tailings.

*INTEGRITY/CONDITION:*

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because it is the site of one of Welshman's Reef most successful mines.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor:David Bannear**

**Date: November 1992.**

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- 1 Williams, p. 27
- 2 Mt. Alexander Mail, 26/1/1898
- 3 Mt Alexander Mail, 27/1/1898
- 4 Mt. Alexander Mail, 24/1/1898
- 5 Mt Alexander Mail, 8/2/1898
- 6 Mt Alexander Mail, 20/5/1901
- 7 Annual Report, 1903
- 8 Annual Report, 1904
- 9 Mining and Geological Journal, July 1937
- 10 Mining and Geological Journal, January 1938

**SITE NO. & NAME:** 64 UNIDENTIFIED BRASSEY MINE

**LOCATION:** Lady Brassey Reef, Welshman's Reef

**HI NO:** H7723-0160

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**DIRECTIONS:** 130 m south of the West Brassey mine site, on freehold land.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Unreserved Crown Land

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**HISTORY:**

No references collected which identifies this mine.

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**DESCRIPTION & INTERPRETATION:**

Mine site

Remains of a partially quarried mullock heap which has two main dumping lines. No sign of the shaft, or any machinery footings.

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**INTEGRITY/CONDITION:**

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**CULTURAL SIGNIFICANCE:**

Site has little integrity.

**SIGNIFICANCE RANKING:** Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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**SITE NO. & NAME:** 65 NORTH LADY BRASSEY CO.

**LOCATION:** Lady Brassey Reef, Welshman's Reef

**HI NO:** H7723-0161

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**DIRECTIONS:** 1.1 km along Fishermans Road from its junction with Maldon Road, and 10 m in from the north side of the road.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Unreserved Crown Land

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**HISTORY:**

February 1898. North Brassey still sinking.<sup>1</sup>

May 1901. Byron Reef had a very nice yield, which has placed the mine once more in public favour. Gold very fine. The other mines on this line of reef are sinking. German Reef are erecting necessary winding machinery. North Lady Brassey, Central Lady Brassey etc.<sup>2</sup>

February 1901. North Brassey. New battery, Halley tables etc.<sup>3</sup>

1903. On the Lady Brassey line of reef matters are very quiet indeed. The Lady Brassey and North Lady Brassey Companies each have their main shaft sunk to a depth of 600 feet, where the country is very much disturbed in both mines. I think the hope for this line of reef lies in the shafts being sunk a further distance of at least 300 feet, where, I think it will be found the lode is more defined, that it will have resumed its proper underlie, viz. westerly, whereas it is now underlying east, and that, as in the upper levels, when it had a westerly underlie, it will again carry payable gold. The existence of the Central Lady Brassey mine depends on what the Lady Brassey or North Lady Brassey Companies decide to do, since it has no shaft or machinery of its own, having done all, or almost all, its work up to the present through the Lady Brassey Company's shaft.<sup>4</sup>

1904. Very little work has been done in the Lady Brassey, the Central Lady Brassey, and the North Lady Brassey Gold Mining Companies' mines during the year. All work, underground, has been suspended in the North Lady Brassey Company's mine for some time.<sup>5</sup>

1905. Operations at the North Lady Brassey Company's mine have been suspended during the whole year. There is, I understand, a probability of the Lady Brassey and the North lady Brassey companies combining, in order that one of the main shafts may be sunk sufficiently deep to prove whether the lode, which carried payable gold down to about 500 feet, will assume a payable character with depth. I think this matter should have been decided by these companies long since.<sup>6</sup>

1906. Work by the North Lady Brassey Company was resumed in June last after a lengthened suspension. Since the resumption of work the shaft has been unwatered, and sunk to a depth of 780 feet, where it is intended to open out. Twelve underground and five surface hands have been employed. This mine is equipped with a first-class winding plant and an up-to-date 20-head battery, and I am of opinion that this company will be well rewarded if it will persevere with prospecting work.<sup>7</sup>

1907. The North Lady Brassey Company has continued work during the year with an average of about nine underground men and six surface men. The shaft is 780 feet deep, and the lode is being driven on south at the bottom level without, so far, payable results. Some payable stone has been crushed from the stopes over the 670 feet level. More of this should be available during the current year.<sup>8</sup>

1908. The North Lady Brassey Company continued to work on stone over the 670-ft level with about payable results, and employed on average eighteen men.<sup>9</sup>

1909. The Old Union, Mt Tarrengower, and North Lady Brassey Companies continued work throughout the year without meeting with anything payable.<sup>10</sup>

July 1937. On the old Brassey line a prospecting claim worked by Messrs Pitts & Cox recently yielded 66-1/2 oz from 30 tons.<sup>11</sup>

January 1938. A new company recently formed and known as "South Maldon Development Limited" has commenced operations at Welshman's Reef on the old Brassey line of reef, in the vicinity of which Messrs Pitts and Cox have been obtaining some very good returns. There are still many prospectors around Maldon.<sup>12</sup>

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*DESCRIPTION & INTERPRETATION:*

Battery erected by the North Lady Brassey in 1901. This company operated from 1898 to c. 1909.

Battery site

10 m in from Fishermans Road is an rectangular excavation which contains a circular water shaft. North from this shaft is what survives of a concrete floor. This floor, measures around 60 x 42 ft (18.3 x 12.8 m). Running along the concrete floor's north side are some rough concrete footings. These footings contain a line of slots which would have once housed battery stumps. The surviving stump slots suggest a 20-head battery. Above the stamper footings, north west corner of the excavated area, are some 1-1/4 inch mounting bolts protruding from a mound of brick rubble (red, hand-made). Near the mounting bolts is a large chunk of a brick engine bed. This, and other rubble, has been used to fill a collapsed hole. Remains of a loading ramp survives at the northern end of the site.

Sludge ponds and treated tailings

There are two small sludge square ponds below the battery. A drain lead from the battery site to these ponds. At the base of the hill is a tailings dump which is currently being removed from the site for re-treatment at Maldon.

*INTEGRITY/CONDITION:* Poor.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because it contains the only substantial machinery footings along the Brassey line of reef. The site has some educational value.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

- 
- 1 Mt Alexander Mail, 22/2/1898
  - 2 Mt Alexander Mail, 20/5/1901
  - 3 Mt Alexander Mail, 20/2/1901
  - 4 Annual Report, 1903
  - 5 Annual Report, 1904
  - 6 Annual Report, 1905
  - 7 Annual Report, 1906
  - 8 Annual Report, 1907
  - 9 Annual Report, 1908
  - 10 Annual Report, 1909
  - 11 Mining and Geological Journal, July 1937
  - 12 Mining and Geological Journal, January 1938

**SITE NO. & NAME:** 66 LONG GULLY OR HUNTERS LEAD ALLUVIAL WORKINGS

**LOCATION:** Long Gully or Hunters Lead, Muckleford

**HI NO:** H7723-0162

**DIRECTIONS:** Alluvial workings run north from the junction of Red White & Blue track (labelled Blow Mine Track on 1:25,000 topographic map) and Dunns Reef track. Puddler is 100 m south-west of the Dunns Reef open cut.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

**HISTORY:**

1857-8. Mia Mia diggings became established in May 1857 [*Mt Alexander Mail*, 5 June and 2 August 1857]. In December that year a huge rush began to Sawpit Gully, three miles from Maldon [*Mt Alexander Mail*, 11 December 1857]. This became known as “Sawpit Rush” or “Hunter’s Rush”, and it eventually joined the diggings on the main road. It was here that the township of Muckleford ... was built.<sup>1</sup>

August 1860. A new lead of gold had been discovered at Hunter’s Rush, North Muckleford, on the east side of the road leading to Castlemaine, and about 2 miles south by east from this township.<sup>2</sup>

September 1864 Miners distributed thus:

Pickpocket	89	Green Valley	35
Newstead	114	Long Gully Md.	18
Back Creek	44	Peg Leg Gully	67
Frenchman’s Gully	42	Porcupine Flat	176
Gardner’s Gully	32	Eaglehawk	150
Sandy Creek	250	Bradford	16
Nuggetty Flat	149	Mount Tarrangower	190
Beehive Hill	110	Ironbark	14
Armstrong’s	4	Hard Hills	20
<b>Hunter’s Rush</b>	<b>27</b>	Fryingpan	8 <sup>3</sup>

March 1865 Miners distributed thus:

Pickpocket	113	Growler’s Gully	82
Newstead	25	Long Gully	16
Green Valley	45	Peg Leg Gully	77
Fryingpan Gully	3	Porcupine	63
Gardner’s Gully	28	Eaglehawk	182
Sandy Creek	230	Long Gully, Muckleford	60
Nuggetty	71	Mount Tarrangower	248
Beehive Hill	180	Ironbark Gully	16
Armstrong’s	3	Hard Hills	9
<b>Hunter’s Rush</b>	<b>17</b>	Back Creek	25 <sup>4</sup>

September 1865 Miners distributed thus:

Pickpocket	546	Growler’s Gully	55
Newstead	36	Long Gully	48
Green Valley	38	Peg Leg Gully	78
Fryingpan Gully	21	Porcupine Flat	86
Gardner’s Gully	19	Eaglehawk	176
Sandy Creek	212	Long Gully, Muckleford	39
Nuggetty	65	Mount Tarrangower	226
Beehive Hill	152	Ironbark Gully	33
Armstrong’s	7	Hard Hills	25
<b>Hunter’s Rush</b>	<b>31</b>	Back Creek	23
Frenchman’s Gully	2 <sup>5</sup>		



September 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	33
Newstead	22	Long Gully	45
Green Valley	49	Peg Leg Gully	63
Fryingpan Gully	14	Porcupine	50
Gardner's Gully	12	Eaglehawk	180
Sandy Creek	219	Long Gully, Muckleford	30
Nuggety	60	Mount Tarrangower	210
Beehive Hill	117	Ironbark Gully	20
Armstrong's Gully	2	Hard Hill	8
<b>Hunter's Rush</b>	<b>8</b>	Back Creek	13
Frenchman's	10 <sup>6</sup>		

December 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	31
Newstead	15	Long Gully	46
Green Valley	45	Peg Leg Gully	65
Fryingpan Gully	3	Porcupine	50
Gardner's Gully	12	Eaglehawk	187
Sandy Creek	205	Long Gully, Muckleford	33
Nuggety	75	Mount Tarrangower	195
Beehive Hill	111	Ironbark Gully	23
Armstrong's Gully	9	Hard Hills	22
<b>Hunter's Rush</b>	<b>17</b>	Back Creek	18
Frenchman's	7 <sup>7</sup>		

March 1867 Miners distributed thus:

Pickpocket	650	Growler's Gully	25
Newstead	65	Long Gully, Maldon	65
Green Valley	59	Peg Leg Gully	76
Fryingpan Gully	19	Porcupine	60
Gardner's Gully	12	Eaglehawk	190
Sandy Creek	180	Long Gully, Muckleford	35
Nuggety	85	Mount Tarrangower	195
Beehive Hill	98	Ironbark Gully	25
Armstrong's Gully	11	Hard Hills	22
<b>Hunter's Rush</b>	<b>18</b>	Back Creek	21 <sup>8</sup>

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*DESCRIPTION & INTERPRETATION:*

Puddler

100 m west of the Dunn's Reef open cut is a large breached water dam. 50 m south of this dam, up Long Gully, is a weathered puddler. The puddler's inner mound (no post hole visible) and puddling trench is still discernible. On the south side of the puddler are several large dumps of washed gravel, and on the north side there is an outlet drain which leads to a thick deposit of slum.

Tailings

Immediately east of the puddler is a small dump of tailings, which appears to derive from the battery site associated with the Dunn's Reef quartz workings.

Alluvial workings

Running south from the puddler is a narrow band of poorly defined shallow alluvial sinkings. The shafts are also badly obscured by undergrowth. The sinkings continue north for 1/2 km.

Quartz workings

200 m south of the puddler are several partly bulldozed mullock paddocks. The line of reef workings continues south, crossing over Dunn's Reef Track. The main focus of the reef workings is on the crown of a hill, 200 m south of Dunn's Reef Track where there are the remains of several sizeable mullock paddocks (filled shafts), some narrow open cutting and a small section of stoping.

*INTEGRITY/CONDITION:* Poor.

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*CULTURAL SIGNIFICANCE:*

The site has little historical value and its integrity diminished to such an extent that it has little cultural significance.

*SIGNIFICANCE RANKING:*

Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Flett, pp. 201-202
- 2 Mining Surveyors' Reports, August 1860
- 3 Mining Surveyors' Reports, September 1864
- 4 Mining Surveyors' Reports, March 1865
- 5 Mining Surveyors' Reports, September 1865
- 6 Mining Surveyors' Reports, September 1866
- 7 Mining Surveyors' Reports, December 1866
- 8 Mining Surveyors' Reports, March 1867

**SITE NO. & NAME:** 67 MOONLIGHT GULLY ALLUVIAL WORKINGS  
(PUDDLER (1) AND PUDDLER (2))

**LOCATION:** Moonlight Gully, Muckleford

**HI NO:** H7723-0163  
H7723-0164

**DIRECTIONS:** Puddler No. 1--west side of Golf Link Track, 300 m north of the track's junction with Blow Mine Track.  
Puddler No. 2—100 m north along Golf Links Track from its junction with Red White & Blue Track.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

**HISTORY:**

None found.

**DESCRIPTION & INTERPRETATION:**

Puddlers and workings appear to date to the 19th century.

Puddler No 1

Immediately south of the Golf Links Track is a dam that still retains water. At the eastern end of the dam's embankment, almost touching the track, is a weathered-looking puddler. The inner mound (no pivot post present) and trench of the puddler are well defined. The puddler has a diameter of 22 ft and still retains a portion of washed material on its north-west side.

Puddler No 2

150 m west of Puddler No 1 is another puddling machine site which is located on the north verge of the Golf Links Track. The 22 ft (6.7 m) diameter puddler is quite weathered but still has a well defined inner mound (post hole visible) and puddling trench. There is an outlet drain on the puddler's north west side that leads to a thick deposit of slum. On the opposite side of the puddler is a 4 m wide and 3/4 m thick mound of washed gravel.

Alluvial sinkings

Running parallel to the Golf Links Track, in a westerly direction, is a narrow band of poorly-defined alluvial sinkings. Where the gully broadens out into a flat, the sinkings become more pronounced.

**INTEGRITY/CONDITION:**

**CULTURAL SIGNIFICANCE:**

The site has:

- Scientific Significance, because it has two well-preserved puddlers associated with alluvial workings. The site has some educational value.

The site's significance is increased by cumulative value, because:

- it forms part of a group of sites which contain a number of features which illustrate the scope and scale of quartz and alluvial mining in the area. These sites are Nos. 79, 49A, 49C, 61, 67, 73 and 60 (Demo Track alluvial workings, Blow Reef, Omega Reef, Kangaroo Reef, Moonlight Gully, Golden Age mine and Ironbark Gully workings).

**SIGNIFICANCE RANKING:** Site Listed Heritage Inventory.

**Assessor:** David Bannear

**Date:** November 1992.

**SITE NO. & NAME:** 68 NUGGETTY GULLY ALLUVIAL WORKINGS

**LOCATION:** Nuggetty Gully, Muckleford

**HI NO:** H7723-0165

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**DIRECTIONS:** In Smiths Reef State Forest, 5.5 km south east of Maldon. Sinkings run north from the rear of the ruins of Gower School.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

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**HISTORY:**

1857-8. Mia Mia diggings became established in May 1857 [*Mt Alexander Mail*, 5 June and 2 August 1857]. In December that year a huge rush began to Sawpit Gully, three miles from Maldon [*Mt Alexander Mail*, 11 December 1857]. This became known as "Sawpit Rush" or "Hunter's Rush", and it eventually joined the diggings on the main road. It was here that the township of Muckleford ... was built.

The two leads at Mia Mia--Frenchman's and Nuggetty--were worked with Mia Mia in 1857-58.<sup>1</sup>

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**DESCRIPTION & INTERPRETATION:**

Shallow alluvial workings

Narrow band of alluvial workings--many of the shallow sinkings have been obliterated by paddocking. No puddlers or house sites were observed.

**INTEGRITY/CONDITION:**

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**CULTURAL SIGNIFICANCE:**

The site has little historical value and its integrity has been diminished to such an extent that it has little cultural significance.

**SIGNIFICANCE RANKING:** Site Listed Heritage Inventory.

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**Assessor:** David Bannear

**Date:** November 1992.

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<sup>1</sup> Flett, pp. 201-202

**SITE NO. & NAME:** 69 BOSWARVA HILL REEF WORKINGS

**LOCATION:** Nuggetty Reef, Green Gully, Muckleford

**HI NO:** H7723-0166

**DIRECTIONS:** 200 m north west of the junction of Blow Reef Track and SEC power line track.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

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**HISTORY:**

1854-55. Muckleford. On about 27 February 1854, a gold commissioner went there, to what was then termed Wattle Flat, "give miles from Castlemaine, just after crossing the Back Creek at Muckleford Flat, where the roads to Bryant and Menzies separates" [*Commissioners' and Wardens' Reports*, 28 February 1854]. The spot was an old diggings, and there were then 300 diggers, sinking deep. He said that Middleton had reported sixty-seventy men there twelve months before. The neighbourhood of "Wattle Flat" led to Bryant's Ranges, where there were fifty men working, also. Tarrangower rush was then at its height, with 20,000 on the field. On 11 March 1854 the diggers at Wattle Flat had dispersed into the ranges.

In 1855 gold was again discovered at Muckleford, and the main lead was worked along what was then the Adelaide Road (the main road today). The spot was east of the first rush. In June 1855 Gardiners Gully and Green Gully, about four miles south of this rush, with Boswarva Hill and Gully, where a reef was known, were opened up [*Mt Alexander Mail*, 22 June 1855. *Melbourne Age*, 18 July 1855].

After the first rush about 700 men settled into these places.<sup>1</sup>

June 1855. Muckleford. The majority of diggers is doing well. The favourite locality at present is the lead which has been discovered to the left of Gardner's Gully ... A party of 4 having a claim here, have sold 5 lbs weight of gold within the last 10 days ... The sinking varies very much in depth: at one end of this lead some holes have been sunk 95 ft without reaching the bottom, whilst several adjoining claims have been bottomed at 30 ft. The reefs all run north and south, whilst the veins of gold take a direction east and west. This is a feature, we believe, peculiar to Muckleford, as also is the extreme irregularity of bottom ... The main gully, which is traversed by the old road is now comparatively neglected, but all the adjacent gullies are being worked. Boswarva gully, and the hill alongside, have turned out some tolerable specimens of gold in quartz, but the quartz claims have not yet had a fair trial, from the lack of crushing machines. Switch stamps are in course of erection, but it is to be feared that these primitive machines, with their single stamp, will not be adequate to the reduction of a paying quantity in a given time. On Boswarva hill a few loads of auriferous quartz have been broken up and roasted in a kiln, ready for the stampers. About a mile from the first discovered workings at Muckleford, a place called Green Gully has been extensively rushed ... Muckleford is beginning to assume a more settled aspect, the tents have a permanent and comfortable appearance, and several bark huts are in course of erection. Stores are rapidly increasing, and one or two wooden buildings are going up ... a few puddling machines are working on the creek.<sup>2</sup>

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**DESCRIPTION & INTERPRETATION:**

The details provided in the above references suggest this mining location was first called Boswarva Hill. The small kiln could well date to the mid 1850s.

Mine workings

50 m west of Blow Reef Track is a partly bulldozed small mullock heap. The shaft, located at the western end of the heap has been filled. Near the shaft site is a stone blacksmith's forge. 30 m to the south of the mullock heap is a narrow open cut which has a mullock heap running along its eastern side.

Battery site

45 m south west of the open cut is a battery. The site consists of a partly bulldozed loading ramp near which is the remains of a small 12 ft (3.5 m) long, stone boiler setting. Both walls of the boiler setting are visible. The walls are 2 ft thick and set 4 ft (1.2 m) apart. A narrow linear mound runs from the rear of the boiler setting (possible flue). A few fragments of red, hand-made bricks associated with this mound.

Tailings

In the gully below the battery site is a small dump of in-situ tailings.

Mine workings and roasting kiln

In the bed of the gully below the battery site is the remains of a mullock paddock; and on the south side of the gully is what is either a collapsed adit or a narrow open cut. On the east side of the excavation is a small, below ground quartz roasting kiln. The kiln's roasting bowl is 6 ft across at the top, and at least 3 ft deep (the base of the roasting bowl is buried). The inner face of the bowl has been burnt a red colour. The kiln faces north west. Above the kiln are more workings, including one sizeable mullock heap. This heap has been partly demolished by a SEC power line. The workings continue south from the SEC power line and include one open adit. The open adit, driven north into Boswarva Hill, has a small mullock dump associated with it.

*INTEGRITY/CONDITION:* Good.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because it:
  - a) may be the site of the earliest recorded quartz mining in the Muckleford area.
  - b) may contain the remains of one of the earliest surviving quartz roasting kilns in Victoria.
- Scientific Significance, because the site's quartz roasting kiln is evidence of an early treatment process developed on the Victorian goldfields to facilitate quartz crushing and the retrieval of gold.

The site's significance is increased by cumulative value, because it:

- a) is part of a group of sites which contain the remains of quartz roasting kilns. The surviving kilns are evidence of the variation in kiln design, and also the continuation of the practice of quartz roasting in the Maldon area long after its discontinuation on other Victorian goldfields. These sites are Nos. 9, 10, 12, 14, 25, 31, 37, 51, 61, 69 & 76 (Beehive Co., Bells Reef, South Cookmans, Cookmans Association, Grand Junction, North British, Caledonian, Fentemans, Young Australian, Boswarva Hill and Thornhill Co.).
- b) is part of a group of sites which are evidence of various mining operations along a line of reef. These sites are Nos. 69, 71, and 72 (Boswarva Hill, Nuggetty Co-operative Co., and John Bull Gold Mining Co.).

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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<sup>1</sup> Flett, pp. 201-202

<sup>2</sup> Mt Alexander Mail, 22 June 1855

**SITE NO. & NAME:** 70 UNIDENTIFIED REEF WORKINGS, GREEN GULLY

**LOCATION:** Eastern side of Green Gully, Muckleford

**HI NO:** H7723-0167

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**DIRECTIONS:** 2.5 km along Blow Reef Track from its junction with Golf Links Track. Reef workings are located 250 m east of Site No. 69.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

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**HISTORY:**

No references collected which could name/date the mine workings. Most probably date to the late 19th century.

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**DESCRIPTION & INTERPRETATION:**

Reef workings

The workings are located at the head of a gully and consist of 4 partly bulldozed mullock paddocks and numerous shallow shafts. The line of workings continue south and includes one small open cut associated with an intact mullock heap.

Alluvial workings

Downstream from the reef workings is a narrow band of poorly defined, fairly dispersed, alluvial sinkings.

**INTEGRITY/CONDITION:** Good.

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**CULTURAL SIGNIFICANCE:**

The site has:

- Scientific Significance, because of the survival of a group of relatively intact shallow reef mines. This type of workings, once extremely common, are now quite rare.

**SIGNIFICANCE RANKING:** Site Listed Heritage Inventory.

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**Assessor:** David Bannear

**Date:** November 1992.

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**SITE NO. & NAME:** 71 NUGGETTY CO-OPERATIVE CO.

**LOCATION:** Nuggetty Reef, Muckleford

**HI NO:** H7723-0168

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**DIRECTIONS:** West side of Blow Reef Track, 2.5 km from its junction with Golf Links Track.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

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**HISTORY:**

1903. The Nuggetty Co-operative Company, on the north of the John Bull, has had a fairly successful year. The shaft is 200 feet deep, and well timbered. There is a 12-head crushing plant attached to this mine. The North Nuggetty Gold Mining Company, No Liability (whose lease adjoins that of the Nuggetty Co-operative on the north) has not met with the success anticipated, nor the success deserved. However, there is every probability of it being rewarded for its outlay in the near future. A connection is about to be made with the Nuggetty Co-operative Company's workings which will make the ventilation in each mine (which at times now is very indifferent indeed owing to the ground being heavily charged with carbonic acid gas) very much better, and will give the mine manager of the North Nuggetty a better idea where to go to find the payable stone worked by his southern neighbour.<sup>1</sup>

1905. The Nuggetty Co-operative Company, situated on the Nuggetty line of reef at Green Gully, has continued to work on the lode, which is well defined, between the 250-foot and 200-foot levels, with payable results. This company has a 12-heads crushing plant in connection with the mine, and the hauling is done with a horse-whim. About ten men, on the average, are employed.

Noakes and Smyth (a co-operative party) have worked, with payable results, on the Nuggetty line of reef, about one mile north of the Nuggetty Co-operative Company, at a depth of 190 feet. About four men, on the average, are employed.<sup>2</sup>

1906. The Nuggetty Co-operative Company at Green Gully employed an average of nine men in connection with the mining operations, five underground, and four on the surface. This company has been working for a number of years on a well-defined reef, but has been rather severely handicapped of late through having a good deal of water to contend with, and only having a whim for hauling purposes.

Noakes and Smythe, also a co-operative company, have worked with an average of five men with payable results. This mine is situated about a mile north of the Nuggetty Co-operative Company's mine, and is 200 feet deep.<sup>3</sup>

1907. The Nuggetty Co-operative Company has continued work during the year with about payable results. The crushing mill has been shifted from its old site, which was about a mile distant from the mine, to a site near the main shaft. This will lessen the cost of crushing, and give a constant supply of water, which was not available at the old site. An average of ten men was employed.<sup>4</sup>

1910. The Nuggetty Co-operative Company, Green Gully, has struggled against heavy water and want of payable stone without, so far, meeting with the success so well deserved. Williamson and party, and the John Bull syndicate, who have carried on mining operations on the Nuggetty Co-operative Company's line of reef, immediately south of the Nuggetty Co-operative Company's mine, has had only a fairly successful year.<sup>5</sup>

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**DESCRIPTION & INTERPRETATION:**

Workings and footings associated with the mining activities of the Nuggetty Co-operative Co. which operated from 1903 to 1910.

Mine site

Remnant of a once large mullock heap. No evidence survives of any machinery footings.

Tailings

In the gully below (north east of) the mullock heap is a large breached water dam. Below the dam's embankment is a partly quarried tailings dump. Bar the odd red brick there is no evidence surviving of the battery.



*INTEGRITY/CONDITION:* Poor.

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*CULTURAL SIGNIFICANCE:*

The site's values comes from its:

- Cumulative Value, as part of a group of sites which are evidence of various mining operations along a line of reef. These sites are Nos 69, 71, and 72 (Boswarva Hill, Nuggetty Co-operative Co., and John Bull Gold Mining Co.).

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Annual Report, 1903
- 2 Annual Report, 1905
- 3 Annual Report, 1906
- 4 Annual Report, 1907
- 5 Annual Report, 1910

**SITE NO. & NAME:** 72 JOHN BULL GOLD MINING CO.

**LOCATION:** Nuggetty Reef, Green Gully, Muckleford

**HI NO:** H7723-0169

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**DIRECTIONS:** On west side of Blow Reef Track, 2.7 km from it junction with Golf Links Track.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

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**HISTORY:**

1903. The John Bull Gold Mining Company, at Green Gully, crushed 1,064 tons of stone during the year for a yield of 482 oz 4 dwt, valued at £1,869 18s. There is a well timbered (three compartment) shaft 165 feet deep. The lode is from 2 to 4 feet thick, and has a westerly underlie. The Nuggetty Co-operative Company, on the north of the John Bull, has had a fairly successful year. The shaft is 200 feet deep, and well timbered. There is a 12-head crushing plant attached to this mine.<sup>1</sup>

1904. The John Bull Gold Mining Company continued to work till the last quarter of the year, when operations were suspended for a time. I understand work is now being resumed. This company, judging by the amount of prospecting work done, has never had much money to spare. It is to be hoped work will be carried on more vigorously in the future.

There is practically no alluvial mining in this division, but the treatment of sand by the cyanide process has continued to be a very live industry, giving employment to a large number of hands.<sup>2</sup>

1910. The Nuggetty Co-operative Company, Green Gully, has struggled against heavy water and want of payable stone without, so far, meeting with the success so well deserved. Williamson and party, and the John Bull syndicate, who have carried on mining operations on the Nuggetty Co-operative Company's line of reef, immediately south of the Nuggetty Co-operative Company's mine, has had only a fairly successful year.<sup>3</sup>

1911. The John Bull Co-operative Company, Green Gully, has had a successful year.<sup>4</sup>

1912. Dudley Brothers, the John Bull Syndicate, and McAuliffe and party have continued work in their respective claims on the Nuggetty line of reef, near Newstead, with barely payable returns.<sup>5</sup>

1913. The John Bull Co-operative Company has continued work with barely payable results.<sup>6</sup>

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**DESCRIPTION & INTERPRETATION:**

Mullock heap and battery footings belong to the John Bull Gold Mining Co. which operated from c. 1903 to 1913.

Mine site

On the west side of the track is the remains of a once large mullock heap. To the north and south of this heap are well preserved sections of open cutting. No surviving evidence of any mining machinery foundations.

Battery

Located 20 m to the north of the mullock heap is a battery site. The site has concrete footings containing one 16-inch square battery stump (partly burnt) and 8 stump slots. These remains suggests 3 battery boxes, each having 4-head of stamps. Lying near the surviving battery stump is a large chunk of a brick engine bed (red, hand-made bricks set in a soft mortar). 2 m north of the surviving battery stump are the bulldozed remains of a stone boiler setting. Resting on the western end of the boiler setting is a well preserved, uprooted, bedlog. 3 m east, from the western end of the concrete stamper footings is a protruding engine bolt and an excavation which has revealed some in-situ bedlogs.

House site

21 m north of the battery is a stone fireplace.

Tailings

In gully to the south east of the mullock heap is a large breached water dam. On the western slope above this dam is a partly quarried tailings dump.

*INTEGRITY/CONDITION:*

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*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because it has a range of components that together illustrate the nature and scale of mining activities that took place on the site. Site has some educational value.

The site's significance is increased by cumulative value, because:

- it is part of a group of sites which are evidence of various mining operations along a line of reef. These sites are Nos. 69, 71, and 72 (Boswarva Hill, Nuggetty Co-operative Co., and John Bull Gold Mining Co.).

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Annual Report, 1903
- 2 Annual Report, 1904
- 3 Annual Report, 1910
- 4 Annual Report, 1911
- 5 Annual Report, 1912
- 6 Annual Report, 1913

**SITE NO. & NAME:** 73 GOLDEN AGE MINE  
**LOCATION:** Red White and Blue Reef, Muckleford  
**HI NO:** H7723-0170

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**DIRECTIONS:** Site located at the junction of Bells Lane Track and Red White and Blue Track.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

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**HISTORY:**

December 1871. Gold has been struck in the old Red, White and Blue Reef. This ground has been applied for on lease by David Munro. A new shaft has been sunk from the surface to the water-level (170 feet), and a cross-cut driven to the reef; prospects are favourable, but it has not been sufficiently opened up to be able to judge of its value.<sup>1</sup>

1880s. The mine is 65 chains south of the large outcrop of quartz called Dunn's Reef ... Together with Maloney's shaft, it is the northern-most of the a line of workings known as the Red White and Blue Reef, said to have been worked in the 1880s. Other shafts to the south ... were called The Blow, Nuggetty Reef, North Dudley's and Dudley's. The last named was reputedly 400 feet deep. Some eight chains to the east is a parallel lode called Russell's Reef.<sup>2</sup>

1909-1915. Yields obtained by S.J.Maloney & Co. (compiled by R.G.Stirling, Unpublished Report 30/10/1962):

Date	Tonnage	Oz.	Name recorded
1909	397	359	S.J.Maloney & Co.
1910	710	782	S.J.Maloney & Co.
1911	1,417	500	Maloney's Red White and Blue
1912	66	62	Maloney's Red White and Blue
1913	975	264	Maloney's Red White and Blue
1913	135	35	Red White and Blue
1914	412	280	Maloney's Red White and Blue
1915	340	87	Maloney's Red White and Blue
Total	4,452	2,369	

Average yield--10.6 dwt/ton.<sup>3</sup>

1910. Maloney's Red, White, and Blue syndicate, situated near Gowar, has had a successful year, and I understand that the prospects for 1911 are favourable.<sup>4</sup>

1911. Maloney's Red White and Blue Company has not been so successful during 1910, but has about paid its way. A good deal of time was lost owing to defects in the crushing plant. The South Maloney's Red White and Blue Company has carried on prospecting work during the year, but has not yet met with the desired success.<sup>5</sup>

1912. Maloney's Red, White, and Blue Company has been carrying out developmental work during the greater part of 1912. Large bodies of stone exist in this mine, but it is mostly so low in value as to require very economical handling and treatment to leave any profit to the shareholders.<sup>6</sup>

1913. Maloney's Red White and Blue Company has worked throughout the year on the lode with disappointing results. A few men only are now employed by this Company.<sup>7</sup>

1914. Maloney's Red, White, and Blue Company has been much hampered by the want of water for milling purposes. Work has been carried on a limited scale throughout the year.<sup>8</sup>

1915. Maloney's Red White and Blue companies closed down during the year.<sup>9</sup>

February 1958. Maldon has bright prospects of revival of gold mining in the near future, when the gold mine known in the past as the Red White and Blue is re-opened ... Mr. C. N. O'Connor, of Maldon, who is a director of the company, intimated that in the near future tenders would be called for the sinking of a main shaft to a depth of 320 feet.

Negotiations are well underway for dismantling and re-situating of plant from a mine at Bendigo, consisting of poppet heads, boilers, winding engine and battery which is estimated to cost £3,000 ... Directors of the company are Mr. G. B. Patterson, of Rose Bay, Sydney; Mr. F.S. Falkiner, grazier, of Mount Falcon, via Tooma, N.S.W.; Mr. G. A. Houlden, South Melbourne, contractor; Mr. J.S.Barker, Bendigo; Mr. C.N. O'Connor, Maldon; and Mr. J. Stanistreet, of McColl, Rankin and Stanistreet, Bendigo.<sup>10</sup>

1958. The new shaft is to the east of the old shafts and open cuts on which was originally referred to as the Red White and Blue Reef, but in later years called Moloney's Reef. The reef was later worked by Moloney and then by a Mr Baxter.<sup>11</sup>

July 1958. Stone carrying colours of coarse gold has been struck in No 1 level west cut had advanced a further 20 feet from shaft connected with the old workings for ventilation. Workman had started driving north at 90 feet off cross-cut ... Dismantling of the poppet heads at Deborah United mine in Bendigo will be completed soon and they will be erected.<sup>12</sup>

July 1957. N.S.W mining company, Golden Age Gold NL has acquired the lease of a disused mine at Maldon at a cost of £1000. Previously known as the Red White and Blue Mine, a mining engineer has forecast a good future for shareholders.

Nominal capital of the company will be increased from £30,000 to £60,000 and negotiations are underway to purchase the plant for more than £11,000 from a disused mine at Bendigo. Recent tests showed rock that yielded approximately 1-1/2 oz. of gold a ton.<sup>13</sup>

July 1960. The latest report on developments taking place at the Golden Age Gold NL mine at Maldon, indicates that favourable progress is being made during the past weeks.

No. 1 level has been cleared and a geological survey of the cross cut and north level of the same has been completed ... Shaft sinking has been resumed and is now deepened to 58 feet below No. 1 level ... The boiler, winding equipment and air-compressor are working satisfactorily.<sup>14</sup>

1960. Old workings on this lease were known as the Red White and Blue Reef, and a shaft to 160 feet is referred to as Moloney's shaft ... Mr. C. N. O'Connor of Maldon is Manager. The mine is equipped with a winch, steam boiler and compressor. Poppet legs from the Deborah United mine have been erected and change rooms, office and storage rooms have been completed.

New work: a new shaft 13 ft x 4 ft 6-in has reached a depth of 110 feet and a plat was cut on the south side of 81 feet below the sill. From the plat, a west cross-cut was extended 113 feet, and at 85 feet a short level was driven north to connect with the old workings from Moloney's shaft.<sup>15</sup>

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*DESCRIPTION & INTERPRETATION:*

Tailings generated by Maloney's Red White and Blue (1909 to 1915); and poppet head/concrete engine beds etc. belong to the Golden Age Gold NL (1957 to c. 1960).

Mine site

Intact, standing poppet head: tubular steel legs, still retaining some of its timberwork and both winding wheels. The poppet head and open 3-compartment shaft with its intact concrete baling pond lie within a recently erected fenced compound. To the south of the poppet head is a machinery site consisting of a 8 ft square concrete winder bed (1 inch mounting bolts) which stands 1-1/2 ft above current ground level. 5-1/4 ft to the west is a concrete engine bed which measures 15 x 4 ft, stands 2 ft high and has 1-1/4 inch mounting bolts. At the south end of the winding engine bed are several concrete air-receiver pads and a boiler setting depression, with an in-situ iron damper plate visible on the south east corner of the engine site. The boiler setting has a short flue depression running from its rear end (south) to the remains of a 6 ft square brick chimney stack base. On the eastern side of the shaft is a small intact mullock heap: approx 15 m diameter and standing 6 metres high. Visible on the north side of the heap are six short dumping lines from an earlier mining phase. North of the poppet head are two large dams. A drain leads from the shaft's baling tank to the closest dam. 9 m west of the poppet head's fence are several sections of concrete flooring and some post stumps. Near the concrete there is a small exposed section of a stone footing. This may well be a battery site. Immediately to the north are extensive dumps of treated tailings.

100 m south of the poppet head is a partially buried small narrow open cut associated with two filled (subsided) shafts. Both shafts still have sections of their wooden collars exposed.

Shallow alluvial sinkings

A band of shallow alluvial sinkings runs south down the gully below the dams. No puddlers were found associated with the sinkings which continue as far as the Dunn's Reef Track.

*INTEGRITY/CONDITION:* Poppet head in good condition.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because of the site's rarity--it is the only mine in the Maldon Mining Division still possessing an intact poppet head. The mine also has a range of features which help illustrate the mining operations which took place in the 20th century.

The site's significance is increased by cumulative value, because:

- it forms part of a group of sites which contain a number of features which document the scope and scale of quartz and alluvial mining in the area. These sites are Nos. 79, 49A, 49C, 61, 67, 73 and 60 (Demo Track alluvial workings, Blow Reef, Omega Reef, Kangaroo Reef, Moonlight Gully, Golden Age mine and Ironbark gully workings).

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Mining Surveyors' Reports, December 1871
  - 2 Mining and Geological Journal (Vol 6, No 6) - The Golden Age Mine, G.J.Medwell
  - 3 Mining and Geological Journal (Vol 6, No 6) - The Golden Age Mine, G.J.Medwell
  - 4 Annual Report, 1910
  - 5 Annual Report, 1911
  - 6 Annual Report, 1912
  - 7 Annual Report, 1913
  - 8 Annual Report, 1914
  - 9 Annual Report, 1915
  - 10 Unpublished Report on Golden Age Mine, newspaper cuttings (Bendigo Advertiser, 12/2/1958)
  - 11 Unpublished Report 1958, Golden Age Mine, D Spencer-Jones
  - 12 Unpublished Report on Golden Age Mine, newspaper cuttings (Bendigo Advertiser, 1/7/1958)
  - 13 Unpublished Report on Golden Age Mine, newspaper cuttings (Melb Sun 18/7/1957)
  - 14 Unpublished Report on Golden Age Mine, newspaper cuttings (Bendigo Advertiser, 21/6/1960)
  - 15 Unpublished Report 1960/36 - Golden Age Mining Co NL, lease 9195 (DMID Records, Bendigo Office)

**SITE NO. & NAME:** **SANDY CREEK ALLUVIAL WORKINGS**  
**74A Alluvial Landscape 1**  
**74B Alluvial Landscape 2**

**LOCATION:** **Sandy Creek, Welshman's Reef.**

**HI NO:** **74A H7723-0171**  
**74B H7723-0172**

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**DIRECTIONS:** Alluvial landscape 1. 1.35 km north along Gordon's Road from its junction with Fisherman Road. East side of road.  
Alluvial landscape 2. 500 m north north east of the junction of Newstead and Back Sandy Creek roads.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Unreserved Crown Land

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**HISTORY:**

1854. Sandy Creek, south of Long Gully, was discovered in May 1854 [*Herald*, 15 May 1854].<sup>1</sup>

1854-59. There was a general exodus from the diggings before the end of 1854, a large number joining in a wild rush of diggers to another rich alluvial field recently discovered at Simpson's Ranges (Maryborough), 20 miles westward; but the alluvial leads of Tarrangower were by no means worked out.

Gold was subsequently wrought apart from the rich deposits of Porcupine and Long Gully earlier mentioned along leads reaching to Sandy Creek, Muckleford, Walmer, Nuggetty Flat, and Bradford.

A flourishing suburb quickly developed at Eagle Hawk, at the northern end of the field. Its busy shopping street was lined both sides with trading establishments of every description. There were practising doctors, lawyers and chemists, at least three hotels, two churches, a day school, and a large amusement theatre. The area was surrounded by crushing and puddling machines.

Porcupine also became a busy trading centre with three hotels, stores, a day school and Tarrangower's only racecourse.

Sandy Creek and Nuggetty Flat could count a school, church, hotels and stores. There were 1,000 people on Sandy Creek in 1859, including many Chinese and a Chinese Circus.<sup>2</sup>

June 1855. Many persons have gone, during the last fortnight, to Sandy Creek, but some who have returned give a very bad account of it; likewise of the Muckleford diggings.<sup>3</sup>

1855-7. There was a rush to Sandy Creek in June 1855 [*Mt Alexander Mail*, 23 November 1855], but there was no actual mention of the Seventy Foot until 1856, when it was referred to as the "Old Seventy Foot". Manton's Gully was rushed after the discovery of Lisle's Reef in 1856, and was named from Manton's crusher [*Mt Alexander Mail*, 9 & 16 May 1856]. Sandy Creek was rushed in 1857.<sup>4</sup>

December 1859.

Population:	<b>Sandy Creek</b>	<b>763 Europeans</b>
	<b>530 Chinese</b>	
Mia Mia Creek	22	
	108	
Green Gully	12	
	18	
Peg Leg		16
		-
Forty-Foot	14	
	47	
Eagle Hawk Gully	22	
	16	
Porcupine Flat	16	
	42	
Long Gully	16	
	46	

Seventy-Foot 16  
50

897

857

No new rushes have occurred during the month, but a report reached me yesterday that an extension of the rush at Sandy Creek, previously reported, was attracting large numbers to a locality near the Seventy-Foot Diggings.<sup>5</sup>

June 1860. Puddling machines and dams (4). At Porcupine Flat, Sandy Creek, Seventy-Foot, and Eaglehawk Gullies

With respect to the supply of water at present available at the different crushing machines throughout the district I have to remark that those at

The Springs have a supply to last	3 months
The Union Company, Eaglehawk Reef	1
Machine at Peg-Leg Gully	3
The four crushing machines at Long Gully	2
<b>Three machines at Sandy Creek</b>	<b>1</b>
Two machines at Green Gully	3
Omega Reef, Green Gully	1 <sup>6</sup>

March 1864 Miners distributed thus:

Pickpocket & Strangways	78	Growler's Gully	177
Newstead	113	Long Gully	145
Muckleford	137	Peg Leg Gully	148
Frenchman's Gully	51	Porcupine Flat	115
Mia Mia and Gardner's Gully	119	Eaglehawk	182
<b>Sandy Creek</b>	<b>413</b>	Bradford	45
Nuggetty Flat	126 <sup>7</sup>		

June 1864 Miners distributed thus:

Strangways	39	Growler's Gully	177
Newstead	107	Long Gully	150
Muckleford	140	Peg Leg Gully	162
Frenchman's Gully	32	Porcupine Flat	121
Mia Mia	130	Eaglehawk	203
<b>Sandy Creek</b>	<b>496</b>	Bradford	17
Nuggetty Flat	121 <sup>8</sup>		

September 1864 Miners distributed thus:

Pickpocket	89	Green Valley	35
Newstead	114	Long Gully Md.	18
Back Creek	44	Peg Leg Gully	67
Frenchman's Gully	42	Porcupine Flat	176
Gardner's Gully	32	Eaglehawk	150
<b>Sandy Creek</b>	<b>250</b>	Bradford	16
Nuggetty Flat	149	Mount Tarrangower	190
Beehive Hill	110	Ironbark	14
Armstrong's	4	Hard Hills	20
Hunter's Rush	27	Fryingpan	8 <sup>9</sup>

March 1865 Miners distributed thus:

Pickpocket	113	Growler's Gully	82
Newstead	25	Long Gully	16
Green Valley	45	Peg Leg Gully	77
Fryingpan Gully	3	Porcupine	63
Gardner's Gully	28	Eaglehawk	182
<b>Sandy Creek</b>	<b>230</b>	Long Gully, Muckleford	60
Nuggetty	71	Mount Tarrangower	248
Beehive Hill	180	Ironbark Gully	16
Armstrong's	3	Hard Hills	9
Hunter's Rush	17	Back Creek	25 <sup>10</sup>

September 1865 Miners distributed thus:

Pickpocket	546	Growler's Gully	55
Newstead	36	Long Gully	48
Green Valley	38	Peg Leg Gully	78
Fryingpan Gully	21	Porcupine Flat	86
Gardner's Gully	19	Eaglehawk	176
<b>Sandy Creek</b>	<b>212</b>	Long Gully, Muckleford	39
Nuggetty	65	Mount Tarrangower	226
Beehive Hill	152	Ironbark Gully	33
Armstrong's	7	Hard Hills	25
Hunter's Rush	31	Back Creek	23
Frenchman's Gully	2 <sup>11</sup>		

March 1866 Miners distributed thus:

Pickpocket and Strangways	855	Growler's Gully	50
Newstead	7	Porcupine Flat	60
Gardiner's Gully	16	Eaglehawk	186
<b>Sandy Creek</b>	<b>256</b>	Long Gully	54
Nuggetty	80	Mount Tarrangower	238
Beehive Hill	152	Ironbark Gully	15
Hard Hills	25	Muckleford	221 <sup>12</sup>

September 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	33
Newstead	22	Long Gully	45
Green Valley	49	Peg Leg Gully	63
Fryingpan Gully	14	Porcupine	50
Gardner's Gully	12	Eaglehawk	180
<b>Sandy Creek</b>	<b>219</b>	Long Gully, Muckleford	30
Nuggetty	60	Mount Tarrangower	210
Beehive Hill	117	Ironbark Gully	20
Armstrong's Gully	2	Hard Hill	8
Hunter's Rush	8	Back Creek	13
Frenchman's	10		

At Sandy Creek about the usual number of miners, say 250, are employed. Here the old system of washing with the tub and cradle is still adhered to. About a fortnight ago a nugget weighing 70 oz was found, which caused a small rush, but nothing else of importance has been discovered.<sup>13</sup>

December 1866 Miners distributed thus:

Pickpocket	1,200	Growler's Gully	31
Newstead	15	Long Gully	46
Green Valley	45	Peg Leg Gully	65
Fryingpan Gully	3	Porcupine	50
Gardiner's Gully	12	Eaglehawk	187
<b>Sandy Creek</b>	<b>205</b>	Long Gully, Muckleford	33
Nuggetty	75	Mount Tarrangower	195
Beehive Hill	111	Ironbark Gully	23
Armstrong's Gully	9	Hard Hills	22
Hunter's Rush	17	Back Creek	18
Frenchman's	7 <sup>14</sup>		

March 1867 Miners distributed thus:

Pickpocket	650	Growler's Gully	25
Newstead	65	Long Gully, Maldon	65
Green Valley	59	Peg Leg Gully	76
Fryingpan Gully	19	Porcupine	60
Gardner's Gully	12	Eaglehawk	190
<b>Sandy Creek</b>	<b>180</b>	Long Gully, Muckleford	35
Nuggetty	85	Mount Tarrangower	195
Beehive Hill	98	Ironbark Gully	25

Armstrong's Gully	11	Hard Hills	22
Hunter's Rush	18	Back Creek	21 <sup>15</sup>

March 1877. A small rush has taken place at Sandy Creek; a party working some alluvial ground came upon a small flat quartz leader, from which a prospect was obtained by dish trials. A few tons have since been sent to the crushing mills and yielded 12 dwts per ton, which caused the rush. The prospector was in possession of a 10-acre paddock on the opposite side of the road adjoining his claim, which he sold to a party of miners for £100. The party has sunk several holes, but can find nothing, and now consider themselves sold.<sup>16</sup>

March 1886. Alluvial mining. The Company for Mining on Private Property, Gibson's paddock, Sandy Creek, are sinking a new shaft from the surface, and have purchased a small steam-engine for baling and hauling dirt.<sup>17</sup>

20thC (date?). Cyaniding. One leading firm, Williams and Rewell (Jim Williams and Bill Rewell) commenced operations on a rich deposit of sand washed down Sandy Creek to Joyce's Creek, six miles away. They successfully extended operations to several mining fields throughout the State, and employed a large staff of managers and workmen.<sup>18</sup>

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*DESCRIPTION & INTERPRETATION:*Alluvial landscape 1

North of a freehold block, west side of Sandy Creek, is a band of well defined alluvial sinkings that runs parallel to the road. The band is 150 m wide and runs for some 200 m until the creek diverges from the road and the sinkings are lost from view behind freehold land. The sinkings are situated between 1 to 2 metres apart and the landscape appears not to have been reworked by any other method than shaft sinking.

Alluvial landscape 2

On east side of Sandy Creek is a band of well defined alluvial sinkings that runs parallel to Back Sandy Creek Road. The band is 100 m wide and runs for some 400 m until the sinkings enter freehold pastoral land where they have been obliterated. The sinkings are situated between 1 to 3 metres apart and the landscape appears not to have been reworked by any other method than shaft sinking.

*INTEGRITY/CONDITION:* Sinkings are relatively undisturbed.

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*CULTURAL SIGNIFICANCE:*

The sites have:

- Historical Significance, because they are associated with one of the Division's richest alluvial mining areas.
- Scientific Significance, because they are relatively intact, well-defined and visible alluvial sinkings. Such landscapes are quite rare in the Maldon Mining Division.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Flett, J., The History of Gold Discovery in Victoria, Poppet Head Press, 1979, pp. 193-201
  - 2 Williams, pp. 13-14
  - 3 Mt Alexander Mail, 1 June 1855
  - 4 Flett, J., The History of Gold Discovery in Victoria, Poppet Head Press, 1979, pp. 193-201
  - 5 Mining Surveyors' Reports, December 1859
  - 6 Mining Surveyors' Reports, June 1860
  - 7 Mining Surveyors' Reports, March 1864
  - 8 Mining Surveyors' Reports, June 1864
  - 9 Mining Surveyors' Reports, September 1864
  - 10 Mining Surveyors' Reports, March 1865
  - 11 Mining Surveyors' Reports, September 1865
  - 12 Mining Surveyors' Reports, March 1866
  - 13 Mining Surveyors' Reports, September 1866
  - 14 Mining Surveyors' Reports, December 1866
  - 15 Mining Surveyors' Reports, March 1867
  - 16 Mining Surveyors' Reports, March 1877
  - 17 Mining Surveyors' Reports, March 1886
  - 18 Williams, p. 30

**SITE NO. & NAME:** **SMITHS REEF WORKINGS**  
**75A Reform Association**  
**75B Alluvial Sinkings**  
**75C Battery Site & Reef Workings**

**LOCATION:** **Smith's Reef, Muckleford**

**HI NO:** **75A & 75B H7723-0173**  
**75C H7723-0174**

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**DIRECTIONS:** South of Smiths Reef Dam, Maldon State Forest.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

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**HISTORY:**

1855. Smith's and Fentimen's Reefs were scenes of excitement in 1855.<sup>1</sup>

August 1859. Smith's Reef, South Muckleford. Reform Association. The engine of 20-horse power, with a battery of 20 stampers, is already fixed. Porter's patent shaking-tables will be attached. The engine-shaft is now down 150 feet, and operations will commence in about a week.<sup>2</sup>

December 1859. The applications for abandoned reefs recur at Nuggetty Reef, South Muckleford, Mining Board Reef, Long Gully, Welchman's, **Smith's Reef (two instances)**, Dunn's, and Kangaroo Reef, North Muckleford. Those for amalgamation are at Eagle Hawk Reef (two instances), Nuggetty, Bell's, Parkin's, Tiverton, Kangaroo, and Victoria Reefs. The table I enclose is ... gathered from the various proprietors and officials connected with the crushing-machines throughout the district.

Applications for leases:

Crown Reef Co., Mt Tarrengower, quartz	£10,000 capital	£2,000 machine
Manton's Gully Mining Co., quartz	10,000	2,000
Palmer's Reef--The Great Britain Quartz-Mining Assn.	10,000	4,000
Tarrengower Steam Puddling Co., lease 20 acres	5,000	2,000
Lease of 500 yards, south end of Eagle Hawk Reef	20,000	2,000
Vulcan Company, quartz. Lease 600 x 600 yards	10,000	3,000
Pluto Mining Assn, quartz. Lease 600 x 200 yards.	12,000	2,000
Porcupine Gold Mining Co., already obtained by grant from Warden's Court	3,000	2,000
<b>Tarrengower Reform Assn, quartz-mining</b>	15,000	4,500
Golden Hope Co., Linscott's Reef	<u>12,000</u>	<u>3,000</u>
Totals	£107,000	£26,500 <sup>3</sup>

July 1860. The number of crushing engines now at work and more erecting, all of them of considerable horse-power, require a constant supply of the purest water for mining pursuits. Some of the machines at present in the district, are now using water that is totally unfit for the use to which it is unfortunately applied ... Atlas Company, German Reef--supply constant; drain from reef. Vivian and Company, Beehive Reef--supply constant; drain from reef. Isaacson's, Beehive Reef--not working. Lisle's Reef Company, Lisle's Reef--supply very limited. Great Western Company, Beehive Reef--supply constant. Edwards, Maldon--not working; supply precarious. Kangaroo Reef, South Muckleford--removed. **Omega Reef, Greenfalls--supply exhausted.** Long Gully Machines four in No.--supply 1 month. Buttingham's, Green Gully--supply 6 weeks. Allsop's, Green Gully--supply 1 month. Fitzgerald, At the Springs--supply 1 month. Toy's, At the Springs--supply 1 month. Hawk's, At Nuggetty--not working. Fox, Raus and Co., Pegleg--supply 3 weeks. The Union Company, Eaglehawk Reef--supply very moderate. Dun's Reef, Muckleford--removed. Smith's Reef, Muckleford--supply abundant; making dam. Eaglehawk Company--supply abundant. Beehive Association, Beehive Reef--supply limited. Welshman's Reef, 1 Machine--supply 2 months. Sandy Creek, 3 Machines--supply 2 months. Tarrangower Creek--supply abundant. Mia Mia, Newstead--supply abundant at present. Manton's Gully, Engine erecting--provision making for water. Wattle Gully Reef--drain from reef. Porcupine Flat, Alluvial--large dam at present sufficient.<sup>4</sup>

Tarrangower Reform Quartz Mining Association, Smith's Reef, Muckleford. A twenty-five horse-power engine is erected on the company's ground, which works 20 head of stampers, of 6 cwt., each working day and night, and crushing weekly 240 tons, and employing six men. Twelve to twenty men are also engaged raising quartz from depths of 80 and 110 feet respectively. A contract has lately been let to fourteen men for the construction of a reservoir capable of holding a supply to last from eight to nine months, by an embankment 21 feet high and 150 yards long.<sup>5</sup>

August 1860. Reform Mining Association, Smith's Reef, North Muckleford. The company is now raising quartz from depths of 80 and 130 feet, and has during the month of August, crushed 167 tons, yielding £212 sterling. Number of men employed 11, viz., underground 7, top 4.<sup>6</sup>

March 1880. Gold has also been struck on the line of Smith's Reef, about two and a half miles east from the township; 20 tons of stone from Rimmer and Co.'s claim gave 2 oz per ton, and from Allen and Co.'s claim, on the same line, 30 tons gave 30 oz of gold.<sup>7</sup>

1904. South from the Fentiman's, and to the west of this line of formations, is situated the Golden Bell Consolidated Mine. This is an English Company, with Mr. W Baxter in charge. He has the main shaft sunk to a depth of 450 feet ... Old works are to be seen along the line, in the vicinity of the present shaft, from which the richest gold-bearing ore has been mined ... A little mill for sampling purposes is required here.<sup>8</sup>

1988. The principal historic feature in this unit is the Gowar School ruin which has been propped up and fenced using funds from the Maldon Restoration Fund. There are also some isolated mining relics at Fentiman's Reef and in the vicinity of the Smiths Reef Dam. 1988.<sup>9</sup>

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*DESCRIPTION & INTERPRETATION:*

**Site 75A.**

Remains of main period of mining by the Reform Association in early 1860s.

Shaft and machinery site

70 m south of Smiths Reef Dam is a partially quarried, relatively large, mullock heap which has three intact dumping lines. The surviving section of the heap is 25 m long and approx 5 m high. At the rear (south end) of the mullock heap is a capped shaft. 20 m from this shaft is a 5.8 m long section of a stone boiler setting wall. The setting's other wall is largely buried; the walls are set 5-1/2 ft (1.7 m) apart. Around the machinery site is a spread of red, hand-made bricks.

Open cut

Above the machinery site is a long, but relatively narrow open cut. The open cut is well defined and associated with some surface mullock heaps.

Battery site

At the southern end of the open cut, 200 m south of the machinery site, is a well preserved loading ramp. Below the ramp is a 10 m square levelled area containing some partially exposed, but very decayed, bedlogs. The site also includes some brick rubble (red, hand-made variety), a small dump of treated tailings, and two small dams. Near the battery site are two stone fireplaces.

**Site 75B**

Alluvial workings (19th century).

In the gully below is a 50 m wide band of well defined alluvial sinkings. Associated with the alluvial sinkings are several stone fireplaces eg. near the base of the mullock heap associated with the machinery site there are a group of five. The alluvial sinkings continue south for some 1/2 km until freehold land. One puddler was found (see below). There also appears to be evidence of paddocking.

**Site 75B**

Reef workings (19th century).

150 m south of the battery (Site 75A), on the crown of the next hill, is a patch of bulldozed mullock paddocks/filled shafts and a partially filled small open cut. On the east side of the open cut are the remains of a quartz loading bay and a blacksmith's forge.

Early battery site

200 m to the south of the reef workings is a battery site which has the remains of a loading ramp, at the base of which, is a badly decayed bedlog. The bedlog is 2 ft thick and 12 ft long. Near the north end of the bedlog is a

mound of stone and red, hand-made, bricks. In the gully immediately below the battery site (to the west) is a small breached water dam or sludge pond. Some shallow open cutting runs north from the battery site.

Puddler and alluvial workings

300 m south of the battery site is a small puddling machine site. The puddler is only 13 ft wide, has a deep puddling trench, and a 5 ft wide inner mound. No trace of the puddler's pivot post survives.

*INTEGRITY/CONDITION:* Good.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Scientific Significance, because:
  - a) the site has a wide range of features that document the scale of the mining operations, both quartz and alluvial, which took place on the site.
  - b) the site has well preserved alluvial sinkings associated with numerous stone fireplaces.

The site's significance is increased by cumulative value, because:

- a) Site comprises a network of features that are evidence of 19th century quartz and alluvial mining.
- b) Mining relics are situated in an attractive rugged bush setting.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Williams
- 2 Mining Surveyors' Reports, August 1859
- 3 Mining Surveyors' Reports, December 1859
- 4 Mining Surveyors' Reports, July 1860
- 5 Mining Surveyors' Reports, July 1860
- 6 Mining Surveyors' Reports, August 1860
- 7 Mining Surveyors' Reports, March 1880
- 8 Geological Survey of Victoria, Bulletin No 14 - The Maldon Gold-Field, W M Bradford, 1904
- 9 Maldon Historic Reserve Management Plan, Department of Conservation, Forests and Lands, 1988

**SITE NO. & NAME:** 76 THORNHILL CO.  
**LOCATION:** Thornhills Reef, Green Gully, Muckleford

**HI NO:** H7723-0175

**DIRECTIONS:** On east side of Demo Track, 900 m from Newstead Road.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

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**HISTORY:**

1854-55. Muckleford. On about 27 February 1854, a gold commissioner went there, to what was then termed Wattle Flat, "give miles from Castlemaine, just after crossing the Back Creek at Muckleford Flat, where the roads to Bryant and Menzies separates" [*Commissioners' and Wardens' Reports*, 28 February 1854]. The spot was an old diggings, and there were then 300 diggers, sinking deep. He said that Middleton had reported sixty-seventy men there twelve months before. The neighbourhood of "Wattle Flat" led to Bryant's Ranges, where there were fifty men working, also. Tarrangower rush was then at its height, with 20,000 on the field. On 11 March 1854 the diggers at Wattle Flat had dispersed into the ranges.

In 1855 gold was again discovered at Muckleford, and the main lead was worked along what was then the Adelaide Road (the main road today). The spot was east of the first rush. In June 1855 Gardiners Gully and Green Gully, about four miles south of this rush, with Bosworva Hill and Gully, where a reef was known, were opened up [*Mt Alexander Mail*, 22 June 1855. *Melbourne Age*, 18 July 1855].

After the first rush about 700 men settled into these places.<sup>1</sup>

June 1855. Muckleford ... the majority of diggers is doing well. The favourite locality at present is the lead which has been discovered to the left of Gardner's Gully ... A party of 4 having a claim here, have sold 5 lbs weight of gold within the last 10 days ... The sinking varies very much in depth: at one end of this lead some holes have been sunk 95 ft without reaching the bottom, whilst several adjoining claims have been bottomed at 30 ft. The reefs all run north and south, whilst the veins of gold take a direction east and west. This is a feature, we believe, peculiar to Muckleford, as also is the extreme irregularity of bottom ... The main gully, which is traversed by the old road is now comparatively neglected, but all the adjacent gullies are being worked. Boswarva gully, and the hill alongside, have turned out some tolerable specimens of gold in quartz, but the quartz claims have not yet had a fair trial, from the lack of crushing machines. Switch stamps are in course of erection, but it is to be feared that these primitive machines, with their single stamp, will not be adequate to the reduction of a paying quantity in a given time. On Boswarva hill a few loads of auriferous quartz have been broken up and roasted in a kiln, ready for the stampers. About a mile from the first discovered workings at Muckleford, a place called Green Gully has been extensively rushed ... Muckleford is beginning to assume a more settled aspect, the tents have a permanent and comfortable appearance, and several bark huts are in course of erection. Stores are rapidly increasing, and one or two wooden buildings are going up ... a few puddling machines are working on the creek.<sup>2</sup>

December 1859.

Population:	Sandy Creek	763 Europeans
	530 Chinese	
	Mia Mia Creek	22
		108
	<b>Green Gully</b>	<b>12</b>
		18
	Peg Leg	16
		-
	Forty-Foot	14
		47
	Eagle Hawk Gully	22
		16
	Porcupine Flat	16
		42
	Long Gully	16
		46

Seventy-Foot 16  
50

897  
857

The Muckleford Reefs. Some six or seven reefs have been opened at Muckleford; they are, however, worthy of no especial remark, except Thornehill's Reef, which was opened in the early part of 1856 by Mr Thornehill. Some surface-stones promised exceedingly well; indeed, this has been the characteristic of all the Muckleford Reefs. Good stones are nearly always found on the surface, delighting the prospectors only to disgust and disappoint them in their expectations. A rush took place on the first stones being discovered amongst the payable claims, namely, the Brittingham's, Kenworthy's, Fisher's, and Down's. The former proved the most lasting, and is still occupied by its prospectors, who have a steam-engine and a dam near the reef. For the first six or seven months about £1,000 were netted from this claim, all the stuff being crushed by Messrs Woodfall and Co., who at that time owned a machine on the reef. Messrs Down and Co. sold out to a party of Cornishmen, who erected a machine, and are now being tolerably well remunerated. Messrs Brittingham and Co.'s stuff averaged about 1-1/2oz to the ton. This paid well, as the auriferous part of the reef was of great width. As much as 13oz to the ton were at one time obtained. This was the exception; 1oz was the average.

[A table lists gold yields from the following reefs: Eagle Hawk, Brewer's, Bell's, Tiverton, Fentiman's, Eagle Hawk (cement), Nuggetty, Manton's Gully, Beehive, Swipers', Linscott's, Perkin's, German Reef, Hill's (Mount), Eyrie, Lisle's (Mount), Allan's, Thornehill's, Omega, Kangaroo, New Wattle Gully] <sup>3</sup>

June 1860. The following applications ... have been made during the month--prospecting claims: quartz--Mosquito Reef, Green Gully, 240 feet ... On the 25th May an application for a mining lease was made by Messrs Poeple, Crawford, Lawlor, and Locke, of 20 acres, at Mosquito Reef, Green Gully. All the conditions contingent upon such an application were complied with ... capital £2000; to be called the Schiller's Reef Mining Company; the parties have already succeeded in finding a reef within 2 feet of the surface, and one crushing has been made at Mr Buttingham's machine, Green Gully, but without paying results.

With respect to the supply of water at present available at the different crushing machines throughout the district I have to remark that those at

The Springs have a supply to last	3 months
The Union Company, Eaglehawk Reef	1
Machine at Peg-Leg Gully	3
The four crushing machines at Long Gully	2
Three machines at Sandy Creek	1
<b>Two machines at Green Gully</b>	<b>3</b>
<b>Omega Reef, Green Gully</b>	<b>1</b>

[Table lists gold yields from the following reefs: Beehive, Brewer's, Fenteman's, Perkin's, Linscott's, Eaglehawk, Swiper's, Ladies', Nuggetty, Welshman's, Irish Billy's, Thornhill's, Wilson's].<sup>4</sup>

July 1860. The number of crushing engines now at work and more erecting, all of them of considerable horse-power, require a constant supply of the purest water for mining pursuits. Some of the machines at present in the district, are now using water that is totally unfit for the use to which it is unfortunately applied ... Atlas Company, German Reef--supply constant; drain from reef. Vivian and Company, Beehive Reef--supply constant; drain from reef. Isaacson's, Beehive Reef--not working. Lisle's Reef Company, Lisle's Reef--supply very limited. Great Western Company, Beehive Reef--supply constant. Edwards, Maldon--not working; supply precarious. Kangaroo Reef, South Muckleford--removed. **Omega Reef, Greenfalls--supply exhausted.** Long Gully Machines four in No.--supply 1 month. Buttingham's, Green Gully--supply 6 weeks. Allsop's, Green Gully--supply 1 month. Fitzgerald, At the Springs--supply 1 month. Toy's, At the Springs--supply 1 month. Hawk's, At Nuggetty--not working. Fox, Raus and Co., Pegleg--supply 3 weeks. The Union Company, Eaglehawk Reef--supply very moderate. Dun's Reef, Muckleford--removed. Smith's Reef, Muckleford--supply abundant; making dam. Eaglehawk Company--supply abundant. Beehive Association, Beehive Reef--supply limited. Welshman's Reef, 1 Machine--supply 2 months. Sandy Creek, 3 Machines--supply 2 months. Tarrangower Creek--supply abundant. Mia Mia, Newstead--supply abundant at present. Manton's Gully, Engine erecting--provision making for water. Wattle Gully Reef--drain from reef. Porcupine Flat, Alluvial--large dam at present sufficient.<sup>5</sup>

May 1861. Payable gold has also been struck on Victor Emanuel's Reef, Green Gully.<sup>6</sup>

December 1871. Extensive preparations are being made in the erection of machinery for winding and crushing purposes on the mine known as Brittingham's, Thornhill's Reef, Green Valley, which mine has been recently floated on the English market by Mr Wm Salter.<sup>7</sup>

March 1872. At Thornhill's Reef, Green Valley, some of the new machinery brought from England by Mr Wm Salter has been started ie. the winding gear. The crushing plant is now being erected, and will soon be ready. The

quartz now being raised from the mine shows a fair sprinkling of gold, and with the improved machinery it is considered that the mine will pay well.<sup>8</sup>

June 1872. At Green Valley, Muckleford, the Thornhill's Company are sinking the engine-shaft below the 500-foot level, and opening up the mine to the north at the 300 and 500 foot levels. The quartz now being taken out shows a fair sprinkling of gold at the 300-foot level, and the reef at the bottom of the mine looks promising. The new crushing machinery has not yet started.<sup>9</sup>

September 1872. At Green Valley, Muckleford, the Thornhill's Company is breaking quartz from the 500 and 300 foot levels in readiness for crushing with their improved patent crushing stamper; a trial start was made, which gave general satisfaction; the company are now only waiting the completion of the works to make a final start.<sup>10</sup>

December 1872. At Green Valley (Muckleford) the Thornhill Company is still breaking out quartz from the different levels for crushing; the reef is said to be improving in each of the drives; but as to the yield nothing can be said until it has passed through the mills; the crushing plant will be ready for work in the course of three or four weeks.<sup>11</sup>

March 1873. At Green Valley the Thornhill Company has tried the new machinery, which, I am informed, worked very well; they crushed 100 tons, the yield I have not yet ascertained.<sup>12</sup>

June 1873. The Thornhill Company, Thornhill Reef, Green Valley, has commenced operations with the patent stamps, and is well satisfied with the working of them. This company has now suspended crushing operations, pending the erection of the large engine and additional stamps. The mine has been opened at the 300-foot, 450-foot, and 500-foot levels, and driven along the reef north about 200 feet in each level, and good prospects obtainable in each.<sup>13</sup>

September 1873. At Thornhill's Reef, Green Valley, the English Company has discarded the patent stamping machinery and returned to the old principle of revolving stampers, which are now being erected, and will be ready in a few weeks for operation.<sup>14</sup>

December 1873. The new battery of stampers erected on Thornhill's Reef, by the English Company, has been started, but, owing to some defect in the flues and stack, sufficient steam could not be kept up to work it satisfactorily. Some alterations have to be made before any more crushing can be done. The prospects in the mine are good, and there is a large body of stone on the surface ready for crushing.<sup>15</sup>

March 1876. The prospects at present are not very encouraging. Two only (ie.) the North Eaglehawk United and the North British, have paid dividends; two others, the Nelson and Thornhill's Reef mines, have been sold by the sheriff's officer to pay the overdrafts on the banks.<sup>16</sup>

June 1877. The Thornhill Reef Company has been pumping for the last three months to get the water out of the deep ground. They are now cleaning up, and preparing to start a drive to strike the reef where payable gold is likely to be got.<sup>17</sup>

September 1883. The Thornhill's Reef Company, at Green Valley, is sinking a new shaft from the surface with the view of striking the reef at a depth of 400 or 500 feet; work is progressing satisfactorily, the present depth being about 140 feet.<sup>18</sup>

October 1883. The Thornhill Co. has purchased a plant at Adelaide consisting of a 16-hp engine to drive 20 head of stamps, and a second engine of similar power for winding.<sup>19</sup>

November 1883. Mr. Beglehole, the manager of the Thornhill Co. has returned from Adelaide with 55 tons of machinery that is to be erected on the claim.<sup>20</sup>

December 1883. Thornhill's Company, Green Valley is now erecting two engines on the mine, one for pumping and hauling, and one to drive a 10-head battery for crushing.<sup>21</sup>

January 1884. During the holidays, two of the Adelaide proprietors of the Thornhill Reef Co. came over to inspect the mine ... Most of the battery is erected ... there are now about 20 men employed ... A shaft is now being sunk to get to water ... Green Valley is beginning to have the appearance of a settlement from the miners erecting weatherboard cottages for themselves, and these will be multiplied as the mine becomes opened up.<sup>22</sup>

March 1884. The Thornhill's Reef Company has erected a small crushing plant and started crushing; up to the present, the yield from 244 tons of stone was 45 oz of gold.<sup>23</sup>

March 1888. The Thornhill's Company, at Green Valley, has sunk the main shaft to the depth of 500 feet and driven a cross-cut westward 40 feet, where they struck the reef, and have driven along its course southward 80 feet and rose 50 feet, where they knocked through to the old workings. The lode along the drive is about 5 feet thick, and shows good prospects, but there has been none crushed yet to tests its value.<sup>24</sup>

June 1888. The Thornhill's Company, at Green Valley, has had a trial crushing of 20 tons (crushed at Maldon), which gave a yield of 7 dwt per ton, which is considered payable. The quartz is now being paddocked, pending the construction of kilns for burning and repairing their battery for crushing.<sup>25</sup>

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*DESCRIPTION & INTERPRETATION:*

Three main periods of mining:

Period 1. Reef opened up in 1856 by Mr Thornhill and worked by him and other small claimholders into the 1860s.

Period 2. English company formed (Thornhill Co.) in 1871 and worked until c. 1887.

Period 3. South Australian company (Thornhill Reef Co.) formed in 1883 and worked until c.1888.

The remains at the mine, which comprise mainly a series of kilns probably date to the first and third periods. The large above ground kilns appear to have been erected by the Thornhill Reef Co in 1888. The small battery site located at the northern end of the workings may well be Buttingham's.

Kilns and mine workings

The site consists of a set of two largely-intact roasting kilns contained within a structure measuring 16 m x 4 m, and 4 m high. The front wall of the structure faces east and is a facade of coursed sandstone. The side walls are retained with slate. Each kiln contains a funnel-shaped roasting bowl made of sandstone blocks. The stone has a very burnt appearance. The two bowls are of different sizes, the bowl of the southern kiln being approximately 4 m in diameter, and the northern bowl's ½ m larger. Both bowls are 4 m deep, have almost vertical back walls and flared sides. Both bowl's have a base diameter of approx. 2.3 m and their draught/unloading portals have collapsed. The portal's appear to have had wooden lintels.

To the west of the set of kilns are five structures with vertical rear walls and sloping side walls, constructed of sandstone blocks. The sections of stone walls that are exposed have a very burnt appearance suggesting that the structures are small roasting kilns.

The first of the below ground kilns, is located 30 m north-west of the set of kilns is bottle-shaped, measures 4.3 m long, and is 2.9 m wide at the rear end narrowing down to 1.2 m wide at the kiln's mouth. The structure is at least 1.4 m deep.

The second kiln is also bottle-shaped and is located 38 m west of the set of kilns. It measures 5.8 m long, and is 3.9 m wide at the rear end narrowing down to 1.2 m at the kiln's mouth. The structure is at least 1.5 m deep. Immediately to the east is what appears to be another kiln. Little is visible of this third kiln except for a depression and a small section of the rear wall.

The fourth kiln, located 40 m to the south, has a U-shaped, 2.8 m square, roasting area. From the open mouth run two 5 m long wings. The rotating compartment is at least 2.5 m deep.

The fifth kiln, 24 m to the south, is almost filled. All that is visible is a faint depression and a vague outline of burnt sandstone blocks. To the south of this kiln is a shaft whose wooden collar is still intact.

Further south is a partially quarried mullock heap behind which may be another below ground roasting kiln.

*INTEGRITY/CONDITION:* Kilns in good condition, but some stabilisation work required.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because it is the site of the most successful 19th century quartz mining operations conducted in the Muckleford area.
- Scientific Significance, because:
  - a) the site's quartz roasting kilns are evidence of an early treatment process developed on the Victorian goldfields to facilitate quartz crushing and the retrieval of gold.
  - b) it is the only mine so far discovered in Victoria where there is a range of small below-ground kilns and large above-ground kilns. This range may be evidence of the evolution of the quartz treatment process.
  - c) it is a rich archaeological site.
  - d) the site may contain some of the earliest quartz roasting kilns in Victoria.

The site's significance is increased by cumulative value, because:

- a) it is part of a group of sites which all contain the remains of whim platforms. Once extremely common, this site type has (to date) only been found to survive in the Maldon Mining Division. These sites are Nos. 12, 22, 25, 48, and 76 (South Cookmans, Lises Reef workings, Grand Junction, Prince Llewellen, and Thornhill Reef).
- b) it is also part of a group of sites which all contain the remains of quartz roasting kilns. The surviving kilns are evidence of the variation in kiln design, and also the continuation of the practice of quartz roasting in the Maldon area long after its discontinuation on other Victorian goldfields. These sites are 9, 10, 12, 14, 25, 31, 37, 51, 61, 69 & 76. (Beehive Co., Bells Reef, South Cookmans, Cookmans Association, Grand Junction, North British, Caledonian, Fentemans, Young Australian, Boswarva Hill and Thornhill Co.).

*SIGNIFICANCE RANKING:*

Site Listed Heritage Inventory.

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**Assessor: David Bannear****Date: November 1992.**

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- 1 Flett, pp. 201-202
  - 2 Mt Alexander Mail, 22 June 1855
  - 3 Mining Surveyors' Reports, December 1859
  - 4 Mining Surveyors' Reports, June 1860
  - 5 Mining Surveyors' Reports, July 1860
  - 6 Mining Surveyors' Reports, May 1861
  - 7 Mining Surveyors' Reports, December 1871
  - 8 Mining Surveyors' Reports, March 1872
  - 9 Mining Surveyors' Reports, June 1872
  - 10 Mining Surveyors' Reports, September 1872
  - 11 Mining Surveyors' Reports, December 1872
  - 12 Mining Surveyors' Reports, March 1873
  - 13 Mining Surveyors' Reports, June 1873
  - 14 Mining Surveyors' Reports, September 1873
  - 15 Mining Surveyors' Reports, December 1873
  - 16 Mining Surveyors' Report, March 1876
  - 17 Mining Surveyors' Reports, June 1877
  - 18 Mining Surveyors' Reports, September 1883
  - 19 Mt. Alexander Mail, 15/10/1883
  - 20 Mt. Alexander Mail, 9/11/1883
  - 21 Mining Surveyors' Reports, December 1883
  - 22 Mt. Alexander Mail, 7/1/1884
  - 23 Mining Surveyors' Reports, March 1884
  - 24 Mining Surveyors' Reports, March 1888
  - 25 Mining Surveyors' Reports, June 1888

**SITE NO. & NAME:** **WELSHMAN'S REEF & HOMEWARD BOUND COS.**  
**77** **Welshmans Reef Co.**  
**78** **Tailings dump**

**LOCATION:** **Welshmans Reef**

**HI NO:** **77 H7723-0176**  
**78 H7723-0177**

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**DIRECTIONS:** 77. Entrance to Welshman's Reef Rubbish Tip  
 78. Welshman's Reef. 250 m south east of the Welshman's Reef rubbish tip.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

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**HISTORY:**

July 1860. The number of crushing engines now at work and more erecting, all of them of considerable horse-power, require a constant supply of the purest water for mining pursuits. Some of the machines at present in the district, are now using water that is totally unfit for the use to which it is unfortunately applied ... Atlas Company, German Reef--supply constant; drain from reef. Vivian and Company, Beehive Reef--supply constant; drain from reef. Isaacson's, Beehive Reef--not working. Lisle's Reef Company, Lisle's Reef--supply very limited. Great Western Company, Beehive Reef--supply constant. Edwards, Maldon--not working; supply precarious. Kangaroo Reef, South Muckleford--removed. **Omega Reef, Greenfalls--supply exhausted.** Long Gully Machines four in No.--supply 1 month. Buttingham's, Green Gully--supply 6 weeks. Allsop's, Green Gully--supply 1 month. Fitzgerald, At the Springs--supply 1 month. Toy's, At the Springs--supply 1 month. Hawk's, At Nuggety--not working. Fox, Raus and Co., Pegleg--supply 3 weeks. The Union Company, Eaglehawk Reef--supply very moderate. Dun's Reef, Muckleford--removed. Smith's Reef, Muckleford--supply abundant; making dam. Eaglehawk Company--supply abundant. Beehive Association, Beehive Reef--supply limited. Welshman's Reef, 1 Machine--supply 2 months. Sandy Creek, 3 Machines--supply 2 months. Tarrangower Creek--supply abundant. Mia Mia, Newstead--supply abundant at present. Manton's Gully, Engine erecting--provision making for water. Wattle Gully Reef--drain from reef. Porcupine Flat, Alluvial--large dam at present sufficient.<sup>1</sup>

September 1878. The engine and plant on Welshman's Reef have been sold and removed.<sup>2</sup>

March 1879. Quartz mining. This branch of mining shows a decrease of 824 tons in the quantity crushed, and over 350 oz in the yield of gold, the cause of which in a great measure is the suspension of work in several of our principal mines, viz., the two Nelsons, the Crown claim, the Cymru, the Great Western, the Beehive, six mines on the Eaglehawk line, three mines on the Nuggety line, the Grand Junction and Welshman's Reef, and three mines on the Victoria line--making altogether twenty mines in which the engines are idle, and the water within from 100 to 180 feet of the surface. All the work being done in these mines is merely fossicking in the shallow ground.<sup>3</sup>

June 1879. The old Welshman's Reef has also within the last fortnight shown some good prospects, but hitherto no crushing has been done.<sup>4</sup>

July 1879. At Welshman's Reef ... at 230 ft going towards the Homeward Bound's claim ground--prospects obtained 15 years ago were the best ever seen in this locality; and on reliable information the prospects would be about 9 ozs to the ton, and it yet remains there still; the cause of such being that the creditors came down and sold everything off. At the north end there are five claims in maiden ground, which dips into the hill where the rich shoot has been struck.<sup>5</sup>

September 1879. The Welshman's Reef Company is also erecting a plant on their mine, and will be ready to start in about a fortnight.<sup>6</sup>

December 1879. The Homeward Bound Company, on Welshman Reef, has also completed the engine and battery; they have fair prospects, but cannot start for the want of water.<sup>7</sup>

December 1884. The Welshman's Reef Company has also recently struck gold below the old workings. The prospects being good, they have decided to sink the shaft another 50 feet before opening out on the reef.<sup>8</sup>

March 1886. The Welshman's Reef Company is driving a cross-cut east at the bottom of the mine, in which they have crossed several quartz leaders, but have not yet come upon any defined reef.<sup>9</sup>

October 1898. Welshman's Reef Mine. Many years ago this was a great gold producer and the records in existence show that no less than 59,000 oz. was obtained from the surface to 100 feet. It occupies the crown of a low rise, and all the surface surrounding tends to prove it is in a favoured locality. A large open cutting shows where a large amount of gold must have been obtained, and yet for more than 30 years the ground has lain idle. Some years ago a company was formed to develop the mine, but although a battery and winding plant was purchased, all of it was not erected, and the property was actually abandoned without being worked. It lay idle till 18 months ago and then it was sold. Mr. William Keating, the well-known broker, of Bendigo purchased the mine and machinery for a few hundred pounds, and then Messrs. W. B. Gray, of Maldon, and James Lyon, of Trentham, both large mining investors, became associated with him, and afterwards the present company was formed.<sup>10</sup>

February 1902. Old Robbery Revived. The Byron's Reef plates discovered at Welshman's Reef. Newstead, Thursday ... Since the disappearance of the plates at the Byron Reef many conjectures have been made re the solving of the mystery ... yesterday morning ... Mr W. Roberts, of Welshman's Reef, found what he considered to be the missing Byron's plates.

Mr Roberts had occasion to attend to matters at the Welshman's Reef battery ... and passing some tubs, noticed some pieces of broken plates ... The pieces of plate found ... did not represent the whole of the plate stolen, and it is thought that the remainder may have been thrown down a well which is situated 20 yards from the battery. The Welshman's Reef battery has been idle for a long period ... Mr Chalmers, licensee of the Captain's Hotel, heard sounds last week in the direction of the battery.<sup>11</sup>

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*DESCRIPTION & INTERPRETATION:*

References collected not sufficiently detailed to interpret the remains conclusively. At this stage it would be reasonable to assume that the battery site and tailing generated by the activities of the Welshman's Reef and Homeward Bound companies during the 1870s and 1880s. Tailings have been cyanided so there is the possibility that the tailings have been relocated.

**Eastern side of Rubbish Pit**

Battery site

On the east side of the entrance track to the Rubbish Tip are some largely buried concrete footings which once housed battery stumps. On the north side of the footings, some 1-1/4 inch mounting bolts protrude from the ground. Near the bolts is a mound of brick (red, hand-made) rubble.

Mine workings

Within the grounds of the Rubbish Tip are the remains of a mullock heap. There are also some bulldozed mine workings just outside the Tip's northern boundary fence.

Treated tailings

In the gully below the battery site is a large dump of treated tailings.

**South East of the Rubbish Tip**

Treated tailings

Low, but extensive dump of treated tailings.

Puddler

On the east side of the tailings dump is a well preserved 20 ft (6.1 m) diameter puddler. The puddler's inner mound is well defined (including post holes); and the puddling trench has shear, unweathered sides. Part of the puddling trench has been excavated.

*INTEGRITY/CONDITION:* Poor.

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*CULTURAL SIGNIFICANCE:*

The site's integrity has been reduced to such an extent that it has little cultural significance.

*SIGNIFICANCE RANKING:* Site Listed Heritage Inventory.

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Assessor: David Bannear

Date: November 1992.

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- 1 Mining Surveyors' Reports, July 1860
  - 2 Mining Surveyors' Reports, September 1878
  - 3 Mining Surveyors' Reports, March 1879
  - 4 Mining Surveyors' Reports, June 1879
  - 5 Gold yields obtained from *Tarrangower Times* [DMID records, Bendigo Office]
  - 6 Mining Surveyors' Reports, September 1879
  - 7 Mining Surveyors' Reports, December 1879
  - 8 Mining Surveyors' Reports, December 1884
  - 9 Mining Surveyors' Reports, March 1886
  - 10 Australian Mining Standard, Oct 1898, p3342 [DCE Hanging Files - Research Files]
  - 11 Mt. Alexander Mail, 7/2/1902

**SITE NO. & NAME:** 79 DEMO TRACK WORKINGS

**LOCATION:** Demo Track, Muckleford

**HI NO:** H7723-0178

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**DIRECTIONS:** Junction of Demo and Blow Mine Tracks, Muckleford State Forest.  
Alluvial sinkings run in a westerly direction along the north side of Demo track.  
Reef workings run south from a point near the junction of the two tracks.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** State Forest

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**HISTORY:**

No references were collected that could bring any light on these workings.

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**DESCRIPTION & INTERPRETATION:**

Given the alluvial mining history of the Muckleford area, these workings probably date to the 19th century.

Alluvial workings

50 m wide band of well defined, and quite closely distributed, shallow alluvial sinkings. The band of sinkings runs for a distance of about 1/2 km before entering Freehold land. No puddlers or house sites observed.

Shallow Reef workings

Line of shallow reef workings runs south from the alluvial sinkings. Shafts have been filled but some fairly intact mullock paddocks.

**INTEGRITY/CONDITION:** Sinkings are relatively undisturbed.

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**CULTURAL SIGNIFICANCE:**

The site has:

- Scientific Significance, because it has relatively intact, well-defined and visible alluvial sinkings. Such landscapes are quite rare in the Maldon Mining Division.

The site's significance is increased by cumulative value, because:

- it forms part of a group of sites which contain a number of features which document the scope and scale of quartz and alluvial mining in the area. These sites are Nos. 79, 49A, 49C, 61, 67, 73 and 60 (Demo Track alluvial workings, Blow Reef, Omega Reef, Kangaroo Reef, Moonlight Gully, Golden Age mine and Ironbark gully workings).

**SIGNIFICANCE RANKING:** Site Listed Heritage Inventory.

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**Assessor:** David Bannear

**Date:** November 1992.

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**SITE NO. & NAME:** **BYRONS REEF QUARTZ MINES**  
**80 North Byron Co.**  
**81 Byrons Reef Co.**  
**82 South Byron Co.**

**LOCATION:** **Byrons Reef, Newstead**

**HI NO:** **80 H7723-0179**  
**81 H7723-0180**  
**82 H7723-0181**

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**DIRECTIONS:** North end of Byron's Reef is situated 300 m along Clarke Lane from the junction with Captains Gully Road. North Byron Co's shaft located 30 m in from the track. Other two mines lie further to the south

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Freehold Land

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**HISTORY:**

June 1860. An application that was made in the month of December last for a mining lease of 10a 3r 8p of a quartz reef, which had been successfully prospected by the now lessees, has been granted, during the last few days, to Messrs Toomby, Kerby, and Wecker, at Captain's Gully, Newstead.<sup>1</sup>

April 1899. Byron Reef Co. crushing at Farmer's United battery.<sup>2</sup>

January 1901. Sergeant Con Treacy ... it will be remembered that he was the first to prospect the old workings in the now famous Byron Reef, and obtained quartz showing gold freely, which, when viewed by many, was considered too good, as a matter of fact the stone was actually condemned as coming from another locality, however, he persisted that the claim was worth a trial, and after some time managed to procure the assistance of a few Bendigo speculators, and the mine was worked, not to say payable for a period, as a deal of dead work has to be encountered. After this ... the claim, in a short time proved to be, the best that had been worked in the district.<sup>3</sup>

February 1901. One of the quickest floats on record took place in Bendigo on Saturday, when the lease north of the Byron Reef was floated in 1/2 an hour. It is known as the North Byron's Reef, and Messrs. H. North & H. Farmer disposed of 26,000 shares.<sup>4</sup>

February 1901. There has been quite a boom in (Byron) locality lately and some properties are being floated in a few minutes almost every day. North Byron ... then came the Byron Consols, which lies south of the South Byron, which was put on the Bendigo market on Tuesday ... It went off in a few minutes, and now comes the flotation of the lease further south again called the Lord Byron, which has a lease of 80 acres.<sup>5</sup>

February 1901. The Captain's Gully is secured in leases from one end to the other.<sup>6</sup>

April 1901. The Byron Reef and other mines. This district, which has long been laying dormant, has obtained a good deal of notoriety of late owing to the excellent prospects that have been opened up in the Byron Reef. Not more than 18 months ago the scrip for this Co. were going begging at 6d per share. At the close of last week they were being snapped up at 42/- ... When floated a few venturesome Bendigo speculators and several from Newstead and Maldon were prepared to give the ground a trial.

(our reporter) first inspected the Byron Reef which has been consistently turning out good cakes for some time. Since his last visit an additional 10 head of stampers have been erected, and these, in conjunction with the first ten that were put up, are now working smoothly. A Wilfley Table has been substituted on the last 10 heads for the Halley Percussion Tables, that save the concentrates from the two batteries that were first erected. Although the crushing plant, and even the winding gear, are not up to date, they are suitable for the present requirements. South Byron. The boundary is over 600 feet south of the Byron shaft ... The primitive appliance known as a whip is used for hauling the dirt. The next lease north of the Byron Reef is held by the North Byron Co ... they set to work to sink a good main shaft about a quarter of a mile from the Byron shaft ... on rising ground, above valleys at each end ... They are, so far, windlassing the dirt.<sup>7</sup>



January 1902. Byron Reef

8 January. Byron Reef expect to have the new plant in readiness to start another ... In the meantime the old steam winch ... in use is being utilised to bail water from the workings.

14 January. New machinery completed and boiler rebuilt.

20 January. Byron Reef, owing to the erection of machinery, did not crush this week.<sup>8</sup>

February 1902. Old Robbery Revived. The Byron's Reef plates discovered at Welshman's Reef. Newstead, Thursday ... Since the disappearance of the plates at the Byron Reef many conjectures have been made re the solving of the mystery ... yesterday morning ... Mr W. Roberts, of Welshman's Reef, found what he considered to be the missing Byron's plates.

Mr Roberts had occasion to attend to matters at the Welshman's Reef battery ... and passing some tubs, noticed some pieces of broken plates ... The pieces of plate found ... did not represent the whole of the plate stolen, and it is thought that the remainder may have been thrown down a well which is situated 20 yards from the battery. The Welshman's Reef battery has been idle for a long period ... Mr Chalmers, licensee of the Captain's Hotel, heard sounds last week in the direction of the battery.<sup>9</sup>

1903. The Byron Reef Company's mine, I regret to say, has very much declined as a gold producer during the year. The main shaft is now about 700 feet deep. The management proposes to sink again during the present year. Like many other good mines in the State, this mine appears to have reached the comparatively poor zone or depth, and will have to go deeper before again meeting with success. This mine is very well equipped as regards machinery, and the main shaft is a good one.<sup>10</sup>

1904. The Byron Reef Company has not met with the success anticipated in the bottom levels. The shaft has been sunk to about 800 feet, and a chamber cut at the 780-foot level, from which a crosscut has been driven and the lode, but unpayable, struck. Several parties of tributers have continued to work in the old stopes from the upper levels, but have not been very successful.<sup>11</sup>

1905. The Byron Reef Company, which continued prospecting work at the 700 and 800-foot levels during the greater part of the year, without obtaining the desired results, decided--wisely, I think--during the last quarter of the year to resume sinking operations in the main shaft. The work is now going on, and the shaft is 844 feet. Eighteen men, on the average were employed by this company, six of whom worked on the surface.<sup>12</sup>

1906. The Byron Reef Company has continued prospecting operations throughout the year without meeting with the success it deserved. The shaft was sunk to a depth of 940 feet, and a considerable amount of driving and cross-cutting has been done at the 780 and 920 foot levels. The lode has been struck at the 920-foot level, but although it carried a considerable quantity of galena, black jack, and pyrites, it has not yet proved payable. An average of twenty men has been employed, fourteen below ground, and six on the surface.<sup>13</sup>

1907. The Byron Reef Company ... An average of sixteen men was employed.<sup>14</sup>

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*DESCRIPTION & INTERPRETATION:*

Workings ,and machinery footings etc. date to mining operations which took place from 1899 to c.1907.

North Byron

Small intact mullock heap associated with a (filled) 2-compartment shaft.

Byrons Reef Co.

Mine located approx 300 m south of North Bryon Co's shaft. Large intact mullock heap and an open 3-compartment shaft. To the north of the shaft is a largely buried brick engine bed. To the east of the shaft is the fragmented remains of a brick engine bed and some largely buried battery stumps and bedlogs. Further east, down the slope is an extensive tailing dump and a large water dam.

South Byron Co.

Mine located approx 150 m south of the Brons Reef Co. Intact small mullock heap associated with an open shaft. To the north of the shaft is a largely buried stone winder bed and boiler setting.

*INTEGRITY/CONDITION:* Good.

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*CULTURAL SIGNIFICANCE:*

Site 81 has:

- Historical Significance, because the Byron's Reef Co. was Newstead's greatest quartz mine.

The three sites have:

- Scientific Significance because:
  - a) the line of mines are evidence of a turn of the century quartz mining boom.
  - b) the sites have a number of well-preserved features which together illustrate the scale of the mining operations conducted along the line of reef at the turn of the century.

The sites' significance is increased by cumulative value, because:

- Mullock heaps are landscape features.

*SIGNIFICANCE RANKING:* Sites Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1 Mining Surveyors' Reports, June 1860
- 2 Mt. Alexander Mail, 3/4/1899
- 3 Mt. Alexander Mail, 22/1/1901
- 4 Mt. Alexander Mail, 25/2/1901
- 5 Mt. Alexander Mail, 4/3/1901
- 6 Mt. Alexander Mail, 12/3/1901
- 7 Mt. Alexander Mail, 17/4/1901
- 8 Mt. Alexander Mail
- 9 Mt. Alexander Mail, 7/2/1902
- 10 Annual Report, 1903
- 11 Annual Report, 1904
- 12 Annual Report, 1905
- 13 Annual Report, 1906
- 14 Annual Report, 1907

**SITE NO. & NAME:** 83 PICKPOCKET CEMENT WORKINGS

**LOCATION:** Hard Hills, near Strangways

**HI NO:** H7723-0182

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**DIRECTIONS:** 650 m along Zumpes Road from its junction with Newstead-Hepburn Road. The intact patch of workings is located 400 m north east from the Milne Road signpost.  
The adit is located 140 m north east of the Milne Road signpost.  
The flume take-off point for Chinese water race is located 275 m along Zumpes Road, on the north side.

**MUNICIPALITY:** Hepburn Shire

**LAND STATUS:** Cement workings and adit on Unreserved Crown Land. Take-off point for Chinese water race is on Freehold Land.

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**HISTORY:**

March 1861. On visiting the Pickpocket Diggings this week, I found that the greater portion of them were within the south-eastern boundary of the Maldon Division, which accounts for the increased number of alluvial miners appearing in the table.<sup>1</sup>

April 1861. The miners at Pickpocket are leaving for Inglewood and other places, as the water in many places is too difficult to overcome without the aid of machinery. A good number of diggers are employed along the Jim Crow Creek, between the Pickpocket and Strangways, on private property, and some are getting good wages.<sup>2</sup>

May 1861. At Pickpocket matters are very quiet just now, two companies have started with steam machinery, one on private property, and hopes are entertained that it will prove remunerative when the ground is opened up.<sup>3</sup>

May 1861. I have much pleasure in reporting the discovery of iron ore in the vicinity of Pickpocket.<sup>4</sup>

June 1861. A rush of about 250 miners has taken place at the Hard Hills, near Pickpocket. The prospectors (Ross and mates) have obtained 2 dwt. of gold per the tin dish of stuff.<sup>5</sup>

July 1861. Mining at Pickpocket is at a perfect standstill, in consequence of the heavy floods having swamped the whole of the claims ... The rush at Hard Hill, near Pickpocket ... has not increased to any great extent.<sup>6</sup>

October 1861. About 600 Chinese are at Pickpocket.<sup>7</sup>

October 1861. At Pickpocket all the companies without exception are at a standstill, and I believe in every instance from the want of adequate capital.<sup>8</sup>

November 1861. At Pickpocket the Chinese are working steadily and briskly, they have it all to themselves ... the population is steadily increasing in this quarter.<sup>9</sup>

December 1861. At Pickpocket most of the ground is being worked by Chinese. The ground here is from 20 to 25 feet deep, the whole of which the Chinese turn over; they, in fact, take a cover of from 18 to 22 feet of earth from the washing stuff ... The interpreter informs me that his countrymen are making excellent wages from this ground. This certainly seems most strange; European companies, with the aid of pumping and washing machinery, became insolvent to a man in working the same ground.<sup>10</sup>

March 1864 Miners distributed thus:

<b>Pickpocket &amp; Strangways</b>	<b>78</b>	Growler's Gully	177
Newstead	113	Long Gully	145
Muckleford	137	Peg Leg Gully	148
Frenchman's Gully	51	Porcupine Flat	115

Pickpocket cement workings

Mia Mia and Gardner's Gully	119	Eaglehawk	182
Sandy Creek	413	Bradford	45
Nuggetty Flat	126 <sup>11</sup>		

June 1864 Miners distributed thus:

Strangways	39	Growler's Gully	177
Newstead	107	Long Gully	150
Muckleford	140	Peg Leg Gully	162
Frenchman's Gully	32	Porcupine Flat	121
Mia Mia	130	Eaglehawk	203
Sandy Creek	496	Bradford	17
Nuggetty Flat	121 <sup>12</sup>		

September 1864 Miners distributed thus:

<b>Pickpocket</b>	<b>89</b>	Green Valley	35
Newstead	114	Long Gully Md.	18
Back Creek	44	Peg Leg Gully	67
Frenchman's Gully	42	Porcupine Flat	176
Gardner's Gully	32	Eaglehawk	150
Sandy Creek	250	Bradford	16
Nuggetty Flat	149	Mount Tarrangower	190
Beehive Hill	110	Ironbark	14
Armstrong's	4	Hard Hills	20
Hunter's Rush	27	Fryingpan	8 <sup>13</sup>

March 1865 Miners distributed thus:

<b>Pickpocket</b>	<b>113</b>	Growler's Gully	82
Newstead	25	Long Gully	16
Green Valley	45	Peg Leg Gully	77
Fryingpan Gully	3	Porcupine	63
Gardner's Gully	28	Eaglehawk	182
Sandy Creek	230	Long Gully, Muckleford	60
Nuggetty	71	Mount Tarrangower	248
Beehive Hill	180	Ironbark Gully	16
Armstrong's	3	Hard Hills	9
Hunter's Rush	17	Back Creek	25 <sup>14</sup>

March 1865. Mining population of Pickpocket and Loddon: 368; mining population of Hard Hills: 111.<sup>15</sup>

March 1865. A considerable block of abandoned alluvial ground has been taken up by a company calling themselves the Monarch ... reworking the area with the aid of machinery. The block alluded to is known as the Hard Hill, and is in the vicinity of Pickpocket.<sup>16</sup>

March 1865. Mining population of Pickpocket and Loddon: 368 [10].

March 1866. The Monarch Company, which is formed for the purpose of working the old lead at the Hard Hill, Strangways, erected an engine of 40 horse-power, with a battery of 24 head of stampers attached, and is crushing for the public at the rate of six shillings per ton. This low rate for crushing enables the miners to work ground that, prior to the reduction, was useless.<sup>17</sup>

September 1865 Miners distributed thus:

<b>Pickpocket</b>	<b>546</b>	Growler's Gully	55
Newstead	36	Long Gully	48
Green Valley	38	Peg Leg Gully	78
Fryingpan Gully	21	Porcupine Flat	86
Gardner's Gully	19	Eaglehawk	176
Sandy Creek	212	Long Gully, Muckleford	39
Nuggetty	65	Mount Tarrangower	226
Beehive Hill	152	Ironbark Gully	33
Armstrong's	7	Hard Hills	25
Hunter's Rush	31	Back Creek	23
Frenchman's Gully	2 <sup>18</sup>		

March 1866 Miners distributed thus:

<b>Pickpocket &amp; Strangways</b>	855	Growler's Gully	50
Newstead	7	Porcupine Flat	60
Gardner's Gully	16	Eaglehawk	186
Sandy Creek	256	Long Gully	54
Nuggetty	80	Mount Tarrangower	238
Beehive Hill	152	Ironbark Gully	15
Hard Hills	25	Muckleford	221 <sup>19</sup>

September 1866 Miners distributed thus:

<b>Pickpocket</b>	<b>1,200</b>	Growler's Gully	33
Newstead	22	Long Gully	45
Green Valley	49	Peg Leg Gully	63
Fryingpan Gully	14	Porcupine	50
Gardner's Gully	12	Eaglehawk	180
Sandy Creek	219	Long Gully, Muckleford	30
Nuggetty	60	Mount Tarrangower	210
Beehive Hill	117	Ironbark Gully	20
Armstrong's Gully	2	Hard Hill	8
Hunter's Rush	8	Back Creek	13
Frenchman's	10		

Alluvial ... a large number of Chinese are employed in this division, the greater portion of them being located on Jim Crow Creek, where they have built villages, consisting of substantial weatherboard buildings. The whole of the diggings are on private property. As much as £300 per acre has been paid for the privilege of mining the land for two years, and a further sum of £100 per acre deposited for making good the surface. The ground is worked by paddocking from the surface, and drained by pumping with small water-wheels. The depth of sinking is from 10 to 15 feet. In this locality about 1,000 men are employed, and besides the Chinese, there are 100 Europeans working on the old leads.<sup>20</sup>

December 1866 Miners distributed thus:

<b>Pickpocket</b>	<b>1,200</b>	Growler's Gully	31
Newstead	15	Long Gully	46
Green Valley	45	Peg Leg Gully	65
Fryingpan Gully	3	Porcupine	50
Gardner's Gully	12	Eaglehawk	187
Sandy Creek	205	Long Gully, Muckleford	33
Nuggetty	75	Mount Tarrangower	195
Beehive Hill	111	Ironbark Gully	23
Armstrong's Gully	9	Hard Hills	22
Hunter's Rush	17	Back Creek	18
Frenchman's	7 <sup>21</sup>		

March 1867. There is not much doing in alluvial except amongst the Chinese at Strangways; and those at Maldon are chiefly engaged in washing quartz tailings from the different machines, by agreement with the various proprietors. They appear to be getting good returns.<sup>22</sup>

September 1867. The late heavy and continuous rains have greatly retarded alluvial mining, particularly in and about Strangways, and on the Loddon river.<sup>23</sup>

September 1870. A slight decrease [in population] appears in the neighbourhood of Pickpocket and the Hard Hills; but this locality was never noted for any degree of regularity in the yields of gold obtained--there are very few indeed realising more than 10s to 15s. per week per man, the miners in this part of the district generally directing their attention to agricultural pursuits in conjunction with mining.<sup>24</sup>

March 1872. Statistics for the quarter show a decrease in the yield from our quartz mines of over 1000 oz, and an increase from alluvial mining of 780 oz. In the latter case the gold has been obtained by Chinese on the Loddon River, near Mr Bryant's pre-emptive right, in the parish of Baringhup, where about 100 men are now employed in sluicing. All the Crown lands have been taken up for some distance, and portions of private property have been purchased from the owners for mining purposes.<sup>25</sup>

June 1872. Alluvial mining on the Loddon River is suspended for the winter season, owing to the weather and floods. The Chinese, about 100 in number, who were working there, are now fossicking in the old workings in various parts of the district. Except at the Loddon, there is no change in alluvial mining. The same parties continue year after year in the same course. Many are now working for the shire council, road making. When they find nothing else to do, they fall back on the old diggings, where they manage to make a little gold to assist them.<sup>26</sup>

March 1875. In alluvial mining there is nothing new to report. The Chinese, with the exception of about 40 that are working in the Loddon River, are employed in washing sludge and tailings in the creeks and gullies. The European diggers are chiefly employed in fossicking in the old diggings.<sup>27</sup>

June 1877. Alluvial mining consists chiefly of about half a dozen horse-puddling machines, a few fossickers, and the Chinese washing sludge and quartz tailings in the gullies.<sup>28</sup>

September 1878. Quarterly Report. Mining prospects have improved during the past quarter, the yield from the crushing machines being 348 oz more than for the previous quarter ... Alluvial mining has improved during the quarter, owing chiefly to there having been a plentiful supply of water for washing and sluicing purposes.<sup>29</sup>

December 1878. A slight rush took place in the locality of the Hard Hills, Strangways, but of not sufficient importance to require special notice.<sup>30</sup>

March 1880. Alluvial mining. In my division this class of mining consist of one ground sluice, employing twenty Chinese, eight puddling machines, and a few fossickers in the old diggings. No new ground has been opened.<sup>31</sup>

September 1882. Alluvial mining. Two alluvial companies have started during the past quarter, the one at North Muckleford and the other at Strangways. Another is being floated to work the Newstead Flats. The old alluvial diggings in the division show no improvement; the only work being done is by diggers fossicking in the old holes.<sup>32</sup>

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*DESCRIPTION & INTERPRETATION:*

Surviving workings probably to do with Hard Hill diggings which were first opened in 1861.

Cement workings

Located 400 m north east of the junction of Milne and Zumpes tracks is a approx. 200 m square patch of relatively undisturbed cement workings. The cement workings are located on the west slope of a hill and appear to mainly relate to sluicing operations. The remains consist of an extensive shallow open cut which contains several collapsed adits. In the open cut, and on the slope below the excavation, are numerous dumps of washed gravel and pebbles. The dumps of gravel and pebbles extend down into the gully, which also contains fairly dispersed, and therefore, relatively deep, alluvial shafts. A Chinese water race runs around the hill above the open cut. Also above the open cut are several filled, but collapsed, circular and rectangular shafts. The cement workings continue east onto Freehold Land owned by Keith Ramsey.

There is also a large area of cement workings situated a 1/2 km to the west of the intact patch, but here the workings have been obliterated by gravel quarrying.

Adit

Located 140 m north east of the junction of Milne and Zumpes tracks is an open adit.

Chinese water race and flume take-off point

According to Keith Ramsey (local resident) the Chinese constructed a water race from Jim Crow Creek (from a point near the South Yandoit mine) to work the cement deposits. The water race crossed the gully to the east of the adit, via a wooden flume. The flume's take-off point (gravel embankment) and Chinese water race is situated on freehold land, 250 m along Zumpes Track, on the north side.

*INTEGRITY/CONDITION:*

Good.

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because it:
  - a) is the site of one of the Division's greatest alluvial goldfields.
  - b) is associated with Chinese miners.
- Scientific Significance, because it has a number of well-preserved features which together document ground sluicing. Its age and association with Chinese mining makes the site extremely rare. The site has some educational value.

*SIGNIFICANCE RANKING:*

Site Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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1	Mining Surveyors' Reports, March 1861
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3	Mining Surveyors' Reports, May 1861
4	Mining Surveyors' Reports, May 1861
5	Mining Surveyors' Reports, June 1861
6	Mining Surveyors' Reports, June 1861
7	Mining Surveyors' Reports, July 1861
8	Mining Surveyors' Reports, Oct 1861
9	Mining Surveyors' Reports, Nov 1861
10	Mining Surveyors' Reports, Dec 1861
11	Mining Surveyors' Reports, March 1864
12	Mining Surveyors' Reports, June 1864
13	Mining Surveyors' Reports, September 1864
14	Mining Surveyors' Reports, March 1865
15	Mining Surveyors' Reports, March 1865
16	Mining Surveyors' Reports, March 1865
17	Mining Surveyors' Reports, March 1866
18	Mining Surveyors' Reports, September 1865
19	Mining Surveyors' Reports, March 1866
20	Mining Surveyors' Reports, September 1866
21	Mining Surveyors' Reports, December 1866
22	Mining Surveyors' Reports, June 1867
23	Mining Surveyors' Reports, September 1867
24	Mining Surveyors' Reports, Sept 1870
25	Mining Surveyors' Reports, March 1872
26	Mining Surveyors' Reports, June 1872
27	Mining Surveyors' Reports, March 1875
28	Mining Surveyors' Reports, June 1877
29	Mining Surveyors' Reports, September 1878
30	Mining Surveyors' Reports, Dec 1878
31	Mining Surveyors' Reports, March 1880
32	Mining Surveyors' Reports, September 1882

**SITE NO. & NAME:** **VICTORIAN GOLD DREDGING CO.**  
**84A Victorian Gold Dredging Co. Residential & Administrative Settlement**  
**84B Dredge Terminus**

**LOCATION:** **Strangways**

**HI NO:** **84A H7723-0185**  
**84B H7723-0186**

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**DIRECTIONS:** Residential and administrative settlement is located at Strangways. North side of Castlemaine-Maryborough railway line, immediately east of the junction of highway and Hepburn main road.  
Terminus of dredging operations marked by a low embankment, 1.3 km along the highway towards Newstead from Strangways.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Freehold Land

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**HISTORY:**

March 1861. On visiting the Pickpocket Diggings this week, I found that the greater portion of them were within the south-eastern boundary of the Maldon Division, which accounts for the increased number of alluvial miners appearing in the table.<sup>1</sup>

April 1861. The miners at Pickpocket are leaving for Inglewood and other places, as the water in many places is too difficult to overcome without the aid of machinery. A good number of diggers are employed along the Jim Crow Creek, between the Pickpocket and Strangways, on private property, and some are getting good wages.<sup>2</sup>

May 1861. At Pickpocket matters are very quiet just now, two companies have started with steam machinery, one on private property, and hopes are entertained that it will prove remunerative when the ground is opened up.<sup>3</sup>

March 1864 Miners distributed thus:

<b>Pickpocket &amp; Strangways</b>	<b>78</b>	Growler's Gully	177
Newstead	113	Long Gully	145
Muckleford	137	Peg Leg Gully	148
Frenchman's Gully	51	Porcupine Flat	115
Mia Mia and Gardner's Gully	119	Eaglehawk	182
Sandy Creek	413	Bradford	45
Nuggetty Flat	126 <sup>4</sup>		

June 1864 Miners distributed thus:

Strangways	39	Growler's Gully	177
Newstead	107	Long Gully	150
Muckleford	140	Peg Leg Gully	162
Frenchman's Gully	32	Porcupine Flat	121
Mia Mia	130	Eaglehawk	203
Sandy Creek	496	Bradford	17
Nuggetty Flat	121 <sup>5</sup>		

September 1864 Miners distributed thus:

<b>Pickpocket</b>	<b>89</b>	Green Valley	35
Newstead	114	Long Gully Md.	18
Back Creek	44	Peg Leg Gully	67
Frenchman's Gully	42	Porcupine Flat	176
Gardner's Gully	32	Eaglehawk	150
Sandy Creek	250	Bradford	16
Nuggetty Flat	149	Mount Tarrangower	190
Beehive Hill	110	Ironbark	14

Armstrong's	4	Hard Hills	20
Hunter's Rush	27	Fryingpan	8 <sup>6</sup>

March 1865 Miners distributed thus:

<b>Pickpocket</b>	<b>113</b>	Growler's Gully	82
Newstead	25	Long Gully	16
Green Valley	45	Peg Leg Gully	77
Fryingpan Gully	3	Porcupine	63
Gardner's Gully	28	Eaglehawk	182
Sandy Creek	230	Long Gully, Muckleford	60
Nuggetty	71	Mount Tarrangower	248
Beehive Hill	180	Ironbark Gully	16
Armstrong's	3	Hard Hills	9
Hunter's Rush	17	Back Creek	25 <sup>7</sup>

September 1865 Miners distributed thus:

<b>Pickpocket</b>	<b>546</b>	Growler's Gully	55
Newstead	36	Long Gully	48
Green Valley	38	Peg Leg Gully	78
Fryingpan Gully	21	Porcupine Flat	86
Gardner's Gully	19	Eaglehawk	176
Sandy Creek	212	Long Gully, Muckleford	39
Nuggetty	65	Mount Tarrangower	226
Beehive Hill	152	Ironbark Gully	33
Armstrong's	7	Hard Hills	25
Hunter's Rush	31	Back Creek	23
Frenchman's Gully	2 <sup>8</sup>		

March 1866 Miners distributed thus:

<b>Pickpocket &amp; Strangways</b>	<b>855</b>	Growler's Gully	50
Newstead	7	Porcupine Flat	60
Gardner's Gully	16	Eaglehawk	186
Sandy Creek	256	Long Gully	54
Nuggetty	80	Mount Tarrangower	238
Beehive Hill	152	Ironbark Gully	15
Hard Hills	25	Muckleford	221 <sup>9</sup>

September 1866 Miners distributed thus:

<b>Pickpocket</b>	<b>1,200</b>	Growler's Gully	33
Newstead	22	Long Gully	45
Green Valley	49	Peg Leg Gully	63
Fryingpan Gully	14	Porcupine	50
Gardner's Gully	12	Eaglehawk	180
Sandy Creek	219	Long Gully, Muckleford	30
Nuggetty	60	Mount Tarrangower	210
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Armstrong's Gully	2	Hard Hill	8
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Frenchman's	10		

Alluvial. A large number of Chinese are employed in this division, the greater portion of them being located on Jim Crow Creek, where they have built villages, consisting of substantial weatherboard buildings. The whole of the diggings are on private property. As much as £300 per acre has been paid for the privilege of mining the land for two years, and a further sum of £100 per acre deposited for making good the surface. The ground is worked by paddocking from the surface, and drained by pumping with small water-wheels. The depth of sinking is from 10 to 15 feet. In this locality about 1,000 men are employed, and besides the Chinese, there are 100 Europeans working on the old leads.<sup>10</sup>

December 1866 Miners distributed thus:

<b>Pickpocket</b>	<b>1,200</b>	Growler's Gully	31
Newstead	15	Long Gully	46
Green Valley	45	Peg Leg Gully	65
Fryingpan Gully	3	Porcupine	50
Gardner's Gully	12	Eaglehawk	187
Sandy Creek	205	Long Gully, Muckleford	33

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Beehive Hill	111	Ironbark Gully	23
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Frenchman's	7 <sup>11</sup>		

March 1867. There is not much doing in alluvial except amongst the Chinese at Strangways; and those at Maldon are chiefly engaged in washing quartz tailings from the different machines, by agreement with the various proprietors. They appear to be getting good returns.<sup>12</sup>

September 1867. The late heavy and continuous rains have greatly retarded alluvial mining, particularly in and about Strangways, and on the Loddon river.<sup>13</sup>

March 1872. Statistics for the quarter show a decrease in the yield from our quartz mines of over 1000 oz, and an increase from alluvial mining of 780 oz. In the latter case the gold has been obtained by Chinese on the Loddon River, near Mr Bryant's pre-emptive right, in the parish of Baringhup, where about 100 men are now employed in sluicing. All the Crown lands have been taken up for some distance, and portions of private property have been purchased from the owners for mining purposes.<sup>14</sup>

June 1872. Alluvial mining on the Loddon River is suspended for the winter season, owing to the weather and floods. The Chinese, about 100 in number, who were working there, are now fossicking in the old workings in various parts of the district. Except at the Loddon, there is no change in alluvial mining. The same parties continue year after year in the same course. Many are now working for the shire council, road making. When they find nothing else to do, they fall back on the old diggings, where they manage to make a little gold to assist them.<sup>15</sup>

March 1875. In alluvial mining there is nothing new to report. The Chinese, with the exception of about 40 that are working in the Loddon River, are employed in washing sludge and tailings in the creeks and gullies. The European diggers are chiefly employed in fossicking in the old diggings.<sup>16</sup>

June 1877. Alluvial mining consists chiefly of about half a dozen horse-puddling machines, a few fossickers, and the Chinese washing sludge and quartz tailings in the gullies.<sup>17</sup>

September 1878. Quarterly Report. Mining prospects have improved during the past quarter, the yield from the crushing machines being 348 oz more than for the previous quarter ... Alluvial mining has improved during the quarter, owing chiefly to there having been a plentiful supply of water for washing and sluicing purposes.<sup>18</sup>

March 1880. Alluvial mining. In my division this class of mining consist of one ground sluice, employing twenty Chinese, eight puddling machines, and a few fossickers in the old diggings. No new ground has been opened.<sup>19</sup>

September 1882. Alluvial mining. Two alluvial companies have started during the past quarter, the one at North Muckleford and the other at Strangways. Another is being floated to work the Newstead Flats. The old alluvial diggings in the division show no improvement; the only work being done is by diggers fossicking in the old holes.<sup>20</sup>

1934 to 1947. Victoria Gold Dredging Co. NL. In 1934 a Maldon syndicate consisting of J.J. Waldron, A.C. Meyer, and J. Somer, applied to the Victorian Mines Department of a lease over a large area of ground covering part of the Guildford Plateau and a section of the Loddon River Flat between Strangways and Newstead. The syndicate submitted this holding to Gold Mines of Australia Ltd., of Melbourne, a company which had been formed by Broken Hill interests with a view to participation in the expanding gold mining industry.

The area in the first instance was put forward by the vendors as a deep lead mining proposition, but the engineers of the Company were not slow to recognise that the principal gold deposits of interest were the shallow Recent gravels, not the deep Tertiary leads, and that the area was potential bucket dredging proposition.

In 1834 and 1935 the proposition was thoroughly evaluated by the Company, a total of 171 bores being drilled systematically over the area, to determine its gold content.

This work indicated that slightly less than twenty million cubic yards of attractive dredging ground was available which could be worked profitably.

The option with the vendors was exercised, and in June 1936, Gold Mines of Australia Ltd in conjunction with Gold Exploration and Finance Company of Australia Ltd., an associated company in England, formed an operating company named Victoria Gold Dredging Company NL to work the property. The capital of this company consisted of 9,000 fully paid shares of one pound each and 241,000 contributing one pound shares.

A contract was signed with the State Electricity Commission of Victoria for the supply of power, and a re-soiling dredge designed by Alluvial Mining Equipment Ltd of Sydney was manufactured and erected on the property by Thompsons (Castlemaine) Ltd.

To provide finance for the equipment and development of the property, the contributing shares were called up progressively to 10/- each.

Dredging operations commenced near the upstream end of the Company's leases in July 1938, and as worked proceeded the gold yields obtained from the dredge came fully up to expectations and gave every reason for satisfaction.

During the most critical years of World War II dredging was carried out under conditions of great difficulty. Replacement parts for the plant became almost unprocurable and numerous skilled employees left the Company to serve in the Services or to undertake essential war work ... Other difficulties of a less serious nature arose from the impressment of the Company's caterpillar tractors for war purposes, necessitating their temporary replacement with horse teams; and strict petrol rationing, the effects of which were largely overcome by fitting all the Company's vehicles with charcoal burning gas producers.

As a contribution to the general war effort the Company's workshop and engineering establishment at Strangways was placed at the disposal of the Department of Supply and Shipping, and as a result a considerable amount of valuable work was carried out there for the Federal Government. This included the fabrication of part of the Dorset tin dredge, at that time being erected in Tasmania.

Earthworks ... the Company was obliged ... to carry out ancillary earthworks aimed at preventing the pollution of the waters of the Loddon River, and the flooding and erosion of unconsolidated dredged ground.

The largest single undertaking falling into this category was the excavation of a new course for the Loddon River. This channel, which was approximately one mile long, was constructed wholly through dredged land, and special precautions, such as grassing the banks, were necessary to guard against subsequent scouring.

Financial. The capital of the company remained unchanged throughout the life of the Newstead undertaking.

Dividends paid between 29/9/1938 to 24/10/1947 were 51/6 per share, amounting to £643,750.

The total yardage handled until March 1948 was 19,546,713 cubic yards yielding 117,221 ounces of fine gold, or an average of 2.88 grains per cubic yard.<sup>21</sup>

*DESCRIPTION & INTERPRETATION:*

Settlement

Weatherboard house and one Gal. Iron, wooden framed , workshop.

Dredge terminus

One metre low bank associated with some pine trees. The bank marking the different levels between the dredged (lower level) and non-dredge (upper level) located to the south east of a house.

*INTEGRITY/CONDITION:* Buildings still in use.

*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because it is associated with the Division's most successful dredging operation. Little survives except for some of the administration buildings.

*SIGNIFICANCE RANKING:* Sites Listed Heritage Inventory.

**Assessor: David Bannear**

**Date: November 1992.**

- 1 Mining Surveyors' Reports, March 1861
- 2 Mining Surveyors' Reports, April 1861
- 3 Mining Surveyors' Reports, May 1861
- 4 Mining Surveyors' Reports, March 1864
- 5 Mining Surveyors' Reports, June 1864
- 6 Mining Surveyors' Reports, September 1864
- 7 Mining Surveyors' Reports, March 1865
- 8 Mining Surveyors' Reports, September 1865
- 9 Mining Surveyors' Reports, March 1866
- 10 Mining Surveyors' Reports, September 1866
- 11 Mining Surveyors' Reports, December 1866
- 12 Mining Surveyors' Reports, June 1867
- 13 Mining Surveyors' Reports, September 1867
- 14 Mining Surveyors' Reports, March 1872
- 15 Mining Surveyors' Reports, June 1872
- 16 Mining Surveyors' Reports, March 1875
- 17 Mining Surveyors' Reports, June 1877
- 18 Mining Surveyors' Reports, September 1878

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19	Mining Surveyors' Reports, March 1880
20	Mining Surveyors' Reports, September 1882
21	

**SITE NO. & NAME:** 85 NIL DESPERANDUM MINE SITE

**LOCATION:** Nil Desperandum Reef, North Maldon

**HI NO:** H7724-0048

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**DIRECTIONS:** 180 m up Rock of Ages Track from junction with Davies Lane. Site located 200 metres west of the track.

**MUNICIPALITY:** Mount Alexander Shire

**LAND STATUS:** Maldon Historic Reserve

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**HISTORY:**

No history collected.

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**DESCRIPTION & INTERPRETATION:**

Bulldozed mullock heap. East of the mullock is an excavated working platform, which contains the remains of a 3 ft square stone chimney stack base. Piles of red bricks (hand-made) lie near the stone structure.

**INTEGRITY/CONDITION:** Stone base in good condition, rest of the mine site has poor integrity.

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**CULTURAL SIGNIFICANCE:**

Site's integrity has been reduced to such an extent that it has little cultural significance.

**SIGNIFICANCE RANKING:** Site Listed Heritage  
Inventory.

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**Assessor:** David Bannear

**Date:** November 1992.

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**SITE NO. & NAME:**       **86A     Mount Tarrangower Tunnelling Co.**  
                                   **86B     Whim Shaft on Carlisle and Whittaker Reef**

**LOCATION:**               **Carlisle and Whittaker Reef**

**VHR NO:**               **H1358**

**HI NO:**                 **86A & B H7723-0187**

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**DIRECTIONS:**       400 m along Anzac Hill track from its junction with Perkins Reef Road. 100 m west of track, adit located in the channel of a gully.

**MUNICIPALITY:**       Mount Alexander Shire

**LAND STATUS:**       Maldon Historic Reserve

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**HISTORY:**

1865. Adit Level. A perusal of records indicates that the first work on a large scale was commenced on the lease (Carlisle and Whittaker mine) in July 1865. It consisted of driving an adit level by what was then known as the Mount Tunnelling Company. The tunnel, now inaccessible, is in about 1,000 feet. It has been extended north for about 408 feet, the greater part of which distance it was driven on Carlisle and Whittaker reef ... From the end of the drive (408 feet) a cross-cut was extended west, making the total length of the tunnel about 1,000 feet, the objective apparently being Whittaker's and Preece's reef. Work by this company finally ceased in December 1869, with negative results. It is stated that the first rock drill used in Australia was introduced by this company in 1868.<sup>1</sup>

September 1866. The Mount Tarrangower Tunnelling Company has suspended operations during the absence of the manager, who has proceeded to England for the purpose of purchasing one of the new patented drilling machines.<sup>2</sup>

1867. The rock-drill which was almost certainly the first used in Australia was a Low machine imported in 1867 by the Mount Tarrangower Tunnelling Company for use in a Maldon, Victoria, gold mine. It had several advanced features which were not to come into general use for almost a century.

The directors of the Mount Tarrangower company sent their Mining Manager, Mr Gardiner, to the Paris Exhibition to examine the latest rock-drills available. He arranged for each type to be demonstrated and timed its performance, finding Low's machine to be the most durable and efficient. Mr Gardiner then arranged for more extensive testing of Low's rock-drill to be carried out at St Peter's Iron Works in Ipswich, where it had been manufactured. The tests and description of the rock drill were reported in the Ipswich Journal of 18 May 1867 ... in modern terms, Low's drill was a single-boom, rail-mounted jumbo, with remote-controlled pneumatic boom positioning and a powered hose-reel.

The rock-drill was put to work at Maldon, but a major problem seems to have been no spare parts were obtained with it. The air-compressor, also designed by Low, was a novelty in those days and also may have had been a maintenance problem.

The Mount Tarrangower Company failed to find gold and was wound up in 1870. The drill and compressor were advertised for sale. The fate of the Low machine after 1870 is not known.<sup>3</sup>

March 1867. The manager of the Mount Tarrangower Tunnelling Company has not yet returned from England with a patent boring machine, for which he was sent home by the company; but he is expected here in the course of one or two months hence.<sup>4</sup>

April 1867. Tarrangower Tunnelling Co. Although the aggregate profit to the colony on gold mining operations is something enormous, there is no doubt that many of the mines taken singly, are worked at a loss, solely through the want of proper appliances, such as are now being employed in mines in Great Britain, and in the driving of tunnels in the making of railways, etc. An instance of enterprise (says the Argus) in the right direction has been initiated by the Mount Tarrangower Tunnelling Company, who some time since commenced to pierce Mount Tarrangower by a large tunnel, so as to intersect the various gold-bearing veins which are known to exist. From the contour of the ground the tunnel will cut the reefs at a greater depth than any other shaft hitherto sunk in these colonies, but the time required for drilling the rock has been found to be a great drawback--the average progress made in the 600 feet already opened being only about 5 feet per week. We are glad, however, to know that a remedy for this waste of time and labour has now been found, and the shareholders of this company and

the mining interest, generally may be congratulated on the introduction of the rock boring machine, which is now being manufactured in England for the company, under the superintendence of the manager. The machine, with sundry improvements adapted for levels in ordinary mines, is similar to one which has already pierced a tunnel 3 miles in length ... The rock on which the trials were made was a very hard close-grained Dalkey granite, in which holes were bored 2 inches in diameter, at an average rate of 1 inch per minute.

The air-compressors, owing to the freezing of water thoughtlessly left in the cylinders, caused one of them to burst, so that only one of them could be worked, thereby getting only half the pressure at which the machine should be worked (120 lb. per inch), but with this great disadvantage 12-1/2 inches were bored in 9 minutes with 1 drill, and there is not the slightest doubt that with full pressure 2 inches will be attained. The patentee has secured his rights for the Australian colonies, and has appointed the Tarrangower Tunnelling Company his sole agent.<sup>5</sup>

June 1870. Two tributing parties, under the Mount Tarrangower Tunnelling Company, are raising some good stone from the One-tree Reef, near the trigonometrical station on the mount, one lot of 11 tons yielded 20 oz of gold, and another lot of 10 tons yielded 39 oz.<sup>6</sup>

September 1870. Two or three tributing parties, under the Mount Tarrangower Tunnelling Company, are still obtaining payable gold; this company has stopped the driving the tunnel through the Mount, and is now devoting energies in working the reefs from the surface.<sup>7</sup>

March 1882. The Carlyle Company is getting payable stone at 150 feet from the surface.<sup>8</sup>

1885. Carlisle and Whittaker mine. Between 1885 and 1898 the engine shaft was sunk to a depth of 185 feet. During the latter year it was taken over by another company, enlarged, timbered, and equipped with a winding plant. In old reports it is stated that the shaft was sunk to 320 feet by a Sydney Syndicate, as also was the whim shaft, but particulars as to the work other than that of sinking cannot be gathered.<sup>9</sup>

June 1889. The Sydney Company, during the quarter, has been driving on the course of the reef which is large, and contains various metals with a little gold, but not payable.<sup>10</sup> [only reference found to Sydney in Maldon database)

1901. Practically no further work was done in this adit level till 1901, when another company renewed operations in the main west cross-cut where three reefs--Maybon, Eileen and Whittaker's and Preece's reefs--in addition to Carlisle and Whittaker reef were cut. Short levels were driven in each direction on the Maybon and Eileen reefs. The latter contained prospects considered sufficient to warrant sinking a winze on it to a depth of 70 feet on its easterly underlay. From the winze much work was done with disappointing results, the average grade of the ore treated estimated at 5 dwt. of gold per ton. Operations in the tunnel ceased in 1908, and since then no further work has been done.<sup>11</sup>

1904. The North of England Gold Mining Company, the Union Gold Mining Company, Bell's Reef Gold Mining Company, the Central Columbia Gold Mining Company, the Columbia Gold Mining Company, the South German Extended Gold Mining Company, the Mount Tarrengower Gold Mining Company, the Exhibition Consolidated Company, the Mount View Gold Mining Company, and the South British Company have, with indifferent success, carried on prospecting work during the year as vigorously as the funds at their command would allow.<sup>12</sup>

1905. The Mount Tarrengower Company, whose operations are carried on in a tunnel driven into the north slope of the Mount, a distance of about 1,200 feet, and whose prospects early in 1905 looked very bright, has been somewhat disappointed, 348 tons having been crushed for a yield of 71 oz 10 dwts of gold. Prospecting work was continued, and nine men, on the average, were employed throughout the year.<sup>13</sup>

1926. The Carlisle and Whittaker Mine occupies a position in the centre of the Maldon goldfield, the main workings being about half a mile south from the post office. The most eastern, now known as Carlises and Whittaker, but formerly named Specimen Jack's reef, may be traced through the full length of the leases ... About 1 mile further south the Flying Pig reef, said to be on the same line, yielded, it is stated, up to 15 oz. per ton ... Interest is now being centred in the work that is being carried out at the main prospecting shaft, which is situated 325 feet north from the engine shaft. The former was sunk to a depth of 87 feet, from which point a cross-cut has been put out west. Development. The mine is well equipped with a winding plant and an air compressor is being installed. The engine shaft has recently been reopened and repaired to nearly 300 feet.<sup>14</sup>

1926. Plan of Carlisle and Whittaker Reef workings, Plate XI, attached to Bulletin No 49, Geological Survey of Victoria, "Some Mines at Maldon", Carlisle and Whittaker Mine, by J.J. Caldwell, shows adit and whim shaft in the guts of the gully.<sup>15</sup>



*DESCRIPTION & INTERPRETATION:*

Adit first opened up by Mt. Tarrangower Tunnelling Co. in 1865 and reworked by the Mt. Tarrangower Co. at the turn of the century. The Whim may date to the operations of the Sydney Co. in the 1880s.

Adit

Open adit (approx. 6 ft high). The adit is obscured by blackberries. Leading from the adit is a 30 m long tramway cutting which has been cut by a bulldozed prospecting track. Shaft workings, which have been partly bulldozed and are now overgrown with blackberries, lie above and to both sides, of the adit.

Whim platform

On the eastern slope above the tramway cutting, approx. 80 m from the adit's mouth, is the remains of a well defined, approx. 40 ft. wide, whim platform. A section of the platform's stone retaining wall still survives. No central post hole is visible. The location of the whim platform matches the location of a whim shaft (as shown on Plate XI, Plan of Carlisle and Whittaker Reef workings, Bulletin No 49, Geological Survey of Victoria, 1926)

Machinery site

In the gully below the adit, near the north east corner of a block of private land, is an excavated platform that contains a large spread of red (hand-made) bricks. The associated mine workings have been bulldozed and what survives are obscured by blackberries.

*INTEGRITY/CONDITION:*

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*CULTURAL SIGNIFICANCE:*

The site has:

- Historical Significance, because it is the site of the Mt. Tarrangower Tunnelling Co.'s operations, and thus is associated with the first use of a rock-drill in Australia.
- Scientific Significance, because the site illustrates at least two methods of quartz reef mining: tunnelling and shaft sinking.

The site's significance is increased by cumulative value, because:

- it is part of a group of sites which all contain the remains of whim platforms. Once extremely common, this site type has (to date) only been found to survive in the Maldon Mining Division. These sites are Nos. 12, 22, 25, 48, 76 and 86 (South Cookmans, Lisles Reef workings, Grand Junction, Prince Llewellyn, Thornhill Reef, and Whim shaft on Carlisle and Whittaker Reef).

SIGNIFICANCE RANKING:                Sites Listed Heritage Register.  
   Sites Listed Heritage Inventory.

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**Assessor: David Bannear**

**Date: November 1992.**

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- 1     Bulletin of the Geological Survey of Victoria, No 49: Some Mines at Maldon, Carlisle and Whittaker Mine by J J Caldwell
- 2     Mining Surveyors' Reports, September 1866
- 3     P. L. McCarthy, Australia's first rockdrill - an historical note. Bull Proc. Australas. Ins. Min. Metal, Vol 290, No 2, March 1985.
- 4     Mining Surveyors' Reports, March 1867
- 5     Dickers Mining Record, April 27 1867, p197
- 6     Mining Surveyors' Reports, June 1870
- 7     Mining Surveyors' Reports, September 1870
- 8     Mining Surveyors' Reports, March 1882
- 9     Bulletin of the Geological Survey of Victoria, No 49: Some Mines at Maldon, Carlisle and Whittaker Mine by J J Caldwell
- 10    Mining Surveyors' Reports, June 1889
- 11    Bulletin of the Geological Survey of Victoria, No 49: Some Mines at Maldon, Carlisle and Whittaker Mine by J J Caldwell
- 12    Annual Report, 1904
- 13    Annual Report, 1905

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- <sup>14</sup> Bulletin of the Geological Survey of Victoria, No 49: Some Mines at Maldon, Carlisle and Whittaker Mine by J J Caldwell
- <sup>15</sup> Bulletin of the Geological Survey of Victoria, No 49: Some Mines at Maldon, Carlisle and Whittaker Mine by J J Caldwell