

NORTH WEST VICTORIA HISTORIC MINING PLOTS
(DUNOLLY, HEATHCOTE, MALDON AND RUSHWORTH)

1850-1980

Historic Notes

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DUNOLLY
GENERAL HISTORY

PHASE ONE

- 1853/55:** The Moliagul Police Camp had been down at the bottom end of Commissioners Gully near Burnt Creek from January 1853 until June 1855. This camp included a Sub Inspector, two Sergeants, a Corporal, six mounted and twelve-foot Constables, a Postmaster, Clerk and Tent Keeper. For a while this was the headquarters for the entire Mining District. ¹
- 1853 Moliagul:** Opened in 1853 along with Surface Gully. Their richness influenced the moving of the settlement from Commissioners Gully to where the township is now. ²
- 1853:** Burnt Creek, the creek itself, was so-called before gold digging started, but Burnt Creek goldfield, situated about two miles south of Dunolly, started with the discovery of gold early in 1853, and at a rush later that year ... Between August and October 1853 the Commissioners' Camp at Jones Creek was shifted to Burnt Creek, where there had been a rush ... By April 1854 there had been an increase in population at Burnt Creek, and there were 400 diggers there in July. Digging was going on in Quaker's Gully and two large nuggets were found there in 1854, by October there were 900 on the rush, and the Bet Bet reef was discovered. By November 1854 the gold workings extended three miles from Bet Bet to Burnt Creek and a Commissioners' Camp was started at Bet Bet, near where Grant's hotel was later. This rush collapsed soon after and the Camp was broken up in December. ³
- 1853:** Burnt Creek, the creek itself, was so-called before gold digging started, but Burnt Creek goldfield, situated about two miles south of Dunolly, started with the discovery of gold early in 1853, and at a rush later that year ... Between August and October 1853 the Commissioners' Camp at Jones Creek was shifted to Burnt Creek, where there had been a rush ... By April 1854 there had been an increase in population at Burnt Creek, and there were 400 diggers there in July. Digging was going on in Quaker's Gully and two large nuggets were found there in 1854, by October there were 900 on the rush, and the Bet Bet reef was discovered. By November 1854 the gold workings extended three miles from Bet Bet to Burnt Creek and a Commissioners' Camp was started at Bet Bet, near where Grant's hotel was later. This rush collapsed soon after and the Camp was broken up in December. ⁴
- 1853:** Barnes Flat: This was one of the first areas worked around Jones Creek, discovered by G. H Patterson in 1853. The original cemetery was on the hill behind the town of Waanyarra. A few were buried here before the new cemetery was established on its present site. ⁵

1 Tully, 1988, p.5
2 Tully, 1988, p.4
3 Flett 1979, p276
4 Flett, 1979, p.276
5 Tully, 1988, p.33

- 1853:** The Commissioner's Camp at Jones Creek was sited on water about one and a half miles below the town site. The place was gazetted for Petty Sessions on 29 October 1853, and named 'Beverley', a name that failed to stick. Commissioner Bull's map of this area, done at the time, shows the diggings at Jones Creek as the main gully at the town site and the three gullies running into it on the west side; the site of Beverley is also shown. ⁶
- 1854:** The Bet Bet Lead was worked in 1854, as probably were Barbers Gully and those closer to the railway. At the foot of the hill, during the rush, was a short-lived township. This included Tom Curran's public house, boxing saloon and 30 yards away a billiard saloon. George Hutchinson's Horse and Jockey Hotel replaced this in the late 1850's and 1860's. ⁷
- 1854:** All writers mention the Hard Hill Rush on Jan 1854 at New Years Flat. It was preceded by one that occurred about a mile from the township towards Hard Hill, and to which place the whole population of Goldsborough shifted. The Hard Hill Rush, the richest that occurred in the Dunolly area again drew the population of this locality south and stores were pulled down at the old locality and followed the rush. The new village of Hard Hills after the same time met the same fate as the others; the same lead that seemed to be broken in places being picked up again further down the creek after the Hard Hill rush had been thinned by rushes to other localities. The last resting-place of this migratory band was about a mile north of the later township of Dunolly (between the old and new Cemeteries) and here the township existed at the beginning of the Great Dunolly Rush, a long struggling street along the old track. ⁸
- 1854-55:** Jones Creek was almost deserted ... but there were large rushes in January 1856 and September-November following. No doubt Tipperary Gully, the western end of Jones Creek, was opened in 1853, and Wet Gully, Long Gully, Sawpit, Deadman's, Specimen and Mosquito opened at the rushes in 1856: the latter places by Spaniards, Greeks, and East Indiamen. There was a township at Mosquito. ⁹

6 Flett, 1979, p.274

7 Tully 1988, p27

8 Flett, 1956

9 Flett, 1979, p.274

- 1856-1859:** The great rush to Dunolly took place ... Owing to the large population in the district, a Police Camp was established at North Dunolly, while a Gold-office, Court House, Lock-Up, Police Barracks, stables, and a Warden's office were erected in 1859 ... Dunolly was the name of the new township which had developed four miles south of McDougall's original homestead. To distinguish between the two places, the original settlement was known as "Old Dunolly", while the "new" Dunolly flourished as an important gold-mining township ... Later, Old Dunolly, became known as Goldsborough, after Richard Goldsborough who had a pastoral-lease in the district. A supplement which appeared in the *Dunolly and Betbetshire Express* on October 8th, 1866, stated that Old Dunolly was originally the post town for the area which was mainly devoted to farming, although there were numerous, valuable, alluvial workings at Hard Hill, Turkey Flat, Nuggetty, Tipperary and other gullies, and the Main Flat through which Burnt Creek wound its way. Valuable reefs in the area included the Belgian, Bealiba, Perseverance and Patterson's Reef.¹⁰
- 1856-1859:** Sandy Creek: This is a series of river wash hilltops of Pliocene age ... They each had their own names including Prospect Hill (first worked 1856), White Hill (pipeclay) and Sustenance Hill ... In 1857, the European diggers were working Hard Hill, while 1000 Chinese had claims on White Hill. The Chinese Camp was along Sandy Creek. The following year, as the easy gold started to peter out on Hard Hill the Europeans drove the Chinese out of town. Most went to the Burnt Creek camp. A 56-oz nugget was found at Hard Hills in 1859.¹¹
- November 1856:** Nuggetty Rush ... Another rush at this time occurred above the site of the Old Lead Reservoir ... in the gully ... that was called Nuggetty, on account of the 1856 finds, one party reported ... getting four nuggets 60, 30, 14 and 7 ounces in a week. At this time the population there steadily increased despite the smallness of the area of the diggings until there was practically a town there.¹²
- 1856/57:** Cochran's/Bealiba: At Bealiba gold was found in Feb 1856 and there was a small rush late that year. The first rush was to a small hill about a half-mile south east of the Bealiba homestead.
- Late 1857:** At this time, Cochran's Rush that led to the creation of the town of Cochran's occurred, and the lead was traced down to the flat. There were many thousands there.
- 1863:** The present township of Bealiba centred on No 1 and No 2 hills was surveyed by Chauncy in 1863 ... It was a Shanty Town. Bealiba lived for 10 years on the rich cement that yielded 1 oz to the ton.¹³
- 1857:** In June 1857, it was reported that there was a steady and permanent township at the Belgian Reef and that there were 150 people living there. Six claims on the reef at this time were paying handsomely, but there was no quartz crusher there.¹⁴
- 1857-1860:** In 1857 Sandy Creek had 300 people; in 1858 it had 3000 and there were 850 shareholders in 176 claims on 15 reefs. A year before only 12 claims were at work. A Police Camp was established in April 1859, and an escort established in 1861, the town then from being a canvas-town was rapidly approaching the brick stage, and the wealth of its chief reefers must have been great.¹⁵

10 Carless, 1983, pp.10-11

11 Flett 1956

12 Flett 1956

13 Flett 1956

14 Flett, 1956

15 Flett, 1956

- 1859:** The workings here were originally called Tarnagulla Diggings. Their richness became so well known that the nearby town of Sandy Creek changed its name to Tarnagulla ... In October 1859 a 109 oz nugget was found at Halfway, where 1000 miners were working. Joseph Foo had a hotel at the rush here ... After the main rush to Halfway was over, those that remained to work the minor gullies and open the reefs were mainly Greeks and Italians. ¹⁶
- 1858:** Sparks Gully, Moliagul: a small settlement existed here around Robert Grieves' store. The large rush in late 1858 attracted 2000 diggers when nuggets were found 25, 28, 30, 32, 33, 35, 61, 118 and 440 oz. ¹⁷
- September 1859:** Hard Hills: a rush has taken place to the Hard Hills, Sandy Creek, on which a population of 800 is profitably employed, and the number is fast increasing. These hills are situated nearly three miles north of Tarnagulla Township, and on the east side of the flat. They have been worked at intervals for the last three years, several small rushes having taken place to them. The sinking varies from surfacing to 40 ft in depth. ¹⁸
- 1861:** In May 1861 William Williams ('Puddler Bill') and J. Bush opened Slaughteryard Gully and Woodruffe and Schouler another locality near it. In August 1861 it was reported that a new lead of gold at Burnt Creek had been discovered by a digger named Chipps ... the locality was Anderson's Hill (Hicks) ... A large rush began, which established the town of Bromley. The Chinese, who outnumbered the whites six to one on this rush, had all the 'fancy ground', and opened the lower end of it, known as Hong Kong Lead, which was still being worked in May the following year. ¹⁹
- August 1861:** Anderson's Hill, Dunolly: the lead on this hill was called the North Wales Lead when discovered in August 1861. Between 4000-6000 miners were working nearby half of who were Chinese. During the Burnt Creek rush the town here was a mile in length along the present road. It included several hotels, a chemist, photographer, coachbuilder and many more. The old mud brick house still standing belonged to Adderton the local blacksmith.
- 28 June 1862:** Almeida: quite a township is springing up in the neighbourhood of the Almeida and other localities opened in the locality of the Mosquito. ²⁰
- 11 October 1862:** Jones Creek - A splendid discovery was made on Secret Hill...in the reef worked as the 'Anglesea' some two years ago, but now named after the township of 'Waanyarra'. ²¹
- Waanyarra Township:** Popularly called Jones Creek this township was the centre for the area for many years until farming closer to the Loddon River became the area's main interest. There were two main hotels, the White Swan (remains of well still visible) and the Jones Creek Hotel closer to Tarnagulla. Waanyarra also had several stores and a post office, which remained open until the 1920's. ²²
- 10 April 1863:** Moliagul: a large number of Chinese have recently arrived here, camped opposite Mr. Leake's store; they have sold a quantity of gold, a great proportion of which has been obtained from old washings in the creek, at which some hundreds have been energetically cradling. Nearly all the puddling machines, of which there are a great number, are at work, having a plentiful supply of water since the last rains;

16 Tully, 1985, p. 50

17 Tully, 1988, p.2

18 Mining Surveyors' Reports, September 1859, p13

19 Flett, 1979, p.277

20 *Dunolly and Burnt Creek Express*, 28.6.1862, p. 2

21 *Dunolly and Burnt Creek Express*, 11.10.1862, p. 2

22 Tully, 1988, p.33

some are making wages, and I have it on reliable authority, a few are doing remarkably well...²³

1903: Waanyarra Rush: Now on private land this part of the lead was worked in 1903 and was one of the last great rushes. Several hundred miners turned up and shops were erected. The Post Office, which later became a house, was there for many years. A series of indicators crossed the lead and those who were lucky landed on good nuggets. The sinking was 26 ft and during the rush were found nuggets of 26, 27 (2), 29, 44, 50, 51, 70 and 106 oz.²⁴

1930: The next 'Rush' was in the 1930's when the Great Depression saw many men 'shipped off' to the goldfields with a pan and pick, a tent and 6/- a week to supplement their finds ... There was a canvass township ...[at the] ...Waanyarra Rush where nearly 100 were camped. Claims were 7 x 1 ft. It was like a revival of the early days where men with little experience were trying to survive on the gold ... Two hundred men were on the field where water was scarce in February, 1932 ... Many of the Depression miners were lucky enough and hardworking enough to survive in their tents and rough huts, finding gold or cutting wood, but it is well known among the families of Waanyarra who had been there since the early days, that the women on the small farms kept so many of the poor men feed. By this time when the small farms were producing more food than the families could eat, the excess produce was given or sold to the miners.²⁵

1852: At this period [of initial Tarnagulla gold rushes] there were many of the Loddon tribe of aboriginals living in the bush near the township...²⁶

Many district townships developed between 1852 and 1870. As the alluvial gold was worked out, quartz mining began and continued for about 50 years. In the Dunolly district, towns such as Tarnagulla, Bealiba, Moliagul, Llanelly, Arnold, Newbridge, Waanyarra, Goldsborough, Burnt Creek, Bet Bet, Betley, and Timor had their goldrushes, while places such as Laanecoorie, Eddington, Archdale, Dunluce, Mount Hooghly and Murphy's Creek were mainly devoted to farming pursuits.²⁷

[September 1852] Miners travelling south from Korong (Wedderburn) goldfields discovered gold at Queens Gully, Moliagul. This was the first goldrush to occur in the Dunolly district. In a few weeks, a store, a blacksmith's shop and butchery had been opened.²⁸

[1852] This [Queens Gully] was the first gully opened in the entire district, becoming the supply point for prospectors working as far away as Tarnagulla and Jones Creek.²⁹

[December 1852] The first rush in the area that occurred at Moliagul was about December 1852 when the diggers returning from Korong ... opened Queen's Gully, Moliagul and by January, 1853 a store, a butcher's shop and a blacksmith's appeared. On this date the first Gold Commissioner's camp in the district was set up in what is marked on the Geological Survey maps as Commissioner's Gully, and the first Commissioner, William Templeton issued the gold licences.³⁰

[Jan 15 1853] Commissioner's report indicated that the main diggings were in a small gully, 200 yards from the creek, bounded by iron-bark ranges.³¹

²³ *Dunolly and Burnt Creek Express*, 10.4.1863, p.2

²⁴ Tully, 1988, p.35

²⁵ Douthat, 1989, pp.13-16

²⁶ Clarke 1985, p5

²⁷ Careless 1983, p9

²⁸ Careless 1983, p 18

²⁹ Tully 1988, p6

³⁰ Flett 1956, p17

³¹ Careless 1983, p18

- [2 February 1853]** Commissioner Reid visited Moliagul: 500 people there and an encampment of 160 tents and stores... He decided that an assistant Commissioner, a Camp and Police would immediately be placed at Moliagul. William Templeton, who was in charge of the camp at Commissioner's Gully, was responsible for issuing gold licences, collecting gold for escort to Melbourne, and administering the goldfield... In 1855, William Templeton's camp was transferred from Moliagul to Burnt Creek (now Bromley) near Dunolly.³²
- [early 1853]** Moliagul ... was nearly deserted for Sandy Creek early in 1853. This first rush was to the site of Tarnagulla town today and many old hands from Forest Creek were there.³³
- [April 1853]** Jones Creek is first mentioned on April 7th ... a report later that month said that gold was large and scarce at Sandy Creek and the sinking 3-16 feet.³⁴
- [July 1853]** At the end of July it was reported that surfacing rivalling even Eaglehawk had been discovered at Sandy Creek, between there and Jones Creek, and there was a rush of about 7000 to Nuggetty Gully and Hill from Bendigo and Korong. The discovery of these places caused great excitement and many exaggerated reports in Bendigo. Patterson's Diggings near Jones Creek was opened at this time, and was well known in 1854 as a nugget field.³⁵
- [Spring 1853]** The second rush Moliagul in the spring of 1853, when the heaps of washdirt along Burnt Creek there were not washed until the winter of 1855 so great was the dryness. A gold map of Moliagul made in 1856 shows only three areas worked - the original diggings at Queens Gully ... Surface and Long Gullies.³⁶
- Long Gully opened late 1853 along with Surface Gully. Their richness influenced the moving of the settlement from Commissioners Gully to where the township [of Moliagul] is now.³⁷
- [1853]** Gold was discovered at Burnt Creek, two miles south of the present township of Dunolly... A rush occurred later in the year and between August and October, the Commissioner's Camp at Jones Creek was moved to Burnt Creek where there was a larger mining population.³⁸
- January 1854:** Movement from Goldsborough south/migratory Old Dunolly. All writers mention the Hard Hill Rush of Jan 1854 at New Years Flat. It was preceded by one that occurred about a mile from the township of Goldsborough towards the Hard Hill, and to which the whole population of Goldsborough shifted. The Hard Hill Rush, the richest that had occurred in the Dunolly area again drew the population of this locality south and stores and hotels were pulled down at the old locality and followed the rush. The new village of Hard Hill after a time met the same fate as the others, the same lead that appeared to be broken in places being picked up again further down the creek after the Hard Hill Rush had been thinned by rushes to other localities. The last resting-place of this migratory band was a mile north of the later township of Dunolly (between the old and new Cemeteries), and here the township existed at the beginning of the Great Dunolly Rush, a long straggling street along the old track. Whilst the Old Dunollyites had been so moving about in 1853-55 and in the early months of 1856, a considerable amount of digging had been going on at Burnt Creek and when the survey of the road to Korong was done in October 1855, the diggings there, some 80 acres, were about a mile in extent stretching from Quakers Gully down across the Creek by Kirk's Bridge and up Wilson's Lead.³⁹

³² Careless 1983, p21

³³ Flett 1956, p18

³⁴ Flett 1956, p18

³⁵ Flett 1956, p18

³⁶ Flett 1956, p18

³⁷ Tully 1988, p4

³⁸ Careless 1983, p3

³⁹ Flett 1956, p20

- 1854:** During 1854 the township of “Goldsborough” on the north end of McDougall’s old Pre-emptive Right began to take shape. It was on the road to Moliagul, which, according to escort returns, was returning about 700 oz. of gold weekly. In Sandy Creek it was reported at this period in the “Herald” that the gold was merely remunerative. In December of the year the first two public houses built there were completed. The population of Sandy Creek was 270 including 20 women with 120 children ... At Bet Bet, where there apparently had been a rush a Police Camp had been set up, although this may have been on account of the activity at Burnt Creek ... In December there were “only 350 diggers remaining” there, when a reef immediately behind the camp was worked after remaining idle for some time with the gold showing in the stone ... Moliagul, Sandy Creek and Dunolly were almost depopulated by the rushes to Avoca, Maryborough and Creswick in 1854 and there was a bad drought.⁴⁰
- [1854, Bet Bet Reef]** Found in 1854 this reef was worked on and off until 1872, usually averaging 1 oz/ton. The battery was erected in 1861 and crushed not only for this reef but many of the surrounding ones. When the Bet Bet Reef was first found there were no crushers available on the field. Some miners devised a new method of extracting the gold by melting quartz in a large furnace. Quartz was continually added to the boiling mixture, the excess drained out an overflow pipe. It was assumed that the gold, being heavy, would remain in the bottom. However, in the violently bubbling broth many flecks of gold found their way out the overflow and the process was abandoned.⁴¹
- September 1855:** Very little known of the early days of Poverty Reef there, but an article in the “Tarnagulla Leader” tells us that it was first worked by the Walker Bros. “the well known farmers”. A lot of stone from Poverty was crushed at the McCallum’s Creek battery in Sept 1855 went 92 oz to the ton and was considered the richest in the state.⁴²
- [1855]** The first Gold-Warden at Dunolly was stationed at Old Dunolly (Goldsborough) in May 1855 ... 1855 opened inauspiciously for the scattered goldfields around Dunolly. About April that year rich leads were reported discovered at Sandy Creek. These were probably Stony Creek and Ironbark Gully ... Although very little seemed to be happening at Burnt Creek at this time, coincident with the creations of the Gold Wardens, Templeton’s old camp in Commissioner’s Gully at Moliagul was shifted to the diggings and the Camp at Grants Bridge, Bet Bet, also about June 1855.⁴³
- [1855]** There was a rush of about 4000 to Burnt Creek. After a long period of drought, rain fell during March of that year, and thousands of heaps of wash dirt, which had been stacked at Burnt Creek and Moliagul, were washed and yielded wonderful returns of gold.⁴⁴
- 1855:** About April that year, rich leads were reported discovered at Sandy Creek. These were probably Stony Creek and Ironbark Gully leads ... The rushes to Sandy Creek brought about 2000, but the population left there in August 1855 for Inkerman Rush. Very little is known of the early days of Poverty Reef there, but an article in the “Tarrangulla Leader” tells us it was first worked Walker Bros. “the well known farmers”. A lot of stone from Poverty was crushed at the McCallum’s Creek battery in Sept 1855 when 92 oz to the ton and was considered the richest in the state.⁴⁵
- May 1855:** The first Gold-Warden at Dunolly was stationed at Old Dunolly (Goldsborough) in May 1855. This was Charlie Cholmondely Dowling.⁴⁶

⁴⁰ Flett 1856, 19

⁴¹ Tully 1988, p27

⁴² Flett, 1956

⁴³ Flett 1956, p20

⁴⁴ Careless 1983, p3

⁴⁵ Flett 1956, p19

⁴⁶ Flett 1956, p19

[August 1855]

The rushes to Sandy Creek brought about 2000 but the population left there in August 1855 for the Inkerman Rush. ⁴⁷

Later in 1855:

There were several new discoveries along the hills and the flats near the Burnt Creek at Dunolly, and in January 1856 the Old Lead was rushed. Digging in this large tributary of the Burnt Creek coming in from the north had been going on for a considerable time, and an irregular run of gold discovered and traced down within a half-mile of the Burnt Creek. This area, then known as German Gully, was possibly opened in 1854, but the rush in January 1856, ending about a mile from the present town, was a failure. Many diggers then left for Avoca Wet Lead, but returned soon after to a large rush near the creek and south east of the Hard Hill. There was a long straggling street along Goldsborough road in June 1856, near the rush, that was also poor, but on 20 July large nuggets were found in two places: in German Gully (Old Lead) and at Kangaroo Flat, near the present crossing at Broadway and the Inglewood railway. This caused one of the largest and most sensational rushes in the State. The estimated population of the area of the town in September 1856 was 35,000, but an eye-witness, who counted the tents, figured there were 100,000 ... The large population of diggers at Dunolly Rush in 1856 discovered gold in a number of places. The original main lead was traced into the Wet Lead ... Gold was discovered on the south fall from Patterson's Diggings at the extreme head of the Old Lead and was also traced from Charley's Gully and in Sporting Flat. In November 1856 a party ... discovered a reef and started a huge rush at Old Dunolly. The Belgian Reef (discovered by a boy), the Spread Eagle, and others were also opened at the end of 1856. ⁴⁸

[July 1855]

On July 27th, 1855 a paragraph in the Mining Notes of "The Age" read - "At Mt. Moliagul three week ago there were 300 on the diggings, now there are 3000 surfacing and doing well. Plenty of water is to be got and the ground is yielding an average of 1/2 dwt to the bucket. Several miners are making their piles. The new rush that has caused the influx is on a little hill" ... On August 23rd there were 6000 on the rush, that was referred to as the "Moliagul Rush" but was actually closer to Inkerman and always referred to as the first Inkerman rush later at Dunolly ... The first Rush at Inkerman, much written up in "The Age" of the time, first brought to light the nuggets that made that locality famous. It saw the first coach services that had ever run in the district ... there was ... [also] ... a street of shops and saloons a mile long. The rush was composed chiefly of diggers from Daisy Hill, Maryborough and the Alma where the riots had occurred recently ... The Inkerman Rush was lively and the typical rush. The gold extended for two miles and was from 10 ft. to 16ft deep. It was coarse, nuggetty and plentiful and typical of the whole of the gold in Burnt Creek valley - it was in a series of patches and very rich ... a Maryborough correspondent wrote - "Our streets, long destitute of life have been for the last week crowded with eager multitudes, all wending their way to the new rush at Mt. Moliagul. I believe there are 16,000 there and every day seems to increase the number - a large street has been formed and public houses and stores rapidly erected. Sly-grog selling prevails to an alarming extent and if drunkenness and debauchery were taken as the criterion of a wealthy goldfield, Moliagul must undoubtedly be going ahead. Two caches are already plying between it and Maryborough ... By Sept 16th, 1855 the rush was declining. Famous Fiery Creek rush near Beaufort, had begun ... but the few who remained had little cause to rue it and in some cases continued right through, prospecting the next rush there in 1857. ⁴⁹

⁴⁷ Flett 1956, p20

⁴⁸ Flett 1979, p280

⁴⁹ Flett 1856 p20

July 27th, 1855:

Inkerman Rush: Mining Notes in *The Age* (Melbourne) - At Mt. Moliagul three weeks ago there were not 300 at the diggings, now there are 3000 surfacing and doing well ... This first rush to Inkerman, much written up in "The Age" of the time, first brought to light the nuggets that made that locality famous ... On August 23rd there were 6000 on the rush, that was referred to as the "Moliagul Rush", but was actually closer to Inkerman and also referred to the first Inkerman rush later at Dunolly. At this date there was a street of shops and saloons a mile long ... The gold extended for two miles and was from 10ft to 16 feet deep. It was coarse, nuggetty and plentiful, and typical of the whole of the gold in the Burnt Creek valley - it was in a series of patches and very rich ... A Maryborough correspondent wrote - "Our streets, long destitute of life have been for the last week crowded with eager multitudes, all wending their way to the new rush at Mt. Moliagul. I believe there are 16000 there and every day seems to increase the number ... A large street has been formed and public houses and stores rapidly erected. Sly-grog selling prevails to an alarming extent and if drunkenness and debauchery be taken as the criterion of a wealthy goldfield Moliagul must undoubtedly be going ahead."⁵⁰

[September 1855]

Poverty Reef: Very little is known of the early days of Poverty Reef there but an article in "Tarnagulla Leader" tells us that it was first worked by Walker Bros. "the well known farmers". A lot of stone from Poverty crushed at McCallum's Creek battery in September 1855 went 92 oz. to the ton and was considered the richest in the state.⁵¹

1855/1856:

During the decline of the Hard Hills Rush most of the diggers of that area including the very large business population went to the Wet Diggings at Avoca and Dunolly was almost entirely deserted late in 1855, but in January 1856 these Wet Diggings presented such a gloomy aspect that many thousands left "the sweet little vale". The Dunolly people returned to Dunolly, attracted back by news of a new rush there. This rush occurred below the Hard Hill at North Dunolly and spread to the Old Lead; 7000 crowded the area, but the gold was poor. This lead that later became known as the Old Lead had had an early beginning. It had been prospected for some time ... and without attracting much attention it had deepened from 5ft. to 35-40ft. It was on the two leads that Dunolly's poorest rush occurred in Jan 1856, and on which even nuggets 410 and 180 oz. failed to stay the diggers, so unremunerative was the rest of it. Many went to a rush at Jones Creek and the rest by the end of March were on the move to Avoca again or elsewhere.

[1856]

It was in 1856 at the decline of the Dunolly Rush that thousands of diggers unable to get claims on the leads wandered the hills and towards the end of the year found some of the reefs at Dunolly. The most conspicuous of these were the Belgian, the Hospital Reef (continued into Spread Eagle) and a reef at Inkerman.⁵²

⁵⁰ Flett 1956, p20

⁵¹ Flett 1956, p20

⁵² Flett, 1956

June-August 1856:

Dunolly Rush really began in June 1856. The Melbourne papers early that month reported 7000 diggers at Dunolly and that there was a main street with "commodious refreshment tents doing a brisk business" ... The rush depopulated half the digging towns in Victoria and it stemmed the rush to Rocky River in N.S.W., digging being a standstill as Creswick, Daisy Hill, Castlemaine, and Maryborough emptied themselves of diggers. A great exodus set in from Bendigo ... It was Avoca that suffered the most from the Dunolly Rush ... James Gearing, who was at the time running the first Newspaper there, said that as the news of the Dunolly rush got about the effect was like an earthquake. Theatres, concert halls, hotels and stores ... littered the ground, or were being hastily located on drays, as each one raced the other to be the first at the new El Dorado. In two days Avoca appeared utterly deserted ... The thousands of diggers that poured into Dunolly in August 1865 traced the lead down towards the Burnt Creek with great rapidity. Despite the depth of the sinking - usually 45 ft., and the size of the lead, the main road was reached and the gold traced across it in a matter of days. The lead here became wet ... The gold of the Old Lead was mostly nuggets but otherwise the amount of gold sometimes got off bottom was something prodigious ... On August 21st it was estimated that there were 15,000 people at Dunolly and thousands more were arriving. ⁵³

September 1856:

The pinnacle of the Dunolly Rush was about the 25th of September. It was variously estimated that there were then from 30 to 50 thousand on the lead and crowded into the main street where in the long line of shops there was no break or room for carts to pass across ... The later diggers on the rush ... carried the workings into the wet ground or the "Wet Lead" and a great amount of gold was found in the patches on the outsides of the central lead ... There was a feeling at this time that the diggings at Dunolly would be permanent and some even compared the place to Bendigo ... It was felt from the beginning of the rush that Dunolly being a natural centre would be a permanent place, being ringed by already recognised diggings. The Old Dunollyites also had had enough of wandering - of going further and faring worse - and determined to stay, and so it turned out; but there was no dearth of warning as to what must inevitably happen, although when the exodus began about half of the population of the rush spread out and caused a series of rushes nearby, which with short interval continued until 1870. ⁵⁴

Sept/Oct 1856:

The Dunolly Rush after building up to the huge population that was estimated at 60,000 in September, fell to about 20000 in October when a very rich rush to Chinaman's Flat, Maryborough started. ⁵⁵

November 1856:

A great number of those who came to Dunolly Rush stayed in the area when the exodus from the Dunolly leads occurred late in 1856. The movement from Dunolly was mostly to nearby areas, the chief of which was Wild Dog Rush in early November, which was good in patches, and there were some three or four thousands there. The sinking at Wild Dog was 18 feet deep ... Other rushes at this time included - one above the site of the Old Lead Reservoir, at Jones Creek, Mosquito. The largest rush stemming from the Dunolly rush was at Old Dunolly or Goldsborough ... It is possible that this was the northern end of Bealiba or Queens Birthday Reef. ⁵⁶

⁵³ Flett 1956, p22

⁵⁴ Flett 1956, p24

⁵⁵ Flett 1956, p27

⁵⁶ Flett 1956, p28

- 1856:** 11th (p97) - Harry and his mate got three tubs an ounce on Jim Crows. They began hauling quartz to the machine at Loddon.
 25th (p102) - I went down this morning to the crushing machine at the Loddon to burn some of the quartz. With cutting wood, carting and burning the day drew to a close.
 26th - We got wood and stacked another fire ... the machine is an 8 horse power engine. The quartz is first put through stampers, from thence conveyed by means of a shoot (supplied by a continuous flow of water) into a trough where two large rollers each weighing about 2 tons grind them to almost a fine gun powder and only when retorted the process is completed.
 27th - Put another stack then returned to Sandy Creek.
 1st - Went down to the Loddon to burn some quartz. The machine works pretty regular and is kept in motion night and day; the average quantity crushed in 48 hours about 5 tons.
 2nd - completed our job, and returned in the evening. 5 1/2 of the first class quartz turned out about 6lbs 10 1/2 oz; the pieces look well. ⁵⁷
- [1857]** Forming and metalling of Broadway (also known as The Broadway) [Dunolly] began in April 1857, when a Government grant of £4000 was provided. Burnt Creek waterholes became muddy and dirty, caused by the constant cradling, panning and puddling of the washdirt to obtain the gold. Near the course of the creek, holes were dug in the gravel and sand, and water allowed to seep into the depressions, the sand acting as a filter to clear the water ... it was collected and sold to township residents by the water carriers. On the outskirts of the township, many of the diggers' tents were being replaced by huts of wood and clay, with bark roofs. Brick buildings in Broadway were replacing the canvas and wooden shops. The Bull and Mouth Hotel and the Bendigo Hotel, were, by this time, partly constructed of brick. ⁵⁸
- 1857:** Goldsborough/Dunolly area: In June 1857 it was reported that there was a steady and permanent township at the Belgian Reef and that there were 150 people living there. Six claims on the reef at this time were paying handsomely, but there was no quartz crusher there.
- 1857:** After the great rushes at Dunolly, the year 1857 opened not at all inauspiciously for the stragglng township along the "Broadway" of shops that stretched along the Burnt Creek flat. There were some gaps in the street where the theatres had been and many of the large houses had closed their premises, but business was brisk for those who remained. The large population working in the district at the Dunolly Leads, Burnt Creek, Belgian Reef, Wild Dog, Jones Creek, Little Chinamans, Inkerman, Old Dunolly and Moliagul (for which Dunolly with its experienced business-men and extensive shops had become the main centre) was generally getting good gold. Dunolly hills and gullies were being thoroughly prospected ... Small, shallow rich rushes were the order of the day. Reefing was also going ahead ... After 1857 the gold yield fell by about one third to a little over 100,000 oz. yearly, at which figure it remained for about 3 years. ⁵⁹
- 1857:** Tarnagulla town was the scene of much activity and even then the Great Poverty Reef which a year or so later was to astonish the country by its returns, was in the process of making men rich ... King's and Hammond's crushing plants were working right in the town, and Wayman's and another were also working alongside the great reef that ran parallel to the street about 150 yards to the east. ⁶⁰
- 1857-1860:** In 1857 Sandy Creek had 300 people; in 1858 it had 3000 and there were 850 shareholders in 176 claims on 15 reefs. A year before only 12 claims were at work. A Police Camp was established in April 1859, and an escort established in 1861, the town then from being a canvas-town was rapidly approaching the brick stage, and the wealth of its chief reefers must have been great. ⁶¹

⁵⁷ Blake 1981

⁵⁸ Careless 1983, pp 4-5

⁵⁹ Flett 1956, p34

⁶⁰ Flett, 1956

⁶¹ Flett, 1956

1857: In 1857 Dunolly grew as the centre for the district, sold its merchandise through the wholesalers, brought its gold and was the rush town itself no more. Gold was still the source of its life, but the townfolk set about building of a permanent place and to get from life other things that the constant rush for gold ignored ... The first public buildings at Dunolly were built at the police camp on the creek at North Dunolly early in 1857. There were a Court House and a Lockup and there was also a Gold Office and a Police Barracks ... [mainly iron structures, and camp was later shifted to site of present township] ... Dunolly Local Court ... brought forth its Gazetted Regulations for the ordering of mining matters at Dunolly on April 15th. By these, Business Licences for occupiers of land on a rush for a shop, were given 70ft x 25ft and 12ft. was allowed between each place. Ordinary claims for the diggers were 24ft x 12ft. Wet Claims for 4 diggers were to be 36 ft. square, as were all claims on old ground for one man. All shafts on wet ground if in sight of another were to be worked continuously day and night to avoid flooding. No excuse would be accepted for stopping baling of water. All claims must be worked from 9a.m. to 12 noon each day. Prospecting claims not on a goldfield would be allowed up to 100-ft. square, and the re-discovery of a lost lead allowed the discoverer a 75-ft. claim. Claims on a reef for one man were 20 ft., and no claim, despite the number of men could hold more than 80 ft. For Quartz Reef discoverers triple claims were allowed. The regulations also covered claims, puddling machines, water rights and forbade the falling of trees on roads. ⁶²

1857: At this time digging at Dunolly was very dull, although the Wet Lead was still getting results. Burnt Creek had a good population and was doing well. Goldsborough digging at this time had almost ceased. At Jones Creek there were many hundreds working. Tarnagulla town was the scene of much activity and even then the great Poverty Reef which a year or so later was to astonish the country by its returns, was in the process of making men rich. King's and Hammond's crushing plants were working right in town, and Wayman's and another were also working alongside the great reef that ran parallel to the street about 150 yards east ... There were 4000 at Burnt Creek and the long line of windsails showed the energy being spent to get the gold out of Dunolly Wet Lead. Most of the digging at Burnt Creek town was being carried on, on what is now Gooseberry Hill, but was then known as Hard Hill, along the side of the hill to the burial ground. ⁶³

March 1857: First reports of the second great rush to Inkerman ... *The Times* (Ballarat) thus reported the rush at the end of March: "There are, we should say, 8000 people on the ground at Inkerman at the present moment, and hundreds are still pouring in from all quarters ... 7th April "Melbourne Herald": "There are now 12,000 at Inkerman. On every tent a chimney is erected, and although to the casual observer this may seem of no importance, it is yet one of the surest indications of the intentions of the inhabitants to winter here. The main street is already a mile in length and contains many buildings of a neat and substantial character. ⁶⁴

March-August 1857: A great rush of diggers to McIntyre's ... then the Emu Rush (four miles from Maryborough) took the population away from Dunolly ... The diggers left Emu for the great rush at Ararat in August, 1857. Ararat Rush left Dunolly empty at that time as far as the diggings was concerned ... Dunolly at this time began to be a bit concerned at the lack of digging in the locality, and the Dunolly Prospecting Association was formed, but after digging 100 holes in all parts of the locality very little gold was found and no large finds made. The Dunolly shopkeepers were largely responsible for the finances of the diggers employed in the association. Nevertheless, Dunolly escort, despite the lull, was taking down approximately 7000 ounces a month of gold. ⁶⁵

April 1857: The Hard Hill rush at Tarnagulla was another of the rushes that helped break up Inkerman Rush. This was one of the largest rushes at Tarnagulla after the Sandy Creek and Nuggetty Gully rushes of the early days ... Hard Hills was apparently one of the familiar Older Pliocene beds of cemented gravel, Like Gooseberry Hill at

⁶² Flett 1956, p 37

⁶³ Flett 1956, p66

⁶⁴ Flett 1956, p68

⁶⁵ Flett 1956, pp68-70

Dunolly and very rich, and the rush to this continued from April 1857 for some months.⁶⁶

- May 1857:** At the same time there was a large, if short rush to Hard Hill at North Dunolly ... There was also a large rush on 25th May to Bulldog Gully at Moliagul not far from Inkerman, but the gold was neither rich nor extensive.⁶⁷
- September 1857:** In September there was another rush to Wild Dog flat, and on the 4th October the Old Lead, which had produced a fairly continuous run of nuggets since the last rush, brought to light another larger than ever seen at Dunolly. The Dunolly nugget was 2952 ounces gross weight ... and on being melted produced 1363 oz. 18 dwts. of gold ... At this time, Cochrane's Rush, that led to the creation of the town of Cochrane's (later Bealiba) occurred ... There were many thousands there.⁶⁸
- 1857:** In 1857 Sandy Creek had 300 people; in 1858 it had 3000 and there were 850 shareholders in 176 claims on 15 reefs. A year before, only 12 claims had been at work. A Police Camp was established there in April 1859 and an escort established in 1861, the town then a canvas-town, rapidly approached the brick stage, and the wealth of its chief reefers must have been great. In 1857 they had driven out the Chinese ...⁶⁹
- [1857-60s]** Discovered in 1857. This reef produced 120 oz in February the following year and soon after was returning 8 oz per ton from the 100-ft level. As all the trees had already been cut down by the first miners it was decided to erect a windmill to drive the battery. It was 80ft high and when finished in 1860 failed to work and was abandoned. The brick foundations still remain.⁷⁰
- March 1858:** At Jones Creek in March one man got £1500 worth of gold and many nuggets. At Dunolly the Wet Lead, that was nearly deserted and was being worked mainly by an amalgamated claim of ten men, three of whom worked the windlass in shafts day and night to beat the water, was attempted by Dunolly's first gold-mining company - the "Engine Enterprise Co." - that started on 8th October to cope with the water in the lead by means of a steam engine ... Almost at the same time, Oldmeadow's Homeward Bound Whim Co., started nearby with a slabbed 40ft. shaft, but neither of these did well. At the same time the Chinese, many of whom had been driven out of Sandy Creek and Ararat, began to arrive at Burnt Creek, and by June 1858, they had Burnt Creek nearly to themselves, there being about at that time 2500 there ... There was another rush to Wild Dog in June, and in the direction of Moliagul there was a rush of 2000 on 10th August ... [rush caused by nugget-getting in Sparks and Clodhoppers Gullies]⁷¹
- June 1858:** 2000 Chinese arrived on Burnt Creek from the Ovens in one huge crowd, and from time to time others in batches of up to 300 were reported as arriving, sometimes fresh from China.⁷²
- November 1858:** Yet another rush to the nugget-fields of Inkerman ... The lead was 10 feet deep, with a mullocky bottom, and the gold coarse ... The usual number of stores and grog shops were opened in 1858.⁷³
- 1859:** From a single crushing from the Prince of Wales Claim ... two cakes of gold weighing 1,389 and 1,054 ounces were obtained, some of the stone producing the magnificent yield of 200 ounces to the ton ... About this period the Gold Fields Commissioners visited Tarnagulla and they were shown a **kiln** of quartz valued at \$40,000.⁷⁴

⁶⁶ Flett 1956, p68

⁶⁷ Flett 1956, p68

⁶⁸ Flett 1956, p71

⁶⁹ Flett 1956, p75

⁷⁰ Tully 1988, p21

⁷¹ Flett 1956, p73

⁷² Flett 1956, p77

⁷³ Flett 1956, p74

⁷⁴ Clarke 1985, p4

1859: In 1859 digging was generally dull at Dunolly. The Engine Co. on the Wet Lead was doing poorly. Burnt Creek's Chinese seemed to prosper, but on Gooseberry Hill shallow ground was being worked and later in the year Gooseberry was almost abandoned as flat and stale. In Feb there was a rush between the Hard Hill at Goldsborough and the Mt. Bealiba Hotel ... a crushing machine, probably the first to be erected at Dunolly, was erected there at this rush. At Moliagul and Kingower a great number of Chinese and others were working ... and the lists of large nuggets beginning in 1858 and that continued through 1860 continued to grow. Many of these were found in Sparks Gully... ⁷⁵

August 1859: The first mining leases to be taken out in the district were issued in August 1859 ... The first lease was to the first Poverty Reef Company - "The Sandy Creek Quartz Mining Co."... The next two leases were for alluvial ground, each for 25 acres. August - The first (lease No 24) was to Day, Ferguson, Jackson and Wilson, Dunolly storekeepers, in the name of The Moliagul Washing and Crushing Co. With £10,000 capital they were to work Surface Gully and Long Gully at Moliagul with 100 men. September - Lease (No 25) was to McBride, Prendergast and Vogel of Dunolly, and was to work Biggs' Gully. These large leases of alluvial ground were immediately objected to by the diggers, who foresaw all the best ground tied up in this way, and a Miners' Protection Association was the result. The ambitious plans born of the Moliagul nuggets that at the time seemed so easy to find, and the lean times in Dunolly, came to nothing. ⁷⁶

Mid 1859: Jones Creek contained 150 people only at this time but Sandy Creek was thriving. The yield from Poverty alone was about 600 oz. per week and six crushing machines operated in the town. The example of reefing at Tarnagulla was followed by Dunolly, and various reefs ... were opened ... Reefs discovered and worked first in this year at Dunolly under the impulse of Sandy Creek reefing ... included the Perseverance and Monday Morning reefs. Murphy's Reef, the Belgian, and a claim on the Quaker's Reef were the only others working. Patterson's and the Bet-Bet are idle. These were the only reefs known at this date, the reefs at Inkerman, Almeida, etc. being then undiscovered. The riches of Corfu Reef at "Tarnagulla diggings", between Sandy Creek and Newbridge, were first known. An alluvial rush started here in August 1859. It was an extensive rush and during Dunolly had the galling experience of seeing population going to Tarnagulla Diggings ... About 1000 collected at the these diggings at Halfway, which was followed by a larger rush than this to Hard Hill again at Sandy Creek in October, which in turn was followed by the first rush to Old Inglewood in October and New Inglewood in December ... At the end of the year, in October, there was a rush to "The Shoots" at the top of Little Chinaman's, and another rush to Jones Creek ... At this time there began various crushing machines at Dunolly - Reid's and Kirk's ⁷⁷

1859: Northumbrian Reef - This lode, of which comparatively little has been heard, was opened about November, 1859, by a party who had been quartz mining for a considerable time at Jericho. They were induced to prospect the ground on account of the advent of the Bet Bet Machine, which they expected would give them a better opportunity of prospecting the reefs in the neighbourhood, than as hitherto existed. Gold was discovered on the surface of the present prospecting claim in paying quantities and carried down to a depth of 30 to 40 feet. Some stuff crushed at the Bet Bet Machine did not prove remunerative, owing apparently to the defective manner of the crushing and amalgamating then in vogue and the prospectors had recourse to a mill at McCallum's Creek, some twenty miles distance. This increased the cost to so great an extent, and the spur, although rich, was so thin, that they had to abandon the enterprise ... It may be as well to add that the remark above as to the Bet Bet mill, do not apply to the machinery employed by the Caithness Company, which we believe is among the most perfect in the district for saving gold. ⁷⁸

⁷⁵ Flett 1956, p74

⁷⁶ Flett 1956, p74

⁷⁷ Flett 1956, p75

⁷⁸ Dunolly and Burnt Creek Express 22 Nov 1862, p2

1859: North Dunolly: In 1861 it was reported that Reed's Crushing Machine was lately shifted from the Belgian to Consolation Reef. Reed's was the original crusher at Dunolly and was originally at North Dunolly and it was probably shifted to Belgian Reef in 1859.⁷⁹

[1859, Poverty Reef]: From a single crushing from the Prince of Wales Claim...two cakes of gold weighing 1,389 and 1,054 ounces were obtained, some of the stone producing the magnificent yield of 200 ounces to the ton... About this period the Gold Fields Commissioners visited Tarnagulla and they were shown a kiln of quartz valued at \$40,000.⁸⁰

[1859] The first survey of Moliagul township was done in 1859 by Henry Morris. The site chosen by the government was on the hill to the east of the present main street. People who had built premises on the flat near the creek, refused to buy the sites on the hill when offered for sale. In 1862, Phillip Chauncey was appointed surveyor in the Dunolly district, and offered both sites for sale. The first sale of Moliagul land was held on September 5th and 6th, 1862.⁸¹

[May 1859] During the month a considerable increase has taken place in the population of the division. The copious supply of rain, which we have had, has filled all the dams and water holes, and has induced many to return from Back Creek. All the puddling machines and crushing mills are in full work, and employing their full complement of labour. Population of the division 6,000

	<i>No.</i>	<i>Horse power</i>
Steam crushing-mills in work	9	134
Steam pumping and puddling engines	3	10
Crushing mills in course of erection	2	31
Horse puddling machines	189	⁸²

June 1859: Poverty Reef - 9 claims, 140 aggregate length, 3 to 6 oz/per ton ... Poverty is by far the most important ...[reef in the Dunolly Division] ... It almost exclusively employs three crushing machines, two of 25-horse power, each, and one of 12-horse power, besides an 8-horse power engine for winding for the two principal claims almost adjoining. One of these claims, 80 feet in length, and which is being worked at a depth of 200 feet, is regularly yielding 600 ounces weekly. The next, north of the above, after being worked constantly for 20 months, has struck the reef at a depth of 247 feet, and is quite as rich as the other.⁸³

⁷⁹ Flett 1856

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⁸¹ Careless 1983, p22

⁸² Mining Surveyors' Reports May 1859, p11

⁸³ Mining Surveyors' Reports June 1859, p15

[June 1859]

Approx number of persons engaged in mining and crushing: -

Quartz Miners	850	
Men employed at crushing mills	96	
Alluvial miners	2,700	
Machines employed:		
Steam crushing mills in work	9	134
Steam crushing mills in course of erection	2	31
Steam-engines for winding and pumping	3	30
Horse puddling machines in work	142	
Horse puddling machines idle	47	
Horse whims	8	

During the past month the state of alluvial mining in the division has not been so prosperous as might have been expected at this season of the year. No new ground of any consequence has been opened; and with the exception of two steam-engines and five horse-whim companies, no parties of any magnitude are engaged in this branch... Most of the puddling machines are at work, and water is plentiful, but many of them have nearly, or quite, worked out the payable ground in the localities in which they are erected, and their owners will soon have to turn their attention to other modes of working... Sluicing has not, as yet, engaged the attention of the miners here.

Quartz mining is steadily progressing. Four new reefs have been added to the resources of the division during the month, viz, Corfu, Barker's, Murphy's and one on private property. ... Several claims on established reefs have struck gold, including: - Poverty Reef, Greek's Hill, Great Western, Barker's, Needful, Sabbath, Victoria, Specimen, Watts', Halfway, Corfu [all at Sandy Creek]; Kangaroo Flat, American, Woolshed, [at Cay's]; Wayman's, Queens, Hoggarth's, Bull-dog, Sheoak [Moliagul]; Perseverance, Belgian [at Dunolly]; Murphy's, Bet-Bet [at Burnt Creek] ... Of these Poverty is by far the most important.⁸⁴

[July 1859]

The estimated population [of the Dunolly Division] is as follows:

Quartz-miners	860
Men employed on crushing mills	96
Alluvial miners	<u>2,840</u>
Total	3,796

The following table shows the machines employed:

	No.	Horse-power
Steam crushing mills in work	9	134
Steam crushing mills in course of erection	3	56
Steam pumping and winding engines	3	30
Steam pumping and winding engine in course of erection	1	20
Horse puddling-machines at work	142	-
Horse puddling-machines idle	47	-
Horse-whims at work	8	-

In last month's report there is a list of 53 payable claims on 24 reefs; total length 1,532 yards; add for July 5 claims, 158; total 1,740. Besides the above there are 38 reefs at work in various parts of the division, with from one to three claims on each at work, most of them having more or less indications of gold.⁸⁵

⁸⁴ Mining Surveyors' Reports June 1859, p11

⁸⁵ Mining Surveyors' Reports, July 1859, p. 14

[August 1859]

Individual alluvial mining is undoubtedly every day becoming a more and more precarious means of living. Very few are doing well at it, and the generality are scarcely earning subsistence; and this in the midst of plenty, if efficient machinery were introduced to work our numerous shallow leads and gullies, and the surface on the slopes of the auriferous hills. Public attention is now directed to this, and applications for leases are being sent in to the Warden by large companies. Two have applied for 25 acres each, at Mount Moliagul. They have chosen, perhaps, the very best ground in this part of the division - shallow, originally rich, the gold general, the soil easy to wash, and plenty of water sheds for reservoirs. The individual miner has worked it so long that it cannot pay him now, but machinery with suitable reservoirs of water will make it pay splendidly. A company at Sandy Creek has applied for seven acres in the old lead, with the view of sluicing or washing it with the water pumped from Poverty Reef, which is adjacent. On the various reefs in the division operations are being carried on actively, with average success. Poverty reef takes the lead, not only in this district, but probably in the colony. A company has taken up 768 yards on the south end of the reef, and of course they will erect extensive machinery for pumping, winding, and crushing, and also for washing the surface, in which the gold is so generally distributed that it would be difficult to find a spot from which a speck or two at least could not be washed from every tin-dishful of soil.⁸⁶

[September 1859]

The reefs are the mainstays of this part [Tarnagulla/Sandy Creek] of the division. They are steadily being developed, machinery is increasing every month, and more improved methods of conducting mining operations are being adopted. Quartz crushing is now done at a cheaper rate than formerly - 18s. per ton is the current rate over 20 tons.

At Moliagul, Wattle Flat, Bulldog, and Inkerman, a good number is at work at alluvial mining, chiefly in old ground, and most of them are doing very little; but occasionally a fine nugget is got in Spark's Gully and Nuggetty Point, both of which are at the base of the mount.⁸⁷

[Nov 1859]

The mining population is as follows:

Alluvial miners	3,420
Quartz miners	900
Employed at machines	<u>152</u>
Total	1,472

The machines are as follows:

	<i>No.</i>	<i>Aggregate Horse power</i>
Crushing-machines at work	11	165
Crushing-machines in course of erection	2	45
Pumping and winding engines at work		4 50
Windmill for crushing in course of erection	1	-
Horse puddling-machines at work	118	-
Horse puddling-machines idle	71	-
Horse-whims	15	-

Since my last report a decrease has taken place in the population of this division, both of alluvial and quartz miners, but chiefly of the former, in consequence of a rush to Hall's Diggings, near Kingower, and numbers are preparing to leave from all parts of this division.⁸⁸

⁸⁶ Mining Surveyors' Reports, August 1859, p. 21

⁸⁷ Mining Surveyors' Reports, September 1859, p. 14

⁸⁸ Mining Surveyors' Reports, November 1859, p. 14

[December 1859]

The mining population is as follows:

	<i>Europeans</i>	<i>Chinese</i>
Alluvial miners	3,150	400
Quartz miners	<u>690</u>	-
Total	3,840	400

The machinery is as follows:

Alluvial Mining: Steam engines employed in winding, pumping, puddling, &c.: - 2-24 horse power; horse puddling-machines, 189; whims, 7.

Quartz-Mining: Steam engines employed in pumping, winding, and crushing: - 15-236-horse power; windmill, 1.

The approximate value of all the mining plant in the division is £34,000.

The state of the division with regard to alluvial mining has not improved since my last report. The scarcity of water has caused great dullness in this branch of mining; besides, the old diggings are pretty well worked out, and nothing new has been discovered. None of the companies who have secured leases, with the exception of the Poverty Reef Company, have commenced to make preparations for winter operations. Quartz mining is improving... The reefs throughout the division continue to yield their usual quantity of gold, and several new reefs have been discovered during the month...all...yielding payable prospects.⁸⁹

1860

This was the peak period in the fall in Dunolly's fortunes when after the exodus to Inglewood rushes the population mustered only about 400 and the town street was a scene of deserted shops and the Town Council meetings frequently lapsed for want of a quorum.⁹⁰

1860

Reservoirs at Dunolly, Tarnagulla and Maryborough were built.⁹¹

⁸⁹ Mining Surveyors' Reports, December 1859, p.13

⁹⁰ Flett 1956, p34

⁹¹ Flett 1956, p49

[Jan 1860]

The mining population is as follows:

	<i>Europeans</i>	<i>Chinese</i>
Alluvial miners	2,470	250
Quartz miners	<u>780</u>	-
	3,250	250

The machinery is as follows:

Steam crushing machines at work	2	
Do. do. idle	10	
Steam pumping, winding, puddling machines at work, &c.	4	
Do. do. do. idle	1	
Windmill for crushing, in course of erection	1	
Horse-crushing machines, do. do.	2	
Horse-puddling machines	189	
Horse-whims	13	

The almost entire want of water throughout the division has caused great depression both in alluvial and quartz mining during the month of January; nearly all the puddling machines are stopped, and only two out of the twelve crushing machines in the division are at work, and both these are entirely though scantily supplied by water pumped from Poverty Reef, and only one of them crushes for the public; consequently very little quartz is being crushed, and a great number of wages-men have been thrown out of employment. No new alluvial ground has been opened with the exception of a small rush that took place in the early part of the month within one mile and a half of Jones Creek, and which is now nearly deserted. With the exception of the Poverty Reef, Stony Reef, and Greek's Hill Companies, which are energetically at work, none of the others who have secured leased in the division have as yet commenced to make preparations. The Mount Moliagul Company holds three leases of large areas in the very best portions of the district, and for the sake of the public some limit ought to be fixed to such delay.⁹²

[Feb 1860]

The population is as follows:

	<i>Europeans</i>	<i>Chinese</i>
Alluvial miners	1,690	100
Quartz miners	<u>790</u>	-
	2,480	100

Alluvial mining in the division has been almost at a standstill during the month, the poorness of the old diggings (no new ground having been opened during the month) and the almost entire want of water, having caused a great number of alluvial miners to leave for Inglewood...

Quartz mining is the only permanent source of production in the division, and this branch is steadily improving, but scarcely any quartz has been crushed during the month for want of water. The old reefs are being steadily worked with their average success, and some of the new ones are turning out beyond expectation...⁹³

⁹² Mining Surveyors' Reports, January 1860, pp. 25-6

⁹³ Mining Surveyors' Reports, February 1860, p. 50

[March 1860]

The mining population is as follows:

	<i>Europeans</i>	<i>Chinese</i>
Alluvial miners	2,040	400
Quartz miners	<u>850</u>	<u>-</u>
	2,890	400

The machinery is as follows:

	<i>No.</i>	<i>Horse-power</i>
Alluvial mining:		
Steam engines employed in pumping, winding and puddling	2	24
Horse puddling machines	36	
Whims	4	
Quartz mining:		
Steam engines employed in pumping, winding and crushing	16	258
Windmill	1	
Whims	10	

In consequence of a fall of rain in this division, about the middle of March, a considerable impetus was given to mining in general. Nearly all the crushing machines and a good number of puddling machines were able to commence operations, and the consequence is that the population has increased by a few returning from Inglewood, and by the addition of some Chinese. Alluvial mining is almost entirely confined to old ground, nothing new having been discovered during the month, with the exception of a patch of nuggetty ground on the western slope of Poverty Hill, Sandy Creek, and a short distance outside of the boundary of Poverty Reef Company's lease, and adjoining the old lead, near the main street. A 19 oz, a 6 oz, and a number of smaller nuggets have been got in ground varying from a few inches to 4 feet in depth, showing how valuable the surface of the slopes are likely to be to the companies who have secured leases of reefs in this locality. There can be little doubt of the surface of a large portion of the quartz reef lease blocks here paying handsomely. No alluvial company in this division has as yet begun to make preparations for working, although several leases of large area in good localities have been gazetted a long time, and of course their ground is not available to the public either for individual mining or for the purpose of other companies.⁹⁴

⁹⁴ Mining Surveyors' Reports, March 1860, p. 69

[April 1860]

The mining population is as follows:

	<i>Europeans</i>	<i>Chinese</i>
Alluvial miners	2,000	700
Quartz miners	<u>950</u>	<u>-</u>
	2,950	700

Notwithstanding the copious supply of water throughout the division during the month, alluvial mining has continued in a very depressed state... The only parties who have done well are some of the puddling machine proprietors; especially some of those in the neighbourhood of Mount Moliagul, where much of the ground would undoubtedly pay well if worked, and washed on an extensive scale, which would require a large and permanent supply of water, and there is no part of the division in which there are greater facilities of constructing extensive reservoirs at a moderate outlay.⁹⁵

[June 1860]

The population is as follows:

	<i>Europeans</i>	<i>Chinese</i>
Alluvial miners	2,500	1,100
Quartz miners	<u>950</u>	<u>-</u>
	3,450	1,100

The machinery is as follows:

	<i>No.</i>	<i>Horse-power</i>
Alluvial mining: -		
Steam engine employed in winding, pumping and puddling	1	12
Horse puddling machines	80	
Ditto whims	3	
Quartz mining: -		
Steam engines employed in winding, pumping, and crushing	16	258
Ditto in course of erection	2	
Windmill	1	
Whims	10	96

⁹⁵ Mining Surveyors' Reports, April 1860, p. 87

⁹⁶ Mining Surveyors' Reports, June 1860, p. 153

[August 1860]

The machinery is as follows:

	<i>No.</i>	<i>Horse-power</i>
Alluvial mining:		
Steam engine employed in winding, pumping and puddling	1	12
Horse puddling machines	84	
Ditto whims	6	
Quartz mining: -		
Steam engines employed in winding, pumping, and crushing	18	293
Whims (at work)	10	
Windmills (idle)	1	
Horse crushing machines	1	

The population is distributed as follows:

	<i>Alluvial</i>	<i>Quartz</i>
Dunolly	500	120
Burnt Creek	220	
Wild Dog	70	
Bet-Bet	50	20
Jones Creek	250	
Wattle Flat and Inkerman		500
Moliagul	250	120
Sandy Creek	400	650
Half-way	350	150
Cay's	60	40
Cochrane's	150	

The population has increased during the month, and alluvial mining has somewhat improved; several small rushes have occurred in the neighbourhood of old ground, viz., at Dunolly, Wild Dog, Burnt Creek, and Wattle Flat, at which places a considerable number of miners are profitably employed.⁹⁷

[c. 1860,

Dunolly] ...tenders called for the construction of a reservoir in a gully near the top of the Old Lead. Alexander H. Amos was the contractor and the cost was £912. At the time it was suggested that the water should be piped to the township, but this was not done until 1880 and until then, the water carriers had a lucrative business.⁹⁸

PHASE 2

Burnt Creek Rushes

The alluvial leads that instigated the Burnt Creek Rushes that saved Dunolly in the early 1860s, had been discovered and worked in the late 1850s:

⁹⁷ Mining Surveyors' Reports, June 1860, p. 153

⁹⁸ Careless 1983, p5

1. Old Lead/Wet Lead

- 1861:** The salvation of Dunolly in 1861 was once again, when things were blackest, achieved by a strike of gold. On this occasion - on August 19th of that year - the strike was at Burnt Creek, when a lazy digger named Chipps watched two Welshmen bottom a hole on Spiller's Hill alongside one he had partially dug. A new lead was discovered ... The Great Burnt Creek Rush was the result, which was kept going by the persevering Chinese often when almost abandoned by the Europeans, undoubtedly saved Dunolly as a town ... The town turned the corner in 1861. In the next two years it consolidated itself, and for three years following this it reaped a rich harvest for the re-discovery of old runs of gold ... the continuations of the Wet Lead and Old Lead. ⁹⁹
- 1862-1913:** Hong Kong Lead was lost in 1862 and not re-discovered until 1869. The first good gold in it was not found until ten years later, and it was 1882 before it became payable to the Burnt Creek Co. It was then worked as a deep lead until 1913. ¹⁰⁰
- 1862-67:** Main Burnt Creek lead, which continued apparently about half way to the later Burnt Creek No 1 mine before the lead was lost. For some reason the miners at the time expected this lead to run south through the hills to Bet Bet - Hong Kong Hills - but the old "Rising Sun" Company ... was unable to find the lead in that direction. This company later became the Duke of Edinburgh Co. in 1867. ¹⁰¹
- 1862:** The Burnt Creek Rush ... has spread over a very large area of ground, and has extended almost up to Dunolly on one side and stretched down to the Bet Bet on the other ... puddling machines have sprung up in some number and quicksilver cradles are in vogue, both with Chinese and Europeans. ¹⁰²
- August 1869:** Dunolly mining men knew that the Hong Kong Lead continued, but had no clue to its direction; but this continuation was discovered on Aug 27th 1869 "south of the Duke of Edinburgh mine and not far from Adam Boyd's 42nd Section Block". The first lease of the area went to Richard James Scott of Timor in 1871, and the Great Caledonian Co. started in Sept 1872. ¹⁰³
- September 1871:** A large area of ground has been applied for, under lease, at Burnt Creek, by the Great Caledonia Company, who intend to work on the continuation of the Burnt Creek and Dunolly leads, which were very rich up to this point, beyond which they were not worked. ¹⁰⁴
- 1878:** Work began as a tribute Co. in April 1878 when 170 acres of lease and an engine and 20 head battery was there - all the property of Alexander Watson, of Chinaman's Flat, who started there in 1877. The tribute Co., which Anstery, Seymour and Garlord were chief, then gave up and in 1879 when the first Burnt Creek Co. (of Edward Morris, Robert Richie and Watson) was formed it bought out the lease and plant. The mine was worked at 140 feet. ¹⁰⁵

⁹⁹ Flett, 1956

¹⁰⁰ Flett 1979, p.278

¹⁰¹ Flett, 1956

¹⁰² Flett, 1956

¹⁰³ Flett, 1956

¹⁰⁴ Mining Surveyors' Reports, September 1871

¹⁰⁵ Flett, 1956

2. Pliocene Gravels

- 1856/57:** There was another rush at Burnt Creek in February 1856, and later that year the population was again down to 300, until the vast overflow from Dunolly rush, began, and there were 3000 at Burnt Creek just before the discovery of Wild Dog Gully early in November 1856 ... Little Chinaman's Gully, a continuation of Wild Dog, was also opened at this time ... Wilson's Lead was also opened late in 1856, and the whole gravel range south of the Burnt Creek, known generally as the Hard Hills, but from west to east as Gooseberry, Spiller's, Graveyard and Slaughteryard Hills were covered by diggings early in 1857. ¹⁰⁶
- 1861:** The salvation of Dunolly in 1861 was once again, when things were blackest, achieved by a strike of gold. On this occasion - on August 19th of that year - the strike was at Burnt Creek, when a lazy digger named Chipps watched two Welshmen bottom a hole on Spiller's Hill alongside one he had partially dug. A new lead was discovered ... The Great Burnt Creek Rush was the result, which was kept going by the persevering Chinese often when almost abandoned by the Europeans, undoubtedly saved Dunolly as a town ... The town turned the corner in 1861. In the next two years it consolidated itself, and for three years following this it reaped a rich harvest for the re-discovery of old runs of gold ... the continuations of the Wet Lead and Old Lead. ¹⁰⁷
- August 1861:** The rush that saved Dunolly from possible obscurity took place at Burnt Creek. It began with a digger named Chipps, who sank of Anderson's Hill ... The lead was 60ft deep and was really wet and rather poor, but as though every digger in the district believed it rich, a great rush set in and the shops were set up. Another rush then started to the junction of Wild Dog and Burnt Creek leads and another rush began at Warnecke's Flat and Dairy. The real lead on which the rush eventually based its existence began near Ah Wing's garden and became known as the Bullock's Flat Rush - the main rush. ¹⁰⁸
- 1861:** In August 1861 it was reported that a new lead of gold at Burnt Creek had been discovered by a digger named Chipps ... the locality was Anderson's Hill (Hicks) ... A large rush began, which established the town of Bromley. The Chinese, who outnumbered the whites six to one on this rush, had all the 'fancy ground', and opened the lower end of it, known as Hong Kong Lead, which was still being worked in May the following year. ¹⁰⁹
- August 1861:** The rush that saved Dunolly from possible obscurity took place at Burnt Creek. It began with a digger named Chipps, who sank off Anderson's Hill ... The lead was 60ft deep and was really wet and rather poor, but as though every digger in the district believed it rich, a great rush set in and the shops were set up. Another rush then started to the junction of Wild Dog and Burnt Creek leads and another rush began at Warnecke's Flat and Dairy. The real lead on which the rush eventually based its existence began near Ah Wing's garden and became known as the Bullock's Flat Rush - the main rush. ¹¹⁰

¹⁰⁶ Tully, 1988

¹⁰⁷ Flett, 1956

¹⁰⁸ Flett, 1956

¹⁰⁹ Flett 1979, p.277

¹¹⁰ Flett, 1956

- April 1862:** Of a different type was the rush that occurred to Spiller's Hill ... the hills to the west of Burnt Creek – Spiller's Hill, Graveyard Hill (old burial ground), Slaughteryard Hill and Gooseberry Hill. On Spiller's Hill began the first concerted effort by experienced diggers to trace a lead in this strata - [Pliocene beds of waterworn stone, cemented together] - and the result was the weekly lists appearing in the Dunolly newspaper of nuggets and yields of claims that became famous. In 1863 the Blue Jacket Claim was getting sometimes upwards of 50 ounces per week, and the "Blue Jacket" nuggets were famous. Another claim was the Switzerland, and another had the graceful name, The Rose of Denmark. In the Blue Jacket the wash was seven feet thick and a regular ounce to the load was had for weeks and months. There were many claims on Spiller's held by Chinese. Other claims were the Invincible, the Liverpool and All Nations. ¹¹¹
- December 1862:** The only place in the division, where machinery is employed in this branch [alluvial mining] is at Spiller's Hill and adjoining hill. ¹¹²
- November 1863:** Old White Hill Rush - beginnings of three large rushes that started on Gooseberry Hill, and proved - as had been said many times - "Burnt Creek is not done yet". ¹¹³
- November 1863:** Old White Hills Rush ... lasted for several months and there were about 500 there, an average of an ounce of gold being got off the bottom in the early rush. This was the beginning of three large rushes that started on Gooseberry Hill, and proved - as had been said many times - "Burnt Creek is not done yet". ¹¹⁴
- September 1864:** Things began to get brisk in the direction of Gooseberry Hill ... The Union Co. which claimed to be the openers of this - The Gooseberry Hill Rush - sank 63 feet and immediately got 9 ounces of gold ... The papers referred to this firstly as the "South Dunolly Rush" and reports of the gold found under the gravel and cement, where every hole had gold, caused a great rush ... On December ... the Union Co., with some pomp and ceremony installed an engine on their shaft. This company, practically owned by George Simpson, having pioneered the rush, was first to set about working their claim methodically. The Gooseberry Hill Rush extended throughout the following years, despite swamping and the discovery of gold near the Pound in 1865...¹¹⁵
- Later in 1864** Dunolly took a new lease of life when a series of new gold discoveries were made about a mile west of the town. The first of these, known as the Gooseberry Hill rush, was started by the Union Co. in November. In February 1865 two prospectors named Manning found gold near the Pound on Timor Road, about two miles up the Burnt Creek from Gooseberry Hill. There were about 1000 diggers on the Gooseberry and Pound Rushes when another began on Gooseberry Flat late in 1865. ¹¹⁶
- February 1865:** The hill ... was covered in tents and a considerable sized township had been erected with more than one street ... There were some thousands at Gooseberry early in 1865 and the sight of the great multitude of fires glowing on the hill as seen from Dunolly in the Autumn of 1865 was something to remember.¹¹⁷

¹¹¹ Flett, 1956

¹¹² Mining Surveyors' Reports, Dec 1862

¹¹³ Flett, 1956

¹¹⁴ Flett, 1956

¹¹⁵ Flett, 1956

¹¹⁶ Flett, 1979, p.282

¹¹⁷ Flett, 1956

- May 1865:** Despite the Pound Rush, however, Gooseberry Hill continued to give of its richness and the Rising Sun and Morning Star companies began work on Gooseberry in Sept, and the Union Co. with its engine continued its rich yield ... There were, of course, many hundreds of Chinese working on Gooseberry Hill at the rush, and with their facility for the thorough fossicking of the ground old and new, they haunted the lead, and the yields in the well-known claims gradually diminishing generally, the Chinese took them over. ¹¹⁸
- 1865:** Pound Rush - towards the end of 1865 the shallow ground at the north end of the Pound Rush was beginning to show signs of being worked out. Attention began to be given to the south end of the rush and to the deeper ground in the vicinity of Pottery Hill, and here larger claims began after the manner of Gooseberry Hill with similar kinds of titles. The United Savages, who had been there from the beginning at the south end, re-christened themselves the Alliance Co., and other claims opened. There were the Great Surprise Co., the Unexpected Co., between these the Pottery Hill Co., that started in 1865 with an engine, the Pound Gold Mining Co. began by George Simpson and William Hayes who pegged and attempted to lease 10 acres on Pottery Hill on which 150 diggers were still digging. The lease was refused in the end, but considerable strife occurred over this ... The Chinese had claims there ... The Pottery Hill Co. ... was very wet but was getting good gold, as was the Alliance Co. That was a corporate affair of 16 men holding 5 acres of ground. Other large claims were the Happy Go Lucky, the Perseverance, the Duke of Cornwall, and the All Nations Company that held 11 acres in Murphy's paddock, and which opened on 13th Sept 1866 ... with an engine. ¹¹⁹
- 1866/67:** The Pound Rush began to peter out at the end of 1866 and it was reported in Jan 1867, that nearly all the business places had been shifted from the Pound Rush to Gooseberry Flat. ¹²⁰
- [1861]** Tarnagulla and Newbridge. It was formed as a Road District in February 1861, and advanced to the dignity of a Riding in the Bet Bet Shire in 1864 ... Parish of Tarnagulla was divided into 180 allotments comprising 16,301 acres and was first surveyed in 1864. The Borough of Tarnagulla and the village of Newbridge, was formed in 1864 ... the Borough was first surveyed in 1866. The first sale of land occurred in 1861. ¹²¹
- 1861** That sale was the forerunner of the Bet-Bet Shire - The Bet-Bet Road Board was set up in Dunolly. ¹²²
- 1861** Before the middle of the year, the population began to drift back to Dunolly from the surrounding rushes and some small rushes occurred in the locality - Slaughteryard Gully, Milkmaid Gully at Inkerman, Sporting Flat. ¹²³
- [1861]** The forerunner of the Bet Bet Shire was the Bet Bet Road Board which was established on January 18th, 1861, by the Government of Victoria. The Board regularly met at Bet Bet, Dunolly and Tarnagulla and represented the interests of the townships of Dunolly, Bealiba and Tarnagulla, as well as other district settlements. On September 20th, 1864, the Bet Bet Road Board was proclaimed a Shire, and became the Shire of Bet Bet. Its regular meeting-place became Dunolly, which was more central than Tarnagulla where the former Board had met for some time. ¹²⁴

¹¹⁸ Flett, 1956

¹¹⁹ Flett, 1956

¹²⁰ Flett, 1956

¹²¹ Clarke 1985, p4

¹²² Flett 1957, p55

¹²³ Flett 1956, p76

¹²⁴ Careless 1983, p6

[Jan 1861]

Mining population:

Alluvial miners - 1900 Europeans, 800 Chinese;
Quartz miners - 750 Europeans.

Machinery - Alluvial:

steam engines employed in puddling, pumping & winding - 1 x 12hp
horse-puddling machines - 32 idle, 84 working
whims - 7 idle

Machinery - Quartz mining:

pumping, winding and crushing - 19 engines, total 305 hp
horse whims - 10
horse crushing machines - 2 125

[Feb 1861]

The European population of the division in both branches of mining has considerably decreased during the month, in consequence of the rush to Mackinnon's, combined with the scarcity of water in the division.¹²⁶

[April 1861]

Increase of 14 in the number of puddlers in the division.¹²⁷

[May 1861]

A considerable number of men have returned to the old ground in the neighbourhood of Dunolly...and many are erecting puddling machines.¹²⁸

[May 1861]

Mining population:

Alluvial miners - 2,500 Europeans, 1,800 Chinese;
Quartz miners - 750 Europeans.

Machinery - Alluvial:

steam engines employed in puddling, pumping & winding - 2 x 12hp
horse-puddling machines - 36 idle, 122 working, 20 in course of erection

Machinery - Quartz mining:

pumping, winding and crushing - 20 engines, total 320 hp
horse whims - 15
horse crushing machines - 1

The population of the division was distributed as follows:

	<i>European</i>	<i>Chinese</i>	
Dunolly	540	200	
Burnt Creek	100	1200	
Murphy's Flat	200	-	
Wattle Flat & Inkerman	500	50	
Jones Creek	200	100	
Sandy Creek	600	250	
Cay's	30	-	
Bet-Bet	30	-	
Cochrane's	300	-	129

¹²⁵ Mining Surveyors' Reports, January 1861

¹²⁶ Mining Surveyors' Reports, February 1861

¹²⁷ Mining Surveyors' Reports, April 1861

¹²⁸ Mining Surveyors' Reports, May 1861

¹²⁹ Mining Surveyors' Reports, May 1861

August 1861

The rush that saved Dunolly from possible obscurity took place at Burnt Creek. It began with a digger named Chipps, who sank on Anderson's Hill ... the lead was 60 feet deep and was really wet and rather poor, but as though every digger in the district believed it rich, a great rush set in and shops began to go up. Another rush then started at the junction of Wild Dog and Burnt Creek leads, and another rush began at Warnecke's Flat and Dairy. The real lead on which the rush eventually based its existence, began near Ah Wing's garden and became known as Bullock's Flat Rush. This was the main rush ... On about 20th August there were 20 Europeans and about 300 Chinese on Anderson's Point ... numbers increased to 2500 by the beginning of September. In October 1861, the real rush was on, but long before this, the town of Dunolly was the scene of activity akin to the early days ... Dunolly tradesmen practically monopolised the Burnt Creek Rush ... The rush to Warnecke's Flat was in October, 1861, while Bullock's Flat Rush - the main rush - took place the following month. It reached its height in November when there were between four and six thousand there ... During this time Inkerman had again come to the fore by attracting many who had no luck at Burnt Creek ... there were 3000 then at Inkerman and substantial stores were once again going up on this oft deserted place. At this time the three famous reefs were opened at Inkerman, the Acadia, Skipper's and the Arrandale.¹³⁰

[1861] Waanyarra] Many men were kept employed cutting timber when gold became scarce. Timber was used for fencing, building, and fuel and for railway sleepers. In 1861 there was a sawmill at Grassy Flat. Bullock drays were used to haul the huge logs to the sawmill. Mr. R.W Hammond and Co. were proprietors of the mill.¹³¹

[1861] Dunolly Town, whose population had risen to 2401 diggers in 1861, of which 500 were Chinese, made the most of the return to prosperity. There were, of the great number at Dunolly, Burnt Creek and Inkerman, over a thousand men employed on the reefs. In 1861, 1529 tons of quartz was crushed in Dunolly, where great numbers of new reefs had been discovered and new crushing machines opened. One of these that played a great part was the Caithness Co's machine at the Bet-Bet Reef. The prohibitive cost of crushing, which had previously made reefing profitable, was reduced to as low as 6/6 per ton for wash and 10/- per ton for quartz, giving an extra stimulus to this type of digging. Dunolly Mining District, which included Sandy Creek and Moliagul, however, lost half of its population of diggers after the first Rush at Burnt Creek, although there were still 4000 in the area, and the value of mining plant was £60,000. In 1862 Burnt Creek Rush continued down the flat towards the south-east and in February what was known as Hong Kong Rush was in full swing. The Hong Kong lead was three chains wide on the flat, and yields like 100 ounces for 30 loads were common. In May the Canton rush occurred ... before the lead was lost. For some reason the miners at this time expected this lead to run south through the hills to Bet Bet - Hong Kong Hills - but the old "Rising Sun" Company ... was unable to find the lead in that direction ... The lost deep lead of Burnt Creek was, of course, continued in the Caledonian Mine in 1877, and the lead, the Pliocene forerunner of the Burnt Creek, was worked continuously in the Burnt Creek No 1, Sweet Nell, Burnt Creek No. 2 and another mine across the Bet-Bet Creek that closed owing to the men enlisting for World War I. All told, the lead was about five miles long and was worked, over a period of about 60 years, from the surface down to a depth of 160 feet.¹³²

[1861-62] In August 1861 it was reported that a new lead of gold at Burnt Creek had been discovered by a digger named Chipps ... the locality was Anderson's Hill (Hicks) ... A large rush began, which established the town of Bromley. The Chinese, who outnumbered the whites six to one on this rush, had all the 'fancy ground', and opened the lower end of it, known as Hong Kong Lead, which was still being worked in May the following year.¹³³

¹³⁰ Flett 1956, 77

¹³¹ Douthat 1989, p17

¹³² Flett 1956, p79

¹³³ Flett 1979, p277

- [1862] Waanyarra is known to have produced the purest gold ever found in the world, being 99.9% pure. Waanyarra is also known for the large amount of alluvial nuggets found there ... a dull time on the fields was always revitalised by the discovery of a nugget. This can be seen from the various rushes, which occurred at Waanyarra over the years. *The Inglewood Advertiser* on 3rd January 1862 reported 'Mining at Jones Creek is generally dull'. But it was only a matter of weeks before the place was rushed after the news that a 52-lb. nugget had been found at "Secret Hill". Then followed larger finds and Waanyarra was bustling again.¹³⁴
- [1862] Hidden behind two hills and surrounded by a post and rail fence this pretty reservoir was the original water supply for Moliagul when built in 1862.¹³⁵
- [1862] Changes are small to that which have come over the smiling valley of the little winter streamlet known as Burnt Creek. Here one of the largest rushes of the last two years has taken place; a canvas township has sprung up on the flat, with a mile or so of shops of all kinds, hotels, billiard saloons, a theatre, a post office, a little crushing mill, and dancing saloons without number ... This rush had speedily the effect of revealing leads of gold in all directions until the Burnt Creek Rush has spread over a very large area of ground, and has extended almost up to Dunolly on one side, and stretched down to the Bet-Bet on the other. A cement is got in abundance that yields about an ounce of nuggetty gold to the ton; and from some of the wash-dirt passing through the mills 22 dwts. to the load have been obtained. Puddling machines have sprung up in some number and quicksilver cradles are in vogue, both with Europeans and the Chinese.¹³⁶
- [Jan 1862] Mining population - Europeans, 6,200; Chinese, 2,500. Of these, there are 8,050 alluvial miners, and 650 quartz miners. Steam-engines for alluvial mining, 4 of 50-horse power; for quartz mining, 19, of 310-horse power. Number of distinct auriferous quartz reefs, 73.¹³⁷
- [February 1862] After the rushes to Fighting Flat in which Kentish Gully was opened by John and James Streeten in February 1862, stores in some number were erected on this flat and digging began in Clover's Gully in the winter of that year and nuggets were found in quantity in October and the unearthing of them continued until the Spring of 1863.¹³⁸
- [April 1862] Mining population - 5,600 Europeans and 2,500 Chinese, comprising 7,500 alluvial and 600 quartz miners. Steam-engines - alluvial, 4, of 50-horse power; quartz, 19, of 310-horse power. Distinct auriferous quartz reefs, 79. There is nothing of importance to report in this district.¹³⁹
- [April 1862] Of a different type was the rush that occurred to Spiller's Hill in April 1862. The hills to the west of Burnt Creek - Spiller's Hill, Graveyard Hill, where the old burial ground still is, Slaughteryard Hill and Gooseberry Hills ... older Pliocene beds of waterworn stones cemented together that once formed the original lead at Dunolly and Burnt Creek, but which have been so traversed with washed out valleys that all that was left was the hills ... On Spiller's Hill began the first concerted effort by experienced diggers to trace a lead in this strata, and the result was the weekly lists appearing in the new Dunolly newspaper of nuggets and yields of claims that became famous. In 1863 the Blue Jacket claim was getting sometimes upwards of 50 ounces per week, and the "Blue Jacket" nuggets were famous ... other claims were the Switzerland, Rose of Denmark, Invincible, the Liverpool and All Nations ... There were many claims on Spiller's held by the Chinese.¹⁴⁰

¹³⁴ Douthat 1989, p8

¹³⁵ Tully 1988, p2

¹³⁶ Flett 1956, p 77

¹³⁷ Mining Surveyors' Reports, January 1862, p. 5

¹³⁸ Flett 1956, p80

¹³⁹ Mining Surveyors' Reports, April 1862, p. 4

¹⁴⁰ Flett 1956, p80

- 31 May 1862:** Mr Kirk's crushing machine (recently brought from Cay's Diggings) has been erected on the Burnt Creek Road, near the Chinese Camp. The engine is of 16-horse power, and when in working will drive fifteen head of stamps. ¹⁴¹
- [31 May 1862]** Although the long absence of heavy rain is telling upon the supply of alluvial gold especially, the manner in which the escorts maintain their character is proof that the miners are doing as well as those on other fields. We expect the winter rains to improve matters and many of the puddling machines at present idle, will show signs of life. We are pleased that quartz mining is coming more into repute. After all, this is the staple mining interest of the colony and although alluvial working is essential to the prosperity of the district, yet quartz mining should not be overlooked. It has not received the attention, in and around Dunolly and Burnt Creek, that its importance merits. But the fact that payable reefs do exist in the district is becoming evident, and the opening of fresh lodes from time to time is abundant evidence of the vast resources that exist here. As in other places, a system of prospecting would lead to results. Prospecting associations have been started, but formed on the wrong basis. Small companies started in localities where quartz gold is known to exist - and there are many such places near Dunolly - would be almost certain success. Say that three claims were taken up under the amalgamation clauses, ten shareholders paying six shillings each week, the two others being working men, having a full share each, and receiving thirty shillings per week for their labour. We believe that there are scores of places where golden reefs might be obtained, if such a course were generally adopted. The same would be said of Tarnagulla. It abounds in auriferous reefs, which only need to be worked systematically. During the quartz mania hundreds of places were opened up, and the business people were disbursing large sums weekly to keep the miners employed. But 25 or 30 shillings a week was a heavy tax on the tradesman, and after paying for a few weeks his patience was exhausted. A little scratching on the surface was done, and in some cases, deep sinking, but the shafts were put down on no recognisable principle, and failure was the general result. ¹⁴²
- [28 June 1862]** Quite a township is springing up in the neighbourhood of the Almeida and other localities opened in the locality of the Mosquito. ¹⁴³
- [28 June 1862]:** The Glamorganshire Company [Cochrane's] is crushing quartz from Mount Moliagul and tailings from the creek. ¹⁴⁴
- [26 July 1862]:** The Mount Moliagul crushing machine is to make a fresh start next week, and we may expect quartz mining to undergo resuscitation in the neighbourhood shortly. ¹⁴⁵
- [15 July 1862]** Cochrane's - There are 5 puddling machines at work in close proximity to the town. ¹⁴⁶
- [August 1862]** On the Old Lead also they had settled permanently, and around the ears of the dam on the main lead a crowd of diggers had built little places and had goats, fowls, and gardens to help tide them over bad times. They had erected a number of Puddling machines and very now and again they came across an astonishing patch of nuggets apart from the ordinary earnings... ¹⁴⁷
- [mid 1862]** Majorca Rush, about the last of the remarkable series of large rushes in Victoria, was going strong at this time, the population there was about 15,000 diggers and a great number went from Dunolly to what was the largest and richest rush of the year in Victoria. ¹⁴⁸

¹⁴¹ Dunolly & Burnt Creek Express 31 May 1862, p2

¹⁴² Dunolly and Burnt Creek Express 31 May 1862, p2

¹⁴³ *Dunolly and Burnt Creek Express*, 28 June 1862, p. 2

¹⁴⁴ *Dunolly and Burnt Creek Express*, 28 June 1862, p. 2

¹⁴⁵ Dunolly & Burnt Creek Express 26 July, p2

¹⁴⁶ *Dunolly and Burnt Creek Express*, 15 July 1862, p. 2

¹⁴⁷ Flett 1956, p80

¹⁴⁸ Flett 1956, p81

[9th Sept 1862]

Rush to the place at the head of Little Chinaman's Gully, known as "The Shoots"...
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[27 Sept 1862]

'The mining by laws of the Maryborough District are stigmatised throughout the colony as the most repressive and discouraging of all such regulations. They have tied the miner down to the least possible area of ground, and they have hedged him about with all manner of restrictions. Long after the system of twenty feet quartz reefs had been abandoned everywhere else, it was retained in full force here, and it was only the other day that the extent of a reef a miner could hold was enlarged from twenty or twenty-four feet to forty feet. The district over which the laws of the Mining Board are imperative is a very large one. It extends to Inglewood and Korong on the one hand, and St Arnaud on the other. It reaches up to the Pyrenees on the west, and extends over the Loddon plains on the east. It includes within its limits all manner of workings, every variety of ground, and every kind of reef.' So writes the special correspondent of the 'Argus', and although the verdict is somewhat severe, it is not altogether undeserved. That portion of the miners in the Maryborough District working amongst its quartz lodes have had great reason to complain of the manner in which their industry has been crippled by the Maryborough bye-laws... While admitting that the subject of large claims is a debatable one, and that there is some difficulty in striking the happy medium, which while it encourages industry on the one hand, is a check to wholesale monopoly on the other. To talk about erecting machinery on 80 to 100 feet claims after they touch water is, under normal circumstances, sheer nonsense; besides we should look to the ultimatum of quartz reefing as well as the passing moment. 'A bird in the hand is worth two in the bush,' exclaims some miner; but we repeat that while contracted areas may suit mere surface scratching, it will not do for mining hundred fathoms deep, and surely it would not be either to the interest of the individual miner or the colony at large, that the dearly-bought experience of the mining companies, who purchased claims at exorbitant rates which nearly ruined the shareholders, and paralysed mining enterprise, should be enacted at the end of the chapter.¹⁵⁰

15 November 1862:

A minute inspection of this reef convinces us that it is one of the most promising in the district. Commencing with the prospecting claim of 220 feet, occupied by Tucker and party, we found a parcel of ground intersected by golden veins in every direction. In this comparatively limited space of ground, some twenty shafts have been sunk ... From some of these as high as two ounces to the ton have been obtained ... [Tucker and party] ... their mode of working is most economical, as they crush their own quartz at a horse machine. The mill is on the Chilian principle, with one wheel about eight feet diameter, and weighing some two tons, the centre of massive timber, bound with an iron tire an inch thick. The whole apparatus is very complete, as the pump is made self-acting, and by an ingenious arrangement of perforated pipe a stream of water is kept constantly playing on the stone while in the process of reduction. The parties are erecting another of these machines at Moliagul, but with several improvements. For instance, a good horse could work a roller of four or even five tons weight, the crushing power being of course proportionately increased. Their present machine, however is not to be despised, as with one horse they can easily crush three tons of stone in the twelve working hours.¹⁵¹

[17 Nov 1862]

In making a tour of inspection through the ranges lying between the Old Lead and the Old Dunolly Lead, one could not help being struck with the numerous indications of quartz lodes that were to be seen on every hand ... They may, and probably will, under the present system of mining in the district lie for many years undeveloped to their fullest extent, but there they are, only waiting the delving of the energetic prospector, and in this view of the case, the slumbering resources of Dunolly are really startling, opening up a grand prospect for the future, when the quartz lodes of the district shall be developed, as at Inglewood, where every hill within a radius of miles containing any indications of a reef has been delved and driven to an extent to which the quartz miners of Dunolly and district are at present perfect strangers.¹⁵²

¹⁴⁹ Flett 1956, p81

¹⁵⁰ Dunolly and Burnt Creek Express 27 Sept 1862, p2

¹⁵¹ Dunolly and Burnt Creek Express 15 Nov 1862, p2

¹⁵² Dunolly and Burnt Creek Express 17 Nov 1862, p2

[17 November 1862]

A minute inspection of this reef convinces us that it is one of the most promising in the district. Commencing with the prospecting claim of 220 feet, occupied by Tucker and party, we found a parcel of ground intersected by golden veins in every direction. In this comparatively limited space of ground, some twenty shafts have been sunk ... From some of these as high as two ounces to the ton have been obtained... [Tucker and party's] mode of working is most economical, as they crush their own quartz at a horse machine. The mill is on the Chilian principle, with one wheel about eight feet diameter, and weighing some two tons, the centre of massive timber, bound with an iron tire an inch thick. The whole apparatus is very complete, as the pump is made self-acting, and by an ingenious arrangement of perforated pipe a stream of water is kept constantly playing on the stone while in the process of reduction. The parties are erecting another of these machines at Moliagul, but with several improvements. For instance, a good horse could work a roller of four or even five tons weight, the crushing power being of course proportionately increased. Their present machine, however is not to be despised, as with one horse they can easily crush three tons of stone in the twelve working hours.¹⁵³

[29 November 1862]

Inkerman has become almost as famous for its reefs as it was some years ago as an alluvial field. As reefing ground, however, it is distinguished by peculiarities as singular as that of its alluvial. One of the first discovered and best known of its auriferous veins is that to which the name of the Acadian Reef has been given... It was not far from the alluvial diggings of Inkerman, but between them and Mount Moliagul, on the north-east... This was the first reef discovered on Inkerman, and, like all the others that have since been traced, it presents peculiarities as singular as those of the alluvial in its neighbourhood, and strangely different from those of any other quartz-country I have visited. In place of regularly defined veins of quartz, Inkerman presents rather a series of thin leaders or veins of mullocky quartz, as full of gold as of stone, but presenting no regularity of form, and so far as yet observed, not connected with any large mass of quartz. How these veins originated add another to the many puzzles of the geology of Victoria...¹⁵⁴

[December 1862]

Mining population: 2450 Europeans and 560 Chinese, comprising 2260 alluvial miners and 760 quartz miners. Steam engines: alluvial mining - 2, of 24-horse power; quartz - 22, of 370-horse power.¹⁵⁵

¹⁵³ Dunolly and Burnt Creek Express 17 Nov, p2

¹⁵⁴ *Argus* Special Reporter, in *Dunolly and Burnt Creek Express*, 29 November 1862, p.2

¹⁵⁵ Mining Surveyors' Reports, December 1862

- [1862/63] Burnt Creek gold was the mainstay of Dunolly throughout 1862-63 and the openings of new reefs continued there ... including Hinchcliffe, Sydenham, Northumbrian, Telegraph, Quakers, Carnarvon (Arvon), the Horizontal, Kentish, Paris and Phantom at Burnt Creek; a number near Bout D'Almeida; and some at Mosquito, including Doctor's, Specimen and Paul's. ¹⁵⁶
- [1863] Queens Reef ... This was the only reef of importance in the district [Moliagul] and in 1865 Nutt and Ah Loy were still getting 2 ounces to the ton. ¹⁵⁷
- [1863] Tarnagulla: Messrs Hargreaves Bros started a sawmill on the Bulla-bul Creek. ¹⁵⁸
- [1863] Generally speaking, in gold matters a continuation of the 1862 rushes. Spiller's Hill was a hive of activity all the way to Quaker's Gully. Jones Creek added many new nuggets to its list ... Tarnagulla was a solid town, was still obtaining rich dividends from Poverty and a large number of other reefs. Moliagul had opened some new reefs, including two on Nuggetty Hill and the famous claim of Ah-Loy and William Nutt on the Queens Reef that ran for years with no diminution in the rich yields. ¹⁵⁹
- [1863] Tarnagulla: Mr Pritchard, the surveyor of the Murphy's Creek district, erected a weatherboard cottage with a detached room in which his daughter opened a private school. Later in 1870, a school was opened in a building designed for a church, near the sawmill. Here Mr Jonathan Falder taught for one year. He was succeeded by Mr Shaw and Mr Wallace. Mr Shaw was the first teacher in the new State School No 143, which later became No. 1311. ¹⁶⁰
- [21 March 1863] The machinery of the Perseverance Company, Sheoak, which consists of an engine of 14 horse power with two batteries of six head of stamps each, is now complete, and is capable of crushing 100 tons per week; a plentiful supply of water is obtained from a dam constructed in close proximity to the engine, in case of the failure of which though a long continuation of dry weather resort can be made to a water shaft worked by a whim. The engine etc., has been brought here and put in working order at the expense and under the superintendence of R. Scholes Esq. of Carisbrook ... The proprietors commenced crushing on Tuesday the 17th inst, everything connected with the engine running so smoothly at the first start as though she had been working for months; there are about 200 tons of quartz ready for the mill which is expected to return about 13 dwts to the ton, that being the average yield to the present time of a quantity crushed at Cochrane's and elsewhere ... All parties concerned in erecting the machinery, masonry, and building deserve great praise for the substantial, and workmanlike manner in which they are finished. The shareholders are 16 in number, all practical miners, to whom it is hoped the reef may prove a source of wealth for many years to come and who will undoubtedly be the pioneers of many other lucrative companies on the Mount, as there is no doubt but these formerly excessively rich diggings are intersected by belts of equally rich quartz reefs. Some of these have been very profitably worked for a small time by small parties of miners, who have laboured under the disadvantage of expensive carting and crushing, in addition to loss of time of sending it to a distance of sometimes 20 or 30 miles from this locality ... The development of these reefs would not only confer a benefit on the tradesmen and agricultural settlers in the neighbourhood, but they would also offer a vast field of labour to that numerous class of industrious and persevering miners who must eventually abandon the nearly exhausted old alluvial ground to the puddlers, and in place of their former precarious living will enable them to obtain profitable and lasting employment. ¹⁶¹

¹⁵⁶ Flett 1956, p80

¹⁵⁷ Flett 1965

¹⁵⁸ Clarke 1985, p5

¹⁵⁹ Flett 1965, p81

¹⁶⁰ Clarke 1985, p5

¹⁶¹ Dunolly and Burnt Creek Express 21 March 1863, p2

- 10 April 1863:** Tarnagulla - The engine at the New Chum Reef, Halfway, (which reef may now be considered *the* reef of Tarnagulla) commences full work next Monday, with four batteries of stamps. Nearly all the claims are getting gold, and though at work considerably below the water level are thoroughly drained; large quantities of quartz are being raised, and the terms for crushing and pumping are the most liberal. ¹⁶²
- [April 1863]** Rush of some 700 to Turkey Flat at Goldsborough and H. E. Baker there ran a crusher in the vicinity of this rush ... In German Gully a great number collected, and amongst the 1000 there about the best was £77 worth of gold for the week...¹⁶³
- [1863]** At the end of 1863 Spiller's Hill was being worked extensively and there were two engines of 24 h.p. and 22 others totalling 370 h.p. working there.??? In November ... there was what was called the Old White Hills Rush behind Wigham's Hotel. This rush lasted for several months and there were about 500 there, averages of an ounce of gold being got off bottom in the early rushes. This was the beginning of the three large rushes that started on Gooseberry Hill and proved - as had been said many times - "Burnt Creek is not done yet". ¹⁶⁴
- [1864]** Although things were generally quiet around Dunolly, there were a number of rushes ... including Jimmy's Rush and Lucknow Diggings, two and a half miles from Bet-Bet ... Early in September 1864, things began to get brisk in the direction of Gooseberry Hill ... The Union Co., which claimed to be the openers of this - the Gooseberry Hill Rush - sunk 63 feet and immediately got 9 ounces of gold ... soon the rush was on ... the papers referred to this firstly as the "South Dunolly Rush" and reports of the gold found under the gravel and cement, where every hole had gold caused a great rush ... On 5th December, great crowds were arriving from Raywood and Majorca and the Union Co., with some pomp and ceremony, installed an engine on their shaft ... this company were the first to set about working their claim methodically, the ground being so good that they saw a great many months' work ahead, the water, too, then being inconsiderable in the claim ... On 19th December a street was in the course of erection on Gooseberry Hill side of the creek and the rush was presenting a settled and lively appearance.¹⁶⁵

¹⁶²Dunolly and Burnt Creek Express 10 April 1863, p3

¹⁶³ Flett 1956, p81

¹⁶⁴ Flett 1956, p81

¹⁶⁵ Flett 1956, p96

[Sept 1864]

Mining population:

	<i>European</i>	<i>Chinese</i>
Alluvial miners	1,980	363
Quartz miners	622	

Total no. of miners:

Dunolly:	
Main Lead	130
Western Rush	35
Wilson's Lead	42
German Gully	65
Hard Hills	56
Reefs	8
Ison Flat	35
Burnt Creek:	
Gooseberry Hill	169
Splitters Hill	115
Flat	130
Reef	65
Inkerman:	
Flat	190
Wattle Flat	110
Eastern Rush	65
Reefs	28
Moliagul:	280
Reefs	67
Bealiba:	
Puzzle Flat	250
Scattered	104
Tarnagulla and Cays	741
Jones Creek and Bet-Bet	270

Machinery:

Alluvial:		
Steam engines	4 (2 idle)	77hp
Puddlers	110 at work	140 idle
Quartz mining:		
Engines	19 at work	10 idle 424 hp
Horse crushing machine	1 at work	3 idle
Whims	8 at work	4 idle 166

[Sept 1864]

Tarnagulla ... all mining has been suspended ... in consequence of pending arrangements among various claim holders for leasing the ground and erecting more extensive machinery, and consequently about 100 miners have been thrown out of employment on this reef for the present, but new and powerful machinery is being erected by claimholders conjointly.¹⁶⁷

[1864-65]

Tobacco was first grown at Waanyarra in the summer of 1864-65. Mr Thomas Leech planted a 1/2-acre crop at Grassy Flat. The venture was successful, so that the following season he planted a larger area.¹⁶⁸

¹⁶⁶ Mining Surveyors' Reports, September 1864

¹⁶⁷ Mining Surveyors' Reports, Sept 1864

¹⁶⁸ Douthat 1989, p18

[1865]

The Gooseberry Hill Rush extended through-out the following year, despite swamping and the discovery of gold near the Pound ... The richest claims on Gooseberry were the Nil Desperandum, Lord Palmerston, City of London, Union Co. of Switzerland, and the Last Chance. Others almost equally good were the Garibaldi, Northumberland, Great Britain, Christmas Co. Princess Royal, and the Fay You and Co. ... The hill in February, 1865, was covered in tents, and a considerable sized township had been erected with more than one street into which business men have thrown themselves at the cry of "Rush" ... There were some thousands at Gooseberry early in 1865. ¹⁶⁹

[March 1865]

Mining population:

	<i>European</i>	<i>Chinese</i>
Alluvial miners	1935	36
Quartz mining	540	

Machinery:

Alluvial:

Steam engines 5 at work 1 idle 77hp

Puddling machines 52 at work 228 idle

Quartz mining:

Steam engines 6 at work 23 idle 424

Whims 6 at work 6 idle

Nearly all the crushing machines have been and still are idle, for want of water. ¹⁷⁰

[1865]

Tarnagulla at the zenith of its mining prosperity, and in this year there were two banks, five bakers, two breweries, three butchers, four blacksmiths, two bootmakers, one corn factory, four crushing machines, two chemists, two drapers, a fruiterer, a gold broker, four hotels, an ironmonger, a miller, a painter, nine general stores, three surgeons, a share broker, a steam saw miller, a tailor, a tobacconist, two wheelwrights and a watchmaker in business in the town. About 1,000 Chinamen, a colony of Greeks and many Italians were working on the diggings. ¹⁷¹

¹⁶⁹ Flett 1965, p96

¹⁷⁰ Mining Surveyors' Reports, March 1865

¹⁷¹ Clarke 1985, p5

- [Feb 1865]** *Dunolly Express* - the Pound Rush began with two diggers ... who were reported to have discovered gold just before the 25th February 1865 ... the sinking was 30 feet and on the 25th, there were 200 on the ground ... On 8th May *Dunolly Express* reported that 500 were shepherding at the Pound and that lead ran north and then north-west in a series of rich patches. There were cradles, Long Toms and pumps on the creek nearby and they were mostly paying exceedingly well. ¹⁷²
- [May 1865]** The Pound Rush was then going strong, and as it was known there was good gold (as well as much water) on Pottery Hill, it appeared that the whole of the area south of the Creek was one continuous lead ... new whims were going up in all directions ... There was in June 1865, 1800 men spread out over this area between the Pound and Gooseberry Hill ... There were, of course many hundreds of Chinese working on Gooseberry Hill at the rush, and with their faculty for the thorough fossicking of the ground old or new, they haunted the lead, and the yields of the well-known claims gradually diminishing generally the Chinese took them over ... The Union Co. let their mine to Chinese on tribute in Feb, 1867, after it had been running three years and had been flooded. The Chinese pumped for six weeks before it was dry and then the run of gold continued as before. To 1866 Gooseberry Hill Rush produced 42,000 ounces of gold, and great numbers were still working there in 1869. ¹⁷³
- October 1865:** Tarnagulla, although at the present moment not to be considered a particularly busy township, still maintains a thriving appearance, which is naturally added to by the close proximity of mining operations on the side of the hill facing the main thoroughfare, with its several engines, crushing machines, permanent engine houses, and lofty chimney stacks. The progress of the place, however, was much retarded by the long suspension of underground operations in the principal reef which for a long period was the chief mainstay of its population ... Within a radius of two miles about eighteen reefs have been opened up, viz; - the Corfu, Stubbs, Hellas, Sandstone, German, Monte Bello, Star, Maiden, Great Western, London, Ironbark, Wilson's, Welshman's, March, Growlers, Specimen, Sabbath and Watts Reef. There are other, less noticeable, with which we are as yet unacquainted. ¹⁷⁴
- October 1865:** One of the richest rushes ever seen at Dunolly began in Nuggetty Gully, 3 1/4 miles from Dunolly towards Mt. Bealiba where diggers found a 16 ounce nugget. Nuggetty Gully got its name from this rush, and is due west of the Yankee Doodle mine. On 18th Oct the town was startled by a report in the *Dunolly Express* that a large nugget of 515 ounces had been found. By the following morning half the population of Dunolly, including grocers, butchers and bakers were at the scene of the finds, and what was known as the Belgian Rush, was on. By the afternoon of the same day the other half of the population of Dunolly was there also. When prospectors unearthed another nugget, this time 80 ounces, " a scene of excitement ensued. Other nuggets found included - 101 and 7 ounce pieces; a 22 lb nugget which, when cleaned, weighed 254 ounces; 160 ounces and 84 ounces. The ground at the Belgian Rush contained little gold except the nuggets, nor was there any length of lead - the nuggets were found here, there, in odd corners within a small space, and all in the surface. Early in November the *Leader* reported the rush at Belgian was nearly over. ¹⁷⁵
- [December 1865]** On account of the almost total want of water, nearly all the puddling machines in the division are at a standstill, and many of them have been totally abandoned as useless property. ¹⁷⁶

¹⁷² Flett 1956, p97

¹⁷³ Flett 1956, p97

¹⁷⁴ Dickers Mining Record 24/10/1865, p243

¹⁷⁵ Flett, 1956

¹⁷⁶ Mining Surveyors' Reports, December 1865

[1866] Towards the end of 1865 the shallow ground at the north end of the Pound Rush was beginning to show signs of being worked out ... and attention began to be given to the south end of the rush and to the deeper ground in the vicinity of Pottery Hill, and here larger claims began after the manner of Gooseberry Hill ... The United Savages who had been there from the beginning re-christened themselves the Alliance Co., and other claims opened. They were the Great Surprise Co., the Unexpected Co., between these the Pottery Hill Co., that started in 1865 with an engine ... The Pound Gold mining company, began by George Simpson and William Hayes who pegged and attempted to lease 10 acres on Pottery Hill on which 150 diggers were digging. The lease was refused in the end, but considerable strife occurred over this, the diggers being very bitter over the action ... The Chinese had claims around this lease which were producing excellent results. The Pottery Hill Co. was very wet but getting good gold, as was the Alliance Co., which was a corporate affair of 16 men holding five acres of ground. Over large claims were the Happy Go Lucky, the Perseverance, the Duke of Cornwall, and the All Nations Company that held 11 acres ... These claims for many months produced an average of between 10 and 50 ounces of gold weekly during 1865-66 and 1867 the Alliance was still producing over 20 ounces weekly. The Prince of Wales mine that worked in the Lead at Pottery Hill area put in their first machinery in 1875. ¹⁷⁷

[June 1866]

Mining population:

	<i>Europeans</i>	<i>Chinese</i>
Alluvial miners	2,155	520
Quartz miners	540	

Machinery:

Alluvial:			
Steam engines	6 at work	74hp	
Puddlers	70 at work	60 idle	
Quartz:			
Steam engines:	15 at work	14 idle	424hp 178

[Sept 1866]

Mining population:

	<i>Europeans</i>	<i>Chinese</i>
Alluvial miners	1820	520
Quartz miners	480	

Machinery:

Alluvial:			
Steam engines	5 at work	3 idle	98hp
Whims	26		
Puddlers	85		
Quartz:			
Steam engines:	15 at work	5 idle	322hp 179

[1866] Poverty Reef: *The Dunolly and Bet Bet Shire Express*, of 8th October ... reported that an area of 300 square feet had then yielded one and a quarter million pounds sterling. ¹⁸⁰

[1866] The Pound Rush began to peter out at the end of 1866 and it was reported in January 1867, that nearly all the business places from Pound Rush had shifted to Gooseberry Flat, which offshoot of Gooseberry Hill started up in a big way in January 1866. ¹⁸¹

¹⁷⁷ Flett 1956, p98

¹⁷⁸ Mining Surveyors' Reports, June 1866

¹⁷⁹ Mining Surveyors' Reports, September 1866

¹⁸⁰ Clarke 1985, p4

¹⁸¹ Flett 1956, p 99

[March 1867]

Mining population:

	<i>Europeans</i>	<i>Chinese</i>
Alluvial miners	2,123	517
Quartz miners	450	10

Distribution of miners:

Gooseberry Flat	150
Gooseberry Hill	100
Pound Rush	120
Old Lead	160
Burnt Creek & Bet-Bet	180
Inkerman & Wattle Flat	120
Moliagul	60
Bealiba	115
Tunstall's Rush	1520
Tarnagulla/Hard Hill	310
Llanelly, Jones Creek	100 ¹⁸²

[1867] Reef mining and quartz crushing was also carried out at Waanyarra. 1867 saw several groups trying ground in the Canadian and Anglesea reefs but alluvial mining was more common.¹⁸³

[1868] There were 172 distinct quartz reefs proved to be auriferous by the mining surveyors of the Dunolly-Tarnagulla division and sixteen square miles of auriferous alluvial and quartz ground had been worked upon in 1868 ... Owing to the high cost of machinery many of them were abandoned, with little reluctance, at from 150 to 200 feet, at a time when valuable reefs outcropped on the surface. The true bearings of these reefs vary from N. 9 30 E'. to N. 11 10' W.¹⁸⁴

[1860s] Gold deposits were depleted by the early 1860's, although diggers still worked the Waanyarra area with some success. Miners who stayed in the district with their families were reluctant to leave the settled life they had come to enjoy. The 1869 Land Act allowed for ordinary, less wealthy people to select and buy land ... Commons were established to allow controlled grazing of Crown Land for a fee. Jones Creek Goldfields Common was about 410 acres and took in part of Grassy Flat, where a dam was built for stock water. In 1870 the Maryborough Mining Board appointed Mr. G. Richards, Herdsman, for the Jones Creek Common ... Waanyarra's settlers had relatively small holdings and operated 'mixed' farms mostly intent on self-sufficiency. Some settlers had cows and operated successful dairies. Sheep were not kept to a great degree until farms expanded.¹⁸⁵

[1869] A heap of mullock and quartz was retreated by Hutchinson and Chatsworthy in 1869.¹⁸⁶

[1869] Moliagul became famous when the 'Welcome Stranger' nugget was discovered by Cornish miners, John Deason and Richard Oates, at Bulldog Gully, Moliagul, on February 5th, 1869. The nugget was the largest found in Victoria, and the largest of the world's nuggets. The gross weight was 2520 ounces. The finders kept some of the gold, but the amount sold was valued at £9,553. Owing to the nugget's great size (about 2 feet long and 1 foot wide), it could not be weighed on the largest scales at the London Chartered Bank, Dunolly, so it was taken to Walls' blacksmith shop nearby, and reduced to a number of fragments on the anvil.¹⁸⁷

¹⁸² Mining Surveyors' Reports, March 1867

¹⁸³ Douthat 1989, p12

¹⁸⁴ Clarke 1985, p4

¹⁸⁵ Douthat 1989, p16

¹⁸⁶ Tully 1988, p21

¹⁸⁷ Careless 1983, p23

- [**March 1870**] Several co-operative parties are working on many of the reefs in the vicinity of Dunolly with varied results, but the want of a crushing machine to reduce stone for the public is a great drawback for this locality.¹⁸⁸
- [**March 1871**] In alluvial mining, I have nothing of importance to report. During the last quarter, mining operations in this district have not been carried on with much spirit; consequently the yield of gold has materially decreased.¹⁸⁹
- [**June 1871**] Alluvial mining - The rush at Sporting Flat is not yielding much gold, although several small nuggets have recently been obtained.¹⁹⁰
- [**December 1871**] Tarnagulla Division - In alluvial mining, there is nothing to record; but quartz mining is in the ascendant.¹⁹¹
- [**December 1872**] Both quartz and alluvial mining have been somewhat depressed during the quarter, a considerable number of alluvial miners having left for the rush at Avoca Forest.¹⁹²
- [**December 1873**] Mining in general has been exceedingly dull during the quarter, and there are no signs of an immediate revival.¹⁹³
- [**March 1874**] Both quartz and alluvial mining have been exceedingly dull in this division during the quarter.¹⁹⁴
- [**December 1874**] Most of the companies and claimholders on the line of quartz reef in this division have suspended work ... The Poverty Reef Company has only two men employed.¹⁹⁵
- [**1874**] The opening of the Castlemaine to Dunolly railway, via Maryborough in 1874, resulted in the decline of coach services from districts served by the railway, as the new passenger service was faster and more convenient for travellers.¹⁹⁶
- [**December 1874**] The depression in mining operations has been greater during this quarter just ended than the preceding one, more companies and claimholders having suspended work. In consequence of this a number of miners have left the district to seek work elsewhere.¹⁹⁷
- [**December 1874**] Most of the companies and claimholders in the line of quartz reefs in the Division have suspended work. The Queens Birthday Company at Goldsborough alone, carries on mining operations with any degree of vigour.¹⁹⁸
- [**March 1875**] Mine matters continue in a very stagnant state.¹⁹⁹
- [**June 1875**] There has been a little more animation in quartz mining during the quarter ... and there are indications of a further revival.²⁰⁰

¹⁸⁸ Mining Surveyors' Reports, March 1870

¹⁸⁹ Mining Surveyors' Reports, March 1871

¹⁹⁰ Mining Surveyors' Reports, June 1871

¹⁹¹ Mining Surveyors' Reports, December 1871

¹⁹² Mining Surveyors' Reports, December 1872

¹⁹³ Mining Surveyors' Reports, December 1873

¹⁹⁴ Mining Surveyors' Reports, March 1874

¹⁹⁵ Mining Surveyors' Reports, Dec 1874

¹⁹⁶ Careless 1983, p5

¹⁹⁷ Mining Surveyors' Reports, December 1874

¹⁹⁸ Mining Surveyors' Quarterly Reports, December 1874

¹⁹⁹ Mining Surveyors' Reports, March 1875

²⁰⁰ Mining Surveyors' Reports, June 1875

- [1877] In 1862 Burnt Creek Rush continued down the flat towards the south-east and in February what was known as Hong Kong Rush was in full swing. The Hong Kong lead was three chains wide on the flat, and yields like 100 ounces for 30 loads were common. In May the Canton Rush occurred ... before the lead was lost. For some reason the miners at this time expected this lead to run south through the hills to Bet Bet - Hong Kong Hills - but the old "Rising Sun" Company ... was unable to find the lead in that direction ... The lost deep lead of Burnt Creek was, of course, continued in the Caledonian Mine in 1877, and the lead, the Pliocene forerunner of the Burnt Creek, was worked continuously in the Burnt Creek No 1, Sweet Nell, Burnt Creek No. 2 and another mine across the Bet-Bet Creek that closed owing to the men enlisting for World War I. All told, the lead was about five miles long and was worked, over a period of about 60 years, from the surface down to a depth of 160 feet.²⁰¹
- [1878] Watts reef was brought by the Yorkshire Co. and it was re-opened in 1878. This mine was in operation for many, with brief periods of inaction, until it finally closed in 1908. The shaft was sunk to 1,150 feet, the deepest Tarnagulla shaft, and at this depth the reef was said to be carrying a good showing of gold. The mine was for some years under the management of Mr W. Laidlaw, with Mr Jas Patterson as underground manager.²⁰²
- [December 1879] Nothing worthy of notice has occurred during the quarter.²⁰³
- [1880s] With the increase of land ownership, concerns for water conservation became paramount. Severe droughts in the late 1870's and through the 1880's led Government to establish Water Trusts. These Trusts organised schemes to supply domestic, stock and town water. Laanecoorie Weir was constructed in 1889 to utilise surface water in the district.²⁰⁴
- [June 1884] There has been a great depression in mining matters in this part of the country of late, no new finds have been made to attract attention.²⁰⁵
- [March 1885] Tarnagulla Division - Nothing of importance. Prospecting operations are being carried out in various parts, notably Poverty, Greek's, Growler's, Yorkshire and Cay's Diggings line of reef.²⁰⁶
- [July 1887] Waanyarra: Several attempts were made to open the quartz reefs in the Jones Creek neighbourhood but were unsuccessful although in some instances some very rich stone had been obtained. A 2 lb weight had been taken from Gourley's Reef in July 1887.²⁰⁷
- [1888] Tarnagulla: The railway was opened in 1888 by Sir Thos. Bent... Until the opening of the railway, all mails and many travellers were carried by Messrs Cobb & Co's 'Telegraph Line of Mail Coaches', which left the Victoria Hotel daily for Melbourne.²⁰⁸
- [1888] The Shire of Bet Bet had built a dam which saved many animals from death. In the drought year of 1902 dust storms whipped through the area ruining orchards and vegetable gardens. Diggers were taking wash dirt to the Loddon River for washing, as water was so scarce in the Waanyarra area, in 1903. Authorities quickly gave notice that washing in the Loddon River Backwater was forbidden.²⁰⁹

²⁰¹ Flett 1956, p79

²⁰² Clarke 1985, p4

²⁰³ Mining Surveyors' Reports, December 1879

²⁰⁴ Douthat 1989, p16

²⁰⁵ Mining Surveyors' Reports, June 1884

²⁰⁶ Mining Surveyors' Reports, March 1885

²⁰⁷ Douthat 1989, p12

²⁰⁸ Clarke 1985, p5

²⁰⁹ Douthat 1989, p12

- [22 Dec 1888] Jones Diggings/Waanyarra: John Pearce and John McEvoy, who had been puddling for some time in an alluvial gully at Waanyarra found a 99 oz. 2 dwt. nugget. The gully, which had been worked in the early days of the diggings, had been famous for its large nuggets.²¹⁰
- June 1890:** Waanyarra ... Mining is at a very low ebb; in fact it could not possibly be worse ... We have looked long and anxiously for the Jubilee to start again, for even they would import some life and vigour into the place. ²¹¹
- By the 1890's new regulations were in force to prevent trees under 10" in diameter from being felled. Sleeper cutters were also required to pay threepence royalty on sleepers cut in State forests, but with no additional licence fee required.²¹²
- [Feb 1891] Floating of the well-known Sandstone claim, at Llanelly, on the English market. The new company has to place £10,000 in the bank, for the purpose of buying efficient machinery - pumping, winding and crushing ... the fact that the work is to be resumed means a renewal of prosperity for Llanelly. ²¹³
- [1894-95] A syndicate was formed to work the tailings of the Poverty mine by Messrs Duncan, Noyes & Co., by means of the cyanide process. This was the first time that this process was successfully undertaken on a large scale in Australia. Some hundreds of thousands of tons of sand were treated during the eight years that this company was at work, and the results obtained were remarkable. As much as 28 dwt of gold per ton of sand was recovered. ²¹⁴
- [May 1896] A Moliagul correspondent reports a great revival in quartz mining there. Mr Deason's new battery was started last Thursday, on stone from Mr. Liddell's claim on Waymans Hill. Mr Deason gets credit for his unaided enterprise in affording facilities for the development of the mining resources of the place. ²¹⁵
- [May 1896] After a lethargic spell of some 10 to 20 years the hills and valleys of the little mountain hamlet are now re-echoing the animated clanging of a competent efficient battery. ²¹⁶
- [1903] Lack of water was a drawback at the Waanyarra Rush. The Dunolly Express, 20th Jan 1903, reported that parties were leaving the Waanyarra Rush daily... Workings at Waanyarra were upset by a heavy storm and flooding in March 1903... April 1903, saw a falling of numbers at the Waanyarra Rush. The large volume of water in the creek made work dangerous. McPherson and Co.'s claim near the creek was suddenly flooded, but the miners escaped in time. Water was being pumped from many claims... [By June 1903] Waanyarra Rush was described as 'almost a thing of the past' because of the rising creek, but still diggers were working and having success ... The people who lived at Waanyarra kept on with their claims and managed to keep their families by small finds and by producing their own food.²¹⁷
- [1903] Waanyarra Rush, Baker's Orchard yielded 56 oz. of gold found at 20 ft. Smith and Mason, Pallot, Hertmann and party bottomed at 26 feet and got 50 oz. [In January] Donohue brothers bottomed at 15 ft. ...brothers got a 15-oz. piece in Mr. Montaigne's paddock.²¹⁸

²¹⁰ Douthat 1989, p10

²¹¹ Dunolly and Betbetshire Express, 27/6/1890

²¹² Douthat 1989, p17

²¹³ Dunolly and Betbetshire Express, 27/2/1891

²¹⁴ Clarke 1985, p5

²¹⁵ Dunolly and Betbetshire Express, 19/5/1896

²¹⁶ Dunolly and Betbetshire Express, 22/5//1896

²¹⁷ Douthat 1989, p13

²¹⁸ Douthat 1989, p10

- [1903] Nick-O-Time Rush: Now in private land ... This lead was discovered by Hatt, Crossley and Claridge in 1903. Six years previously, a fencer named Polo discovered gold here whilst digging a post hole. He put a nick in the post, which was still visible at the time of the Nick-O-Time Rush. It wasn't long before 2000 miners rushed to the area. The deep ground was wet sinking ... The wash was carted and treated by contractors who charged 2/6 per load ... They could put twelve loads a day through the puddler.²¹⁹
- [1904] Moliagul: At Moliagul, other than occasional crushings of either of the two small batteries on the field, on behalf of small parties of prospectors, mining is at a standstill at present. ²²⁰
- [1904] Sandy Creek: Believing that the miners who had worked the main lead had missed getting all the gold, Messrs Davies and Kershaw, in 1904, brought a dredging plant into operation. Mr. J James and Mr Patterson managed the plant at different periods. During the eight years that it was in operation an average of 200 ounces of gold was recovered for each acre of ground that was treated.²²¹
- [1905-1912] Burnt Creek Dredge Holes: This area was worked from 1905-1912 by the Burnt Creek Hydraulic Sluicing Co. Every month they would clean up the sluice box which usually contained about 300 oz. Nuggets were found readily including pieces of 24 and 40 oz.²²²
- [1900s] Quakers Gully, Burnt Creek: This was a very rich gully. When found in 1854 it was one of the first major rushes in this area. There were three hotels near the foot of the gully and Kirks crushing machine was just south of the bridge. The Chinese camp was along Burnt Creek. This area was later dredged and reclaimed ... The dredge dam was built to supply additional water to the Burnt Creek Dredge. ²²³
- [8 Dec 1906] 'The Poseidon Nugget' was unearthed in the Parish of Waanyarra. The huge nugget weighed 953 oz gross and 703 oz net. Woodall and party found the nugget 10 inches underground, 2 inches above bedrock with much quartz. This find began the last of the big rushes to the area.²²⁴
- [1906] On private land. This [Poseidon] was the last of the great alluvial rushes in Victoria. 3000 were camped here in 1906 with store established catering for all the miners' needs. One storekeeper was charged and fined for selling sly grog. The reef above and opposite the gully had been rushed in 1859, but this side neglected. It was nearly fifty years before John Porter testing the ground with a hand auger, found wash and sank a shaft onto nuggets. From its size, more large nuggets have come from this lead than any other in the world. 703 oz, 675 oz, thirteen others over 100 oz, nineteen from 50-99 oz, fifty two from 20-49 oz and two hundred and eight from 1-19 oz. ... the Premier awarded [James Porter] £500 for the discovery. He was the last man to receive a reward for the discovery of a new goldfield in Victoria.²²⁵

²¹⁹ Tully 1988, p46

²²⁰ Annual Mining Report 1904

²²¹ Clarke 1985, p6

²²² Tully 1988, p26

²²³ Tully 1988, p26

²²⁴ Douthat 1989, p11

²²⁵ Tully 1988, p47

- [1910] An improvement has taken place in this [Dunolly] locality, due to the erection of an up-to-date Government battery, worked by suction gas power.²²⁶
- During the 1930's Depression, thousands of unemployed men worked in the forests and were paid from government funds. Gold mining was also brought back to life in these hard times. Demands for fuel-wood and mining timber increased, but regulations kept the use and supply under control. During World War Two timber was again in demand for fuel and industry. Prisoners of war or interned 'aliens' were used as forestry workers.²²⁷
- [1930] Waanyarra] The next 'Rush' was in the 1930's when the Great Depression saw many men 'shipped off' to the goldfields with a pan and pick, a tent and 6/- a week to supplement their finds ... There was a canvas township ... [at the] Waanyarra Rush where nearly 100 were camped. Claims were 7 x 1 ft. It was like a revival of the early days where men with little experience were trying to survive on the gold ... Two hundred men were on the field where water was scarce in February 1932 ... Many of the Depression miners were lucky enough and hardworking enough to survive in their tents and rough huts, finding gold or cutting wood, but it is well known among the families of Waanyarra who had been there since the early days, that the women on the small farms kept so many of the poor men fed. By this time when the small farms were producing more food than the families could eat, the excess produce was given or sold to the miners.²²⁸
- [1931] Long Bush diggings: The Potato Patch was discovered quite by accident in 1931 when a drayman unearthed five nuggets whilst bogged in the gully. A rush developed to Long Timber (Long Bush) which was called the Potato Patch due to the haphazard way in which the nuggets were scattered over the area. Nuggets found 8, 9, 13, & 20 oz on August 1931, & 30 oz later. Arthur Goltz found a large nugget that had fallen off a dray on its way to the puddler.²²⁹
- [1960s/1980s] Bottle hunting - traces include numerous shallow sinkings re-excavated, ripping apart of hut foundations, spoil heaps.
- [1970s/1990s] Metal detecting - traces include shallow workings, and numerous small holes (often associated with nails or scrap iron).

²²⁶ Mining Surveyors' Reports, 1910

²²⁷ Douthat 1989, p17

²²⁸ Douthat 1989, pp13-16

²²⁹ Tully 1988

**HEATHCOTE
Mitchellstown**

n.d. [Coy's Diggings discovered September 1864, Cherry Tree Flat shortly afterwards] The quartz mining area known as Mitchellstown Reefs was opened up later, just north of Major's or Deegay Ponds Creek.¹

January 1896: Mitchellstown - 33 oz from 27 tons from company's battery, and 500 oz obtained by puddlers and individual alluvial miners during past three months.²

1896: The Mitchellstown reefs are situated east 7 miles from Graytown, and are probably the southern continuation of the auriferous belt of country on which the reefs known as the Cherry Tree reefs are situated... To the east of the main line about 20 chains, the following reefs are situated:- Mary Jane, Guiding Star, Try Again on hill south and close to Major's Creek, McBean's reef at the north end and west of the main line, Pontang's reef, these reefs have evidently formed along lines of fault. To the north-east of the main line a small reef and dyke formation has been worked...Reefs at the Four-Mile - Iveson's Reef - This reef is situated at the Four-mile, about 3 miles from Graytown... This reef was opened in 1879, by Torston Iveson, and was worked about 25 feet along the surface, and down to 180 feet in depth, the width of stone averaged from 2 inches to 3 inches, gold being well distributed throughout, and yielded from 2 to 5 oz. to the ton, the claim was then abandoned until taken up by the Wm. James Donnellan, who has sunk a vertical shaft for the purpose of finding the reef, struck another parallel run, and has worked this new reef down for 60 feet...Morning Star Reef - This reef is situated a short distance east from Iveson's reef... Worked on surface for 60 feet, and down to 80 feet in depth...Beautiful Venus Reef - This reef is from 2 inches to 3 inches in width, and has been worked along surface for 100 feet, and down to 100 feet on the underlie...³

December 1898: Royal Oak, Mitchellstown - Reef at 41 ft. Shaft opened up nicely. Stone from 14 inches to 19 inches carrying fine gold.⁴

CAMPASPE-COLIBAN DATABASE

**Campaspe River
Coliban River
Kimbolton**

Campaspe River

July 1860: The number of sluicers on the Coliban and Campaspe is diminished.⁵

March 1864: The Chinese are working on these rivers (also Coliban), with, I believe, good prospects.⁶

June 1865: Appelles Gold Mining Co. - applications made by Hay and Co. for lease of block of alluvial ground on basalt plain on the banks of the Campaspe. Have found deep ground, with a fine auriferous drift of considerable thickness. Shaft not bottomed owing to water. Location halfway between Junction of Coliban and Wild Duck Creek, ground covered with basalt for 60 ft.⁷

June 1865: Report the discovery of gold on the banks of the Campaspe, about 2 miles west of the Wild Duck Creek Diggings. The prospectors report its discovery at a depth of 102 feet below the surface level and 42 feet below the basalt, and have applied for a lease of 100 acres of the ground. In consequence considerable activity prevails; and applications are being made for leases of the ground lying in its immediate vicinity and along the banks of the river.⁸

1 Flett, 1979, p. 82

2 Mclvor Times, 9 January 1896

3 Forbes, 1896, pp. 3-4

4 Mclvor Times, 22 December 1898

5 Mining Surveyors' Reports, July 1860

6 Mining Surveyors' Reports, March 1864

7 Mclvor News, 30 June 1865

8 Mining Surveyors' Reports, June 1865

- July 1865:** Applications for mining leases - Bellevue Gold Mining Co. - Campaspe River, 1-1/2 miles from its junction with the Coliban. Westonfield Gold Mining Co. - Campaspe River, 2 miles from its junction with the Coliban. Trafalgar Gold Mining Co. - Campaspe River, 1 mile from its junction with the Coliban.⁹
- August 1865:** Appelles Co. down 100 ft from top of basalt. Not bottomed yet.¹⁰
- September 1865:** Vertis Gold Mining Co. - east bank of Campaspe River, No. 1 north of Appelles Co. Tunnelling under basaltic - wet heavy drift underneath. Aspromonte Gold Mining Co. adjoins Appelles Co. Sinking through basalt. Atkins and others, Campaspe River. Enterprise Mining Co., Campaspe River, east side of bank, 2nd claim north from Appelles Co. Trafalgar Gold Mining Co. between Appelles and Westonfield.¹¹
- September 1865:** Mount Ida Gold Mining Co. - quarter of a mile above the junction of Campaspe and Coliban Rivers, east side of the former, 100 acres.¹²
- September 1865:** Appelles Co. - trying for deepest ground to erect pumping machinery.¹³
- December 1865:** Westonfield Co. - beaten by water, temporarily suspended. Appelles Co. - very promising. Lease of 100 acres. Shares offered for extension and development.¹⁴
- December 1865:** In reference to mining operations in the basalt country on the banks of the Coliban and Campaspe Rivers, no decisive results are reported. Prospecting still continues, and is being carried out on both by shafts and tunnels, but in consequence of the difficulties to be encountered, no great progress has yet been made. At Wild Duck Creek gold has been struck at a point to the NW of the former leads. The prospectors report satisfactory yields, and the ground has been extensively taken up; this point is on the basaltic plains adjacent to the junction of the Wild Duck Creek and the Campaspe River.¹⁵
- September 1867:** Small rush near McLean's station on the banks of the Campaspe River, on which about 50 men are employed, who are reported to be earning tolerably good wages.¹⁶
- September 1870:** New rush on the Campaspe, Rocky Point, near Kimbolton.¹⁷
- July 1874:** Application for mining lease. Energetic Co., North Redesdale, 15 acres, junction of Coliban and Campaspe Rivers. £2,000. To work by tunnel from riverbank, 40 ft below the surface, under basalt.¹⁸
- 1874-1906:** Naphthali Ingham received a hotel licence for a bluestone building on the Heathcote-Bendigo Road, on top of the hill on the east bank of the Campaspe River near Axedale, in March 1874. He named it the Quarry Hotel, in allusion to the stone quarry which he operated nearby...Naphthali Ingham ran his hotel continuously [but] did not renew his licence in December 1906 and the Quarry Hotel closed at the end of that year.¹⁹

9 [Mclvor News](#), 7 July 1865

10 [Mclvor News](#), 25 August 1865

11 [Mclvor News](#), 1 September 1865

12 [Mclvor News](#), 8 September 1865

13 [Mclvor News](#), 22 September 1865

14 [Mclvor News](#), 15 December 1865

15 Mining Surveyors' Reports, December 1865

16 Mining Surveyors' Reports, September 1867

17 [Mclvor News](#),

18 [Mclvor News](#), 9 July 1874

19 Randell, 1985, p. 274

1937: Deep lead - near junction of Coliban and Campaspe Rivers - ...there have been workings, and water comes out of the tunnels, most of which have fallen in... Two tunnels in allotment 1 have not fallen in, and could if necessary, be inspected.²⁰

Coliban River

- July 1860:** The number of sluicers on the Coliban and the Campaspe is diminished.²¹
- March 1864:** The Chinese are still working on these rivers (also Campaspe), with, I believe, good prospects.²²
- December 1865:** In reference to mining operations in the basalt country on the banks of the Coliban and Campaspe Rivers, no decisive results are reported. Prospecting still continues, and is being carried out on both by shafts and tunnels, but in consequence of the difficulties to be encountered, no great progress has yet been made.²³
- July 1874:** Application for mining lease. Energetic Co., North Redesdale, 15 acres, junction of Coliban and Campaspe Rivers. £2,000. To work by tunnel from riverbank, 40 ft below the surface, under basalt.²⁴
- July 1875:** Application for mining lease: 'Nil Desperandum Co.', Horseshoe Bend, Coliban, adjoining Easter Co.²⁵
- June 1884:** There are 14 Chinamen and 4 Europeans at work on the banks of the Coliban River, but with what results is unknown.²⁶
- March 1889:** A company has been formed to work the back of the Coliban River, and are at present engaged in cutting a channel to divert the stream.²⁷
- 1937:** Deep lead - near junction of Coliban and Campaspe Rivers...there have been workings, and water comes out of the tunnels, most of which have fallen in. Two tunnels in allotment 1 have not fallen in, and could if necessary, be inspected.²⁸
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Kimbolton

- 1866-68:** In October 1866 gold was discovered on the west side of the Campaspe and a rush occurred. This was on and adjacent to the Kimbolton purchased land and fields were developed both north and south of the homestead. On 21 February 1868 the *McIvor Times*, in a leading article, said that, although there were 500 diggers at Kimbolton, no attempt had been made to build a bridge, which would have ensured that Heathcote storekeepers got the trade instead of it going to Bendigo.²⁹
- September 1867:** Kimbolton Rush to the banks of the Campaspe, a short distance above the junction of Wild Duck Creek. Several claims getting gold in payable quantities. About 150 people. Opposite a point 1/2 mile below Spring Gully.³⁰
- October 1867:** Kimbolton Rush. Troubles owing to river flooding. With fine weather, tolerable wages seem assured.³¹
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- 20 Thomas, 1937
- 21 Mining Surveyors' Reports, July 1860
- 22 Mining Surveyors' Reports, March 1864
- 23 Mining Surveyors' Reports, December 1865
- 24 McIvor News, 9 July 1874
- 25 McIvor News, 15 July 1875
- 26 Mining Surveyors' Reports, June 1884
- 27 Mining Surveyors' Reports, March 1889
- 28 Thomas, 1937
- 29 Randell, 1985, p. 88
- 30 McIvor News, 13 September 1867

- November 1867:** More people arriving - population over 500. Very many alluvial miners making a living.³²
- December 1867:** Kimbolton Rush - discoverer, Mr Woodhead, will apply for a reward.³³
- December 1867:** The alluvial rush near McLean's station, Kimbolton, is still being worked, but I cannot hear of any of the miners obtaining more than a living; the account of the number of men at present employed is very conflicting, but on my last visit, about a fortnight ago, I estimated the number to be at between 100 and 150.³⁴
- September 1870:** New rush on the Campaspe, Rocky Point, near Kimbolton. Alluvial prospecting claim registered. Depth of sinking 16 ft, with 4-12 inches of washdirt. Trial washing of 2 loads gave 14 dwt. In prospecting claim, the run is 20 ft wide. Several parties taken up claims and are sinking.³⁵
- September 1870:** Mr McLean of Kimbolton is letting a portion of his purchased land to miners at a price per claim, with, I believe, a percentage on the gold obtained.³⁶
- September 1886:** Recent heavy rains, active work has been made in sluicing. Mr T. Hedley, of the McIvor Sluicing Co., has, up to the present, 30,000 tons removed, and expects good results therefrom. He is still running off, and will continue to do so up till the end of October before cleaning up.³⁷

Amalgamation of Costerfield and Bombay mines

- July 1891:** Frederick Debney... Had a lot to do with Costerfield. The Costerfield Gold and Antimony mine was the principal one I was interested in. It was called Field's mine, but it ought to have been called Debney's mine, as I was the largest shareholder in it. They got a gentleman from Germany, who put the company to expenses amounting to about £10,000. He was to treat our tailings and sludge, and oxidise the tailings and slum. He put in slides, which were very good. One furnace was erected at a cost of £1200. When it was partly erected it fell down. Flues and furnaces were built and crushing machines erected before. They got no gold. They got dividends from the antimony. The gold was to be extracted from the antimony, but it was not done. They crushed quartz impregnated with gold. We had sent crude ore to England for assay. The ore was treated by three means, the chloral process, crushing and smelting. At the 420 feet level we put down an engine. The big one above supplied the steam to it... At 620 feet we put in a drive of 25 feet. It showed a reef of 6 inches thick with 1 oz of gold to the tone, and a little antimony. That was the last of the workings of that mine. The company had no more money to prospect, or do anything. Then came the Minerva, which the Costerfield Company bought out. There was a tremendous lot of gold in this mine - more than in the Costerfield mine, and also good antimony. The next claim on sideline is the Bombay, to the west. The Bombay at the present time is one of the best pieces of property between here and Melbourne. The Bombay paid 11 dividends and was sunk to 350 feet... The present company, the Albion Company, won't let any one else work it. Had to sell out the Bombay plant for £85. The poppet heads cost £250, and the furnaces £500... The tailings were worked three times at the Costerfield Company's mine. Chinamen worked them twice and now want them again. The reason there was so much gold lost was in consequence of the difficulty of separating the gold from the antimony. We had a good battery at that time. We commenced with quicksilver. The quicksilver got thick, and gold and antimony went over it... antimony and quicksilver could not save the gold. The antimony thickened the quicksilver, and it would not pick up much gold. We had to knock off quicksilver and use blankets.

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- 31 [Mclvor News](#), 18 October 1867
- 32 [Mclvor News](#), 22 November 1867
- 33 [Mclvor News](#), 6 December 1867
- 34 Mining Surveyors' Reports, December 1867
- 35 [Mclvor News](#),
- 36 Mining Surveyors' Reports, September 1870
- 37 Mining Surveyors' Reports, September 1886

The great difficulty was the treating the refractory ores. We had copperplates, blankets, and quicksilver. There was nothing to save the gold below the blankets. After that the tailings went to waste. The buckets were washed in tubs and what was on them and put into an amalgamating barrel. The blankets after they were worn out were burnt and the refuse put into the barrel. The gold saved was 20 percent. below the assay. They were getting 5dwts to the ton crushing the tailings over again with the blankets, but they were washed again, twice by the Chinamen. Believe there was pyrites in the ore. At South Costerfield were the South Costerfield and Alison mines. Had an interest in Alison mine, when it was paying 20 oz to the ton. It was worked to 380 feet. There was very little antimony in the mine. Between the mines of the Upper and Lower Costerfield the distance is a mile and a quarter with no trace of an outcrop between them. Over a mile of ground has never been touched. The South Costerfield mine is the Southernmost mine. It has not been working for 8 years. Between this and the Alison the ground has not been touched. The Albion Co. hold the Old Costerfield, the Minerva, Bombay, Morning Star, the South Costerfield (Tait's claim), and the Albion mines. In all 269 acres, and over a mile and a quarter of ground. Mr E.Y..L. Brown was the only expert at South Costerfield. He was never engaged at the Costerfield mine. He is now Government Geologist in South Australia. The treatment of the ore at South Costefield was a secret. They had a battery there. Mr Brown and Mr Moodie were smelting there. They smelted there on the chlorination system. They used to take from 6 to 8 oz of gold per ton from the ore from the Costerfield mine.³⁸

September 1892: Costerfield: Inspection of the lease for the purpose of selecting a suitable site for the putting up of machinery, which is to be of a powerful and expensive character, both for sinking shaft and driving a battery. The place decided upon for the erection of the plant is at the old shaft of the Costerfield Gold and Antimony Co., which is to be sunk a further depth of 200 ft. Two monuments of Costerfield's former industry were destroyed this week. Two chimney stacks, one in front of the hotel, had the bricks cut from under them, and the pair came toppling down. This was in order to obtain bricks for fixing up the new machinery.³⁹

December 1892: New Costerfield Co., which is setting up, includes in its program the treatment of 60,000 of tailings.⁴⁰

March 1893: The New Costerfield Metal and Extracting Co. ... have taken up a total area of 269 acres 2 roods 5 perches, embracing as it does the whole of the mines, the Old Costerfield, Bombay, Morning Star, Prince of Wales, Minerva and Alisons ... the cost of erecting the machinery will be heavy: estimated that it will cost from £15,000 to £20,000.⁴¹

Installation of new plant at Old Costerfield shaft

March 1893: Costerfield: The poppet legs have already been erected, and the work of building in the boiler is now proceeding with other work. The engine bed has been completed and the engine in place.⁴²

April 1893: Costerfield: Principal work done was shifting an immense boiler about 40ft long, and weighing about 9 tons, into its bed, where it is now comfortably settled, and is being bricked up. Clearing away old timber from the site of the battery, and making ready for putting up the stampers, etc. is now being attended to. The connecting rods of the pumps are also being put in order.

April 1893: Costerfield: The large boiler has been built in and connected with the chimney. Two engines have been placed in position, one for working the pump and the other for driving the battery. The battery is being attended to. A couple of stamper boxes, each of which will contain 5 heads, have been raised to where they are to stand, and are now being fixed up. A contract has been let for the building to contain the machinery and also for repairing furnaces on the old Bombay lease.⁴³

38 F. Debney, in evidence to the Gold Mining Commission, quoted in Mclvor Times, 9 July 1891

39 Mclvor News, 23 September 1892

40 Mclvor News, 15 December 1892

41 Mclvor News, 2 March 1893

42 Mclvor News, 30 March 1898

43 Mclvor News, 27 April 1893

- May 1893:** New Costerfield Metal Extracting Co. Dewatering first, then treatment of antimony and tailings. Two engines, 14 and 16-inch cylinders. Percussion tables and Watson and Denny Pans to be completed. Old shaft cleaned out to a depth of 60 ft and good lode going 40% antimony and 1 oz gold per ton.⁴⁴
- May 1893:** The bed of another boiler to supply steam to the winding engine has been laid down. Tenders called for putting up the battery shed. Two Denny Pans have been purchased from Rushworth.⁴⁵
- May 1893:** An excavation has been made for the purpose of fixing the Watson and Denny Pans. The bed for the winding engine is approaching completion, and the railings have been placed around the bob-pit.⁴⁶
- May 1893:** New Costerfield - 10 stamps installed and bed for new boiler laid.⁴⁷
- June 1893:** Two percussion tables have been fixed, as has one of the Denny and Watson pans. The poppet legs have received a coating of paint, and look quite respectable with their white coat. The plant expected to be working in two months. The vanners have arrived and will shortly be fixed up. A tender has been accepted for removing the poppet legs at Hedley's shaft, and erecting them at the Bombay Mine.⁴⁸
- July 1893:** A retort house is being erected alongside of the chimney stack. The two tailing pits are finished and part of the pumping gear fixed in the same.⁴⁹
- August 1893:** A complete change has taken place since my last visit. Then all the machinery was strewn over the ground, but now there is a large machinery shed erected and poppet heads painted and union jack flying from the top, giving it all the appearance of a new industry... [Mr Williams] fully described the different parts. How the tailings would be treated: first in the breaking pans, then on to the ripple tables, then the cushion tables, grinding pans, concentrating tables and vanners. There is also a patent from Mexico or Cornwall for further treatment, which is a great saving of labour. Mr Williams tells me that they will use the shaft, which will be worked with a draw lift. It was put in position on Saturday. The counter shaft will be drawn with tension rope gear. For the night work there will be four large tramway lamps and a gasoline lamp. The large boiler is fitted with Galloway tubes. It was tested last week and stood the test well - a pressure of 70 lb. It will work with about 50lb Connected with the machinery shed is the retort and assay office. Mr Williams tells me that they are giving £2 a ton for picking out the antimony from the tailings. Here is a chance for some of the unemployed of Heathcote and Costerfield.⁵⁰
- August 1893:** Tailings from Costerfield Co. treated at Bendigo, 23 tons yielded 15.95 oz.⁵¹
- August 1893:** New Costerfield plant 'christened'.⁵²
- February 1894:** New Costerfield Metals Extracting and Mining Works - Tailings to be treated by the new chlorination method.⁵³
- March 1894:** The New Costerfield Company are keeping the furnaces going day and night, burning sand ... chlorination works are nearly completed...[sand] will be treated by what is known as the chlorination process.⁵⁴

44 [Mclvor News](#), 4 May 1893
 45 [Mclvor News](#), 11 May 1893
 46 [Mclvor News](#), 18 May 1893
 47 [Mclvor News](#), 11 May 1893
 48 [Mclvor News](#), 8 June 1893
 49 [Mclvor News](#), 13 July 1893
 50 [Mclvor Times](#), 10 August 1893
 51 [Mclvor News](#), 24 August 1893
 52 [Mclvor News](#), 31 August 1893
 53 [Mclvor News](#), 22 February 1894

- April 1894:** NCME & M Co. - First clean-up after chlorination. 104 tons of tailings yielded 13 oz 5 dwt. This was disappointing in view of what was expected. Poor recovery was due to inefficient filtering. Assay of sand treated was 16 dwt per ton, and after chlorination found to contain 2-3 dwt per ton, but most lost in liquors which were not filtered satisfactorily.⁵⁵
- July 1894:** Costerfield - Trial of New Costerfield Mine resulted in 6 dwt to the ton being saved through the pan process.⁵⁶
- August 1898:** A cyanide plant has been put up at South Costerfield by Mr McFadgean to treat the tailings from the battery there by that process. Work has been progressing for some time.⁵⁷
- 1900:** At Costerfield itself there are two smaller mines besides the large one that is so well known, but none of these were open, being full of water. On the western side of the road is the shaft of the 'Morning Star', reported to being down 200 feet on a lode up to 2 feet thick. The 'Bombay' is said to be down 340 feet, with several levels. This mine has been taken up by Mr Debney, of Heathcote, and partners, but after putting down machinery they were unable to unwater the mine, owing to the requirement of Act of Parliament that their winding engine must only be used by a first-class driver, notwithstanding that it was only to be used for baling water, and that one of the working party possessed a 2nd class certificate. The syndicate was not able to afford the wages of a 1st class driver for the purpose, and thus the mine is full of water, idle, and the party losing, although material is believed to be opened all ready below for stoping. The 'Bombay' and 'Morning Star' are probably on different lodes from that of the large Costerfield mine. Near by the road on this side is a long bedded reverberatory furnace with condensing flues and stack, and a Newbury Vautin Chlorination plant, with 4feet by 4ft 6in. barrel. This is still in such order to admit of repair, but is fast going to wreck... During the latter days of the [large] mine as a going concern a new shaft, intended to cut the lode in depth, was started midway between the north and the Minerva shafts. This was not completed. Preparations, also never finished, were made recently to equip the north main shaft, and some of the pieces of a winding engine still lie about the surface as a result. I gathered that the pumps at present on the shaft have merely been used for the purpose of supplying the battery with water, the shaft being used as a well. The Mill displays the name of the New Costerfield Metals Extracting and Mining Company. It is arranged as shown in sketch, and has ten head of stamps, amalgamated plates, Halley tables, Berdan and grinding pans, through which the pulp was intended to be passed, and finally longitudinally shaking tables with deerskin surfaces... On the refuse heaps near the Mill are to be seen the remains of very costly abortive experiments made by a Mr Herrenschmidt, in which the practice of endeavouring to drive off the antimony by heat from the ore, itself an unintelligent proceeding, unless a very large excess of sulphur be present, which is not the case here, had been further attempted by the aid of appliances, namely, a rotating cylindrical furnace and accessories, utterly unsuited to any operations whatever upon the ore at furnace temperature. A few days' work seem to have satisfied those interested upon this point, but this was not before several thousands of pounds had been expended.⁵⁸
- 1903:** Prospecting work being done by the Felix Brown and Quarry Hill mines.⁵⁹
- 1903:** By the long arm of coincidence, a namesake of the discoverer of the field...was deputed by London capitalists to visit the Commonwealth and inquire into the conditions and prospects of antimony mining in the eastern States. Arriving in Victoria in 1903, Mr J.J. Doyle...reached Costerfield and soon satisfied himself that the deposits there well fulfilled the conditions required by his principals who held the patent rights of what is known as the Plews process for the treatment of antimonial ores. The ground then held by the Victoria Syndicate (late Bombay Syndicate) was taken over on behalf of the London people, and with additional areas pegged by Mr Doyle, the Costerfield Mining Company now [1926] holds some 306 acres...⁶⁰

54 Mclvor News, 8 march 1894

55 Mclvor News, 5 April 1894

56 Mclvor News, 13 July 1894

57 Mclvor News, 25 August 1898

58 Jenkins, 1900, pp. 66-7

59 Mining Surveyors' Annual Reports, 1903

60 Whitelaw, 1926, p. 7

1903: A more prosperous era commenced in 1903 with the advent of the Bombay Syndicate Ltd, which changed into the Victorian Syndicate Ltd and then developed into the present [1922] Costerfield Mining Company.⁶¹

1903-20: From 1903 to 1920 Costerfield has produced the whole of the Victorian production [of antimony]...⁶²

Erection of milling & cyanide plant at Bombay mine site

1904: At the Bombay Mine, which is owned by an English company, progressive work is being carried on, the principal object being to work the mine for antimony. The ore is being carefully picked and sent to England for treatment, and from the results so far obtained it is hoped that it will be the means of resuscitating the mining industry in this place. I am informed that it is the intention to erect a large concentrating plant to facilitate the treatment of ores. Costerfield Tailings Company apparently intends to vigorously work the large amount of antimonial tailings that are distributed over the lease. For their treatment they have erected an up-to-date plant, which consists of two Merton patent roasting furnaces, which are a three-hearth type, 6 ft 6 inches in width, by a length of 32 ft, and one worked by wormed gearing, driving five vertical shafts. Attached to each shaft are rabblers for mechanically stirring the ore. The rabble on the lower finishing hearth is water-cooled. From the fire-hole the flames pass along the lower hearth; and after reaching the end of the furnace, ascend to the next hearth; after traversing this, they return along the top hearth to the flue, and thence into a brick stack 60 ft high. From the cooling floor the ore is filled into trucks and hauled by means of wire rope up an inclined tramline, over the tops of three cyanide vats, the latter being 24 ft diameter and 6 ft deep. The exhausted tailings are shovelled through bottom discharge doors into trucks under the vats, and thence conveyed to the dump. The storage and water tanks, each 12 x 7 ft are made of galvanised iron and set on wooden frames. The sumps are built of brick and cement, 18-ft diameter by 7 ft deep. Precipitation by zinc has been adopted. The motive power is an 8-hp Tangye engine and 10 hp Tangye boiler. A 3-inch centrifugal pump is used for pumping solutions from sumps to storage tanks. The company has put down a tramline, 19 chains in length, from the tailing heap to the furnaces, over which the ore is trucked into a 40-ton bin. An efficient assay house, well equipped, completes the plant and the lighting of the works at night is effected by means of 700-candle power Lux lamps. It is expected that this plant will conveniently handle 1,000 tons of tailings per month.⁶³

February 1905: Cyanide works at Costerfield, which were erected over last six months, are now completed and the treatment of sand has begun. Plant consists of 2 iron four-tiered furnaces for roasting, and three 20-ft diameter vats of cyanide solution. There are also two large underground tanks.⁶⁴

November 1905: Costerfield cyanide works have yielded 'it is stated in some quarters' over 360 oz in 10 weeks.⁶⁵

1905-1922: In 1905 mining operations were resumed [at Costerfield] and continued for seventeen years. The gold produced in that period was valued at £240,280, and the antimony at £348,645.⁶⁶

January 1906: Part of the machinery for the Bombay Mine, Costerfield, was delivered at the Heathcote Railway Station. The mine will be developed after the remainder of the machinery arrives.⁶⁷

May 1906: London Price Rise of antimony to £100 per ton should give an impetus to mining in the district.⁶⁸

November 1906: Bombay Company - 80 tons of antimony ore shipped to England.⁶⁹

61 Stillwell, 1922, p. 357

62 Stillwell, 1922, p. 357

63 Mining Surveyors' Annual Reports, 1904

64 Mclvor Times, 16 February 1905

65 Mclvor Times, 2 November 1905

66 Victoria: Gold and Minerals, 1935, p. 50

67 Mclvor Times, 25 January 1906

68 Mclvor Times, 31 May 1906

1906: The Costerfield Tailings Co. has not yet been at work for months past, consequent upon the ineffective system applied to the treatment of ores, rendering the same unremunerative. Elsewhere in the division, a few private parties are prospecting in a desultory kind of way.⁷⁰

c. early 1900s: After chlorination and cyaniding had been resorted to with indifferent success, it was shown by assays that there still remained about 4 dwt of gold per ton.⁷¹

Old Costerfield shaft re-opened and worked by Heathcote Syndicate

January 1907: Bombay mine. Over 120 men and boys employed. Company spends £1400 per month on the mine. Reef is taken out systematically from stopes and stopes refilled with mullock. Old Costerfield shaft is being re-timbered and will be dewatered in a few weeks.⁷²

April 1907: Old Morning Star shaft is being repaired prior to underground operations with same object in view, a party of men are negotiating with the management of the Minerva shaft, situated close to the Cyanide Works.⁷³

April 1907: South Costerfield - Head frame and winding gear are being erected and boiler bricked in.⁷⁴

Bombay syndicate taken over by Victoria Syndicate

1907: The 'Victoria' Syndicate Ltd is operating on the 'Bombay' line of reef with a very marked measure of success. The ore produced from the mine, chiefly antimony, containing gold up to 2 oz to the ton, is shipped to England for treatment. Working mine with a duplex 8-inch diameter cylinder air winch. Total output of 4,500 tons of ore. This has yielded 620 tons of picked ore of average value of 45% antimony and 35 dwts gold per ton. Additions made to the machinery and buildings - cost £14,350; a new set of high-speed crushing rolls with elevator, hopper and sizing trammel; one No. 8 Blake pump; one large Cornish boiler, built in with brickwork. An air compressor has been erected. A new GCI [galvanised corrugated iron] building has been built covering boiler and air compressor. A new ore-drying hearth and bagging shed, also an office and storeroom. Three additional jigs have been purchased and another pair of fine crushing rolls. Heathcote Syndicate Ltd has operated intermittently during the year...repairing old shaft, preparatory to sinking to 1,000 ft, the present depth being 650 ft. From old circulars and reports, together with the fact that all the appliances for treating low-grade ore were very primitive when this mine was last worked. A winding engine and boiler, poppet heads, with new pulley and winding ropes, and other plant were placed in position. During the first half year £1,084 was spent on the shaft and No. 1 level, together with the cost and erection of machinery.⁷⁵

1907: The Victoria Syndicate Limited, Costerfield - A total output of 4,500 tons of original ore, inclusive of quantities taken on terms from the 'Heathcote Syndicate and other contracting parties,' was raised and treated. This has yielded 620 tons of picked ore of an average assay value of 45 per cent antimony and 35 dwts of gold per ton. The milling ore after being reduced by careful picking has yielded 280 tons of concentrates, with an average assay value of 50 per cent antimony and 38 dwts of gold per ton. The total of 900 tons has been shipped to England at an advance of £15 per ton. For further treatment the whole of the tailings, which average 6 per cent antimony and 4 dwts 20 grs of gold per ton have been stored. Sixty ounces of gold have been recovered from the battery. The expenditure on the mine for the year amounted to £14,350. Additions have been made to machinery and buildings as follows: - A new set of high-speed crushing rolls with elevator, hopper and sizing trommel; one No. 8 Blake pump for returning the water to the service tank. One large Cornish high-pressure boiler has been built in with brickwork. An air-compressor has been erected. An air-receiver and 4,000 feet of new steel pipes have been put down, making a connection with the Costerfield main shaft. A new GCI building has been built covering boiler and air compressor. A new ore-drying hearth and bagging shed, also an office and

69 Mclvor Times, 1 November 1906

70 Mining Surveyors' Annual Reports, 1906

71 Whitelaw, 1926, p. 6

72 Mclvor Times, 24 January 1907

73 Mclvor Times, 2 May 1907

74 Mclvor Times, 11 April 1907

75 Mining Surveyors' Annual Reports, 1907

storeroom have been built. Three additional jigs have been purchased and also another pair of fine crushing rolls. These have not yet been put in position. These additions for purchase and labour have cost £2,000.

The Heathcote Syndicate Limited - Costerfield mine - From old circulars and reports, together with the fact that all appliances for treating low grade ore were very primitive when this mine was last worked, it appeared that if access to No. 1 level were made possible ore from the old stopes could be obtained. A new collar was put on the shaft, and all bad timbers were renewed down to 180 feet, at which depth water was found. A winding engine and boiler, poppet heads, with new pulleys and winding ropes, and other plant were placed in position.⁷⁶

January 1908: Bombay Co. - During past 12 months, total of 900 dressed ores has been treated. About 630 tons of this assays 45% antimony and 1.75% gold... Sixty ounces of gold have been recovered from the battery. Expenditure on the mine for the year amounts to £17,000. Additions include new high-speed rolls with elevator. Hopper and sizing trammels. No. 1 Blake pump for returning water to service tank. High pressure Cornish boiler, air compressor, etc. [Bombay = Victoria Syndicate]⁷⁷

May 1908: Cyanide Co. - rebuilding furnaces etc. with a view to recommencing operations shortly.⁷⁸

1908: At the antimony mines in this district, work has been carried on this year on an extensive scale; owing to the low price of antimony the results have not been so successful during the latter part of the year, and work is at present being carried on rather restricted lines whilst the company is reconstructing. Victoria Syndicate Ltd. - Amount of ore treated, 3,679 - 869 tons of concentrates, total of £10,428. Additions made to the plant in the year. Also the old Costerfield mine has been de-watered and opened up to 420 ft and the Bombay shaft sunk another 100 ft. The company is being re-organised and more capital raised to carry out developmental work on a larger scale.⁷⁹

1909: Principal work in this portion of the district carried on by the antimony mines at Costerfield, where a fair number of men are employed. At Costerfield, operations are limited to that carried on by the Victorian Syndicate, which is working steadily on the auriferous antimony ores that failed to pay under the poor extraction methods pursued in earlier years. Victoria Syndicate Ltd. - The above company has raised from the old Costerfield and Bombay mines 1,750 tons of original ore, which has yielded 340 tons of concentrates of an assay value of 46% metallic antimony and 2 oz gold per ton, which have been shipped to the order of St Helen's Smelting Co. Ltd, England. The concentrating plant has been remodelled... The plant is now complete, both in crushing and concentrating arrangements. In addition to the mine output, 2,929 tons of residues have been run through for the yield of 160 tons of fine concentrates assaying 45% antimony and 2-1/2 oz gold per ton.⁸⁰

Property passes into hands of Costerfield Mining Company

1910: At Costerfield, operations restricted to those conducted by the Victorian Syndicate, which is successfully treating the refractory auriferous antimony ores and the old-time slag and tailing heaps. Victoria Syndicate - Ore raised, 1,262 tons - 240 tons of concentrate. Tailings concentrated 8,135 tons - 45- tons of concentrate. A new tailings pump has been added to the mill, and two slime concentrating machines are being erected. Underground has driven 350 ft of cross-cuts, which have opened up 40,000 tons of milling ore, of an average assay value of 7% antimony and 8 dwt of gold per ton. The property during the year has passed into the hands of Messrs C.H. Nevill, A.B. Lunham, T.C. Nevill... whose connection with the English smelters always insures a reasonable price, with a constant market.⁸¹

76 Annual Report of the Secretary of Mines, 1907

77 Mclvor Times, 30 January 1908

78 Mclvor Times, 14 May 1908

79 Mining Surveyors' Annual Reports, 1908

80 Mining Surveyors' Annual Reports, 1909

81 Mining Surveyors' Annual Reports, 1910

- December 1911:** Bombay continues running three shifts. Thought the old slimes can be worked profitably... Roasting furnaces are being renovated. If bulk trial is a success, new plant will be erected for extraction of antimony oxide. The price of antimony is low.⁸²
- 1911:** Victoria Syndicate - 743 tons of concentrates of ore - gross value over £8,000. Winze from the 400-ft level sunk 100-ft. air winch installed. Two Linkenbach tables have been added to the concentrating plant. 70 men regularly employed.⁸³
- June 1912:** Costerfield Antimony Mine - 3,663 boys recently despatched to St Helen's smelting works, Lancashire, England.⁸⁴
- 1912:** The Costerfield Mining company has raised and treated 2,430 tons of ore and 8,075 tons of tailings, recovering 1,475 tons of concentrates values at £16,162. The ore is hand picked closely as it comes from the mine, all waste rock is eliminated, the rich ore is cobbled and broken, and all above 48% antimony is bagged and shipped to England. The seconds or milling ore is then passed through rockbreaker and rolls, then sized for gigs, Wilfley and card tables, the slimes going to two improved Batch vanners. A new winding engine, boiler and air compressor have been added to the plant. The general manager has made a strenuous endeavour to find limestone and ironstone to use as fluxes to smelt the ore on the field, but the absence of railway facilities and heavy cost of cartage and labour will not allow a comparison of costs favourable to that project. The proprietor has spent over £100,000 on the property, and so far no dividends have been paid.⁸⁵
- 1913:** 6,251 tons of mine ore, 4,530 tons of tailings recovering 2,808 tons of concentrates, having an average assay value of 47% antimony and 2-1/2 oz gold per ton. Concentrates shipped to England. Bulk of ore mined at 500 and 600-ft levels. A new Krupp's mill has been erected to take the place of the stamps; additions have been made to the sizing arrangements at the mill, and an additional Cornish boiler has been installed. A new storeroom and office have been built, and a large fitting shop is in the course of erection; 200 men and boys employed by this company.⁸⁶
- October 1914:** Mill stopped owing to lack of water.⁸⁷
- 1914:** 7,600 tons of mine ore, which returned 2,283 tons of concentrates; 3,370 tons of tailings, 156 tons of concentrates. The estimated value of the concentrates shipped to England is £29,350. Antimony metal has risen in value during the last month from £30 to £63 per ton, owing to its use at the war. The antimony metal extracted from the ore mined at Costerfield is given first place in the British metal handbook, and the owner of the mine has entered into an agreement to supply the British Government with antimony for 12 months. A new set of poppet heads erected.⁸⁸
- 1916:** Costerfield Antimony Mines - During 1916, the Costerfield antimony mines, Heathcote, Vic., produced 12,382 tons of ore, which yielded 3300 tons concentrates. These were shipped to the St. Helen's Smelting and Refining Company, England, which is controlled by the Imperial government under the Munitions Act, 1915. Opening up the old South Costerfield mine proved very expensive, owing to heavy water and the bad condition of shafts. The deposit here is patchy, and the country rock broken by slices and crosscourses. The ore lenses are not continuous, and production will be expensive. The old Costerfield North shaft has been sunk to 800 feet, and crosscuts put out to the reef... Crosscutting west on the 600 feet level has opened up a vein of good ore, which will add considerably to the life of the 'old' mine, as it will be west of all workings in the upper levels. Nearly all work underground at Costerfield has been carried out on the contract system. The average wage earned by contractors has been 15/- per shift. The company employs over 30 men and boys, and paid in wages, etc., £60,000 for the year. The

82 Mclvor Times, 28 December 1911
83 Mining Surveyors' Annual Reports, 1911
84 Mclvor Times, 3 June 1912
85 Mining Surveyors' Annual Reports, 1912
86 Mining Surveyors' Annual Reports, 1913
87 Mclvor Times, 29 October 1914
88 Mining Surveyors' Annual Reports, 1914

advisability of supplementing the concentrating equipment by the addition of a M.A. flotation unit is being considered.⁸⁹

1920: The Costerfield antimony and gold mines, Heathcote, Vic., have been closed down, pending extensive alterations to the machinery and plant.⁹⁰

1903-22: Costerfield Mining Company - This company's success has depended principally on the solution of the smelting problem at the smelting works of a sister company at St Helen's, near Liverpool, where the gold is completely recovered from the antimony. A contributing factor has been the gradual elimination of losses in separating the ore from the mullock in the crushing and concentrating mill, and the present mill residues at Costerfield contain, on an average, only 15 gr of gold per ton and 1/2% of antimony. The ore mined at various depths between 420 ft and 780 ft at the main mine. The ore obtained from the Alison mine, at South Costerfield, one mile south of the main shaft at Costerfield, has been of lower grade...owing to a relatively high percentage of iron pyrites. In May 1917, the export of the ore was suspended through lack of shipping accommodation. Production continued for a while at a diminished rate, and stocks of ore accumulated. After the close of the European War export was resumed in the early part of 1919, and the stocks reduced. Production has been reduced during the year (1921) on account of the low market combined with high freights and high costs...[Antimony belt] extends to Redcastle, seven miles north of Costerfield, where auriferous antimony has been mined. At South Costerfield, one mile south from the main line along the lines of strike, the Alison shaft has been an important point of production. Two miles further south of the Alison shaft is Bradley's claim, from which antimony ore has been obtained. There are four equipped shafts on the field, including the Alison shaft, but for some time operations have been confined to the main shaft. The shafts are:

Main or north shaft	1015 ft deep	
Minerva shaft	295 ft deep	
Bombay shaft	340 ft deep	
Alison shaft	400 ft deep	91

1905-22: During the period 1905-August 1922, [the Costerfield Mining Co.'s ground] have yielded 23,243 tons of ore valued at £588,925 (antimony, £348,645; gold, £240,280).⁹²

1903-25: This period was characterised by efficient smelting techniques enabling complete recovery of the gold and the successful treatment of old tailings.⁹³

New company being floated - Antox Limited

1926: The Costerfield Mining Company now holds some 306 acres...which, during the period 1905-August 1922, have yielded 23,243 tons of ore valued at £588,925 (antimony, £348,645; gold, £240,280). Prior to 1905, but excluding the period 1883-1905 concerning which there is an entire absence of statistics, 28100 tons of antimony, value £346,500, and gold, 13,494 oz, value £53,976, were produced. To the above figures has to be added £7,500, the estimated net value of tailings still to be treated, giving in round figures an extraction of £1,000,000, practically the whole of it coming from the one mine. The company is at present marking time pending the endeavour to float a new company to be styled 'Antox Limited,' with the object...of purchasing as going concerns the auriferous antimony mines of the Costerfield Mining Company and the business and undertaking of the Antox Syndicate Limited of Sydney, New South Wales. The company will work the said mines, produce oxide of antimony for the manufacture of 'Antox' non-poisonous pigment, and also recover the gold contained in the ore by a special process which has for many years been successfully employed by the Costerfield Company at their associated works at St Helen's, Lancashire, England. 'It is proposed to centralise at Costerfield, Victoria, the operations of the two businesses, and to erect a plant capable of increasing the production of antimony oxide and of recovering the gold contained in the ore from which the oxide is made. This will result in a large saving being effected in the cost of production, as the ore will go straight from the mine to the furnace without entailing any charges for packing and transport... will manufacture on the spot a commercially proved pigment.' (Prospectus)...it is calculated that the ore reserves in the main mine would of themselves keep the mill

89 Mining and Engineering Review, 5 February 1917, p. 118

90 Chemical Engineering and Mining Review, 5 May 1920, p. 280

91 Stillwell, 1922, pp. 358-60

92 Whitelaw, 1926, p. 7

93 Bowen, 1966, p. 1

employed for ten years. No special attention has been given to the treatment of the 150,000 tons of tailings (net value £7,500) heaped on the surface, but, in course, of time, the whole of these will be absorbed by their inclusion in limited quantities...with the ores as trammed from the mine, it having been found by experiment that owing to a certain amount of oxidation having taken place the older sand, per se, is not amenable to the treatment process now in operation. The following is an official description of the crushing and concentrating plant as now installed at Costerfield for the treatment of ore after it has been hand-picked underground by the miners.

The run of mine ore is tipped from the mine trucks onto a grizzly, 2-1/2 in. opening between the bars. The oversize is hand-picked for clean sulphide ore and waste rock. The undersize is passed through a revolving screen 1/2-in. diameter holes, the oversize spread on to a revolving circular table 15 feet diameter, the clean sulphide ore and the waste rock picked out, and undersize and second grade ore sent to the mill. The milling ore...is tipped into a large bin from which it is fed into a Blake-Marsden type of rock-breaker, which reduces it to 3/4-in. size, and which passes through a pair of 30-in. diameter high-speed rolls. The ore is then screened to suit two Hartz jigs, three compartments each, which treat 1/2-in. and 1/8-in. cubes respectively... The jig rejects are mechanically conveyed to the 25-head stamp mill, which reduces to a 30-mesh size which joins the original fine ore and is classified for Wilfley and Card tables. The concentrate carries a large percentage of iron pyrites...but carries high gold values averaging over 4 oz per ton. The table rejects and all water with ore in suspension is lifted by a 10-in. elevator to a 6-ft x 6-ft classifier, the underflow is automatically fed into a 16-ft x 5-ft tube mill, the discharge is lifted to a 6-ft x 8-ft classifier, the underflow passes over Card tables where a concentrate very rich in gold is recovered. All material is eventually slimed and passes into a Dorr Thickener and is automatically fed into a...mineral separation machine. The discharge from the mineral-separation machine passes over a Bartch vanner, which recovers any ore, which may be partly oxidised, also any grains of solid free gold. The mill residues are then pumped on to the slime dumps. The mill has a capacity of 4 tons per hour. The engine was built by Messrs Robinson Brothers of Melbourne, and is of the condensing type equal to 250 horse-power.' The company owns the St Helen's Smelting Works in England...This ore is there treated by the Plews process. By this means 99 per cent of the gold is recovered from the antimony.⁹⁴

1926: According to an estimate made in 1926, after the Costerfield mine had been closed down four years, the ore reserves in sight amounted to 29,082 tons of antimony concentrates, containing antimony to the estimated value of £436,220 and gold (at standard price) £290,280.⁹⁵

Property taken over by Gold Exploration and Finance Company of Australia and new plant installed at Old Costerfield shaft

1934-5: In 1934 work was resumed on a large scale, and is now in progress.⁹⁶

1935: This field [Costerfield] is notable for its reefs bearing antimony and gold. Several reefs have been mined, some of them over a length of 2 miles. The value of the antimony produced has exceeded that of the gold, although the reefs were consistent in gold values, averaging 2-1/2 oz. to the ton of concentrate, and sometimes reaching to 7 oz. per ton. The shaft of the Costerfield mine was sunk 936 feet, but stoping ceased at 686 feet.⁹⁷

1935: Costerfield - Gold Exploration and Finance Company of Australia equipped the old Costerfield Antimony Mines with a power plant consisting of 3 Crossley Diesel engines, a two-stage air compressor, two generators, winding hoist and poppet heads, unwatering operations were commenced with an air lift and later the work was completed by means of multi-stage centrifugal pumps. Prospecting operations are in progress.⁹⁸

1937: I understand the Costerfield Antox Mining Co. used some of the ore [from an iron ore deposit on Red Hill, Heathcote] for fluxing purposes and that the ore carried 20 grains of gold per ton.⁹⁹

1937: In a recent report on the Costerfield gold-antimony mine, which is being developed by Gold Exploration and Finance Co. of Australia Ltd., Mr G. Lindesay Clark stated:- '...The mine was operated intermittently for 60 years. Production records show a total of 77,000 oz of fine gold and 20,000 tons of metallic antimony... Prospecting is being continued north of the shaft...'¹⁰⁰

94 Whitelaw, 1926, pp. 7-10

95 Victoria: Gold and Minerals, 1935, p. 50

96 Victoria: Gold and Minerals, 1935, p. 50

97 Victoria: Gold and Minerals, 1935, p. 50

98 Mining Surveyors' Annual Reports, 1935

99 Kingston, 1937

100 Chemical Engineering and Mining Review, 15 December 1937, p. 108

- 1940:** Production statistics - Antimony concentrate: Gold Exploration and Finance Co. Ltd, Costerfield, 21-1/2 tons, value £1,577; New Alison Mining Co., Costerfield, 7 tons, value £148.¹⁰¹
- 1944:** The antimony mines at Costerfield and ? have been closed down. The concentrating plant at Costerfield for the recovery of antimony from the old mine dump ceased operations.¹⁰²
- 1935-51:** The third and final period of operations from 1935 until 1951 when approximately 1,000 tons of concentrate was produced.¹⁰³
- 1951:** The increases in world-prices for base metals revived interest in the antimony field at Costerfield.¹⁰⁴
- 1966:** The major producer from the field is the Costerfield Antimony Mine which operated for two main periods, from 1860 to 1883 and 1903 - 1925. Recorded production is approximately 48,000 tons of stibnite concentrate containing an estimated 22,000 tons of antimony. Gold production is recorded at 77,0000 oz. Stibnite (antimony sulphide) contains approximately 70% antimony and is the major source of this metal... Antimony is a brittle, silver white metal with a low melting point. Its principal use is an ingredient in lead base alloys to which it adds strength and resistance to chemical attack. As an alloy it is used in battery grids, chemical pumps and pipes, tank linings, antifriction bearings, printer's type metal and in ammunition. The oxide is used in metalware and ceramic enamels, as a white pigment in paints, in glasses, in the textile industry, and as a fire retardant in fabrics... Typically stibnite-bearing reefs are relatively small and of limited strike length. The Costerfield reefs are no exception to this rule.¹⁰⁵
- c.1935-85:** Over the last fifty years several fresh starts have been made at [the Costerfield Gold and Antimony Mine] but none of them lasted very long. The mine is now [1985] closed.¹⁰⁶

COSTERFIELD DATABASE

Costerfield, including Stewartown (South Costerfield)

Costerfield, including Stewartown (South Costerfield)

- 1853-4:** Antimony [at Costerfield] was first discovered and worked on the Moorabie Station (on Wapentake Creek, between Heathcote and Costerfield) in 1853, by a man named Doyle who, in the following year, dispatched a parcel of oxide to Melbourne only to be informed that the demand for the material was so limited that its marketing would not be a profitable proposition. (It would seem that at that time the presence of gold in the reef had not been recognised).¹⁰⁷
- 1860:** No further attempt, apparently was made to test the ore until Messrs Youle, Coster, and Field came on the scene in 1860, and, in prospecting north of Doyle's old claim, unearthed, in Kelburn Creek, a tributary of Wapentake Creek, some boulders of oxy-sulphide containing coarse specks of gold. On their exhibiting these specimens to Mr Patterson, the then owner of Moorabie, a shepherd (McNichol) in his employ informed the prospectors that he knew of a deposit, *in situ*, of mineral resembling that on view, and offered, for £10, to guide them to the occurrence. An agreement being come to, he led them to a spot about 100 yards south of the present [1926] Costerfield Antimony Company's main shaft where, it is said, the oxidised outcrop of what is now known...as the Costerfield main reef, projected above the surface 4 feet high by 4 feet wide by 20 feet long... Viewing it through the timber of Tin Pot Gully, from a distance of a quarter of a mile, Youle pronounced the find a 'buck' quartz reef similar to others on his original claim and which were then being broken down

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- 101 Department of Mines Annual Report, 1942
 102 Department of Mines Annual Report, 1944
 103 Bowen, 1966, p. 1
 104 Department of Mines Annual Report, 1951
 105 Bowen, 1966, p. 1
 106 Randell, 1985, p. 29
 107 Whitelaw, 1926, p. 5

for road metal, left the party at that juncture, returned to Kelburn Creek, and later, moving to Heathcote, was no further heard of.

The remaining members camped on the ground, and with picks and hammers soon found the white surface to be an envelope covering a heavy lead-grey mass of antimony sulphide in which free gold was plainly visible. Coster and Field secured the prospecting claim while others pegged northward to Redcastle (6 miles) and southward for 3 miles to the hills beyond Wapentake Creek. The ore broken from an open cut on the outcrop was handpicked pending the purchase of a crushing mill, and that portion of the sulphide in which gold was visible was sent to Melbourne. At £6 per ton this returned to the claim-holders sufficient capital to enable them to purchase and erect a six-head battery. Although Coster and Field held the pick of the shallow level ground, the claim-holders southward were well in the running, and in the ground afterwards worked by the Minerva and Bombay companies, Coster's shoot was followed by them to water level. Encouraged by the successes at Upper Costerfield (Coster and party were then obtaining as much as 4 oz of gold per ton...) W. Morris, of Heathcote, as one of a Melbourne syndicate, essayed to locate the southern extension of the reef at Lower Costerfield (now South Costerfield) about 1 mile away on the southern side of Tin Pot Flat.¹⁰⁸

- 1860:** The field was discovered in 1860 by two prospectors, Coster and Field, who were guided there by a shepherd, M'Nicol. Coster and Field had already discovered an antimony load about three miles nearer Heathcote, when McNichol offered to guide them to the larger outcrop... No alluvial gold of any consequence was obtained at Costerfield, but a little was obtained at Redcastle, 7 miles to the north, and in some of the gullies to the east. The early success of mining at Costerfield was due to the gold values...¹⁰⁹
- March 1861:** Rich antimony reefs discovered on Robertson's station, at the Wappingstack. Reef of great purity, 3 ft 6 inches thick, is opened up 10 ft long, almost due N-S, 3 ft deep. Owners Coster, Youle and Field. Quality very fine...numerous reefs in vicinity... Distance 8 miles from Heathcote, 1-1/2 miles from old antimony workings. People arriving daily, tents and huts being built. Same line of reef opened up 1 mile nearer Heathcote.¹¹⁰
- early 1861:** Morris continued his trench [at South Costerfield] and at the end of the following month (early in 1861) was rewarded by striking the covered outcrop of the vein... The stone (15 cwt) broken from a shaft sunk 45 feet on this yielded 7 oz 7 dwt of gold. The vein increased in width with depth, and at 70 feet (water level) below surface was 8 inches wide and averaged 8 oz of gold per ton. Other parallel veins were discovered in what is now [1926] known as the Alison ground and 600 feet westward Tate's line was unearthed and worked profitably to a depth of 200 feet.¹¹¹
- July 1861:** The earliest available record of values is a crushing of Coster and Co. on the Antimony reef (now known as the Costerfield reef), when 200 tons from a depth of 70 ft averaged 4 oz per ton in July 1861. At this time a crushing mill had not yet been erected at Costerfield, and the ore was carted and treated at Redcastle. The massive antimony ore, consisting of mixed oxides and sulphides, was separated by hand-picking as 'marketable ore,' and the remainder crushed for gold.¹¹²
- July 1861:** There was a rush [to Costerfield] in July 1861, and the ground was pegged for 3-1/2 miles.¹¹³
- September 1861:** A 15 cwt parcel of ore, obtained by Morris and Co. from a depth of 45 ft on the Kilburn reef, averaged 9 oz 16 dwt per ton.¹¹⁴
- February 1862:** Youle, Coster and Field buying crushing machine and two tailing amalgamators.¹¹⁵

108 Whitelaw, 1926, p. 6
109 Stillwell, 1922, p. 355
110 Mclvor News, 29 March 1861
111 Whitelaw, 1926, p. 6
112 Stillwell, 1922, p. 355
113 Flett, 1979, p. 95
114 Stillwell, 1922, pp. 355-6
115 Mclvor News, 7 February 1862

- 1862:** The [Costerfield gold and antimony] mine continued to be worked for some time without machinery, the antimony being carted to Melbourne and the quartz to Redcastle for crushing. In 1862 a six-head battery and two amalgamating tables were erected...¹¹⁶
- May 1862:** Largest claim is original claim by Youle, Coster, Field and Co... Well-slabbed shaft 110 feet deep...water at 110 feet...own crushing machinery. Antimony sent to Melbourne.¹¹⁷
- August 1862:** Great impetus by the introduction of capital and energy from Melbourne. Splendid, continuous gold yields from the claim of Messrs Coster, Field and Co., at Costerfield and Messrs Morris and Co. at Lower Costerfield. Comparatively small operating costs of small companies, with less overhead expenses, attract new capital. Purchasing out original claim holders and applying for new leases. Whole of ground has been pegged off. Machinery is being introduced.¹¹⁸
- early 1860s:** All was plain sailing at both ends of the field until the sulphide zone was reached and the metallurgical problem of the recovery of the gold from the stibnite presented itself. That the earliest method of treatment, which did not aim at the recovery of the antimony after the ore was crushed, was primitive is shown by the fact that the tailings when re-crushed - and still without giving up their all - yielded as high as 3 oz per ton.¹¹⁹
- February 1863:** Costerfield antimony mines greatest attraction for speculation in this district. Large amount of capital being invested, after granting of mining lease applications pending, considerable population expected. Morris and Co., Lower Costerfield - 17-1/2 tons yielded 158-oz gold. Reef steadily increasing in richness. Exploitation on a much larger scale after completion of own machinery. McDougall and Co. have nearly completed machinery.¹²⁰
- March 1863:** Upper Costerfield has about 120 population. Here is Youle, Coster and Field's machinery... Stewart Town, 1 mile nearer Heathcote, 200 population, Morris and 3 other claims.¹²¹
- March 1863:** New antimony reef discovered - 1-1/3 miles NW of Coster, Field and Co. claim.¹²²
- April 1863:** Costerfield and Stewarton: Considerable activity. Dalsiel and Allen's reef lately discovered south of Morris and Co.'s claim...traced through Hay and Hoskin's lease and Argo Mining Company's ground. McDougall and Co. crushing. Two more machines being erected. New Antimony Reef between Costerfield and Stewarton, half mile west off the road.¹²³
- April 1863:** Coster, Field and Co. average tonnage crushed over 100 tons of antimony per fortnight, yielding 150 oz gold. Another crushing engine will work for the public. Erected 500 yards from Coster, Field and Co.'s claim. Stewarton - Morris and Co.'s new engine nearly ready, the largest and most up-to-date in the antimony district. Ripple boards covered with copper plates to save quicksilver; besides blankets are used. Yield estimated: 10-12 oz per ton. McDougall and Co. also prepare to start engine operations.¹²⁴
- April 1863:** Stewarton - Morris and Co. about to start machinery. McDougall and Co. started pumping. Allen and Dalziel sunk 25 feet. Reef 18 inches thick of pure antimony. Costerfield - Shakespeare and Co., Field and Co., Coster, Field and Co.¹²⁵
- May 1863:** New reef discovered - Clyde Reef, 2 miles on road between Steam Sawmills and Stewarton... 7 claims taken up north and south.¹²⁶

116 Randell, 1985, p. 24

117 Mclvor News, 23 May 1862

118 Mclvor News, 15 August 1862

119 Whitelaw, 1926, p. 6

120 Mclvor News, 6 February 1863

121 Mclvor News, 6 March 1863

122 Mclvor News, 27 March 1863

123 Mclvor News, 10 April 1863

124 Mclvor News, 17 April 1863

125 Mclvor News, 24 April 1863

126 Mclvor News, 8 May 1863

- May 1863:** Another antimony reef discovered near Stewarton.¹²⁷
- July 1863:** Lower Costerfield [Stewartown] looks deserted. Morris and Co. crushed 25 tons of stone yielding 120 oz.¹²⁸
- March 1864:** Some Bendigo miners have taken two of Messrs McDougal and Co.'s leases on tribute. They altered the copper plates, put down blanket tables, and find that their speculation will pay them very well. It appears that the machinery was very imperfect before. Turner and party, crushing from 44-66 feet. Kelburn Reef Co., crushing from 160 feet. Turner and Co., Simms and Son's Reef, crushing from 60-70 feet. Coster and field - crushing from 120 feet. Messrs Coster, Field and Co. are still engaged in the erection of their engine; they have sunk their shaft to 170 feet, and are expected to strike the lode at 300 feet. The reef has widened to 12 feet at the northern end. Minerva Co. have sunk their shaft, at 180 feet they opened out, drove twenty feet east, struck the reef rather thin; turned south, and drove 5 feet; the reef opened to twenty-one inches, with every appearance of increasing in thickness... They have bought Mr Acott's engine of 12 stamps, which they have removed and are erecting near their shaft. The company has already spent £4000 on the mine... From this claim to that of Messrs Morris and Co., on the Kelburn Reef, Lower Costerfield, nothing is doing. Morris and Co - crushing from 130 feet. Messrs Morris and Co., on the Kelburn Reef, Lower Costerfield...are not doing so well as hitherto; they require to sink their shaft deeper. They have of late been crushing most surface refuse and tailings. From the pyrites, with which these lodes are so highly charged, they obtained some cheering results; they roasted several hundredweight, and after passing it through a Berdan basin got 12 oz 5 dwt, or at the rate of 35 oz to the ton. Miller and Co., Park Farm (Mount Mombol), Costerfield, crushing from surface.¹²⁹
- April 1864:** New antimony smelting process. Patent by Rev. Edward Hughes of McIvor, taken out for separating antimony from other metals. Work at Costerfield under the name 'Victorian Antimony Smelting Co.'...could also be exported for conversion into white paint.¹³⁰
- June 1864:** The Minerva Co. has been pursuing mining operations with vigour. They are now crushing. Coster and Field, Antimony Reef, crushing from 120 feet. Coster and Field have nearly completed the erection of their machinery, and their mine continues to yield well. Morris and Co., Kilburn Reef, Lower Costerfield, crushing from 167 feet. Morris and Co. have been idle for some time. They have raised but 8 tons of stone during the 3 months. Their mine is said to be failing. Kenny and Co., Murray Reef, Lower Costerfield, crushing from 50 feet. Messrs Kenny and Babbage once more commenced to work their claim on the northern boundary of Messrs Morris and Co.'s miner's right claim. The yield from 25 tons is nearly half an ounce to the ton. Bombay Co., Bombay Reef - crushing from 52 feet. Turner and Co., Simms and Son's Reef, Costerfield, crushing from 40-60 feet¹³¹
- July 1864:** Coster, Field and Co. are putting in levels... Fine new crushing machinery almost completed. Best in district. Minerva Co....are erecting furnaces for calcining the tailings as they intend crushing without mercury in stamp boxes as stone contains large quantities of antimonial sulphide causing loss of gold and mercury.¹³²
- September 1864:** Coster, Field and Co. - crushing tailings.
Minerva Mining Co. - crushing tailings.
King, Babbage and Co. - crushing from 47 ft.
New Brunswick Co. - crushing from 65 ft.
Gladstone Mining Co. - crushing from 74 ft.
Kemp and Co. - crushing mullock.¹³³
- October 1864:** Minerva Co.'s mine - technical report on experiments in amalgamation.¹³⁴

127 [Mclvor News](#), 14 May 1863

128 [Mclvor News](#), 17 July 1863

129 Mining Surveyors' Reports, March 1864

130 [Mclvor News](#), 24 April 1864

131 Mining Surveyors' Reports, June 1864

132 [Mclvor News](#), 15 July 1864

133 Mining Surveyors' Reports, September 1864

134 [Mclvor News](#), 29 October 1864

- December 1864:** Coster, Field and Co. - crushing from various depths to 180 ft.
 Minerva Mining Co. - crushing from surface to 68 ft.
 Morris and Co. - crushing from 100 ft.
 Margaret Reef - crushing from surface.
 Daly and Co. - trial crushing, from 100 ft.
 Australasian Co. - crushed 16 tons.
 Difficulty in extracting the gold from the stone and antimony are universal: from this cause Messrs Coster and Field have desisted from crushing quartz, except in as small a quantities as possible, just sufficiently to re-crush the quartz tailings, from which they obtain large results.¹³⁵
- January 1865:** Costerfield Gold and Antimony Co. formed by amalgamating Coster, Field and Co. with the holders of the claims north and south.¹³⁶
- 1865:** Large quantities [of tailings] accumulated and were stacked on various parts of the several leases; and after the original Costerfield Company in 1865 'erected on their ground valuable machinery and plant consisting of an engine of 50 horse-power for crushing and pumping; an engine of 12 horse-power for winding; a battery of 12 heads of stamps; a smelting and reverberatory furnace and oxide flue; a Cornish buddle, &c. a portion of tailings was included with the ore sent to the smelters and a fair extraction was made...¹³⁷
- February 1865:** Minerva Co. struck a reef much thicker and richer than the one reported two weeks ago. Supposed to be the main reef. Discovery advances the value of mining property by 51%.¹³⁸
- March 1865:** Minerva Mining Co., Costerfield - crushed 99 tons from 200 ft, for a yield of 88 oz. Kenny, McDougall and Co., Costerfield - crushed 105 tons from 75 ft, for a yield of 35 oz. At Costerfield, the Minerva Mining Co., after long and persevering efforts, have at last struck the Costerfield Reef at a depth of about 200 feet. They have opened it out by a winze for a depth of 20 feet, and are about to commence taking out stone. Messrs Coster, Field and Co. have amalgamated their ground with No. 1 North and No. 1 South and have formed a company called the Costerfield Gold and Antimony Mining Company, for the purpose of working them.¹³⁹
- March 1865:** Minerva Co., having struck the main reef and being the only one in Upper Costefield (except Coster and Field) who have worked energetically (practically all the others have been swindlers).¹⁴⁰
- April 1865:** Costerfield mines improving. One of the busiest spots in the district. Companies seem to do well, but no particulars available since most companies crush their own stuff and deliver their yields to respective bankers.¹⁴¹
- June 1865:** Cambrian Gold and Antimony Mining Co...lease applied for.¹⁴²
- September 1865:** Costerfield Gold and Antimony Mining Co. - Yield of gold last fortnight has been 118 oz from 124 tons of stone, and 20 tons of antimony ore. The mining manager reports that the mine never looked better. The large battery is nearly up, but not yet covered in.¹⁴³

135 Mining Surveyors' Reports, December 1864
 136 Mclvor News, 20 January 1865
 137 Whitelaw, 1926, p. 6
 138 Mclvor News, 17 February 1865
 139 Mining Surveyors' Reports, March 1865
 140 Mclvor News, 31 March 1865
 141 Mclvor News, 21 April 1865
 142 Mclvor News, 23 June 1865
 143 Dicker's Mining Record, 5 September 1865, p. 120

- October 1865:** Costerfield Gold and Antimony Mining Co. (Rgd). The mine has been worked for three years by Messrs Coster, Field and Co., and was sold by them to the Costerfield Gold and Antimony Mining Co. for £20,000. The new company commenced operations in March 1865. The plant that has done all the work since the mine was opened, consists of a small 7 horse-power engine, and a battery of six heads of stamps. The company has, however, a 50 horse-power engine ready for work, and 12 heads of stamps nearly completed, which will be at work in November.¹⁴⁴
- December 1865:** The winding engine and new battery of 12 stamps...are now in full working order.¹⁴⁵
- 1860-66:** The Costerfield reef was...the main [gold] producer [at Costerfield], and up till March 1866, averaged about 1 oz per ton on a weekly tonnage of 50. In the subsequent years the gold recovery was much lower. The gold production of the early days decreased as mining operations approached the sulphide zone, where the miners were faced with the metallurgical problem of the recovery of the gold from the antimony. Not more than 20% of the gold in the reefs is amenable to amalgamation with mercury, and various attempts to recover the remainder by smelting were unsuccessful.¹⁴⁶
- June 1866:** Costerfield Gold and Antimony Co. - Upper Costerfield - 599 tons from 220-260 feet, yielded 320 oz.¹⁴⁷
- September 1866:** Costerfield Co. - mine and machinery in good order...arrangements being made for smelting ore and tailings on the claim. Chilian mill experiments tend to prove that large gold quantity has been carried off with the tailings.¹⁴⁸
- 1866-68:** As a result of the early operations a large quantity of rich tailings accumulated. These were estimated by a mining manager in 1866 to be worth 1/2 to 3 oz of gold per ton, and they were re-treated in 1868 for the first time. The losses were still considerable, and large heaps remained containing 6% Sb and 7 dwt and over of gold per ton. Various efforts were subsequently made to recover these, without success.¹⁴⁹
- December 1866:** Costerfield Co. - smelting furnace completed, to begin operations in the new year.¹⁵⁰
- January 1867:** Re. tailings...Costerfield Co...there are at least 20,000 tons on the ground (besides many thousands of tons of slush from the dam, rich in antimony, and likely gold also). A sample of firebrick made at Costerfield from material abounding in the mine will answer for lining future furnaces instead of imported English bricks.¹⁵¹
- March 1867:** The Costerfield Gold and Antimony Mining Co. have suspended operations in mining, and are now experimenting on the antimony tailings, with a view of extracting the gold from them, for which purpose they have erected new retorts etc.¹⁵²
- October 1867:** Smelting operations have not proved profitable.¹⁵³
- January 1868:** Export Antimony Mining Co., All Nations Reef, Lower Costerfield, Capital £1000.¹⁵⁴
- June 1868:** Little stir in reference to the antimony mines - eight claims have been registered during the last 3 weeks at a place known as the 'Old Antimony', about 4 miles from Heathcote.¹⁵⁵

144 [Dicker's Mining Record](#), 17 October 1865, p. 228
 145 [Dicker's Mining Record](#), 12 December 1865, p. 387
 146 Stillwell, 1922, p. 356
 147 Mining Surveyors' Reports, June 1866
 148 [Mclvor News](#), 15 October 1866
 149 Stillwell, 1922, p. 357
 150 [Mclvor News](#), 28 December 1866
 151 [Mclvor News](#), 11 January 1867
 152 Mining Surveyors' Reports, March 1867
 153 [Mclvor News](#), 4 October 1867
 154 [Mclvor News](#), 29 January 1868

- January 1869:** Costerfield mine - reef struck at 320-foot level. Prospects most encouraging.¹⁵⁶
- February 1869:** Costerfield line - New reef looking splendid, gold and antimony being obtained in most satisfactory quantities.¹⁵⁷
- February 1869:** Lower Costerfield - Application to register the Alison Gold and Antimony Mining Co. Capital £5,200.¹⁵⁸
- April 1869:** Costerfield Gold and Antimony Co. - Re-crushing of 25 tons of tailings yielded 90oz of gold.¹⁵⁹
- August 1869:** All ground between Upper and Lower Costerfield now taken up.¹⁶⁰
- 1870s:** The antimony production increased, benefiting in the early and late seventies by the high market for antimony caused by European wars.¹⁶¹
- April 1870:** Costerfield Co. - Lowest drive carried south to a distance of 538 feet from bottom of shaft...procured circular buddle to separate antimony ore from quartz in tailings. For quarter ending February 28th:
- | | |
|----------------------|--------------------------|
| Stone crushed | 473 tons yielded 207 oz |
| Tailings re-crushed | 1024 tons yielded 214 oz |
| Revenue for gold | £1629 |
| Revenue for antimony | £2635 ¹⁶² |
- June 1870:** Mr Hughes is still continuing his smelting operations on Lower Costerfield, and has produced 20 tons of regulus from 60 tons of antimony tailings; and he informs me that, having made improvements to his furnaces, he hopes to produce 20 tons a month in future.¹⁶³
- October 1870:** Notice of application for mining lease: Lower Costerfield, £1,000, to erect furnaces for antimony smelting.¹⁶⁴
- October 1870:** Four more furnaces to be erected by Edward Hughes of Lower Costerfield. The soft granite found near the Hanging Rock appears to stand the most intense heat; to be used for furnaces.¹⁶⁵
- February 1872:** Alison Gold and Antimony Co. - Disposal of tailings at their discretion.¹⁶⁶
- March 1872:** £70 was obtained for gold from a party of Chinese for cleaning up the Minerva battery house.¹⁶⁷
- April 1872:** Comet lease, Lower Costerfield - Tenders invited for shaft sinking to water level.¹⁶⁸

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- 155 Mining Surveyors' Reports, June 1868
- 156 Mclvor News, 22 January 1869
- 157 Mclvor News, 5 February 1869
- 158 Mclvor News, 26 February 1869
- 159 Mclvor News, 16 April 1869
- 160 Mclvor News, 13 August 1869
- 161 Stillwell, 1922, p. 357
- 162 Mclvor News, 1 April 1870
- 163 Mining Surveyors' Reports, June 1870
- 164 Mclvor News, 7 October 1870
- 165 Mclvor News, 14 October 1870
- 166 Mclvor News, 2 February 1872
- 167 Mclvor News, 29 March 1872
- 168 Mclvor News, 18 April 1872

- June 1872:** Report that Costerfield mining company offered the Government, if a railway would be built from Kilmore, carriage of 140 tons of antimony per month.¹⁶⁹
- August 1872:** North Costerfield Gold and Antimony Mining Co. - Prospectus issued in London, 25 acres, north of Costerfield Co. Promoters offer their interest for £11,500.¹⁷⁰
- May 1874:** Costerfield Co. - erecting furnaces for smelting antimony. London smelter has been engaged.¹⁷¹
- c. 1869:** A recital of the method of the original company [at Costerfield] makes interesting reading. It is thus given by Captain Couchman, Chief Mining Surveyor of the Mines Department, in a report to the Secretary for Mines of the day and published in Brough Smyth's *Goldfields and Mineral Districts of Victoria*, [1869] pp. 417-418: 'The company at the present time are treating their ore in the following manner. That portion of it free from quartz is picked out and set aside for smelting, the remainder being crushed to extract the gold. 'The tailings which consist of antimony and a little quartz sand, are then conveyed to the heaps, and are subsequently prepared for smelting by a process of buddling, as follows:- A sluice box, into which a stream of water is turned, is fed with tailings, which are made to pass thence into a triangular tray forming an inclined plane, so arranged as to cause the water and tailings to flow over it in a broad shallow stream, into an oblong receiving pit below; the purest antimony ore, from its greater specific gravity, settles in the pit at the end nearest the tray; as the sediment recedes from this end, it gradually becomes mixed with an increasing proportion of sand, but much of the latter is carried away in the overflow of water from the pit. 'On clearing out the receiving pit, that portion of its contents containing quartz sand is returned to the heaps, to be again passed through the buddle, and the pure ore is collected in bags and sent to the boiler house to be dried; it is then placed in the smelting furnace, with equal proportions of uncrushed ore, and reduced to crude antimony (regulus), the slag and cinder resulting from this process being further treated by roasting or calcining in the reverberatory furnace, to free the oxide, which passes off in the fume from both furnaces into the oxide flue, and as the fume cools on its passage to the smoke stack the oxide is deposited in chambers constructed in the flue to receive it. 'The residue from the reverberatory furnace is afterwards crushed to extract any gold it may contain. 'The process of smelting the antimony ore has only been lately commenced by the Costerfield Company. I am informed by the manager that the gold obtained from the mineral they are now raising defrays the whole of the company's working expenses, and that the yield of crude antimony and oxide is clear profit; none of the latter has yet been brought into the market, but the shipments of rough ore hitherto sent to England have realised from £9 to £12 per ton. The ore yields about 45 per cent of crude antimony, which it is expected will fetch from £20 to £22 per ton in London; thus, by reducing it from the rough to the crude state a considerable saving would be effected in carriage and freight.'¹⁷²
- 1874:** By 1874 the mine had been sunk to a depth of 520 feet and considerable attention was given to methods for the successful treatment of the antimony for gold results. It was known by tailing assays that a lot of gold was not being recovered and all attempts to separate it were futile.¹⁷³
- August 1875:** Costerfield Co. - employing 40 or 50 men.¹⁷⁴
- September 1875:** Little of consequence to report for the Division, excepting that the Costerfield companies seem to be prosecuting their operations with increased vigour. The Costerfield Company and South Costerfield Co. have considerably increased the number of their miners; and the Alison and Central Company have erected another steam engine of 16 hp, with new stampers, boxes, etc.¹⁷⁵
- October 1875:** Costerfield Co. - Underground operations suspended in December 1874, as the lodes being worked from the main shaft were small, expensive to work, unremunerative. Main emphasis

169 Mclvor News, 14 June 1872

170 Mclvor News, 9 August 1872

171 Mclvor News, 28 May 1874

172 Whitelaw, 1926, pp. 6-7

173 Randell, 1985, p. 24

174 Mclvor News, 18 August 1875

175 Mining Surveyors' Reports, September 1875

was put on reduction to metal of the ore contained in material on the surface. An accident in June 1874 restarted mining...resumed with very satisfactory results in the ground purchased from the Minerva Co. and midway between main and Minerva shafts (1000 feet apart). Flues built in connection with smelting, extend 1200 feet, with large chambers at either end, catching oxides from furnaces at Minerva end. Two furnaces working, a third nearly complete. Herrenschildt's oxide-reducing furnace proves of great value, also renders the metal chemically pure.¹⁷⁶

- 1875-78:** Small tonnages of rich gold ore were obtained from the Alison shaft.¹⁷⁷
- March 1876:** Antimony smelting - two patents granted to H. Herrenschildt, late of Costerfield, fluid metal running off continuously; revolving conical roasting furnace set horizontally, feeding at smaller, discharging at larger end.¹⁷⁸
- June 1876:** Smelting operations are now being carried on with great vigour at the Costerfield, Alison and Central, and South Costerfield mines, and I believe with satisfactory results.¹⁷⁹
- December 1876:** The Costerfield Gold and Antimony Mining Company, the South Costerfield Gold and Antimony Mining Co., the Alison and Central Gold and Antimony Mining Co., the Alison and Central Gold and Antimony Mining Co., and the Butlers Reef United Quartz Mining Co. are pursuing their operations steadily.¹⁸⁰
- December 1877:** Alison Co. at Costerfield during the last quarter crushed 354 tons for a yield of 386 oz of gold.¹⁸¹
- January 1878:** South Costerfield Co.'s claim, machinery and plant to be sold. Costerfield Co. - revolving cylindrical furnace being erected. Sludge and tailings to be passed through cylinder and met by a current of flame which drives off the antimony in the shape of oxide, to be collected in flues and converted into metal.¹⁸²
- March 1878:** The Alison Co. at Costerfield still continues to obtain fair average yields.¹⁸³
- April 1878:** Mining plant at South Costerfield to be sold.¹⁸⁴
- June 1878:** The Alison Co. obtained from 200 tons, 260 oz gold.¹⁸⁵
- September 1878:** Alison Gold and Antimony Co. obtained 172 oz from 200 tons crushed. Some excitement...owing to the striking of an excellent antimony reef. The claim in which the find was made is the property of the United Miners Association, formerly known as Bradley's freehold. The reef was struck at a depth of 120 feet, and is 20 inches thick. Gold can be seen in the stone.¹⁸⁶
- September 1878:** Our Mines - Antimony - Over 20 years ago, a party of men, including one called Doyle, found on the old Antimony Creek, some curious stuff similar to coal but about 10 times as heavy. Got many tons on the surface, stacked it and left it as worthless as nobody wanted it... Later a shepherd, McNicholl, discovered Costerfield Co.'s claim. A great rush followed, the country for miles around was pegged out in a few days, but the first find remained unequalled. One mile south is now Lower Costerfield.¹⁸⁷

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- 176 Mclvor News, October 1875
- 177 Stillwell, 1922, p. 357
- 178 Mclvor News, 2 March 1876
- 179 Mining Surveyors' Reports, June 1876
- 180 Mining Surveyors' Reports, December 1876
- 181 Mining Surveyors' Reports, December 1877
- 182 Mclvor News, 3 January 1878
- 183 Mining Surveyors' Reports, March 1878
- 184 Mclvor News, 4 April 1878
- 185 Mining Surveyors' Reports, June 1878
- 186 Mining Surveyors' Reports, September 1878
- 187 Mclvor News, 5 September 1878

- March 1879:** The Albion Company, at Lower Costerfield, crushed 120 tons, the average yield was 10 dwts.¹⁸⁸
- December 1879:** Costerfield Gold and Antimony Mining Co. recently struck a new reef of antimony reported to be 3 ft thick. At Costerfield, the north level of the Bombay Co. has been extended 35 ft, and in driving that level some splendid antimony ore, fully 30 inches thick, was cut... Tenders have been invited by the adjoining company - the Morning Star - for putting in a cross-cut to cut the Bombay lode.¹⁸⁹
- December 1879:** Bombay Gold and Antimony Mining Co. - tenders invited for sinking main shaft 40 feet, driving level 100 feet.¹⁹⁰
- 1880s:** Prices [of antimony] slumped, and production practically ceased in the beginning of the eighties.¹⁹¹
- June 1880:** The Bombay Antimony Co., at Costerfield, has raised during the quarter 88 tons of antimony, which contains gold in small quantities.¹⁹²
- December 1880:** At Costerfield, mining has slightly improved, notwithstanding the Costerfield Co. have not been doing much, and the Alison Company's plant etc. is in the market for sale. The Bombay Co., at Costerfield, continues to give good yields. 65 tons crushed lately gave 95 oz of gold; and a large quantity of antimony ore is now being raised at this mine.¹⁹³
- March 1881:** The Bombay mine, at Costerfield, are sinking their shafts and extending their levels; if they have little water to contend with, they expect shortly from 60 to 90 tons of antimony and seconds to put through the furnace.¹⁹⁴
- September 1881:** Bombay Co., in July last, erected their winding engine. A new reef, known as Robinson's Reef, about 1-1/2 miles from Alison Mine, Costerfield, gave recently a yield of 10 oz pure gold from 3 tons of stone.¹⁹⁵
- December 1881:** At Costerfield, a reef was struck by the Bombay Company, at the bottom of the 270 ft level, the antimony being 6 inches thick.¹⁹⁶
- June 1882:** North Costerfield Gold and Antimony Mining Co. recently put five charges of ore through their furnace, taken from the 370 ft level, which yielded 1 ton 18cwt of crude antimony. Edmonston and party, Costerfield, have raised 5 tons of ore during the past fortnight. The output of the Bombay Co. was up to the usual average.¹⁹⁷
- August 1882:** North Costerfield Co. - four charges of ore from stopes have been put through the furnace.¹⁹⁸
- 1861-1883:** 28,100 tons of antimony, value £346,500, and gold, 13,494 oz, value £53,975 were produced.¹⁹⁹
- June 1883:** Costerfield Co. - Sold on June 15th for £1000. Mine apparently intends to resume operations.²⁰⁰

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- 188 Mining Surveyors' Reports, March 1879
 189 Mining Surveyors' Reports, December 1879
 190 Mclvor News, 24 December 1879
 191 Stillwell, 1922, p. 357
 192 Mining Surveyors' Reports, June 1880
 193 Mining Surveyors' Reports, December 1880
 194 Mining Surveyors' Reports, March 1881
 195 Mining Surveyors' Reports, September 1881
 196 Mining Surveyors' Reports, December 1881
 197 Mining Surveyors' Reports, June 1882
 198 Mclvor News, 24 August 1882
 199 Whitelaw, 1926, p. 7

- December 1883:** Old Costerfield Antimony and Gold Mining Co. still idle, but the sale of the mine to a new company, now in the course of formation, is an encouraging indication. The Bombay Co. - prospects of the mine most encouraging.²⁰¹
- 1883-1903:** After 1883, [antimony] operations were suspended for some twenty years.²⁰²
- March 1884:** Robinson's Co. - amalgamated with 'some adjoining claim' and to be called 'The Robinson's Gold Mining Co.' Workings have been extended 150 feet from the surface.²⁰³
- June 1884:** Alexander Reid applied for 10 acres at South Costerfield. Two men are to be employed for the first six months. Robinson's Gold Mining Co. has been formed and floated with good prospects, I am informed, but they have not yet commenced crushing operations.²⁰⁴
- September 1884:** At North Costerfield the Old Costerfield Antimony and Gold Mining Co. is still idle. Bombay Co. has been idle for the whole quarter. At South Costerfield, Mr A.W. Bradley, the manager of Robinson's Gold Mining Co., reports that the large dam is now completed, and is capable of carrying 12 months' water for 12 heads of stamps. The company has purchased an extensive crushing plant from the Enterprise Company, Fryers Creek, a portion of which is landed on the claim. A Company has been formed and floated by a party of Melbourne speculators on ground at South Costerfield, adjoining the claim of the Messrs Robinson on the south, and it is intended to commence opening at once. In the same locality a new reef has been struck by Messrs G.B. Macdonald and Messrs Edwards and Co. 2 miles SE of Robinson's claim.²⁰⁵
- February 1885:** Robinson's Gold Mining Co. - Crushing plant installed. 30 hp engine, battery of 3 heads of 12 stamps. Reef on hill, 250 yards from plant. Reef 8-1/2 feet wide. Quarry Hill shaft (haulage) is down 60 feet. Robinson's shaft is down 130 feet.²⁰⁶
- March 1885:** The Robinson Co. has erected a new crushing plant, but their last crushing has not been up to expectations. The Young Australia Company has sunk nearly 100 ft, and is now commencing to open out levels. The Alabama and Butlers Reef Co., in sinking a winze from the 450 ft level, met with stone showing gold freely, the reef being about 18 inches in width.²⁰⁷
- June 1885:** Robinson Gold Mining Co. - new shaft is being sunk to work the reef at a deeper level. The Bombay Mining Co. is engaged sinking the main shaft - driving cross-cut to intersect the lode.²⁰⁸
- June 1885:** Bombay Co. - smelters operating.²⁰⁹
- September 1885:** At Costerfield, everything is dull, owing to the low price of antimony.²¹⁰
- December 1885:** At Costerfield, the Bombay Co. has ceased work, and the machinery and plant have been sold.²¹¹
- March 1886:** Costerfield Co. - big engine sold. Bombay Co. - mining plant sold.²¹²

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- 200 [Mclvor News](#), 22 June 1883
- 201 Mining Surveyors' Reports, December 1883
- 202 Whitelaw, 1926, p. 7
- 203 [Mclvor News](#), 14 March 1884
- 204 Mining Surveyors' Reports, June 1884
- 205 Mining Surveyors' Reports, September 1884
- 206 [Mclvor News](#), 27 February 1885
- 207 Mining Surveyors' Reports, March 1885
- 208 Mining Surveyors' Reports, June 1885
- 209 [Mclvor News](#), 12 June 1886
- 210 Mining Surveyors' Reports, September 1885
- 211 Mining Surveyors' Reports, December 1885
- 212 [Mclvor News](#), 19 March 1886

June 1886: Plant of Robinson Gold Mining, Costerfield - offered for sale.²¹³

September 1886: Costerfield Quartz Tribute Co. - crushed quartz tailings and slag to the extent of 342 tons, with the small result of 28 oz.²¹⁴

213 Mclvor News, 11 June 1886

214 Mining Surveyors' Reports, September 1886

- December 1886:** The forfeited lease of the Old Costerfield claim has been taken up with a view of treating the tailings by a new electric chemical process and re-opening the mine; on the granting of the lease the work will be commenced at once. The Old Bombay mine, which has now been idle for 2 years, is, I hear, likely to start work again. This mine has yielded gold and antimony to the value of £23,000, and during active work was the means of employing about 40 hands... I have inspected the smelting works belonging to the claim, and find they are in good order and the most perfect in this part of the district. The Welcome Reef on Robinson's Line, Costerfield, struck at depths ranging to 20 feet some rich stone, which, from a parcel of 7 tons, gave 40 oz; other claims on the same line, viz., the Mountain Maid and Cherry Tree, have obtained good payable crushings.²¹⁵
- March 1887:** Bombay Co. - obtained £400 from the Prospecting Vote. The Welcome Reef Co. crushed 17 loads for a yield of 49-1/2 oz; Cherry Tree Company crushed 24 ton for 50 oz; Mountain Maid Co. crushed 14 tons for 7-1/2 oz. all these reefs are on the old Robinson Gold Mining Co.'s lease, which was taken up and held by a company who put down a shaft to a depth of 200 ft but obtained no trace of gold. They then abandoned the claim, and it has since been taken up by three different parties. At depths ranging from 20 to 80 feet most encouraging prospects have recently been obtained. Adjoining the claims is a 12-head battery with 25-hp engine. This plant, which is the most complete in the district, was put on the ground by the Old Robinson Reef Co. at a cost of £2000; it is at present being worked by Mr W. Bradley.²¹⁶
- June 1887:** The Welcome Reef, Costerfield is working on payable gold at 30 ft, and the Cherry tree at 70 ft. Neither has, however, had a crushing during the quarter. The Mountain Maid...has been abandoned as unpayable.²¹⁷
- December 1890:** New company called the 'New Costerfield Gold and Antimony Mining Co.' being formed to work ground of Costefield Gold and Antimony Mining Co., Bombay Gold and Antimony Mining Co., Morning Star Gold and Antimony Mining Co., Alison Star Gold and Antimony Mining Co., and South Costerfield Co.²¹⁸
- April 1891:** Welcome Reef, South Costerfield - ore crushing - 14 tons yielded 55 oz.²¹⁹
- July 1891:** Frederick Debney. Had a lot to do with Costerfield... The Costerfield Gold and Antimony mine was the principal one I was interested in. It was called Field's mine, but it ought to have been called Debney's mine, as I was the largest shareholder in it. They got a gentleman from Germany, who put the company to expenses amounting to about £10,000. He was to treat our tailings and sludge, and oxidise the tailings and slum. He put in slides which were very good. One furnace was erected at a cost of £1200. When it was partly erected it fell down. Flues and furnaces were built and crushing machines erected before. They got no gold. They got dividends from the antimony. The gold was to be extracted from the antimony, but it was not done. They crushed quartz impregnated with gold. We had sent crude ore to England for assay. The ore was treated by three means, the chloral process, crushing and smelting. At the 420 feet level we put down an engine. The big one above supplied the steam to it. At 620 feet we put in a drive of 25 feet. It showed a reef of 6 inches thick with 1 oz of gold to the tone, and a little antimony. That was the last of the workings of that mine. The company had no more money to prospect, or do anything. Then came the Minerva, which the Costerfield Company bought out. There was a tremendous lot of gold in this mine - more than in the Costerfield mine, and also good antimony. The next claim on side line is the Bombay, to the west. The Bombay at the present time is one of the best pieces of property between here and Melbourne. The Bombay paid 11 dividends and was sunk to 350 feet. The present company, the Albion Company, won't let any one else work it. Had to sell out the Bombay plant for £85. The poppet heads cost £250, and the furnaces £500. The tailings were worked three times at the Costerfield Company's mine. Chinamen worked them twice and now want them again.

215 Mining Surveyors' Reports, December 1886

216 Mining Surveyors' Reports, March 1887

217 Mining Surveyors' Reports, June 1887

218 Mclvor News, 4 December 1890

219 Mclvor News, 16 April 1891

The reason there was so much gold lost was in consequence of the difficulty of separating the gold from the antimony. We had a good battery at that time. We commenced with quicksilver. The quicksilver got thick, and gold and antimony went over it. Antimony and quicksilver could not save the gold. The antimony thickened the quicksilver, and it would not pick up much gold. We had to knock off quicksilver and use blankets. The great difficulty was the treating the refractory ores. We had copperplates, blankets, and quicksilver. There was nothing to save the gold below the blankets. After that the tailings went to waste. The buckets were washed in tubs and what was on them and put into an amalgamating barrel. The blankets after they were worn out were burnt and the refuse put into the barrel. The gold saved was 20 percent. below the assay. They were getting 5dwts to the ton crushing the tailings over again with the blankets, but they were washed again, twice by the Chinamen. Believe there was pyrites in the ore. At South Costerfield were the South Costerfield and Alison mines. Had an interest in Alison mine, when it was paying 20 oz to the ton. It was worked to 380 feet. There was very little antimony in the mine. Between the mines of the Upper and Lower Costerfield the distance is a mile and a quarter with no trace of an outcrop between them. Over a mile of ground has never been touched. The South Costerfield mine is the Southernmost mine. It has not been working for 8 years. Between this and the Alison the ground has not been touched. The Albion Co. hold the Old Costerfield, the Minerva, Bombay, Morning Star, the South Costerfield (Tait's claim), and the Albion mines. In all 269 acres, and over a mile and a quarter of ground. Mr E.Y.L. Brown was the only expert at South Costerfield. He was never engaged at the Costerfield mine. He is now Government Geologist in South Australia. The treatment of the ore at South Costefield was a secret. They had a battery there. Mr Brown and Mr Moodie were smelting there. They smelted there on the chlorination system. They used to take from 6 to 8 oz of gold per ton from the ore from the Costerfield mine.²²⁰

September 1892: Costerfield: Inspection of the lease for the purpose of selecting a suitable site for the putting up of machinery, which is to be of a powerful and expensive character, both for sinking shaft and driving a battery. The place decided upon for the erection of the plant is at the old shaft of the Costerfield Gold and Antimony Co., which is to be sunk a further depth of 200 ft...Two monuments of Costerfield's former industry were destroyed this week. Two chimney stacks, one in front of the hotel, had the bricks cut from under them, and the pair came toppling down. This was in order to obtain bricks for fixing up the new machinery.²²¹

December 1892: New Costerfield Co., which is setting up, includes in its program the treatment of 60,000 of tailings.²²²

March 1893: The New Costerfield Metal and Extracting Co. ... have taken up a total area of 269 acres 2 roods 5 perches, embracing as it does the whole of the mines, the Old Costerfield, Bombay, Morning Star, Prince of Wales, Minerva and Alisons ... the cost of erecting the machinery will be heavy: estimated that it will cost from £15,000 to £20,000.²²³

March 1893: Costerfield: The poppet legs have already been erected, and the work of building in the boiler is now proceeding with other work. The engine bed has been completed and the engine in place.²²⁴

April 1893: Costerfield: Principal work done was shifting an immense boiler about 40ft long, and weighing about 9 tons, into its bed, where it is now comfortably settled, and is now being bricked up. Clearing away old timber from the site of the battery, and making ready for putting up the stampers, etc. is now being attended to. The connecting rods of the pumps are also being put in order.

220 F. Debney, in evidence to the Gold Mining Commission, quoted in Mclvor Times, 9 July 1891

221 Mclvor News, 23 September 1892

222 Mclvor News, 15 December 1892

223 Mclvor News, 2 March 1893

224 Mclvor News, 30 March 1898

- April 1893:** Costerfield: The large boiler has been built in and connected with the chimney. Two engines have been placed in position, one for working the pump and the other for driving the battery. The battery is now being attended to. A couple of stamper boxes, each of which will contain 5 heads, have been raised to the place where they are to stand, and are now being fixed up ... A contract has been let for the building to contain the machinery and also for repairing the furnaces on the old Bombay lease.²²⁵
- May 1893:** New Costerfield Metal Extracting Co. Dewatering first, then treatment of antimony and tailings. Two engines, 14 and 16 inch cylinders. Percussion tables and Watson and Denny Pans to be completed. Old shaft cleaned out to a depth of 60 ft and good lode going 40% antimony and 1 oz gold per ton.²²⁶
- May 1893:** The bed of another boiler to supply steam to the winding engine has been laid down. Tenders called for putting up the battery shed. Two Denny Pans have been purchased from Rushworth.²²⁷
- May 1893:** An excavation has been made for the purpose of fixing the Watson and Denny Pans. The bed for the winding engine is approaching completion, and the railings have been placed around the bob-pit.²²⁸
- May 1893:** New Costerfield - 10 stamps installed and bed for new boiler laid.²²⁹
- June 1893:** Two percussion tables have been fixed, as has one of the Denny and Watson pans. The poppet legs have received a coating of paint, and look quite respectable with their white coat. The plant expected to be working in two months. The vanners have arrived and will shortly be fixed up. A tender has been accepted for removing the poppet legs at Hedley's shaft, and erecting them at the Bombay Mine.²³⁰
- July 1893:** A retort house is being erected alongside of the chimney stack. The two tailing pits are finished and part of the pumping gear fixed in the same.²³¹
- August 1893:** A complete change has taken place since my last visit. Then all the machinery was strewn over the ground, but now there is a large machinery shed erected and poppet heads painted and union jack flying from the top, giving it all the appearance of a new industry... [Mr Williams] fully described the different parts. How the tailings would be treated: first in the breaking pans, then on to the ripple tables, then the cushion tables, grinding pans, concentrating tables and vanners. There is also a patent from Mexico or Cornwall for further treatment, which is a great saving of labour. Mr Williams tells me that they will use the shaft, which will be worked with a draw lift. It was put in position on Saturday. The counter shaft will be drawn with tension rope gear. For the night work there will be four large tramway lamps and a gasoline lamp. The large boiler is fitted with Galloway tubes. It was tested last week and stood the test well - a pressure of 70 lb. It will work with about 50lb Connected with the machinery shed is the retort and assay office... Mr Williams tells me that they are giving £2 a ton for picking out the antimony from the tailings. Here is a chance for some of the unemployed of Heathcote and Costerfield.²³²
- August 1893:** Tailings from Costerfield Co. treated at Bendigo, 23 tons yielded 15.95 oz.²³³
- August 1893:** New Costerfield plant 'christened'.²³⁴

225 [Mclvor News](#), 27 April 1893
 226 [Mclvor News](#), 4 May 1893
 227 [Mclvor News](#), 11 May 1893
 228 [Mclvor News](#), 18 May 1893
 229 [Mclvor News](#), 11 May 1893
 230 [Mclvor News](#), 8 June 1893
 231 [Mclvor News](#), 13 July 1893
 232 [Mclvor Times](#), 10 August 1893
 233 [Mclvor News](#), 24 August 1893
 234 [Mclvor News](#), 31 August 1893

- February 1894:** New Costerfield Metals Extracting and Mining Works - Tailings to be treated by the new chlorination method.²³⁵
- March 1894:** The New Costerfield Company are keeping the furnaces going day and night, burning sand ... chlorination works are nearly completed ...[sand] will be treated by what is known as the chlorination process.²³⁶
- April 1894:** NCME & M Co. - First clean-up after chlorination. 104 tons of tailings yielded 13 oz 5 dwt. This was disappointing in view of what was expected. Poor recovery was due to inefficient filtering. Assay of sand treated was 16 dwt per ton, and after chlorination found to contain 2-3 dwt per ton, but most lost in liquors which were not filtered satisfactorily.²³⁷
- May 1894:** [History]: On the Kelburn reef Mr Morris took out over £4,000 worth of gold in six months, his average yield during that period being 3 oz to the ton.²³⁸
- July 1894:** Costerfield - Trial of New Costerfield Mine resulted in 6 dwt to the ton being saved through the pan process.²³⁹
- August 1898:** A cyanide plant has been put up at South Costerfield by Mr McFadgcan to treat the tailings from the battery there by that process. Work has been progressing for some time.²⁴⁰
- 1900:** In the Costerfield district little work is in progress. There are small workings, one of which, Robinson's, at Quarry Hill, proved to be in very irregular ground, without any defined reef. The working party has a five-head battery that is kept at work crushings for the district. There are workings also at Snake Hill, and there appears to be a number of low grade lodes, about 3 dwts per ton, one of which is 10 feet wide. There is a ten-head battery (Browns) also at South Costerfield. This is occasionally running, and has a small cyanide works adjacent; both on the eastern side of the road and creek, the refuse heaps of the Allison mine being on the western side. At Costerfield there are two smaller mines besides the large one, but none were open, being full of water. On the western side of the road is the shaft of the 'Morning Star', reported to being down 200 ft on a lode up to 2 feet thick. The 'Bombay' is down 340 ft, with several levels. This mine has been taken up by Mr Debney, of Heathcote, and partners, but after putting down machinery they were unable to unwater the mine, owing to the requirement of Act of Parliament that their winding engine must only be used by a first-class driver, notwithstanding that it was only to be used for baling water, and that one of the working party possessed a 2nd class certificate. The syndicate was not able to afford the wages of a 1st class driver, so the mine is full of water, idle, and the party losing. The 'Bombay' and 'Morning Star' are probably on different lodes from that of the large Costerfield mine. Near the road on this side is a long bedded reverberatory furnace with condensing flues and stack, and a Newbury Vautin Chlorination plant, with 4feet by 4ft 6in. barrel. This is still in need of repair. During the latter days of the [large] mine as a going concern a new shaft, intended to cut the lode in depth was started midway between the north and the Minerva shafts. This was not completed. Preparations, were made recently to equip the north main shaft, and some of the pieces of a winding engine still lie about the surface as a result. The pumps on the shaft have merely been used for the purpose of supplying the battery with water, the shaft being used as a well. The Mill displays the name of the New Costerfield Metals Extracting and Mining Company. It is arranged as shown in sketch, and has ten head of stamps, amalgamated plates, Halley tables, Berdan and grinding pans, through which the pulp was intended to be passed, and finally longitudinally shaking tables with deerskin surfaces. On the refuse heaps near the Mill are the remains of very costly abortive experiments made by a Mr Herrenschmidt in which the practice of endeavouring to drive off the antimony by heat from the ore, itself an unintelligent proceeding, unless a very large excess of sulphur be present, which is not the case here, had been further attempted by a rotating cylindrical furnace and accessories, utterly unsuited to any operations whatever upon the ore at furnace temperature. A few days' work seems to have demonstrated this, but not before several thousand pounds was expended.²⁴¹

235 [Mclvor News](#), 22 February 1894

236 [Mclvor News](#), 8 march 1894

237 [Mclvor News](#), 5 April 1894

238 [Mclvor Times](#), 24 May 1894

239 [Mclvor News](#), 13 July 1894

240 [Mclvor News](#), 25 August 1898

241 Jenkins, 1900, pp. 66-7

- 1903:** Prospecting work being done by the Felix Brown and Quarry Hill mines.²⁴²
- 1903:** By the long arm of coincidence, a namesake of the discoverer of the field...was deputed by London capitalists to visit the Commonwealth and inquire into the conditions and prospects of antimony mining in the eastern States. Arriving in Victoria in 1903, Mr J.J. Doyle...reached Costerfield and soon satisfied himself that the deposits there well fulfilled the conditions required by his principals who held the patent rights of what is known as the Plews process for the treatment of antimonial ores. The ground then held by the Victoria Syndicate (late Bombay Syndicate) was taken over on behalf of the London people, and with additional areas pegged by Mr Doyle, the Costerfield Mining Company now [1926] holds some 306 acres...²⁴³
- 1903:** A more prosperous era commenced in 1903 with the advent of the Bombay Syndicate Ltd, which changed into the Victorian Syndicate Ltd and then developed into the present [1922] Costerfield Mining Company.²⁴⁴
- 1903-20:** From 1903 to 1920 Costerfield has produced the whole of the Victorian production [of antimony]...²⁴⁵
- 1904:** At the Bombay Mine, which is owned by an English company, progressive work is being carried on, the principal object being to work the mine for antimony. The ore is being carefully picked and sent to England for treatment, and from the results so far obtained it is hoped that it will be the means of resuscitating the mining industry in this place. I am informed that it is the intention to erect a large concentrating plant to facilitate the treatment of ores. Costerfield Tailings Company apparently intends to vigorously work the large amount of antimonial tailings that are distributed over the lease. For their treatment they have erected an up-to-date plant, which consists of two Merton patent roasting furnaces, which are a three-hearth type, 6 ft 6 inches in width, by a length of 32 ft, and one worked by wormed gearing, driving five vertical shafts. Attached to each shaft are rabbles for mechanically stirring the ore. The rabble on the lower finishing hearth is water-cooled. From the fire-hole the flames pass along the lower hearth; and after reaching the end of the furnace, ascend to the next hearth; after traversing this, they return along the top hearth to the flue, and thence into a brick stack 60 ft high... From the cooling floor the ore is filled into trucks and hauled by means of wire rope up an inclined tramline, over the tops of three cyanide vats, the latter being 24 ft diameter and 6 ft deep. The exhausted tailings are shovelled through bottom discharge doors into trucks under the vats, and thence conveyed to the dump. The storage and water tanks, each 12 x 7 ft are made of galvanised iron and set on wooden frames. The sumps are built of brick and cement, 18 ft diameter by 7 ft deep. Precipitation by zinc has been adopted. The motive power is an 8 hp Tangye engine and 10 hp Tangye boiler. A 3-inch centrifugal pump is used for pumping solutions from sumps to storage tanks. The company has put down a tramline, 19 chains in length, from the tailing heap to the furnaces, over which the ore is trucked into a 40-ton bin. An efficient assay house, well equipped, completes the plant and the lighting of the works at night is effected by means of 700-candle power Lux lamps. It is expected that this plant will conveniently handle 1,000 tons of tailings per month.²⁴⁶
- February 1905:** Cyanide works at Costerfield, which were erected over last six months, are now completed and the treatment of sand has begun. Plant consists of 2 iron four-tiered furnaces for roasting, and three 20 ft diameter vats of cyanide solution. There are also two large underground tanks.²⁴⁷
- November 1905:** Costerfield cyanide works have yielded 'it is stated in some quarters' over 360 oz in 10 weeks.²⁴⁸

242 Mining Surveyors' Annual Reports, 1903

243 Whitelaw, 1926, p. 7

244 Stillwell, 1922, p. 357

245 Stillwell, 1922, p. 357

246 Mining Surveyors' Annual Reports, 1904

247 Mclvor Times, 16 February 1905

248 Mclvor Times, 2 November 1905

- 1905-1922:** In 1905 mining operations were resumed [at Costerfield] and continued for a period of seventeen years. The gold produced was valued at £240,280, and the antimony at £348,645.²⁴⁹
- January 1906:** Part of the machinery for the Bombay Mine, Costerfield, was delivered at the Heathcote Railway Station. The mine will be developed as soon as possible after the remainder of the machinery arrives.²⁵⁰
- May 1906:** London Price Rise of antimony to £100 per ton should give an impetus to mining in the district.²⁵¹
- November 1906:** Bombay Company - 80 tons of antimony ore shipped to England.²⁵²
- 1906:** The Costerfield Tailings Co. has not yet been at work for months past, consequent upon the ineffective system applied to the treatment of ores, rendering the same unremunerative. Elsewhere in the division, a few private parties are prospecting in a desultory kind of way.²⁵³
- c. early 1900s:** After chlorination and cyaniding had been resorted to with indifferent success, it was shown by assays that there still remained about 4 dwt of gold per ton.²⁵⁴
- January 1907:** Bombay mine. Over 120 men and boys employed. Company spends £1400 per month on the mine. Reef is taken out systematically from stopes and stopes refilled with mullock. Old Costerfield shaft is being re-timbered and will be dewatered in a few weeks.²⁵⁵
- April 1907:** Old Morning Star shaft is being repaired prior to underground operations with same object in view, a party of men are negotiating with the management of the Minerva shaft, situated close to the Cyanide Works.²⁵⁶
- April 1907:** South Costerfield - Head frame and winding gear are being erected and boiler bricked in.²⁵⁷
- 1907:** The 'Victoria' Syndicate Ltd is operating on the 'Bombay' line of reef with a very marked measure of success. The ore produced from the mine, chiefly antimony, containing gold up to 2 oz to the ton, is shipped to England for treatment. Working mine with a duplex 8-inch diameter cylinder air winch. Total output of 4,500 tons of ore. This has yielded 620 tons of picked ore of average value of 45% antimony and 35 dwts gold per ton. Additions made to the machinery and buildings - cost £14,350; a new set of high-speed crushing rolls with elevator, hopper and sizing trammel; one No. 8 Blake pump; one large Cornish boiler, built in with brickwork. An air compressor has been erected. A new GCI [galvanised corrugated iron] building has been built covering boiler and air compressor. A new ore-drying hearth and bagging shed, also an office and store room. Three additional jigs have been purchased and also another pair of fine crushing rolls. Heathcote Syndicate Ltd has operated intermittently during the year...repairing old shaft, preparatory to sinking same to 1,000 ft, the present depth being 650 ft. From old circulars and reports, together with the fact that all the appliances for treating low-grade ore were very primitive when this mine was last worked. A winding engine and boiler, poppet heads, with new pulley and winding ropes, and other plant were placed in position. During the first half year £1,084 was spent on the shaft and No. 1 level, together with the cost and erection of machinery.²⁵⁸

249 Victoria: Gold and Minerals, 1935, p. 50

250 Mclvor Times, 25 January 1906

251 Mclvor Times, 31 May 1906

252 Mclvor Times, 1 November 1906

253 Mining Surveyors' Annual Reports, 1906

254 Whitelaw, 1926, p. 6

255 Mclvor Times, 24 January 1907

256 Mclvor Times, 2 May 1907

257 Mclvor Times, 11 April 1907

258 Mining Surveyors' Annual Reports, 1907

- 1907:** The Victoria Syndicate Limited, Costerfield - A total output of 4,500 tons of original ore, inclusive of quantities taken on terms from the 'Heathcote Syndicate and other contracting parties,' was raised and treated. This has yielded 620 tons of picked ore of an average assay value of 45 per cent antimony and 35 dwts of gold per ton. The milling ore after being reduced by careful picking has yielded 280 tons of concentrates, with an average assay value of 50 per cent antimony and 38 dwts of gold per ton. The total of 900 tons has been shipped to England at an advance of £15 per ton. for further treatment the whole of the tailings, which average 6 per cent antimony and 4 dwts 20 grs of gold per ton have been stored. Sixty ounces of gold have been recovered from the battery. The expenditure on the mine for the year amounted to £14,350. Additions have been made to machinery and buildings as follows: - A new set of high-speed crushing rolls with elevator, hopper and sizing trommel; one No. 8 Blake pump for returning the water to the service tank. One large Cornish high-pressure boiler has been built in with brickwork. an air-compressor has been erected. an air-receiver and 4,000 feet of new steel pipes have been put down, making a connection with the Costerfield main shaft. A new GCI building has been built covering boiler and air compressor. A new ore-drying hearth and bagging shed, also an office and store room has been built... Three additional jigs have been purchased and also another pair of fine crushing rolls. These have not yet been put in position. These additions for purchase and labour have cost £2,000... The Heathcote Syndicate Limited - Costerfield mine - From old circulars and reports, together with the fact that all appliances for treating low grade ore were very primitive when this mine was last worked, it appeared that if access to No. 1 level were made possible ore from the old stopes could be obtained. A new collar was put on the shaft, and all bad timbers were renewed down to 180 feet, at which depth water was found. A winding engine and boiler, poppet heads, with new pulleys and winding ropes, and other plant were placed in position.²⁵⁹
- January 1908:** Bombay Co. - During past 12 months, total of 900 dressed ores has been treated. About 630 tons of this assays 45% antimony and 1.75% gold... Sixty ounces of gold have been recovered from the battery. Expenditure on the mine for the year amounts to £17,000. Additions include new high speed rolls with elevator. Hopper and sizing trammels. No. 1 Blake pump for returning water to service tank. High pressure Cornish boiler, air compressor, etc. [Bombay = Victoria Syndicate]²⁶⁰
- May 1908:** Cyanide Co. - rebuilding furnaces etc. with a view to recommencing operations shortly.²⁶¹
- 1908:** At the antimony mines in this district, work has been carried on this year on an extensive scale; owing to the low price of antimony the results have not been so successful during the latter part of the year, and work is at present being carried on rather restricted lines whilst the company is reconstructing. Victoria Syndicate Ltd. - Amount of ore treated, 3,679 - 869 tons of concentrates, total of £10,428. Additions made to the plant in the year. Also the old Costerfield mine has been de-watered and opened up to 420 ft and the Bombay shaft sunk another 100 ft. The company is being re-organised and more capital raised to carry out developmental work on a larger scale.²⁶²
- 1909:** Principal work in this portion of the district carried on by the antimony mines at Costerfield, where a fair number of men are employed. At Costerfield, operations are limited to that carried on by the Victorian Syndicate, which is working steadily on the auriferous antimony ores that failed to pay under the poor extraction methods pursued in earlier years. Victoria Syndicate Ltd. - The above company has raised from the old Costerfield and Bombay mines 1,750 tons of original ore, which has yielded 340 tons of concentrates of an assay value of 46% metallic antimony and 2 oz gold per ton, which have been shipped to the order of St Helen's Smelting Co. Ltd, England. The concentrating plant has been remodelled... The plant is now complete, both in crushing and concentrating arrangements. In addition to the mine output, 2,929 tons of residues have been run through for the yield of 160 tons of fine concentrates assaying 45% antimony and 2-1/2 oz gold per ton.²⁶³

259 Annual Report of the Secretary of Mines, 1907

260 Mclvor Times, 30 January 1908

261 Mclvor Times, 14 May 1908

262 Mining Surveyors' Annual Reports, 1908

263 Mining Surveyors' Annual Reports, 1909

- 1910:** At Costerfield, operations restricted to those conducted by the Victorian Syndicate, which is successfully treating the refractory auriferous antimony ores and the old-time slag and tailing heaps. Victoria Syndicate - Ore raised, 1,262 tons - 240 tons of concentrate. Tailings concentrated 8,135 tons - 45- tons of concentrate. A new tailings pump has been added to the mill, and two slime concentrating machines are being erected. Underground has driven 350 ft of cross-cuts, which have opened up 40,000 tons of milling ore, of an average assay value of 7% antimony and 8 dwt of gold per ton. The property during the year has passed into the hands of Messrs C.H. Nevill, A.B. Lunham, T.C. Nevill... whose connection with the English smelters always insures a reasonable price, with a constant market.²⁶⁴
- December 1911:** Bombay continues running three shifts. Thought the old slimes can be worked profitably... Roasting furnaces are being renovated. If bulk trial is a success, new plant will be erected for extraction of antimony oxide. The price of antimony is low.²⁶⁵
- 1911:** Victoria Syndicate - 743 tons of concentrates of ore - gross value over £8,000. Winze from the 400 ft level sunk 100 ft... air winch installed. Two Linkenbach tables have been added to the concentrating plant. 70 men regularly employed.²⁶⁶
- June 1912:** Costerfield Antimony Mine - 3,663 boys recently despatched to St Helen's smelting works, Lancashire, England.²⁶⁷
- 1912:** The Costerfield Mining company has raised and treated 2,430 tons of ore and 8,075 tons of tailings, recovering 1,475 tons of concentrates values at £16,162. The ore is hand picked closely as it comes from the mine, all waste rock is eliminated, the rich ore is cobbled and broken, and all above 48% antimony is bagged and shipped to England. The seconds or milling ore is then passed through rockbreaker and rolls, then sized for gigs, Wilfley and card tables, the slimes going to two improved Bartch vanners. A new winding engine, boiler and air compressor have been added to the plant. The general manager has made a strenuous endeavour to find limestone and ironstone to use as fluxes to smelt the ore on the field, but the absence of railway facilities and heavy cost of cartage and labour will not allow a comparison of costs favourable to that project. The proprietor has spent over £100,000 on the property, and so far no dividends have been paid.²⁶⁸
- 1913:** 6,251 tons of mine ore, 4,530 tons of tailings recovering 2,808 tons of concentrates, having an average assay value of 47% antimony and 2-1/2 oz gold per ton. Concentrates shipped to England. Bulk of ore mined at 500 and 600 ft levels. A new Krupp's mill has been erected to take the place of the stamps; additions have been made to the sizing arrangements at the mill, and an additional Cornish boiler has been installed. A new storeroom and office have been built, and a large fitting shop is in the course of erection; 200 men and boys employed by this company.²⁶⁹
- October 1914:** Mill stopped owing to lack of water.²⁷⁰
- 1914:** 7,600 tons of mine ore, which returned 2,283 tons of concentrates; 3,370 tons of tailings, 156 tons of concentrates. The estimated value of the concentrates shipped to England is £29,350. Antimony metal has risen in value during the last month from £30 to £63 per ton, owing to its use at the war. The antimony metal extracted from the ore mined at Costerfield is given first place in the British metal handbook, and the owner of the mine has entered into an agreement to supply the British Government with antimony for 12 months. A new set of poppet heads erected.²⁷¹

264 Mining Surveyors' Annual Reports, 1910
 265 Mclvor Times, 28 December 1911
 266 Mining Surveyors' Annual Reports, 1911
 267 Mclvor Times, 3 June 1912
 268 Mining Surveyors' Annual Reports, 1912
 269 Mining Surveyors' Annual Reports, 1913
 270 Mclvor Times, 29 October 1914
 271 Mining Surveyors' Annual Reports, 1914

- 1916:** Costerfield Antimony Mines - During 1916, the Costerfield antimony mines, Heathcote, Vic., produced 12,382 tons of ore, which yielded 3300 tons concentrates. These were shipped to the St. Helen's Smelting and Refining Company, England, which is controlled by the Imperial government under the Munitions Act, 1915. Opening up the old South Costerfield mine proved very expensive, owing to heavy water and the bad condition of shafts. The deposit here is patchy, and the country rock broken by slices and crosscourses. The ore lenses are not continuous, and production will be expensive. The old Costerfield North shaft has been sunk to 800 feet, and crosscuts put out to the reef... Crosscutting west on the 600 feet level has opened up a vein of good ore, which will add considerably to the life of the 'old' mine, as it will be west of all workings in the upper levels. Nearly all work underground at Costerfield has been carried out on the contract system. The average wage earned by contractors has been 15/- per shift. The company employs over 30 men and boys, and paid in wages, etc., £60,000 for the year. The advisability of supplementing the concentrating equipment by the addition of a M.A. flotation unit is being considered.²⁷²
- 1920:** The Costerfield antimony and gold mines, Heathcote, Vic., have been closed down, pending extensive alterations to the machinery and plant.²⁷³
- 1903-22:** Costerfield Mining Company - This company's success has depended principally on the solution of the smelting problem at the smelting works of a sister company at St Helen's, near Liverpool, where the gold is completely recovered from the antimony. A contributing factor has been the gradual elimination of losses in separating the ore from the mullock in the crushing and concentrating mill, and the present mill residues at Costerfield contain, on an average, only 15 gr of gold per ton and 1/2% of antimony. ...the ore mined at various depths between 420 ft and 780 ft at the main mine. The ore obtained from the Alison mine, at South Costerfield, one mile south of the main shaft at Costerfield, has been of lower grade...owing to a relatively high percentage of iron pyrites... In May 1917, the export of the ore was suspended through lack of shipping accommodation. Production continued for a while at a diminished rate, and stocks of ore accumulated. After the close of the European War export was resumed in the early part of 1919, and the stocks reduced. Production has been reduced during the year (1921) on account of the low market combined with high freights and high costs... [Antimony belt] extends to Redcastle, seven miles north of Costerfield, where auriferous antimony has been mined. At South Costerfield, one mile south from the main line along the lines of strike, the Alison shaft has been an important point of production. Two miles further south of the Alison shaft is Bradley's claim, from which antimony ore has been obtained. There are four equipped shafts on the field, including the Alison shaft, but for some time operations have been confined to the main shaft. The shafts are:-
- | | | |
|---------------------|--------------|-----|
| Main or north shaft | 1015 ft deep | |
| Minerva shaft | 295 ft deep | |
| Bombay shaft | 340 ft deep | |
| Alison shaft | 400 ft deep | 274 |
- 1905-22:** During the period 1905-August 1922, [the Costerfield Mining Co.'s ground] have yielded 23,243 tons of ore valued at £588,925 (antimony, £348,645; gold, £240,280).²⁷⁵
- 1903-25:** This period was characterised by efficient smelting techniques enabling complete recovery of the gold and the successful treatment of old tailings.²⁷⁶
- post-1925:** Prospecting at the Alison mine continued by the Bradley brothers.²⁷⁷

²⁷² Mining and Engineering Review, 5 February 1917, p. 118

²⁷³ Chemical Engineering and Mining Review, 5 May 1920, p. 280

²⁷⁴ Stillwell, 1922, pp. 358-60

²⁷⁵ Whitelaw, 1926, p. 7

²⁷⁶ Bowen, 1966, p. 1

²⁷⁷ Caldwell, 1937

1926:

The Costerfield Mining Company now holds some 306 acres...which, during the period 1905-August 1922, have yielded 23,243 tons of ore valued at £588,925 (antimony, £348,645; gold, £240,280). Prior to 1905, but excluding the period 1883-1905 concerning which there is an entire absence of statistics, 28100 tons of antimony, value £346,500, and gold, 13,494 oz, value £53,976, were produced. To the above figures has to be added £7,500, the estimated net value of tailings still to be treated, giving in round figures an extraction of £1,000,000, practically the whole of it coming from the one mine. The company is at present marking time pending the endeavour to float a new company to be styled 'Antox Limited,' with the object...of purchasing as going concerns the auriferous antimony mines of the Costerfield Mining Company and the business and undertaking of the Antox Syndicate Limited of Sydney, New South Wales. The company will work the said mines, produce oxide of antimony for the manufacture of 'Antox' non-poisonous pigment, and also recover the gold contained in the ore by a special process which has for many years been successfully employed by the Costerfield Company at their associated works at St Helen's, Lancashire, England. 'It is proposed to centralise at Costerfield, Victoria, the operations of the two businesses, and to erect a plant capable of increasing the production of antimony oxide and of recovering the gold contained in the ore from which the oxide is made. This will result in a large saving being effected in the cost of production, as the ore will go straight from the mine to the furnace without entailing any charges for packing and transport... will manufacture on the spot a commercially proved pigment.' (Prospectus) ...it is calculated that the ore reserves in the main mine would of themselves keep the mill employed for ten years... No special attention has been given to the treatment of the 150,000 tons of tailings (net value £7,500) heaped on the surface, but, in course, of time, the whole of these will be absorbed by their inclusion in limited quantities...with the ores as trammed from the mine, it having been found by experiment that owing to a certain amount of oxidation having taken place the older sand, per se, is not amenable to the treatment process now in operation. The following is an official description of the crushing and concentrating plant as now installed at Costerfield for the treatment of ore after it has been hand-picked underground by the miners: 'The run of mine ore is tipped from the mine trucks onto a grizzly, 2-1/2 in. opening between the bars. The oversize is hand-picked for clean sulphide ore and waste rock. The undersize is passed through a revolving screen 1/2-in. diameter holes, the oversize spread on to a revolving circular table 15 feet diameter, the clean sulphide ore and the waste rock picked out, and undersize and second grade ore sent to the mill... 'The milling ore...is tipped into a large bin from which it is fed into a Blake-Marsden type of rock-breaker, which reduces it to 3/4-in. size, and which passes through a pair of 30-in. diameter high speed rolls. The ore is then screened to suit two Hartz jigs, three compartments each, which treat 1/2-in. and 1/8-in. cubes respectively... The jig rejects are mechanically conveyed to the 25-head stamp mill, which reduces to a 30-mesh size which joins the original fine ore and is classified for Wilfley and Card tables. The concentrate carries a large percentage of iron pyrites..., but carries high gold values averaging over 4 oz per ton. The table rejects and all water with ore in suspension is lifted by a 10-in. elevator to a 6-ft x 6-ft classifier, the underflow is automatically fed into a 16-ft x 5-ft tube mill, the discharge is lifted to a 6-ft x 8-ft classifier, the underflow passes over Card tables where a concentrate very rich in gold is recovered. All material is eventually slimed and passes into a Dorr Thickener and is automatically fed into a...mineral separation machine... The discharge from the mineral-separation machine passes over a Bartch vanner, which recovers any ore, which may be partly oxidised, also any grains of solid free gold. The mill residues are then pumped on to the slime dumps... The mill has a capacity of 4 tons per hour. The engine was built by Messrs Robinson Brothers of Melbourne, and is of the condensing type equal to 250 horse-power.' The company owns the St Helen's Smelting Works in England...This ore is there treated by the Plews process... By this means 99 per cent of the gold is recovered from the antimony. The main shaft...is, in a direct line, 6 miles south-east from Heathcote... Alison and Tate's shafts are 1 mile nearer... It is passing strange, seeing that gold is easily liberated from antimony veins by oxidation and decomposition, that very little alluvial was found in the right-hand branch of Tin Pot Gully, which crosses the reefs between the main, and Minerva shafts. The remains of a puddling machine are to be seen to the west of the former, and diggers' holes show the length, about 400 yards, that the shallow alluvial run was traced. The detritus was, however, poor in comparison with the deposits of Heathcote...²⁷⁸

1926:

According to an estimate made in 1926, after the Costerfield mine had been closed down four years, the ore reserves in sight amounted to 29,082 tons of antimony concentrates, containing antimony to the estimated value of £436,220 and gold (at standard price) £290,280.²⁷⁹

278 Whitelaw, 1926, pp. 7-10

279 Victoria: Gold and Minerals, 1935, p. 50

- 1934-5:** In 1934 work was resumed on a large scale, and is now in progress.²⁸⁰
- 1935:** This field [Costerfield] is notable for its reefs bearing antimony and gold. Several reefs have been mined, some of them over a length of 2 miles. The value of the antimony produced has exceeded that of the gold, although the reefs were consistent in gold values, averaging 2-1/2 oz. to the ton of concentrate, and sometimes reaching to 7 oz. per ton. The shaft of the Costerfield mine was sunk 936 feet, but stoping ceased at 686 feet.²⁸¹
- 1935:** Costerfield - Gold Exploration and Finance Company of Australia equipped the old Costerfield Antimony Mines with a power plant consisting of 3 Crossley Diesel engines, a two-stage air compressor, two generators, winding hoist and poppet heads, unwatering operations were commenced with an air lift and later the work was completed by means of multi-stage centrifugal pumps. Prospecting operations are in progress. The New Alison Mining Co. are breaking payable ore from the 100-ft level and erecting a mill. Several small parties are working on the field. ...the cyaniding of the old dumps at Costerfield is still profitable. At Costerfield the main mine is still doing developmental work. Tate's line of reef is producing some antimony as did the New Alison, but at present the work has ceased while tenders are called for sinking the shaft. The smelters at Costerfield have closed down, owing to a lack of suitable material. Ironstone was mined locally for the use of the smelters, but at present there is no demand for this commodity. Magnesite is being mined in the belt of schistose diabase near Heathcote.²⁸²
- July 1936:** The New Alison Mining Co. occupies an area of ground about 75 chains south of the southern boundary of the Township of Costerfield. Operations are centred at a point about 4 to 5 chains north of the old Alison shaft, which had reached a depth of 400 feet, on what is believed to be the continuation of the main reef channel worked so successfully further north for a considerable period prior to 1925. Present operations. Later the New Alison Mining Co. purchased the lease. A winding and milling plant has been installed, and a two compartment shaft sunk to 100 ft. The company's operations show an expenditure of £4,398 in addition to an amount of £2,088 for the purchase of the plant. The company has treated 500 tons for 157 tons of concentrates. The tonnage milled by the Bradley brothers is not available. A complete winding, crushing and classification plant is erected on the mine, and is suitable for all requirements.²⁸³
- 1937:** I understand the Costerfield Antox Mining Co. used some of the ore [from an iron ore deposit on Red Hill, Heathcote] for fluxing purposes and that the ore carried 20 grains of gold per ton.²⁸⁴
- 1937:** In a recent report on the Costerfield gold-antimony mine, which is being developed by Gold Exploration and Finance Co. of Australia Ltd., Mr G. Lindesay Clark stated:- '...The mine was operated intermittently for 60 years. Production records show a total of 77,000 oz of fine gold and 20,000 tons of metallic antimony... Prospecting is being continued north of the shaft...'²⁸⁵
- 1940:** Production statistics - Antimony concentrate: Gold Exploration and Finance Co. Ltd, Costerfield, 21-1/2 tons, value £1,577; New Alison Mining Co., Costerfield, 7 tons, value £148.²⁸⁶
- 1944:** The antimony mines at Costerfield and ? have been closed down. The concentrating plant at Costerfield for the recovery of antimony from the old mine dump ceased operations.²⁸⁷
- 1948:** The South Costerfield Antimony Company - Tait's Shaft - An inspection was made of the underground workings on this Company's property. Tait's Shaft is just over two

280 Victoria: Gold and Minerals, 1935, p. 50

281 Victoria: Gold and Minerals, 1935, p. 50

282 Mining Surveyors' Annual Reports, 1935

283 Caldwell, 1937

284 Kingston, 1937

285 Chemical Engineering and Mining Review, 15 December 1937, p. 108

286 Department of Mines Annual Report, 1942

287 Department of Mines Annual Report, 1944

hundred feet deep and is situated near the southern limit of the Costerfield antimony lodes. Although a mine is known a few miles to the south-east, the workings around Tait's shaft mark the southern limit of the Costerfield workings. The problem of sinking a new shaft was discussed with the manager, who suggested deepening an old shaft, which is 80 feet deep, a few hundred feet to the south... The present shaft is ideally situated for deeper prospecting of the lode, and the widening of the two-compartment shaft and its deepening should not present insurmountable difficulties, and would be cheaper than sinking a new shaft. It would be necessary to obtain another pump, and a compressor and machines to do this work. New poppet legs would be necessary, but winches of the type at the mine have been used in deeper shafts...²⁸⁸

- 1948:** The South Costerfield and Antimony Co. has installed the steam plant formerly in use at the Virginia South Extended Mine at Eaglehawk and has sunk a new three-compartment shaft to the west of the old prospecting shaft to a depth of 150 feet. Several dangerous shafts have been secured.²⁸⁹
- 1949:** South Costerfield Gold and Antimony Mine...shaft was deepened.²⁹⁰
- 1950:** South Costerfield Antimony and Gold Mine, Costerfield, 7 tons, value £470.²⁹¹
- 1935-51:** The third and final period of operations from 1935 until 1951 when approximately 1,000 tons of concentrate was produced.²⁹²
- 1951:** The increases in world-prices for base metals revived interest in the antimony field at Costerfield. The South Costerfield Gold and Antimony Co. proved the existence of four parallel lodes of antimony ore, but carried out little extraction work. It is anticipated that the property and plant will be taken over by Victorian Antimony Mines Ltd. With a new type of furnace erected at the mine, this company will produce antimony oxide by volatilisation, thus eliminating the necessity for long-distance transport of the ore to a separate metallurgical treatment plant. Antimony concentrates - South Costerfield Gold and Antimony Co. - 231-1/2 tons, value £6,320.²⁹³
- 1952:** Antimony mining - Victorian Antimony Mines Ltd at Costerfield did not carry out any underground development work, but in the latter half of the year a furnace for the smelting of ore was erected at the mine site. The furnace is expected to be ready for operation in 1953.²⁹⁴
- 1966:** The major producer from the field is the Costerfield Antimony Mine which operated for two main periods, from 1860 to 1883 and 1903 - 1925. Recorded production is approximately 48,000 tons of stibnite concentrate containing an estimated 22,000 tons of antimony. Gold production is recorded at 77,0000 oz. Stibnite (antimony sulphide) contains approximately 70% antimony and is the major source of this metal...Antimony is a brittle, silver white metal with a low melting point. Its principal use is an ingredient in lead base alloys to which it adds strength and resistance to chemical attack. As an alloy it is used in battery grids, chemical pumps and pipes, tank linings, antifriction bearings, printer's type metal and in ammunition. The oxide is used in metalware and ceramic enamels, as a white pigment in paints, in glasses, in the textile industry, and as a fire retardant in fabrics. Typically stibnite bearing reefs are relatively small and of limited strike length. The Costerfield reefs are no exception to this rule.²⁹⁵
- c.1935-85:** Over the last fifty years several fresh starts have been made at [the Costerfield Gold and Antimony Mine] but none of them lasted very long. The mine is now [1985] closed.²⁹⁶

288 Thomas, 1948, pp. 32-3

289 Department of Mines Annual Report, 1948

290 Department of Mines Annual Report, 1949

291 Department of Mines Annual Report, 1950

292 Bowen, 1966, p. 1

293 Department of Mines Annual Report, 1951

294 Department of Mines Annual Report, 1952

295 Bowen, 1966, p. 1

296 Randell, 1985, p. 29

HEATHCOTE DATABASE

Argyle Gully/Hill/Reef (including Monday Reef, Venture Once More Reef, Walker's Reef, Willan's Reef)
Banffshire Reef
Black Jack Gully
British Queen Reef (also known as Burrells)
Burrows Reef
Caledonia Gully (including Phoenix Reef, Manchester Reef, Scandinavian Reef, Butler's Reef)
Cement Hill
Cemetery Lead
Commissioner's Gully
Craven's Reef (also known as the Homelands)
Current Reef
Golden Gully
Goschief's Reef
Hard Hills (also known as Bald Hills)
Hiberian Reef
Kyneton Road
Long Gully (including Norris Reef, Kirkham's Reef, Humboldt Reef, Baker's Reef, Long Gully Reef)
Perthshire Reef
Peters Gully
Major's Line of Reef (including Maori Tom Reef)
McIvor Creek (including Old Creek Lead)
Morning Star Reef
Mosquito Gully
Old Racecourse Reef (including Peters Gully or Road Crossing Gully, White's Gully)
Opossum Gully/Reef (also known as Possum Gully, Heathcote Junction, Alfred Reef) (includes No Flies Reef, Duke Reef, Duchess Reef)
Red Hill (including Dead Horse Gully)
Rosey Gully (or Rose Gully)
Sawpit Gully
Shakespeare's Reef (also known as James Service Reef, German Charlie's Reef)
Spaniards Reef
Thunderbolt Reef
Wattle Flat

Argyle Gully/Hill/Reef (including Monday Reef, Venture Once More Reef, Walker's Reef, Willan's Reef)

- c.1850s-1860s:** The Old Argyle Reef, in Argyle Gully, is an east and west reef underlying south, was immensely rich in the early days. It gave as high as 20 oz to the ton, as much as 90 oz being got from a bucket of stone. It was held in small claims and the owners took out a bucket of stone and knocked the lumps out of it as they wanted it. Mr Stephenson afterwards held the ground and erected a battery on it, crushing everything down to water about 80 feet, and doing well.²⁹⁷
- August 1859:** The only crushing for the month is from the Argyle Reef, the quantity being 15 tons and the yield of gold 37 oz.²⁹⁸
- March 1860:** In some of the gullies puddling machines are paying better than usual, especially in Argyle Gully.²⁹⁹
- July 1860:** Puddling machine in Argyle Gully turned out gold to the value of £600 for one week's work.³⁰⁰
- September 1860:** Three nuggets weighting respectively 39 oz, 33 oz, and 7 oz have been obtained from previously worked ground in Argyle Gully.³⁰¹

297 McIvor Times, 19 October 1893

298 Mining Surveyors' Reports, August 1859

299 Mining Surveyors' Reports, March 1860

300 McIvor News, 20 July 1860

- c. 1864:** [Argyle Reef] was taken up by Mr Sims and party who erected two horse whips to keep down the water, but eventually abandoned the ground, without being successful.³⁰²
- March 1864:** A small rush has taken place...to Argyle Gully...with poor results. Simms and Co., Venture Once More Reef, Argyle Gully - crushing from 30 ft. Wildcock and Co. - crushing from surface.³⁰³
- December 1864:** Hird and Co., Hird and Co.'s Reef, Argyle Gully - crushing from 60 ft. Increased briskness in quartz reefing since my last report owing chiefly to the splendid yields obtained from Hird and Co.'s Reef, Argyle Gully.³⁰⁴
- February 1865:** Argyle Co. commenced operations. Eight years ago the reef was christened 'Walker's Reef' and yielded rich stone specimens, considered a wonder, even in Victoria.³⁰⁵
- March 1865:** Hird and Co.'s Reef, Argyle Gully - crushed 290 tons from 90 ft. Bock and Co., Monday Gully, Argyle Reef - crushed quartz and cement. Hird and Co.'s, Argyle Gully, still maintains its excellent yield, and the owners having sunk to the water level, are about to erect pumping machinery on the ground.³⁰⁶
- 1860s:** The once celebrated Willans's Reef, a north and south reef dipping to the east, is running about 100 yards to the south of the old Argyle Gully Reef. It was owned by Messrs Willans, Longmore and the two brothers, E. and T. Hird. It was another extraordinarily rich reef, one crushing of about a week with 8 head of stamps giving 890 oz of gold, some other crushings were 320 oz, 125 oz, and 335 oz. From a bucket of specimens from the reef upwards of 700 oz was obtained. It is believed there was about £14,000 worth of gold taken from the claim in the short time it was being worked.³⁰⁷
- August 1865:** Argyle Reef - Willans, Hird and Co. will erect machinery.³⁰⁸
- December 1865:** Argyle Reef Gold Mining Co. commenced crushing with new machinery.³⁰⁹
- c. 1865-1879:** Willans' Reef, Argyle Gully. Reef discovered by Willans and Longmore, later taken over in part by two Hird brothers...later when Willans and Longmore sank a shaft a little further to the east, they struck a reef at 15 ft... First crushing, nearly 1000 oz. After the 'cream of the claim (apparently) had been worked out, Willans and Hirds bought out the claim... Later portion of interest sold to Jude of Bourke Street, who erected a battery, etc... Shaft sunk 230 ft, followed by a drive of 230 ft. After expending as much as they had already made, they sold the claim and the machinery.³¹⁰
- January 1869:** New rush at the foot of Argyle Gully. Several holes going down for an apparent outside gutter, between two reefs, leading towards the Old Creek lead. One hole was bottomed, £10 worth of gold taken up.³¹¹
- February 1869:** From the claim adjoining to and south of Wilan's and Co.'s were obtained by D.J. Trestrad, rich specimens and 1/2 oz of very coarse gold... Struck a rich vein that will, no doubt, lead to the reef that was, in part, so rich in the company's ground. Between 600 and 700 ft have been sunk and driven on the claim.³¹²

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- 301 Mining Surveyors' Reports, September 1860
 302 Mclvor Times, 19 October 1893
 303 Mining Surveyors' Reports, March 1864
 304 Mining Surveyors' Reports, December 1864
 305 Mclvor News, 17 February 1865
 306 Mining Surveyors' Reports, March 1865
 307 Mclvor Times, 19 October 1893
 308 Mclvor News, 25 August 1865
 309 Mclvor News, 1 December 1865
 310 Mclvor News, 9 January 1879
 311 Mclvor News, 8 January 1869
 312 Mclvor News, 12 February 1869

- January 1872:** Application for gold mining lease - the Victoria Gold Mining Co., Argyle Hill, £3,000.³¹³
- November 1876:** Notice of application for gold mining lease: Norris Reef Co., head of Argyle Gully.³¹⁴
- March 1881:** The Star of the South Company obtained an excellent prospect of gold lately from a 20-inch body of stone, at a depth of 100 ft.³¹⁵
- c. 1884:** After lying idle for many years, [Argyle Reef] was taken up by Mr Hedley... He sank a shaft 210 feet and struck the reef. The water, however, was too strong for the portable engine he was using, but he managed to scrape up 50 loads of mullock and stone off the bottom from which he got 16 dwts to the ton...³¹⁶
- June 1884:** Mr Thomas Hedley reports that on the Argyle Claim, Argyle Reef, 43 tons have been crushed for 32 oz of gold, depth 210 feet, water level, 50 ft.³¹⁷
- July 1891:** The old Argyle reef is in about the centre of Argyle Gully... Intersecting the old Argyle reef was a reef found by Willans and Hird. Willan's reef was very rich. They got as much as 900 oz in one crushing. They worked it to about 90 feet. Erected a battery, and sank a shaft in the wrong place. It was a mullocky reef. The Old Argyle reef became a solid reef with nothing in it.³¹⁸
- July 1891:** The shaft at Willans's reef is down 450 feet. The last crushing out of the old workings gave 177 oz, equal to a week's crushing with 10 heads of stamps, about 120 tons. We could not get down for water. The Caledonia and Butler's had stopped working, which caused more water to come into the mine.³¹⁹
- May 1894:** [History]: From the Argyle reef as much as 660 oz were taken from 30 tons before the water-level was reached at 90 feet, when the gold was lost. Hird's reef, in the same gully, and which is described as crossing the Argyle reef, was also worked down to the water, and yielded handsomely, one crushing of 144 tons taken out at 60 feet yielding 1,602oz of gold, or over 11 oz to the ton...³²⁰
- 1900:** The Alabama Reef...lies between the Butler and the Argyle lines, though in connection with the latter name it must be remembered that at different times at least two mines were so called...
- 1900:** The Alabama Reef...lies between the Butler and the Argyle lines, though in connection with the latter name it must be remembered that at different times at least two mines were so called... The 'Argyle' or 'Willans Reef'... one crushing of 100 tons giving, according to Mr Hall, 1,000 oz to the crushing. The other 'Argyle' mine is known also as 'Walker's Reef.' One of its shafts is said to be 200 feet down, and one of the more recent workers near here stated to me that he took out 45 tons averaging 17 dwts per ton, but found very serious difficulty with the water.³²¹
- May 1906:** Williams Reef - Head frame nearly up. Old shaft is being cut back and re-timbered. Shaft is being dewatered by a Cameron Steam pump capable of 'throwing' 9000 gallons per hour. This water has enabled the dredge on the creek to work two shifts. [probably McIvor Creek Sluicing Co.]³²²

313 Mclvor News, 19 January 1872

314 Mclvor News, 9 November 1876

315 Mining Surveyors' Reports, March 1881

316 Mclvor Times, 19 October 1893

317 Mining Surveyors' Reports, June 1884

318 D. Sims, in evidence to the Gold Mining Commission, quoted in the Mclvor Times, 9 July 1891

319 E. Hird, in evidence to the Gold Mining Commission, quoted in the Mclvor Times, 9 July 1891

320 Mclvor Times, 24 May 1894

321 Jenkins, 1900, p. 1-2

322 Mclvor Times, 24 May 1906

February 1907: Williams' Reef - Excellent progress made with unwatering the shaft, timbered down to 180 ft below the old Cistern chamber.³²³

November 1906: Williams Reef - New pump delivered and capable of lifting 21,000 gallons per hour.³²⁴

1906: Three quartz mines provided with steam machinery, viz. Mundy Gully, Peter's Gully and Williams' Reef Companies, as well as a number of co-operative parties, without steam machinery, are working.³²⁵

April 1907: Williams' Reef now dewatered.³²⁶

c. 1930s: Argyle Reef worked by company to 150', went from 30 oz down to 3 oz per ton. New shaft sunk by Hedleys, 210, cross cut 40', cut lode (lode very rotten and poor), only went 8 to 11 dwts, dewater by new company in 1936, values 8-1/2 dwts, reef only about 1' wide, no good at all. Willans cross course - length of shoot 250' to 300' - left in bottom at 250' 8 oz per ton from end to end... Shaft is 260', the plat is 245'. 63 men worked this mine at one time, 3 shifts - the yields from eight head of stamps was 1800 oz to 2000 oz per fortnight. All work was done by hand labour. The best patches in lode one kibble 400 oz about 1/2 ton., 7 sugar bags 375 oz, biggest piece of gold from workings 75 oz, numerous 12 oz specs were won from the lode while it worked.³²⁷

1935: Heathcote - operations at the New Argyle proved disappointing. During the year the Argyle mine at South Heathcote ceased operations.³²⁸

Banffshire Reef

March 1865: A new reef, called the Banffshire Reef, has been struck between Golden Gully and Black Jack Gully and the prospectors, Messrs Robertson and Horne, report having crushed stone from it averaging 1-1/4 oz to the ton.³²⁹

Black Jack Gully

March 1865: Smith and Co., Black Jack Reef - quartz and cement crushed - 6 tons from 40 ft yielded 4 oz.³³⁰

c. 1930s: Black Jack gully yielded 600 oz of alluvial gold by 10 o'clock in the morning, it was sluiced by Hedleys.³³¹

British Queen Reef (also known as Burrells)

January 1907: Burrell's mine - Swede's Gully - Syndicate being formed for the purpose of opening up this once famed reef.³³²

c. 1930s: British Queen Reef (known as Burrells), best 26 oz per ton - worked to 200' - mine collapsed when miners were at dinner, left barrel of beer and values in the bottom of 11 dwts per ton. A new shaft sunk to 180', struck old workings and miners left it.³³³

323 Mclvor Times, 7 February 1907

324 Mclvor Times, 22 November 1906

325 Mining Surveyors' Annual Reports, 1906

326 Mclvor Times, 4 April 1907

327 Hird, 1974, pp. 4-5, 7

328 Mining Surveyors' Annual Reports, 1935

329 Mining Surveyors' Reports, March 1865

330 Mining Surveyors' Reports, March 1865

331 Hird, 1974, p. 4

332 Mclvor Times, 17 January 1907

333 Hird, 1974, p. 5

Burrows Reef

1900: To the northward of [Shakespeare Reef] mines, and across the present water-race, are the remains of 'Burrow's Mine', reported to be a very rich deposit worked many years ago by four partners, but the withdrawal of the profits and final collapse of the shaft brought the enterprise to an end. To the eastward of the Burrows Reef I was shown the workings of the 'Thunderbolt'...³³⁴

Caledonia Gully (including Phoenix Reef, Manchester Reef, Scandinavian Reef, Butler's Reef)

1850s: Old Caledonia Reef. This famous reef was discovered in 1853 by McMahan Bros., namely Hugh McMahan, Barney McMahan and another brother who held the prospecting claim. They held the claim for about a month without much result, and going to Tarnagulla sold it to a party consisting of Mr F. Debney, Scrivenger and Hutchinson, who were all shipmates. They erected the first battery in Victoria. It consisted of a 4 head of stamps, a big wheel and quarter inch boiler plate, in which they drilled two thousand holes. It was worked by a horse. The battery was erected by Geordie Wilson, ship's carpenter, and also a shipmate of the party, who, it will be remembered, met his death some years [later] in a very unfortunate manner, being accidentally poisoned at Mr W. Jackson's Hotel. The party worked the claim for over 12 months, and got as much as 30 oz of gold to the ton. They worked to a depth of about 70 feet, without touching the blue rock, and about 90 feet long. They had over 100 tons of stone on the surface, which they called seconds, and sold to Lewis and Nickinson, of the celebrated Balaclava mine, Whroo, for £100. The purchasers took the stone to Bendigo and got 8 oz to the ton out of it. W. Playford worked No. 1 south for about 6 months with little success, Debney and party getting this claim afterwards. Mr James Oataway took up No. 2 South, and took in J.C. Bailey. Morris (a Welshman), and Euston as partners. They got the reef on the surface and sunk down beside it and struck it at about 14 feet. When they broke into it the sight that met their view is described as something like a jeweller's shop with gold. They crushed the stone at the Chilian mill at Milhaven and got 22-1/2 oz to the ton, and reckoned they had only got half the gold, and that the remainder went down the creek in the tailings. They worked the claim for about 18 months or 2 years, and to a depth of about 90 feet, striking the water at about 80 feet. Mr Henry Potter...made a good thing out of crushing Debney and party's tailings. The claims were small in those days with 4 feet walls left between each for safety. The reef averaged about 10 or 15 inches in thickness, but when over a foot was not so rich. The late Messrs Shakespeare and Stephenson (Mr Stephenson who had the crushing plant for several years in Caledonia) who purchased the prospecting claim worked the reef down to about 150 feet and averaged about 12 oz to the ton. They worked with a whim till beaten out by the water. No. 1 South was held by Dr Robinson and Mr Hay, the late Mr van der Luft, who had the crushing plant on the McIvor Creek for many years, and Olsson, there being also four working shareholders, including Morris. In No. 2 South there were 7 in a party, including E. Harrop and Hagan. They got very good gold at about 60 feet, the shoot of gold dipping to the south. They worked to almost 150 feet and were beaten out by the water.³³⁵

1850s: The old Caledonia reef was the first opened here [Heathcote]. It was about a foot wide on the surface and ran about 200 feet along the surface. It was taken up in small claims and worked down to water, about 90 feet, and gave 20 to 30 oz to the ton. There was no battery here at that time, and the stone was crushed at a very primitive kind of machine. The claims were amalgamated and made into a company and called The McIvor Caledonia Company of 40,000 shares. The company erected machinery and sank to about 300 feet.³³⁶

1850s: Butler's Reef, in Caledonia Gully, has given very rich yields, both in the early days when £7 per ton was paid for crushing with the Chilian mill and later... Besides the prospecting claim other claims were worked on this line, but heavy water beat the parties out of them and the line was idle for some time.³³⁷

334 Jenkins, 1900, p. 2

335 McIvor Times, 19 October 1893

336 D. Sims, in evidence to the Gold Mining Commission, quoted in McIvor Times, 9 July 1891

337 McIvor Times, 19 October 1893

- late 1850s:** George Potter ran the Goldminers' Arms Hotel at Caledonia Gully, Heathcote from the late 1850s. It was licensed in 1858, with Billiards and Night Licenses and it traded to late 1861.³³⁸
- 1859:** In the late fifties attention was attracted to the richness of many of the quartz outcrops and a Melbourne company was formed under the title of the Caledonia Quartz Mining Company to erect crushing machinery at the mine now known as the Alabama. At the end of 1859 the quartz was yielding 6-1/2 oz to the ton and towards the end of 1860 new machinery was erected and the quartz crushed rose from 30 to 200 tons per week.³³⁹
- August 1859:** The Caledonian Reef Co. have resumed work, and have raised a considerable quantity of stone already, which is expected to yield 8 oz per ton. The depth attained is 230 feet.³⁴⁰
- January 1860:** The Caledonian Reef is the only one being worked with success in the Division, the number of tons raised during the month being 60-1/2, which yielded 359 -1/2 oz. The Caledonian Company supplies most of the dams in a few of the neighbouring gullies at present with water pumped from their reef.³⁴¹
- February 1860:** The Caledonian Reef continues to be worked steadily, and the yield rather uniform; the quantity crushed during the month was 39-1/2 tons, which yielded 205 oz.³⁴²
- March 1860:** Gold lease granted to McIvor Caledonia for 10 years, on the quartz reef in Caledonia Gully, adjoining the Old Caledonia Company's claim on the east side, and running parallel to it. Capital £5,000, pumping and crushing machinery £3,000.³⁴³
- April 1860:** General Meeting - original shaft sunk to 243 ft. Owing to increase of water, the sinking has been discontinued. To date, 110 tons have been raised, averaging nearly 14 tons pr week for the last 2 months. Crushing of 26 tons yielded 156 oz. Gross return £2,600, as against £1,157 expenses. Tenders called for a new shaft to be sunk.³⁴⁴
- July 1860:** There are over 200 tons of quartz raised by the Caledonian Company which only await the completion of the machinery now being erected (for pumping and crushing) to have it crushed.³⁴⁵
- August 1860:** McIvor Caledonia Quartz Mining Co. - new machinery started operating - 12 head battery, 400 tons of quartz in hand. Average last crushing was 6 oz per ton.³⁴⁶
- September 1860:** McIvor Caledonia Quartz Mining Co. - In September 1860...installation of pumps recommended.³⁴⁷
- September 1860:** The Caledonian Reef continues to be actively worked; the new crushing machinery is nearly completed, and already crushed 122 tons. During the erection of the machinery the pumping had to be suspended, hence the fact of the water in the shafts etc., rising from a depth of 235 ft to within 140 ft of the surface, the company are much cramped in their operations. At present they can raise fifty tons weekly, and they have 400 tons ready for crushing. The crushing of 122 tons yielded 514 oz - an average of 4 oz 4 dwt to the ton. This is the only reef in Heathcote proper that promises to be at all remunerative. The McIvor Caledonian has practically suspended operations... The stoppage of this company will have a very prejudicial effect on the prospects of the district, in preventing the investment of capital in similar operations. Butler's Reef - This long abandoned reef has been taken up by a company, and is about being energetically worked; water being within 128 ft of the surface, the company cannot carry on the workings for some time in as extensive a manner as they

338 Randell, 1985, p. 252

339 Randell, 1985, p. 23

340 Mining Surveyors' Reports, August 1859

341 Mining Surveyors' Reports, January 1860

342 Mining Surveyors' Reports, February 1860

343 *McIvor News*, 2 March 1860

344 *McIvor News*, 6 April 1860

345 Mining Surveyors' Reports, July 1860

346 *McIvor News*, 24 August 1860

347 *McIvor News*, 6 June 1862

could wish. The Caledonian Reef drains this ground, so that, when water has been pumped from the former, a greater facility will be afforded of working the latter. In the claim (Potters) adjoining the company's ground very valuable stone has just been struck at a depth of 112 ft.³⁴⁸

1860: There were the three claims worked on the line, and all being driven out by the water, a company was formed, in which Mitchell and De Pass were the principal shareholders, the company purchasing the shareholders out. This company, 33 years ago [1860] erected machinery including a 14 horse-power engine. When this failed to keep down water they erected a 60 horse-power engine. They worked the mine to 450 feet deep, and got good crushings.³⁴⁹

November 1860: A partial suspension of the work took place, in consequence of the pumps becoming injured, which had to be replaced by new ones. The engine not being sufficiently powerful to pump the water and work a battery of twelve stamps, a secondary engine of 12 hp has been erected temporarily, pending the arrival of an engine of 50 hp, which has been ordered by the company. The water is now pumped to a depth of 235 ft, so that an opportunity exists of taking out a much larger quantity of stone than previously. A new reef has been struck by the company at a depth of 180 ft to the west of the old one. A double shaft is being sunk on the west side of the reef, consisting of two compartments, one for pumping, the other for raising stone.³⁵⁰

1860-64: Butler's Reef which had been worked for some time without the aid of machinery and abandoned about this time was taken up by Christie, Von der Luft and Company and worked in a small way, the yields varying from 4 to 7 oz to the ton. In 1863 the claim fell into the hands of Bock and Tait who struck rich gold, their first crushing yielding 180 oz from a few tons. In the following year machinery was erected on the mine and it was placed under the management of Mr Boag and the reef placed on tribute to Parker Bros...³⁵¹

August 1862: McIvor Caledonia Quartz Mining Co. - results most satisfactory since introduction of tribute system.³⁵²

c. 1863: About 30 years ago [pre-1893] Bock Bros. and party, including Dr Atkinson, worked the [Butler's Reef] mine and got good crushings. A party of Italians including Marchesi, Castiana and Tegasa[?], sank a shaft 200 feet in No. 3 South, by the aid of a whim, but were driven out by the water after striking the reef. The others also gave up and the line was idle again.³⁵³

May 1863: McIvor Caledonia Mining Co. - Manager, Fred Manduit - 3 steam engines of 50, 16 and 12 hp, for pumping, winding and crushing - profits during last 6 months, £2,000.³⁵⁴

May 1863: Mr Potter of Caledonia Gully discovered a highly promising reef on the south side of Caledonia Gully above the Gold Miners Arms, named Phoenix Reef.³⁵⁵

June 1863: Phoenix Reef...the most promising in the Heathcote District. New shaft being sunk to catch the reef at 70 ft.³⁵⁶

August 1863: Phoenix Reef - a crushing of 16 tons yielded 50 oz.³⁵⁷

October 1864: Machinery and mine of McIvor Caledonia Quartz Mining Co. advertised to be sold by auction.³⁵⁸

348 Mining Surveyors' Reports, September 1860

349 McIvor Times, 19 October 1893

350 Mining Surveyors' Reports, November 1860

351 Randell, 1985, p. 23

352 McIvor News, 8 August 1862

353 McIvor Times, 19 October 1893

354 McIvor News, 8 May 1863

355 McIvor News, 28 May 1863

356 McIvor News, 25 June 1863

357 McIvor News, 28 August 1863

- March 1864:** McIvor Caledonia Co., Caledonia Gully - down 250 to 300 ft. Potter and Co., Phoenix Reef, Caledonia Gully, surface. Phoenix Co. - 70 ft. Kirby and Co. - 30 ft. Manchester Reef Co. - 50 ft. Alluvial - a small rush has taken place to the old ground in Caledonian Gully, and also to Argyle Gully, both have been attended with poor results. The McIvor Caledonian Co. is doing but little, the last crushing paid but bare wages to the tributers.³⁵⁹
- c. 1864:** After the [McIvor Caledonia] company ceased work the claim was idle for some time. It was afterwards purchased by a Bendigo Company, known as Tipper and Williams and Co., which included Harkness and O'Brien. The new Company, named the Alabama, worked the mine for some years, with at times good results. The machinery was afterwards removed to Ballarat. [Butler's Reef] was again taken up by a company, including Dr Atkinson and Messrs Rigby and J.L. Carter, who erected an engine, but unfortunately the machinery was not powerful enough to cope with the water, and the line was once more deserted.³⁶⁰
- c. 1864:** The [McIvor Caledonia] company was sold for £1,525 to Tipper and Williams. The old Caledonia engine was the largest engine in the colony at the time, and it was afterwards sold by Tipper and Williams, and went to the Winter's Freehold. They amalgamated two reefs and the company was then known as the Alabama and Butlers. They sank down 600 feet... Butler's Reef had plant about 300 yards distant. Dr Atkinson who was a shareholder, shifted the machinery from the mine to the old Caledonia. They shifted machinery from Butler's to the old Caledonia. They made a mistake in putting the machinery on the old Caledonia shaft... They abandoned the claim when they had sunk 600 feet altogether, and then found they were 300 feet from the run of gold. It was never worked since. 10 oz to the load was not an unusual thing.³⁶¹
- June 1864:** Miller and Co., Coronet Reef - 100 ft. Potter and Co., Phoenix Reef - 50 ft. Potter and Co., Manchester Reef - 40-50 ft. Kirby and Co., Scandinavian Reef - 50 ft. The Butler's Reef Co., Caledonia Gully, have commenced operations; they have erected a 16 hp engine with 9-inch pumps and have cleaned out their old shaft to a depth of 161 ft... Bock and party, adjoining their south boundary, have sunk a new shaft 165 ft and struck their old workings in an 18-ft drive. They and two other claims are waiting the deepening of the company's shaft and the draining of the reef to enable them to go to work.³⁶²
- September 1864:** Potter and Co., Manchester Reef, Caledonia Gully - 100 ft. Potter and Co., Phoenix Reef, Caledonia Gully - 75 ft. Parker and Co., Butler's Reef, Caledonia Gully - 87 ft. Nelson and Co., Butler's Reef, Caledonia Gully - 62 ft. Kirby and Co., Scandinavia Reef, Caledonia Gully - 100 ft. Adelaide Reef, Caledonia Gully - 35 ft.³⁶³
- December 1864:** Butler's Reef Co., Caledonia Gully - 150 ft. Phoenix Co., Caledonia Gully - 75 ft. Bock and Co., Butler's Reef - 160 ft. The Alabama Co.'s (formerly McIvor Caledonian Co.'s) ground, having changed ownership, is now about being re-worked after a long period of idleness. Some very good stone has been struck in the ground of the Butler's Reef Co. and by Bock and Co. adjacent.³⁶⁴
- February 1865:** Alluvial - 8 'independents' have cut a tail race into the middle of the Old Creek Lead, in McCarey's paddock... Sluicing the washdirt with Caledonia water.³⁶⁵
- March 1865:** The Butler's Reef Co. are also in full work, and are taking out some very good stone at the 200 ft level. Butler's Reef Co., Caledonia Gully - crushed 166 tons from 200 ft. Scandinavian Reef, Caledonia Gully - crushed 52 tons. Norris Reef Co., Caledonia Gully - crushed 24 tons. Schwartz and Co., Baker's Reef, Caledonia Gully - crushed 3 tons. The Alabama Co. is now in full operation and has opened the reef at the 200-ft level. A large

358 McIvor News, 8 October 1864

359 Mining Surveyors' Reports, March 1864

360 McIvor Times, 19 October 1893

361 D. Sims, in evidence to the Gold Mining Commission, quoted in McIvor Times, 9 July 1891

362 Mining Surveyors' Reports, June 1864

363 Mining Surveyors' Reports, September 1864

364 Mining Surveyors' Reports, December 1864

365 McIvor News, 10 February 1865

body of stone is exposed, from which the company is crushing with very satisfactory results.³⁶⁶

- September 1865:** Alabama Co. (Old Caledonia) now one of the best, if not the best mine, in the district. Old Caledonia mine was auctioned for 1/3 of the value of the machinery.³⁶⁷
- June 1866:** Alabama Co., Caledonia Gully - crushed 493 tons from 300-330 ft, for a yield of 1026 oz. Butler's Reef Co., Caledonia Gully - crushed 9 tons from 188 ft, for a yield of 4 oz. ...the introduction of the Californian quartz tailing machines, which are now being erected by Messrs Perkins and Co., in connection with the machinery of the Alabama Company.³⁶⁸
- July 1866:** Caledonia Gully - machinery for treating tailings ready soon.³⁶⁹
- March 1867:** The Butler's Reef Gold Mining Co. has stopped work, but I hear that a new company is about to take it in hand.³⁷⁰
- December 1867:** The Alabama Co., Caledonian Gully, has suspended operations.³⁷¹
- September 1874:** There is a probability of mining operations being resumed on Butler's Reef in a short time. The lessees inform me of their intention to erect machinery, and to work the ground in a proper and systematic manner.³⁷²
- December 1874:** 120 oz nugget found in Caledonia Gully.³⁷³
- December 1875:** Only noticeable feature in the mining in the Division during the last quarter is the taking up of ground containing the reef known as Butler's. The lessees are prosecuting their operations with considerable vigour, erecting a powerful steam-engine and appurtenances.³⁷⁴
- June 1877:** A very good crushing has been cleaned up by the Butler's Reef United Quartz Mining Co. - 40 tons yielded 177 oz gold.³⁷⁵
- c. 1877:** [Tipper and Williams] amalgamated two reefs and the company was then known as the Alabama and Butlers. They sank down 660 feet.³⁷⁶
- March 1878:** The Alabama and Butler's Reef Co., Heathcote, averaged a return of 1 oz per ton from quartz crushed. This company recently purchased a boiler weighing 11 tons and has called for tenders for its erection.³⁷⁷
- July 1878:** Alabama and Butler's Reef Co. - installing an immense boiler weighing 11 tons.³⁷⁸
- August 1878:** Butler's Reef - last crushing yielded 186 oz.³⁷⁹
- 1878:** After being idle for some years the [Alabama] mine was worked by Dr Atkinson, for good returns. [Butler's Reef] was taken up under lease by Dr Atkinson and Messrs Nelson

366 Mining Surveyors' Reports, March 1865

367 Mclvor News, 15 September 1865

368 Mining Surveyors' Reports, June 1866

369 Mclvor News, 6 July 1866

370 Mining Surveyors' Reports, March 1867

371 Mining Surveyors' Reports, December 1867

372 Mining Surveyors' Reports, September 1874

373 Mining Surveyors' Reports, December 1874

374 Mining Surveyors' Reports, December 1875

375 Mining Surveyors' Reports, June 1877

376 D. Sims, in evidence to the Gold Mining Commission, quoted in Mclvor Times, 9 July 1891

377 Mining Surveyors' Reports, March 1878

378 Mclvor News, 4 July 1878

379 Mclvor News, 15 August 1878

Jones and Laby, who also included the Caledonia mine under lease in their ground. These three gentlemen surmounted all difficulties and worked the Butler's line with great success. For a long time they obtained yields of from 300 oz to 400 oz a fortnight, as much as 30 oz to the ton being got. They worked to a depth of about 700 feet.³⁸⁰

380 Mclvor Times, 19 October 1893

- August 1878:** Butler's Reef, Caledonia Gully, worked with success more than twenty years since, splendid gold obtained. Then inexperience and wasteful methods set in, and the whole line of reef lay dormant for years. Splendid stone obtained by H. Brock and Dr Atkinson of Sandhurst. Stone averaged 4 oz per ton. No. 1 south taken up by Italians, sank a shaft 6 ft x 4 ft, 200 ft deep, and struck reef with great difficulty, but then gave up. Then line of reef dormant again. Soon after, an engine was erected by a company, including Dr Atkinson, but worked only temporarily and taken away... Butlers Reef Co. has in two of its leases some of the best mining properties in Victoria.³⁸¹
- September 1878:** Old McIvor Caledonia Reef in Caledonia Gully. Once famed and exceedingly rich. Originally very small claims, about 20 x 20 ft. Yields of 20 oz per ton were common. Later made into a local company. Became one of the most prominent mines in Victoria, representing a capital of £40,000. Was worked in a most extravagant manner. Company must have got £40,000 worth of gold. Spent all this plus capital, no dividends. Mine and plant has been sold.³⁸²
- September 1878:** The Alabama and Butler's Reef Co. have crushed 900 tons, averaging a return of 1 oz per ton.³⁸³
- September 1878:** Racecourse Reef - worked at one stage by Stephenson, the owner of a crushing machine at Caledonia Gully.³⁸⁴
- December 1878:** Alabama and Butler's Reef Co. - crushed 1,250 tons for a yield of 3,025 oz.³⁸⁵
- March 1879:** The Alabama and Butler's Reef Co. have had no crushing, but have been engaged sinking a shaft and opening out for a new level. On the 18 February, at the 500 ft level, struck a reef that will, in all probability, go from 4 to 6 oz per ton.³⁸⁶
- June 1880:** The Alabama and Butler's Reef Co., on their bottom level, at 600 ft, obtained very rich gold in the winze sunk from that level.³⁸⁷
- December 1880:** Butler's Reef Co. - splendid returns for the quarter. Last month gave 425 oz.³⁸⁸
- June 1881:** During the past quarter a crushing of 420 tons of stone from the Alabama and Butler's Reef mine, at Caledonia Gully, gave a yield of 441 oz. Marchesi, Farley and party's reef in Caledonia Gully, promises to be a valuable property; a crushing recently of 9 tons yielded 1-1/2 oz to the ton.³⁸⁹
- September 1881:** Two crushings at the Alabama and Butler's Reef Co.'s mine recently gave the handsome return of 665 oz.³⁹⁰
- December 1881:** The Alabama and Butler's Reef Co. crushed 145 tons for a yield of 253 oz. A crushing from Messrs Hall and McKay's Reef, south of Butler's Company, of 12 tons of stone, gave a yield of 25 oz of gold. The reef, which was struck at a depth of 50 ft, is 18 inches thick.³⁹¹
- November 1882:** Alabama Co. - shares in new company have been completely disposed of.³⁹²

381 Mclvor News, 22 August 1878
 382 Mclvor News, 26 September 1878
 383 Mining Surveyors' Reports, September 1878
 384 Mclvor News, 19 September 1878
 385 Mining Surveyors' Reports, December 1878
 386 Mining Surveyors' Reports, March 1879
 387 Mining Surveyors' Reports, June 1880
 388 Mining Surveyors' Reports, December 1880
 389 Mining Surveyors' Reports, June 1881
 390 Mining Surveyors' Reports, September 1881
 391 Mining Surveyors' Reports, December 1881
 392 Mclvor News, 30 November 1882

- September 1883:** Testing the question of a Deep Lead, Heathcote... The other projected companies include the No Surrender Co., 5 acres, Caledonia Gully, NW of Heathcote, application for 15 years lease; the amount of money proposed to be invested is £1,000 in manual labour and machinery; 4 men are to be employed in the first 6 months, subsequently when in work 12 men. The Alabama and Butler's Reef Co., 8 acres, adjoining their present claim at Caledonia Gully. It is proposed to extend the operations of this company, and for that purpose 6 men will be put on for 6 months.³⁹³
- December 1883:** Lease applied for by Mr D. Sims for 5 acres of Caledonia Gully, Heathcote.³⁹⁴
- September 1884:** Alabama and Butler's Reef Co. - trial crushing of 11-1/2 tons yielded 70 oz gold... The gold was obtained at a depth of 450 ft. The reef is 9 inches thick...25 men are engaged, and they are now pumping out the mine and old workings prior to commencing extended operations. The company has 3 steam engines employed, of 60 hp in the aggregate. Messrs Sims, Farley and Co. have had a trial crushing of 8 tons from a new reef struck in their lease, which is also in California Gully, but not forming part of the Alabama and Butler's Company's Reef, for a yield of a little over an ounce to the ton. The name of the claim is 'The No Surrender'. The stone is taken from a depth of 130 ft and the reef is 9 inches thick... At present they are engaged in cleaning out the shaft, and it is intended when the level is struck to put on more men, and erect machinery.³⁹⁵
- June 1885:** Alabama and Butler's Reef Co...the great drawbacks in working the mine are the hard ground and the smallness of the lode.³⁹⁶
- December 1885:** The only yield of any importance in the quarter for this Division was that of the Alabama Co. - 305 tons yielded 300 oz.³⁹⁷
- March 1886:** Alabama Co. - 130 tons yielded 163 oz.³⁹⁸
- June 1886:** The Alabama Co. has stopped work.³⁹⁹
- September 1886:** Alabama Co. - has only been working a portion of the quarter and on tribute.⁴⁰⁰
- December 1886:** Alabama Co. - now idle, but the machinery is still on the ground.⁴⁰¹
- June 1889:** Alabama Co. machinery bought by the Fontainebleau Syndicate.⁴⁰²
- July 1891:** Royal Commission on gold mining. Caledonia Lead - 200 ft long to 1 ft wide at surface. Worked down to water at 90 ft, giving 20-30 oz to the ton. Claims amalgamated, and called the McIvor Caledonia Co. - which erected machinery and sunk to 300 ft. Company put down 240 ft shaft at £20 per foot. They eventually put in a cross cut to the west...they found they were not below the old workings. Company sold for £1,525. Machinery went to Winters freehold. Companies amalgamated and called Alabama and Butler's. Machinery moved to Old Caledonia, and after 600ft sinking of shaft, abandoned the claim altogether. (Called Old Reef).⁴⁰³

393 Mining Surveyors' Reports, September 1883
 394 Mining Surveyors' Reports, December 1883
 395 Mining Surveyors' Reports, September 1884
 396 Mining Surveyors' Reports, June 1885
 397 Mining Surveyors' Reports, December 1885
 398 Mining Surveyors' Reports, March 1886
 399 Mining Surveyors' Reports, June 1886
 400 Mining Surveyors' Reports, September 1886
 401 Mining Surveyors' Reports, December 1886
 402 McIvor News, 13 June 1889
 403 McIvor News, 9 July 1891

October 1893: The mine has been idle now for some years, but it is considered with good machinery it could again be worked to advantage... It was called at one time the Brasswire Tribute, on account of the stone being held together by wires of gold. It was worked on tribute from one of the companies by a party of about 10, including T. Shaw, G. Parfrey and others.⁴⁰⁴

1894: [History]: Shortly after the news was spread throughout the colony, in 1853, that gold was being found at McIvor Creek, near Mount Ida, a very large population of diggers was spread over the field. Early in the following year a reef known as the McIvor was opened in Caledonia Gully, and although on the surface it was only about 1 foot wide, which afterwards increased to 2 feet, the returns were very great, many of the small claims averaging for months from 20 to 30 oz to the ton. After a while these claims were amalgamated into one company, known as the McIvor Caledonian company, which erected machinery to contend with the water, which was met at about 70 feet from the surface. This company, which afterwards amalgamated with its neighbours, the Alabama and Butler's companies, worked down to about 600 feet, when, according to competent local authorities, they discovered that they were 300 feet away from the run of gold, as the shaft had been sunk on the underlie from the 240 feet level, they found it would be necessary to sink a new shaft further south and shift the machinery. This was thought too heavy an undertaking by the shareholders, and the machinery, which was of an unusually heavy character, was sold to a Ballarat company, and the ground was left unworked. The returns show that in the upper workings this reef was unusually rich. In 1860 it is described as continuing to average 6 oz to the ton, and it was just about this time that the private claims were amalgamated into a company. Nearly £30,000 was spent during the next two years in sinking a shaft and putting in a drive for the reef, which succeeded in reaching the old workings. during this time only some 300 oz of gold were raised and a collapse of the company seemed imminent when a stone was struck that gave good returns, one parcel of 34 tons yielding 111 oz...⁴⁰⁵

January 1896: North Butlers Gold Mining Syndicate Co. - Steam engine purchased from Birmingham, and work on foundations has been proceeding.⁴⁰⁶

February 1896: North Butlers Gold Mining Co. - machinery in position and able to mine down to 1000 ft.⁴⁰⁷

February 1896: North Butler's Gold Mining Co. Mine formerly belonged to Eyre Bros. and was known as the Reward Claim...situated 2 miles from Heathcote on the Kyneton Road. Mine is on the same line of reef as the South Butler's Mine which has erected a 16 hp winch and vertical boiler.⁴⁰⁸

March 1896: North Butlers - trial crushing - 15 tons yielded 0.35 oz. per ton.⁴⁰⁹

1900: Butler's Reef - Several shafts were of considerable depth, but have long been abandoned, and none could be descended before preparation and pumping is done. Amongst these were the Italian Shaft, 240 feet in depth; the 'Butler's Shaft', 700 feet in depth; the 'Old Air Shaft', also several hundred feet deep; and some smaller ones. The 'Butler's Shaft' is now soldered over... Mr Hall, of South Heathcote...now owns a small Customs battery, erected near to the Alabama shaft... The Alabama Reef...lies between the Butler and the Argyle lines, though in connection with the latter name, at different times at least two mines were so called. The old shaft in the Alabama workings is down to 600 feet... The reef matter is from 6 inches up to 2 feet wide, and of very rich class of stone, particularly near the surface, where crushings went as high as 20 oz per ton. During the latter days of the concern a new shaft was started, and put down 800 feet, but it never cut the reef... The stoppage of these two mines, the Butler and the Alabama, seem to have paralysed the reef-mining of the district, first by destruction of confidence, second, by leaving a heavy task of unwatering to be met by the first freshcomer...even the Opossum Reef and the Shakespeare Reef were considerably affected by the pumping upon the Butler and the Alabama. The

404 Mclvor Times, 19 October 1893

405 Mclvor Times, 24 May 1894

406 Mclvor News, 23 January 1896

407 Mclvor News, 6 July 1896

408 Mclvor News, 27 February 1896

409 Mclvor News, 19 March 1896

'Scandinavia' and the 'Old Crown' shafts were somewhat to the northward of the Alabama. The Old Crown is reported to be 300 feet deep.⁴¹⁰

March 1906: Peters Gully, Alabama and Butler's Reef, and Long Gully Reef taken up again.⁴¹¹

1906: In December 1906, two hydraulic sluicing companies, the Wattle Flat Hydraulic and the Heathcote and Castlemaine Dredging, in full work, with up-to-date steam plants, manufactured by Thompson and Co., Castlemaine; and a third, the Caledonia Hydraulic Sluicing Co., preparing for the erection of machinery. An average of 50 men were employed by these companies.⁴¹²

May 1907: Caledonia Gully - Enlarged tailing dam and constructed service water dam, erected forge, shop, boxed both pumps.⁴¹³

1907: Three hydraulic sluicing companies situated in my portion of the Heathcote Division: Wattle Flat, Heathcote Junction, Caledonia Gully. Little work done by any of these companies, owing to the shortage of water.⁴¹⁴

July 1908: Sluicing plants - [include] Caledonia Gully.⁴¹⁵

July 1908: Caledonia Gully - ground averages 11 ft in depth...⁴¹⁶

c. 1930s: The best worked was the Butlers, it worked to 860 ft, yield 800 oz per fortnight for several years, reef 6 in. to 1' width about 11 oz per ton, except around 200' it went poor for a while... The second one down from the Butlers is the Alabama, worked to 500' the reef was about 1' wide and around 12 to 16 oz per ton, it went wide near 500' and also the values were poor. Scandinavian Reef - it is a cross course... It was worked to 200' and went 11 dwts per ton and values were left in the mine, it is not far from Willans cross course... North Butlers near Kyneton Road went 14 dwts per ton, worked into water level. It was stopped by the Mines Dept. as shaft was too small.⁴¹⁷

Cement Hill

March 1865: Cement Hill Co., Cement Hill - crushed 48 tons. Mitchell and Co., Golden Gully, Cement Hill - crushed 10 tons.⁴¹⁸

November 1865: Ben Fail, Cement Hill Gold Mining Co. Prospectus - Capital £5,000. Land includes 12 acres. Cement Hill is next to Red Hill, separated by Golden Gully. Formerly, the Cement Hill yielded 4-23 dwts per ton of cement. It is purposed to erect machinery and put the whole surface, including 4 ft of gravel and 4 ft of cement, through, and drive a tunnel through the hill to prospect the reef.⁴¹⁹

December 1865: Ben Fail Co. commenced operations on Cement Hill.⁴²⁰

June 1897: A large boiler and other machinery was brought into town yesterday from Coy's Diggings for the erection on Cement Hill, where Hicks Bros. are erecting a battery for crushing cement.⁴²¹

410 Jenkins, 1900, pp. 1-2

411 Mclvor Times, 29 March 1906

412 Mining Surveyors' Annual Reports, 1906

413 Mclvor Times, 23 May 1907

414 Mining Surveyors' Annual Reports, 1907

415 Mclvor Times, 9 July 1908

416 Mclvor Times, 16 July 1908

417 Hird, 1974, pp. 4-5

418 Mining Surveyors' Reports, March 1865

419 Mclvor News, 17 November 1865

420 Mclvor News, 1 December 1865

421 Mclvor News, 10 June 1897

Cemetery Lead

June 1870: A small rush took place a month ago, to what is named Cemetery Lead, which is about a mile NE from the township... The sinking is about 35 ft through loamy surface and gravel on the pipe clay bottom, the yields have varied from 1 dwt per load to 7. There are from 300 to 400 men on the ground, but most of them are shepherding. I don't think the ground will prove to be rich or the rush permanent.⁴²²

Commissioner's Flat

c. 1850s: Tons of gold were got out of Commissioners and I believe there are tons of gold in it yet. Surface Hill also empties into Commissioner's Flat... The Commissioner's Flat is the end of the Golden Gully lead. The town cuts off the Commissioner's Flat workings. A company with which Mr Wallace was connected, thought there was another bottom, and used the auger to test it, but found it was the bed rock. The Commissioner's Flat gold has never been followed down to the creek yet. Town allotments being in the way is one reason... The depth of sinking was about 20 feet. There was gold all over the Commissioner's Flat, the sinking 10 to 20 feet.⁴²³

Cravens Reef (also known as the Homelands)

August 1908: Cravens, Kyneton Road - Have struck fair gold in reef opened up.⁴²⁴

September 1908: Homeland Syndicate - 6000 shares taken up locally. New company is to be called 'South Craven's Gold Mining Co.'⁴²⁵

November 1908: Homeland Gold Mining Co., Bald Hill Flat - are making active preparations for working their mine. Boiler, winch and 10-stamp battery purchased.⁴²⁶

December 1908: Homeland Gold Mining Co. - floated capital of £9000 in 36,000 shares has gone ahead... Lease of 25 acres and 1/2 mile NWE of Heathcote, adjoining Craven's Goldmines.⁴²⁷

1908: Homeland Gold Mining Co., having sunk a shaft on the lode which prospects payable, having decided to erect a winding, crushing and rock-boring plant thereon. The plant is now in the course of erection. Craven's Co. has done a good deal of work on the same reef.⁴²⁸

early 1910: Both quartz and alluvial mining in the Division appears to be practically dead. The following quartz mines, that were in active operation at this time in 1909, have ceased operations:- The Peters Gully, the Mundy Gully, the Homeland and Craven's Gold Mining Companies, and the prospects of them ever resuming operations in the near future do not appear to be bright.⁴²⁹

c. 1930s: Cravens Reef or the Homelands was up to 8' wide going 8 dwts to 1/2 oz per ton. The gold was mostly on the one wall and being rough gold a lot of it was stolen, but what closed up this mine was: a man by the name of Parkinson was blown up when he drilled in to a charge that did not go off. The plant was sold to pay compensation to the widow. The Cravens Reef or Homelands is in a belt of grano diarite rock which has had work on this belt as far south as Tooborac, (example) Surface Hill worked 8 dwts per ton, Victoria Hill 1 oz per ton, it was too hard for hand labour and was left near Peters Gully worked and was dished

422 Mining Surveyors' Reports, June 1870

423 D. Sims, in evidence to the Gold Mining Commission, quoted in Mclvor Times, 9 July 1891

424 Mclvor Times, 13 August 1908

425 Mclvor Times, 10 September 1908

426 Mclvor Times, 26 November 1908

427 Mclvor Times, 31 December 1908

428 Mining Surveyors' Annual Reports, 1908

429 Mining Surveyors' Annual Reports, 1909

going up to 14 dwts to the dish. Just in front of R. Curry's house, again about eight miles south at the Sugarloaf Hill, three claims worked 2 to 3 oz per ton.⁴³⁰

1935: The Homebush lease (No. 10377 Bendigo), at Heathcote, 3/4 miles NW of the railway station, includes the reef formerly worked by the Homeland and Craven companies. In 1908 the Homeland Gold Mining Co. put down a shaft 45 feet south of the outcrop... In 1909, a crushing of 207 tons yielded 51 oz 16 dwt. About 200 feet west of the Homeland shoot is another 25 feet long. A shaft said to be 156 ft deep was put down here by the Craven Gold Mining Co. in 1908. A crushing of 157 tons in 1909 gave 50 oz 9 dwt. The present holders of the lease have sunk two shafts 14 feet and 20 feet on the west end of the Craven workings without meeting payable values.⁴³¹

Current Reef

March 1864: Miller and Co., Current Reef - surface.⁴³²

Golden Gully (see also Banffshire Reef)

c. 1853: Golden Gully was the first gully opened on this goldfield. It was very rich. It was the starting place of the old McIvor Goldfield. It emptied into Commissioner's Flat.⁴³³

September 1860: One tub and cradle miner in Golden Gully has for some time past obtained a weekly average of 16 oz.⁴³⁴

March 1865: Robertson and Horne, Banffshire Reef, Golden Gully - crushed 38 tons.⁴³⁵

June 1866: Smith and Company, Golden Gully - crushed 18 ton from surface, for yield of 10 oz.⁴³⁶

October 1869: New company for reworking the sludge on a new principal, to secure fine gold which escaped from puddling machines. Located at top end of Golden Gully.⁴³⁷

March 1898: Manton Speed and the Try Again at Golden Gully have been amalgamated to form the Heathcote Gold Mining Company.⁴³⁸

September 1898: Heathcote Gold Mining Co. (Curnow) - Shaft sunk 14 ft, total 28 ft... will continue sinking.⁴³⁹

September 1898: Heathcote (Curnow) - First 33 loads gave the splendid yield of 80 oz but since then returns have been poor. Another shaft is being sunk further east, which is down 44 ft.⁴⁴⁰

March 1899: Mining at Heathcote: a lease at Golden Gully held by Messrs Manton and Speed. They have 14 acres on 2 well defined lines of reef with about 350 yds along the reefs. Within 200 yards there is a battery of 8 heads (two boxes) with several good dams. The line is known as the Try Again and is situated about 1/2 mile E of the railway station. The mine is in a gully between two hills. All the surface has been puddled and sluiced off, leaving only bare rocks of ironstone, sandstone and the reef outcrops.⁴⁴¹

430 Hird, 1974, p. 1

431 Kenny, 1937

432 Mining Surveyors' Reports, March 1864

433 D. Sims, in evidence to the Gold Mining Commission, quoted in Mclvor Times, 9 July 1891

434 Mining Surveyors' Reports, September 1860

435 Mining Surveyors' Reports, March 1865

436 Mining Surveyors' Reports, June 1866

437 Mclvor News, 1 October 1869

438 Mclvor Times, 3 March 1898

439 Mclvor Times, 8 September 1898

440 Mclvor Times, 22 September 1898

441 Mclvor News, 10 March 1899

July 1899: Heathcote (Curnow) - Sunk and opened up on spurs 60 ft E of the main shaft.⁴⁴²

February 1901: Old Scandinavian Reef, Golden Gully, taken up again. Reef of 180 ft.⁴⁴³

Goschief's Reef

November 1860: Goschief Reef - 4 tons crushed for yield of 8 oz.⁴⁴⁴

Hard Hills (also known as Bald Hills)

December 1864: Bald Hill Reef Co. - crushed 112 tons of quartz.⁴⁴⁵

February 1865: Gold struck at Hard Hills, 15 ft deep.⁴⁴⁶

1873-1877: Thomas Evans got a licence for a house at the Hard Hills, north west of Heathcote, in March 1873 but did not renew it in December 1877 and his hotel was closed.⁴⁴⁷

June 1884: John Hedley applied for 20 acres at Heathcote for the Resurrection Gold Mining Co. Four men are to be employed for the first six months. In the Resurrection claim, Hard Hills, 56tons crushed for 20 oz 16 dwt.⁴⁴⁸

September 1884: A crushing of 25 tons from Mr J. Hedley's Reef, 'The Resurrection' (near the Bald Hills, Heathcote) also turned out very satisfactorily, the yield being 17-1/2 dwt to the ton.⁴⁴⁹

July 1910: Bald Hill - Syndicate formed recently, to tunnel Bald Hill for manganese and gold - members are Messrs Reid Clelland of Costerfield and Farnback and Colvin of Melbourne. The tunnel is on the west side of the hill and is now in a little over 100 ft. Analysis of manganese ore indicates traces of gold.⁴⁵⁰

Hiberian Reef

August 1859: In the Hiberian Reef, gold has been struck, the proprietors of which expect almost fabulous returns.⁴⁵¹

February 1860: The Hiberian Reef, one lately opened, gave nearly 5 oz to the ton.⁴⁵²

Kyneton Road/Nth Butlers

September 1871: A new reef has been discovered... it is situated on the south side of the Heathcote and Kyneton Road, about 2 miles from Heathcote; the reef is 2 ft thick, the strike is NW and the underlie to the E. About 100 tons have been crushed with encouraging results.⁴⁵³

442 Mclvor Times, 13 July 1899

443 Mclvor Times, 28 February 1901

444 Mining Surveyors' Reports, November 1860

445 Mining Surveyors' Reports, December 1864

446 Mclvor News, 28 February 1865

447 Randell, 1985, p. 263

448 Mining Surveyors' Reports, June 1884

449 Mining Surveyors' Reports, September 1884

450 Mclvor Times, 21 July 1910

451 Mining Surveyors' Reports, August 1859

452 Mining Surveyors' Reports, February 1860

453 Mining Surveyors' Reports, September 1871

- January 1896:** North Butlers Gold Mining Syndicate Co. - Steam engine purchased from Birmingham, and work on foundations has been proceeding.⁴⁵⁴
- February 1896:** North Butlers Gold Mining Co. - machinery in position able to mine down to 1000 ft.⁴⁵⁵
- February 1896:** North Butler's Gold Mining Co. Mine formerly belonged to Eyre Bros. and was known as the Reward Claim, and is situated 2 miles from Heathcote on the Kyneton Road. Mine on the same line of reef as the South Butler's Mine which has erected a 16 hp winch and vertical boiler.⁴⁵⁶
- March 1896:** North Butlers - trial crushing - 15 tons yielded 0.35 oz. per ton.⁴⁵⁷
- September 1907:** Finlayson and Christie (Beatrice, Kyneton Road) - making splendid headway, shaft down 90 ft, where they have driven on a shoot for 38 ft.⁴⁵⁸
- March 1908:** Beatrice mine (Finlayson and Christie) - crushing of 25 tons gave a yield of 2-1/2 oz per ton.⁴⁵⁹
- May 1908:** Beatrice Mine - New rock breaker installed and Elmore plant for treatment of low grade ore.⁴⁶⁰
- 1908:** Beatrice Co-operative Co. obtained a loan of £150 from Mining Development Act... sunk the shaft 70 ft...no payable gold found.⁴⁶¹
- c. 1930s:** The best worked was the Butlers, it worked to 860 ft, yield 800 oz per fortnight for several years, reef 6 in. to 1' width about 11 oz per ton, except around 200' it went poor for a while... The second one down from the Butlers is the Alabama, worked to 500' the reef was about 1' wide and around 12 to 16 oz per ton, it went wide near 500' and also the values were poor. Scandinavian Reef - it is a cross course... It was worked to 200' and went 11 dwts per ton and values were left in the mine, it is not far from Willans cross course. North Butlers near Kyneton Road went 14 dwts per ton, worked into water level. It was stopped by the Mines Dept. as shaft was too small.⁴⁶²

Long Gully (including Norris Reef, Kirkham's Reef, Humboldt Reef, Baker's Reef, Long Gully Reef, Victoria Reef, Cosmopolitan Reef) (See also Perthshire Reef)

- c. 1860-1870:** The Long Gully Reef, situated between Long and Argyle gullies on the Long Gully side, and a short distance to the north of Norris's Reef, was very rich in the early days. The richness of the stone is given at from 10 oz to over 20 oz to the ton. But the career of the mine was beset with difficulties, owing to the heavy water and inadequate machinery to cope with it, &c. Messrs Walker, Sangster and J.I. Carter contributed greatly to develop this mine. Ultimately the work ceased, and the machinery was removed.⁴⁶³
- c. 1860s:** Norris's Reef gave very rich returns in the early days. It is situated on the hill between Long Gully and Argyle Gully. It was discovered by the late Mr Jeremiah Norris about 30 or 40 years ago [pre-1893]. The Cosmopolitan, about on the same line as Norris's reef. Gave good returns...⁴⁶⁴

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- 454 [Mclvor News](#), 23 January 1896
- 455 [Mclvor News](#), 6 July 1896
- 456 [Mclvor News](#), 27 February 1896
- 457 [Mclvor News](#), 19 March 1896
- 458 [Mclvor Times](#), 5 September 1907
- 459 [Mclvor Times](#), 5 March 1908
- 460 [Mclvor Times](#), 28 May 1908
- 461 Mining Surveyors' Annual Reports, 1908
- 462 Hird, 1974, pp. 4-5
- 463 [Mclvor Times](#), 19 October 1893
- 464 [Mclvor Times](#), 19 October 1893

- September 1860:** In consequence of the satisfactory crushings lately obtained from this reef [Long], the company by which it is worked have determined on employing a greater number of men to mine on a more systematic and enlarged manner. Norris Reef - The proprietors of this reef are actively employed in raising large quantities of quartz.⁴⁶⁵
- November 1860:** Long Gully Reef - 25 tons crushed for a yield of 27 oz. Norris Reef - 16-1/2 tons crushed for a yield of 62 oz.⁴⁶⁶
- 1861-62:** In 1861 a Melbourne company was formed to prospect the hill next to the Criterion Hotel (Halls) for malachite. In 1862 a prospector named Harwood reported that in Long Gully he had struck a copper lode at a good depth with a thickness of 15 feet, that samples taken to Melbourne had proved to contain a high percentage of copper.⁴⁶⁷
- August 1862:** Balmoral Co., Long Gully, completed a shaft to a depth of 170 ft (40 ft below old workings).⁴⁶⁸
- October 1862:** New reef opened at top of Long Gully, named Morning Star. A crushing of 7 tons yielded 31 oz gold.⁴⁶⁹
- March 1864:** Long Gully Co. - 160 ft. Balmoral Reef Co. - 60 ft. Alluvial - Some few men are paddocking out in Long Gully, near the Hibernia Hotel, McIvor Creek. A few Chinese are washing old dirt with tub and cradle. Mr J.T. Stephenson is working the Long Gully Reef on tribute; he is doing pretty well, but his expenses are heavy and the water being great and the reef thin. He is erecting a 12 hp engine and battery of eight head.⁴⁷⁰
- June 1864:** Mitchell, McDonald and Co., Perthshire Reef, Long Gully - crushing from 60 ft. Alluvial mining abandoned.⁴⁷¹
- September 1864:** Walters and Co., Norris Reef, Long Gully - 84 ft. Kirkham's Reef, Long Gully- 97 ft. Humboldt Reef, Long Gully - 51 ft. Baker's Reef, Long Gully - 101 ft.⁴⁷²
- March 1865:** The Long gully Reef Company are about to resume operations on a large scale, having purchased an engine, which they intend erecting on the ground.⁴⁷³
- August 1865:** Long Gully - Carter and Rigby are unwatering the mine. Then 50-60 oz per fortnight is anticipated.⁴⁷⁴
- June 1866:** Long Gully Reef Co., Long Gully - 92 tons yielded 316 oz. Victoria Reef, Long Gully - 106 tons from 40-60 ft yielded 121 oz.⁴⁷⁵
- March 1867:** The Long Gully Reef Mining Co. stopped for some weeks, but recommenced work about a week ago.⁴⁷⁶
- 1872-1882:** [Long Gully Reef] was subsequently taken up by a company under the name of the Royal Crown. The Company's first crushing of fifty tons gave a yield of 131 oz. Other crushings that followed were from 1 oz to 3 oz to the ton. The company sank a new shaft and drove

465 Mining Surveyors' Reports, September 1860
 466 Mining Surveyors' Reports, November 1860
 467 Randell, 1985, p. 24
 468 Mclvor News, 22 August 1862
 469 Mclvor News, 10 October 1862
 470 Mining Surveyors' Reports, March 1864
 471 Mining Surveyors' Reports, June 1864
 472 Mining Surveyors' Reports, September 1864
 473 Mining Surveyors' Reports, March 1865
 474 Mclvor News, 25 August 1865
 475 Mining Surveyors' Reports, June 1866
 476 Mining Surveyors' Reports, March 1867

along the reef taking out the stone, and when it ceased work it is believed it would have had to go 150 feet further to strike the main run of gold.⁴⁷⁷

- February 1872:** Royal Crown Gold Mining Co., Long Gully - Machinery to be purchased.⁴⁷⁸
- March 1875:** Parker Brothers, situated on Long Gully Reef, Heathcote, are erecting machinery for working their ground effectively.⁴⁷⁹
- September 1875:** Royal Crown Quartz Mining Co. have completed the erection of a 40 hp winding and pumping engine, to work their mine on the Long Gully Reef, Long Gully. The engine commenced work on 21 June 1875.⁴⁸⁰
- December 1875:** The Royal Crown Co.'s works in Long Gully, the prospects of which were supposed to be encouraging [have been suspended]. The cause of suspension I am not in a position to state, whether it is monetary or mismanagement.⁴⁸¹
- September 1876:** Victoria line of reef, Long Gully (ex-Italian Reef). Shaft being sunk to water level, or 200 ft.⁴⁸²
- 1877:** The [Norris's Reef] mine has been prospected at various times since [its discovery], Dr Robinson in 1877 having two men on sinking and driving for a considerable time.⁴⁸³
- January 1879:** Long Gully mine. Reef between Long Gully and Argyle Gully, let on tribute after not paying... Some time later, after the machinery had been sold, mine was re-opened and is working with difficulty.⁴⁸⁴
- September 1879:** The Royal Crown Co., at Long Gully, have been engaged sinking a new shaft to catch the lode which the original proprietors abandoned at the 280-ft level, in consequence of excess of water. The present company has been pumping and sinking two years last August, and the capital of the company has been augmented twice during that period.⁴⁸⁵
- February 1880:** Royal Crown Mine - commenced to sink shafts.⁴⁸⁶
- March 1880:** Royal Crown Gold Mining Ltd, Heathcote - Total depth of shaft from surface, 272 ft.⁴⁸⁷
- July 1880:** Royal Crown now called New Royal Crown (No Liability).⁴⁸⁸
- September 1880:** New Royal Crown. Boiler cleaned out, water cleared from mine, and operations are about to recommence.⁴⁸⁹
- December 1880:** The Royal Crown Co. still making great progress in sinking their shaft, which is down 330 ft, but the water is heavy.⁴⁹⁰
- June 1881:** A recent crushing at the Royal Crown Co.'s mine, Long Gully, of 51 tons, yielded 72 oz.⁴⁹¹

477 Mclvor Times, 19 October 1893

478 Mclvor News, 2 February 1872

479 Mining Surveyors' Reports, March 1875

480 Mining Surveyors' Reports, September 1875

481 Mining Surveyors' Reports, December 1875

482 Mclvor News, 28 September 1876

483 Mclvor Times, 19 October 1893

484 Mclvor News, 23 January 1789

485 Mining Surveyors' Reports, September 1879

486 Mclvor News, 5 February 1880

487 Mclvor News, 11 March 1880

488 Mclvor News, 15 July 1880

489 Mclvor News, 16 September 1880

490 Mclvor News, 12 December 1880

- January 1882:** Sale of Royal Crown claim plant (advertisement).⁴⁹²
- September 1884:** A nugget has been unearthed by a miner named James Burgess in alluvial, at the junction of Opossum and Long Gullies, at a depth of 14 feet from the surface; it weighed 18 oz...it resembled a crushed beetle, and its length was 5 inches by 3 inches, with an average thickness of about 1/4 inch. Messrs Norris and Son, and Company, have obtained a fair show in the Norris's old reef; at present the stone looks something like an ounce to the ton.⁴⁹³
- 1893:** [Cosmopolitan Reef] is in reality No. 1 south of Norris's. It was worked by Charles Husfeldt and Gorski, for good returns. They lost the gold and gave up their claim. The Cosmopolitan was last prospected by Friswell and party a few months ago, when some of the old shafts were tried, but without result.⁴⁹⁴
- May 1894:** [History]: North of the Caledonian group lies the Long Gully reefs, which for a time yielded very well, 40 tons taken from the 280 feet level averaging 4 oz 13 dwt per ton, whilst another lot of 28 tons from the same level averaged 8oz 15dwt.⁴⁹⁵
- March 1906:** Peters Gully, Alabama and Butler's Reef, and Long Gully Reef taken up again.⁴⁹⁶
- c. 1930s:** Long Gully cross course worked between 350 and 400', shoot at surface about 500' long, the best being 1000 oz from one ton, mostly went 3 to 4 oz per ton, but at the bottom the shoot was only 11' long going 1 oz 5 dwts per ton. Norris or Cosmopolitan cross course, not reef. Worked a little over 200', went 5 to 6 oz.⁴⁹⁷

Major's Line of Reef (including Maori Tom Reef, Snake Hill, Canadian Reef)

- June 1870:** New rush reported in a flat near Major's line reef.⁴⁹⁸
- June 1870:** Opening up of some new ground about 10 miles east of Heathcote. Three prospecting quartz claims have been taken up. Thirteen tons of quartz has been crushed which yielded 9 oz; the greatest depth yet sunk is 24 feet, but several shafts are being sunk to test the ground at greater depths. About 20 claims are taken up, and about 50 miners are at work. I am informed that it is the intention of some of the prospectors to erect crushing machinery as soon as the roads are passable.⁴⁹⁹
- July 1870:** New rush at Major's Creek diggings. Alluvial prospecting claim registered. Obtained from a tin dish 1/2 dwt of gold and 2 dwt from 10 small buckets of dirt. Sinking 6 ft.⁵⁰⁰
- July 1870:** Rush turning out less than expected, because of carting difficulties (owing to wet weather and lack of roads).⁵⁰¹
- September 1870:** Holding out great promise to the many claimholders who have large paddocks of quartz ready for crushing. Machinery being erected on a tributary of Major's Creek, near prospecting claim, on the original Major's Line of reef. Decline from the claim to the machine will be used for tramway. Half a mile east of Major's line of reef - Canadian Reef,

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- 491 Mining Surveyors' Reports, June 1881
 492 Mclvor News, 12 January 1882
 493 Mining Surveyors' Reports, September 1884
 494 Mclvor Times, 19 October 1893
 495 Mclvor Times, 24 May 1894
 496 Mclvor Times, 29 March 1906
 497 Hird, 1974, p. 4
 498 Mclvor News, 17 June 1870
 499 Mining Surveyors' Reports, June 1870
 500 Mclvor News, 8 July 1870
 501 Mclvor News, 22 July 1870

traced for considerable distance. Morning Light claim No. 1 north showed no visible gold. Locality holds out great promise. Township being built.⁵⁰²

- October 1870:** Majorstown - Name of settlement at Major's line of reef. Crushing engine started work.⁵⁰³
- September 1870:** The reefs on Major's line are still said to be good, but in consequence of the continuous rains and bad roads there has been no opportunity of further testing the stone. A battery of stamps and steam engine have been purchased and are now being delivered on the ground, and probably will be at work in 6 weeks time.⁵⁰⁴
- December 1870:** The greatest part of the stone already crushed has, I believe, paid tolerably well.⁵⁰⁵
- January 1871:** Major's Line - Field's crushing machine sold to Greenshield, owner of the other machine. Old Major's line of Reef has been taken on tribute by working miners.⁵⁰⁶
- March 1871:** Majorstown - Several parties left but prospects on the whole encouraging. During past 4 weeks, 410 tons yielded 200 oz.⁵⁰⁷
- March 1871:** The accounts from the Majorstown reefs are somewhat discouraging, the majority of miners are, however, persevering.⁵⁰⁸
- May 1871:** Near Majorstown, from a reef on Pick and Shovel Road, stone being crushed... Greenshield's machine idle for want of water.⁵⁰⁹
- June 1871:** Majorstown - 40 tons of stone from the Cambrian yielded 10 dwt per ton. Water shaft deepened.⁵¹⁰
- August 1871:** Majorstown Reefs - Not rich, but evidently payable. Crushings gave tolerable wages. 83 tons from Lalla Rookh yielded an ingot of smelted gold weighting 75 oz.⁵¹¹
- December 1871:** The Majorstown portion of my district is not in a prosperous condition at present; the reefs have not realised the expectations of them.⁵¹²
- October 1879:** New rush at majors Line, between Costerfield and Graytown. Gold of 5 dwt per load, with washdirt about 2 ft in thickness. Run in narrow gully about half a mile in length.⁵¹³
- December 1881:** A crushing from Devaney's Maori Tom Reef, Major's Line, of 6 tons lately gave 17 oz of gold.⁵¹⁴
- December 1882:** Good yields have been obtained in Devanny's claim, Maori Tom Reef, on the Major's line, from which as much as 3 oz per ton has been crushed. The reef can be traced along the surface from one end of the claim to the other, and is gold bearing throughout.⁵¹⁵
- December 1886:** The South Maori Tom, on the Major's Line, obtained from 9 tons, 23 oz of gold.⁵¹⁶

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- 502 [Mclvor News](#), 2 September 1870
- 503 [Mclvor News](#), 28 October 1870
- 504 Mining Surveyors' Reports, September 1870
- 505 Mining Surveyors' Reports, December 1870
- 506 [Mclvor News](#), 20 January 1871
- 507 [Mclvor News](#), 31 march 1871
- 508 Mining Surveyors' Reports, March 1871
- 509 [Mclvor News](#), 5 May 1871
- 510 [Mclvor News](#), 2 June 1871
- 511 [Mclvor News](#), 4 August 1871
- 512 Mining Surveyors' Reports, December 1871
- 513 [Mclvor News](#), 23 October 1879
- 514 Mining Surveyors' Reports, December 1881
- 515 Mining Surveyors' Reports, December 1882

- March 1889:** Party of miners applied for a lease on the South Maori Tom Reef... it is intended to float a company to work it.⁵¹⁷
- October 1897:** P. Dwyer - 30 loads from 30 oz taken from Snake Hill, near Major's line. Reef 4 ft at 20 ft, 200 tons on grass.⁵¹⁸
- November 1897:** Miller and Sons, Maori Tom Reef, near Major's Line, crushed 11 tons for 37 oz.⁵¹⁹
- June 1898:** Snake Hill dam begun.⁵²⁰
- July 1899:** Great Pigeon, Heathcote - Stopes - reef 1-2 ft thick.⁵²¹
- 1900:** There are workings also at Snake Hill.⁵²²
- February 1901:** Great Pigeon, Snake Hill - 261 tons crushed for 177 oz. Reef averages between 12 and 18 inches but is mixed with mullock.⁵²³
- May 1901:** Great Pigeon, Snake Hill - a crushing of 460 tons yielded 105 oz.⁵²⁴
- September 1901:** North Pigeon mine, Snake Hill - Finished sinking new shaft and commenced driving for the reef. Arrangements have been made to reconstruct the co-operative company in a registered one.⁵²⁵
- March 1902:** Great Pigeon - tributers have improved prospects of the 400 ft level and are running two shifts at the battery on payable stone.⁵²⁶
- April 1902:** Great Pigeon crushed 210 loads for 42 oz.⁵²⁷
- June 1902:** Tributers at Great Pigeon Co. have been stopped by the directors.⁵²⁸
- July 1903:** Reid and party have crushed 10 loads from the New North Pigeon claims, Snake Hill, for 20 oz gold.⁵²⁹
- August 1903:** W. Reid and party is still sinking on their new find near Devanny's, Major's Line.⁵³⁰
- October 1903:** New North, Snake Hill - J. Reid and party - while making a prospecting shaft, struck what appears to be a new make of stone.⁵³¹
- March 1912:** Great Pigeon, Costerfield [?] - a crushing of 17 tons yielded 24 oz.⁵³²

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- 516 Mining Surveyors' Reports, December 1886
- 517 Mining Surveyors' Reports, March 1889
- 518 Mclvor Times, 7 October 1897
- 519 Mclvor Times, 18 November 1897
- 520 Mclvor Times, 16 June 1898
- 521 Mclvor Times, 13 July 1899
- 522 Jenkins, 1900, p. 66
- 523 Mclvor Times, 28 February 1901
- 524 Mclvor Times, 30 May 1901
- 525 Mclvor Times, 26 September 1901
- 526 Mclvor Times, 23 March 1902
- 527 Mclvor Times, 10 April 1902
- 528 Mclvor Times, 5 June 1902
- 529 Mclvor Times, 2 July 1903
- 530 Mclvor Times, 13 August 1903
- 531 Mclvor Times, 15 October 1903
- 532 Mclvor Times, 7 March 1912

November 1912: Great Pigeon Mine - Reed and party will further test the great Pigeon mine, Majors Line, intending to sink the shaft to 100ft, with aid of £150 from Mines Department.⁵³³

⁵³³ Mclvor Times, 7 November 1912

McIvor Creek/Flat (including Old Creek Lead)

- 1853:** Old miners who have been here from the first rush, in April 1853, remember splendid coarse gold having been obtained at a depth of 80 to 120 feet, about NW of what is now [1883] Mr Begg's home station at Mt Camel, some 14 miles from Heathcote. This ground, I am informed, was then abandoned owing to the scarcity of water...⁵³⁴
- 1853:** First rush to Creek flats in middle of May 1853, when 500-600 shafts were started. But water was too strong for buckets and windlass, and all parties left, finding remunerative work in Golden, Possum, Long, Sailor's and German Gullies, with dry, shallow workings.⁵³⁵
- 1855:** Another attempt was made in 1855, when a paddock was bottomed and an elevator-hand pump was used. This attempt failed.⁵³⁶
- 1858:** The Creek Lead was discovered in 1858. It was immensely rich. There were perhaps 10,000 miners on the ground. Nuggets were found up to 68 lb weight. The lead was lost and has never been found up to the present time [1891]. The extent of the lead was about a mile. The starting point was near the Lake Hotel. It went through private property... The sinking was no more than 20 feet. In some places the lead was 3 chains wide. The depth of the was from a few inches to 3 or 4 feet. The ground was wet, which is one of the causes an attempt is not made to follow it...⁵³⁷
- December 1858:** The Creek - some parties have met with extraordinary success. Morning Star - 4 nuggets weighing 3 lb 3 oz, the largest 21 oz. Percy claim: 10 lb weight of ore nuggetted out in a day, then 30 lb, then 7 lb 6 oz (47-1/2 lbs in 3 days).⁵³⁸
- January 1859:** 'Our Monster Nuggets' - Leslie, Atcheson and Co. - nuggetted in 4 days 260 oz, including one of 3lb.⁵³⁹
- January 1859:** Leslie, Atcheson and Co. - one of the smallest claims on the creek, averaged £30 per man in a week. Yielded £6000 in 3 months, 3 more months work in the claim.⁵⁴⁰
- March 1859:** Creek Claims - some have fallen off considerably, others are exceeding expectations. A fine lump of gold was found in one claim, weighing 147 oz.⁵⁴¹
- September 1859:** Sludge nuisance is getting worse. Puddlers are believed to pay £25-30 per week to clean main sludge channels. Some profitable place, therefore, do not pay expenses.⁵⁴²
- October 1859:** Sludge Nuisance - Rediscovery of the far-famed McIvor Creek lead. Cheering prospects for those who touched the bottom (but whose claims are now covered by sludge). Extends right down the flat, towards the northern end of the township. Sludge must be stopped. Lead of gold believed to traverse the entire length of McIvor Valley. Sludge from machines, etc. threatens to bury the lead, to spoil the beauty of the valley, to ruin the water supply.⁵⁴³
- February 1860:** The portion of the ground on the McIvor Creek, to which the late rush had been, is now nearly worked out. It amply remunerated those who had claims there, and, in some instances, nuggets varying between 3 and 7 oz were found.⁵⁴⁴

534 Mining Surveyors' Reports, December 1883

535 Mclvor News, 9 June 1865

536 Mclvor News, 9 June 1865

537 D. Sims, in evidence to the Gold Mining Commission, quoted in Mclvor Times, 9 July 1891

538 Mclvor News, 11 December 1858

539 Mclvor News, 15 January 1859

540 Mclvor News, 21 January 1859

541 Mclvor News, 4 March 1859

542 Mclvor News, 30 September 1859

543 Mclvor News, 28 October 1859

544 Mining Surveyors' Reports, February 1860

- February 1862:** Extensive Rush...reported discovery of the Creek Lead. Chinamen have, for a considerable time, been working on the east bank of McIvor Creek, at the rear of the Criterion Hotel. Suddenly their earnings rose steeply. Rumours of large nuggets, including one of 60 oz. The locality of their activity is precisely where the old creek lead ran out 4 years ago... caused a large rush of Europeans, greater than any known here for 3 years... Sinking is presumed to be 30 ft... Claims are marked out 3 to 5 ft wide between the creek and range to a point nearly opposite the Victoria Hotel.⁵⁴⁵
- May 1862:** Chinese are believed to have re-discovered the Creek Lead, with great success. More Chinese coming daily.⁵⁴⁶
- October 1862:** A new company, Victoria Co. has started to work the flat between the township and Ben Neirs Hotel. Intends to work on the same principal as that used in Ballarat for working wet ground, ie., slabbing and timbering, and keeping the water down with whim or steam engine.⁵⁴⁷
- November 1862:** Victoria Mining Co. - commenced work on flat opposite and SW of Victoria Hotel. Ground partially worked 3 years ago, but then flooded. Shaft now 30 ft deep, expected to bottom within 2 or 3 ft. This is the first attempt in McIvor to work alluvial ground on improved mining principles.⁵⁴⁸
- June 1864:** Two parties have applied for licences to cut races from the McIvor Creek, for the purpose of sluicing some old abandoned ground near the Township of Heathcote.⁵⁴⁹
- January 1865:** The McIvor Hydraulic Co. is about to construct a water race for sluicing which is to be carried on by small parties of 6 to 8 without capital, as efficiently as by a wealthy company. With sufficient water supply, the 40 acres applied for at Red Hill could furnish employment for 3 times as many as under the proposed application.
- February 1865:** Alluvial - 8 'independents' have cut a tail race into the middle of the Old Creek Lead, in McCarey's paddock, opening out a face 150 ft long after hauling off 10ft of top stuff. Sluicing the washdirt with Caledonia water.⁵⁵⁰
- March 1865:** McIvor Hydraulic and Gold Mining Co. - Prospectus - Capital £10,000. Purpose:- Conservation of head waters of Sandy, McIvor, Wild Duck Creeks, and conveying of same, by means of race, through the known auriferous country from Tooborac to Heathcote, at an elevation sufficient to command the whole McIvor gold field. Race to be capable of conveying 6 million gallons per day (equal to 60 sluice heads), to commence at the base of Sugar Loaf Mountain. For the present, 7 miles to be constructed... Water race will command 90 square miles of auriferous ground which, owing to lack of water, had to be abandoned... Sites for flour, quartz and saw mills have been selected along the line.⁵⁵¹
- March 1865:** The water races constructed by Messrs Debney and Company, and Bramble and company, have been idle during the quarter for want of water.⁵⁵²
- June 1865:** All McIvor leads must run into Mr Hartwick's new claim - McIvor Alluvial Gold Mining Co., 150 acres, Mount Ida Creek.⁵⁵³
- June 1865:** Water supply - £40,000 government grant approved for McIvor gold fields water supply.⁵⁵⁴

545 [Mclvor News](#), 21 February 1862

546 [Mclvor News](#), 16 May 1862

547 [Mclvor News](#), 31 October 1862

548 [Mclvor News](#), 14 November 1862

549 Mining Surveyors' Reports, June 1864

550 [Mclvor News](#), 10 February 1865

551 [Mclvor News](#), 17 March 1865

552 Mining Surveyors' Reports, March 1865

553 [Mclvor News](#), 9 June 1865

554 [Mclvor News](#), 16 June 1865

- June 1865:** Applications have been made for a lease of 150 acres of the low alluvial ground lying along the banks of McIvor Creek, between the township of Heathcote and the opposite ranges.⁵⁵⁵
- June 1865:** McIvor Alluvial Gold Mining Co. - ground has been surveyed, company to be formed immediately.⁵⁵⁶
- September 1865:** McIvor Flat, idle so long, is now in the hands of the McIvor Alluvial Gold Mining Co... Several shafts sunk. McIvor Hydraulic Co. - commenced sluicing.⁵⁵⁷
- November 1865:** McIvor Hydraulic Sluicing Co. - since last communication 115 chains of race have been excavated, 93 yards of tunnelling, and nearly all the rock and other obstructions removed, leaving the whole line almost connected for a distance of 6 miles and a half. Satisfactory progress has also been made with the large reservoir at the Emu Plains.⁵⁵⁸
- November 1865:** McIvor Alluvial Gold Mining Co. purchased engine.⁵⁵⁹
- January 1866:** McIvor Alluvial Gold Mining Co. - area 187 acres, machine being erected.⁵⁶⁰
- March 1866:** Messrs Reilly and Carmichael's water race, from the source of the McIvor Creek, is in course of progress; there are now 7 miles of aqueduct cut.⁵⁶¹
- June 1866:** The water race of Messrs Reilly and Carmichael is still in the course of construction; but very little progress has been made in the excavation of the aqueduct since my last report.⁵⁶²
- July 1866:** McIvor Hydraulic Co.'s upper reservoir now filled - will shortly begin sluicing near Johnson's Gully.⁵⁶³
- September 1866:** The McIvor Hydraulic Co. report having cut their water race as far as Hayes' Gully, a distance (along the contour) of 10 miles. They have taken up areas in this gully, by virtue of miners' rights, and are now engaged in carrying on sluicing operations.⁵⁶⁴
- May 1867:** McIvor Hydraulic Water Scheme and Sluicing Co... Asked for government assistance. 12 miles of race completed.⁵⁶⁵
- August 1867:** Construction of dam area 2,500 yards, capacity 250,000 gallons, height at bank 7 ft. McIvor Hydraulic Co.'s race.⁵⁶⁶
- October 1867:** Heavy floods in McIvor and Wild Duck Creeks. Bursting of Hydraulic Co.'s dam bank.⁵⁶⁷
- June 1868:** A small rush has set in to a place near the base of Mt Koala, on the McIvor Creek; seven alluvial claims and four quartz claims have been registered - the sinking in the alluvial is 6 ft through decomposed granite onto a bottom of solid granite; the gold has averaged 4 dwts to the tub.⁵⁶⁸

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- 555 Mining Surveyors' Reports, June 1865
- 556 Mclvor News, 30 June 1865
- 557 Mclvor News, 15 September 1865
- 558 Dicker's Mining Record, 23 November 1865
- 559 Mclvor News, 10 November 1865
- 560 Mclvor News, 26 January 1866
- 561 Mining Surveyors' Reports, March 1866
- 562 Mining Surveyors' Reports, June 1866
- 563 Mclvor News, 20 July 1866
- 564 Mining Surveyors' Reports, September 1866
- 565 Mclvor News, 24 May 1867
- 566 Mclvor News, 16 August 1867
- 567 Mclvor News, 25 October 1867
- 568 Mining Surveyors' Reports, June 1868

- January 1869:** New rush at the foot of Argyle Gully. Several holes going down for an apparent outside gutter, between two reefs, leading towards the Old Creek lead. One hole was bottomed, £10 worth of gold taken up.⁵⁶⁹
- July 1872:** Branscombe and Co. prepares for puddling and sluicing near old McIvor Inn. Capital prospects.⁵⁷⁰
- October 1872:** McIvor Co. - meeting called to wind up the company.⁵⁷¹
- May 1873:** Auction of McIvor Co. and of crushing plant at Red Hill.⁵⁷²
- April 1880:** Mr Hedley has 40 hands employed at the rear of Heathcote Hotel on his sluicing works.⁵⁷³
- October 1880:** Mr Hedley's sluicing works - alterations being carried out with the view to raising the railings higher and carrying them farther from the works.⁵⁷⁴
- December 1880:** McIvor Creek - The Simms Freehold Co. have been compelled to cease operations for a time owing to water. They sunk to a depth of 46 ft, when they struck a slate reef, which is considered to be proof of the existence of the bottom which they are sinking for; and when machinery about to be erected is set to work, the doubts as to the question of a deep lead here will be settled.⁵⁷⁵
- March 1881:** Hedley and party, who commenced operations last January on their lease near the creek, with a boring apparatus known as Wright and Edwards' patent, obtained a bottom of 16 ft, but after going a further depth of 65 ft, obtained no indications of a second bottom; 30 ft of the boring was through hard rock. A contract has been taken in the Sims Freehold Company for sinking a shaft 80 ft deep, and it is expected they will bottom in a few weeks. The Star of the South Company, Argyle Gully, obtained an excellent prospect of gold lately from a 20-inch body of stone, at a depth of 100 ft. The Deep Lead Company have been sinking a shaft through the first bottom on the opposite side to their deep shaft, and have been going through a peculiar cemented rock, which gets harder as they go down; the real bottom has not yet been reached.⁵⁷⁶
- June 1881:** Fashan and Sons have erected a steam puddling machine on McIvor Creek, which is capable of reducing 100 loads per day.⁵⁷⁷
- November 1882:** Hedley and Co. has just installed a steam puddling machine at Heathcote Hotel.⁵⁷⁸
- December 1882:** Two important sluicing companies - the Meadow Valley Company and the McIvor Hydraulic Company - have only had two months work, owing to the water falling off, whereby no opportunity has been afforded for washing up any portion of the ground in their sluice boxes.⁵⁷⁹
- May 1883:** Failure of Meadow Valley Sluicing Co.⁵⁸⁰
- June 1883:** The Heathcote Sluicing Company are reticent with regard to the yield of gold from their claim, but they are now in full operation, and it is believed doing well. They employ about 30 men, and wages are paid regularly.⁵⁸¹

569 [Mclvor News](#), 8 January 1869

570 [Mclvor News](#), 5 July 1872

571 [Mclvor News](#), 31 October 1872

572 [Mclvor News](#), 15 May 1873

573 [Mclvor News](#), 29 April 1880

574 [Mclvor News](#), 7 October 1880

575 Mining Surveyors' Reports, December 1880

576 Mining Surveyors' Reports, March 1881

577 Mining Surveyors' Reports, June 1881

578 [Mclvor News](#), 30 November 1882

579 Mining Surveyors' Reports, December 1882

580 [Mclvor News](#), 17 May 1883

- September 1883:** Boring at McIvor Deep Lead Prospecting Co. - commenced near Church of England and are now down 50 ft.⁵⁸²
- September 1883:** A company has been formed to test the question of the existence of a Deep Lead, to be named the McIvor Deep Lead Prospecting Company. Messrs W.E. Lewis and Matthias Speed have applied for a lease of 15 years of 30 acres of land, including the Barrack Reserve and other ground west of Section 6, Borough of Heathcote; £5,000 is proposed to be spent on manual labour and machinery, and 4 men are to be employed for the first year, and subsequently when in full work twelve men; they have already commenced operations and are down 110 feet; 4 men are now at work, the appliance used is an auger bore; at present they have no golden prospect... The stratum now being pierced shows signs of improvement; it is expected that the 'bottom' will be reached at 250 feet. The other project companies are:- The No-Surrender Co, 5 acres, Caledonia Gully; The Rocky Point Gold Mining Co., McIvor Creek; Alabama and Butler's Reef Co, Caledonia Gully; John Hedley, Wild Duck Creek. Heathcote Sluicing Company...are still working and employing 28 men.⁵⁸³
- December 1883:** Sorry to say that the McIvor Deep Lead Prospecting Co. have ceased working for a time. It is generally thought that they started their operations at the wrong place... Old miners who have been here from the first rush, in April 1853, remember splendid coarse gold having been obtained at a depth of 80 to 120 feet, about NW of what is now Mr Begg's home station at Mt Camel, some 14 miles from Heathcote. This ground, I am informed, was then abandoned owing to the scarcity of water, and now has been selected for miles. The Heathcote Sluicing Co. have temporarily ceased working, the race which was cut from Sugarloaf Creek, about 18 miles distant, having run dry... Mr Hedley, the manager, reports having obtained during the past season, from all sources, 1,625 oz of gold: not a bad return by any means.⁵⁸⁴
- February 1884:** Deep Lead Co. (McIvor) - called for tenders for sinking a shaft at the foot of Red Hill.⁵⁸⁵
- September 1884:** The Sluicing Company have operated on one and a half acres, from the surface to 10 feet in depth, and have not yet washed up. They have 30 chains of box sluices, and 1,000 feet of 9 inch pipes with 80 feet pressure.⁵⁸⁶
- June 1885:** McIvor Sluicing Co. - idle for last 6 months. Heavy rains have fallen, and sluicing is now being actively carried on.⁵⁸⁷
- September 1885:** McIvor Sluicing Co. are now in full work, the late rains having improved their prospects of a continued water supply. A large amount of dirt has been washed. It is the intention of this company to extend their water scheme, with a view of increasing their supply, in order to enable them to sluice all the year round.⁵⁸⁸
- November 1886:** The Sludge Question - The Sludge Inquiry Board...sat at the Town Hall on Thursday afternoon last week, and took the following evidence. Thomas Hedley, sworn: I carry on sluicing operations here at present under a miner's right. The McIvor Hydraulic Sluicing Co., at whose works I am operating, would use five million gallons a day when in full work. The water is brought from Sugar Loaf creek. The race is about 26 miles long, the most part constructed by myself, and purchased from company. The company expended £10,000. Spent myself between £5,000 and £6,000. There is a log weir at the head of the race. Have a log weir also in Long Gully, which holds about seven million gallons. About 4 years ago I had 5 months sluicing, the year before about 4 months and last year about 4 months. Have not had a full head of water this year. Work eight hours a day. Worked 9 hours a day during 9 months of one year, being the most in one year. have worked out about 20 acres up to the present, the average depth being about 10 feet, or something over. The ground left would

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- 581 Mining Surveyors' Reports, June 1883
 582 McIvor News, 14 September 1883
 583 Mining Surveyors' Reports, September 1883
 584 Mining Surveyors' Reports, December 1883
 585 McIvor News, 1 February 1884
 586 Mining Surveyors' Reports, September 1884
 587 Mining Surveyors' Reports, June 1885
 588 Mining Surveyors' Reports, September 1885

last about 50 years, but it would hardly be so deep as that worked. It is all ground sluicing now. Used to work with boxes. Intend to relay boxes next summer.

On account of the dry season this year. I worked with as little expense as possible. The fall in tail-race is about 18 inches in the chain. Deliver the tailings into a paddock worked out five years ago. The proportion of tailings to sludge is very small. In 100 loads of soil there would not be over 10 or 15 per cent. The sludge now goes down the creek. Have had levels taken to see if I could change the tail race to pass the tailings, and deposit them at Commissioners Flat. It could be done. Don't think it would effectually dispose of the sludge. The fall would be better that way. But the gravel would stop and the sludge goes away with the water. One season would cover the flat as deep as I could run it on. It would be difficult to keep the sludge back. The water is so thick that it would not settle for 24 hours, and without a still dam it would not settle at all. There is not sufficient fall on Commissioners Flat to admit of building a dam. It would not pay to make small dams across the flat. It takes me all my time to make it pay now. I could not possibly do it. It would mean ruin to me. The level would not admit of dams being made in any of the gullies I have worked. Employed 7 and 8 men this year, last year 10 and 12. Have had as many as 50 employed. If I had wet seasons I would have about 30 men employed and I would remove as much stuff in one year as I have done in the last 4 years. Generally keep one or two men on tail race to keep it clear. Complaints have not been made to me on the system of the work. Have had complaints of the sludge being run into the creek, but have taken no notice. Have to employ for maintenance when the water is running - one man 25s a week to turn water off and on and to look after 7 miles of the race, another £1 to look after 12 miles of the race, and 2 boys at 5s each. The size of the race is 5ft wide to the head of the race from the reservoir and 6ft wide from the reservoir here. The race will carry 16 inches of water and the fall is 6ft 8 inches per mile. Cannot suggest any remedy against the damage the agriculturalists sustain by the sludge. Since the first McIvor rush there has been puddling and the sludge allowed to run into the creek, and I started sluicing thinking to use the creek for the same purpose. Richard Williams, sworn: I am a farmer here, hold 1400 acres of land about 4-1/2 miles from Heathcote, principally on the McIvor creek.. Had one or two small floods in the McIvor Creek last year. The heaviest flood occurred 3 years ago. The sluicing I believe has raised the level of the floods. The creek has been silted up, and where there were deep waterholes before there is now no water at all. The creek is now more like a sludge channel, and in dry weather you can walk up the middle of it. The best of the land has all been flooded and silt deposited on it. Over 100 acres has suffered from the deposit of sludge. The depth of the sludge in some places is 2 or 3 ft., and in some a few inches. There is black soil underneath the sludge. Don't think it affects the crop where the sludge mixes with black soil. If there is much silt the crop dries up. Keep 70 or 80 head of cattle, and 2,000 sheep and lambs. Have water at springs and dams. The stock doesn't drink at the creek in summer since the sluicing. Didn't find the water injurious to the stock. It comes down like porridge, and settles and gradually fills up the creek. If there is no sluicing the water is clear. Have had horses and cattle lost in the creek since the sluicing. Have had over 120 sheep in the creek in one season. The wool is of no use after the sheep have been in the sludge. This happens before the creek dries up in the summer when the sludge is soft. The land was purchased 14 or 15 years ago. The creek was quite clear then. William Speed, sworn: I am a land owner on the McIvor and Wild Duck Creeks. Have had numbers of cattle bogged in the sludge. The first were bogged about 3 years ago. Have to move them away in consequence of the sludge. Water them at dams. Would water at the creek if there were no sludge. The sludge does not come from the Meadow Valley Creek into my property. William Duncan, sworn: I am a farmer here. Have 12-1/2 acres affected by sludge on the McIvor Creek. The sludge covered the crops last year. Lost a portion of it last year. Put it into grazing for 5 years. If you plough in the sludge you cannot touch the soil underneath in places. The sludge is 3 ft deep in some places. The land might recover in a few years. Nothing will grow where the sludge is very deep, but a little where it is not so deep. Have about 20 cows on this land. Can't water at the creek on this land. The water is too thick. Believe it would kill them. Mr Hamilton had a horse die, and he took a ball of mud out of it 11lbs in weight. Cattle also bog in the creek. Have had some die in the creek. About a dozen were pulled out and died afterwards. Had to make dams and lift the fences, in consequence of the sludge. James Tehan, sworn: Am President of the McIvor Shire. Injury has been done to the creeks by the sludge. The Council had to build a bridge in one place instead of a crossing in consequence of the sludge. The creek keeps silting up. The Council built the bridge 3 years ago. The water holes further down get silted up more and more every year. The creek is silted up for about 5 miles, and is now getting rapidly filled up lower down. Think the Council sent a deputation to the Mining Department about the sludge. Suggest that the sludge be impounded. Don't think there are leases, &c., to render it impossible to make use of Commissioner's Flat. Think they could impound the sludge, and remove injury to farmers down the creek, by making dams and letting the water settle. Have seen it done by puddlers years ago. There would be sufficient acreage during Mr Hedley's lease. Have seen

this method proved to be satisfactory. Believe vegetation would grow on the sludge after a time...⁵⁸⁹

June 1887: McIvor Sluicing Co. has been at work with a splendid flow of water, and with moderate rains expects to continue until October.⁵⁹⁰

December 1887: McIvor Sluicing Co. cleaned up for a return of 158 oz 18 dwt.⁵⁹¹

1887-1892: Hydraulic sluicing by pumping was begun in Victoria in 1887. The application of pumping to hydraulic sluicing was due to the enterprise of the Hon. J.A. Wallace, assisted by the Messrs Hedley and others under Mr Wallace's employment. The works were in the experimental stage from 1887 to 1892. The principal difficulty was in getting a gravel pump, which would stand the large wear and tear due to the lifting of boulders, gravel, sand, and other material. After repeated trials and much expense, a suitable centrifugal pump was devised; and in 1892 the system was so far perfected as to admit of regular working. Mr Wallace's experience is that powerful machinery should be used.⁵⁹²

June 1888: McIvor Sluicing Co. - no work this quarter due to lack of water.⁵⁹³

June 1889: McIvor Sluicing Co. has resumed operations on an extensive scale.⁵⁹⁴

September 1889: McIvor Sluicing Co. has not, at present, cleaned up.⁵⁹⁵

1890: [Letter to the Editor] The Heathcote Water Supply and the McIvor Hydraulic Sluicing Company - Sir ... in view of the action of the Heathcote Borough Council, in writing to the Mining Department to request that a renewal of our Lease be refused, in the interest of the public, I am compelled to...appeal to the public for a fair consideration of the matter... When the members of the late Sludge Commission were at Heathcote, Cr Lewis openly advocated the course adopted, as what he pleased to call a feasible settlement of the sludge difficulty. The Commissioners told him in presence of witnesses, that his suggestion was a disgraceful one for anyone to make...and no Government department would listen to such a proposal for a moment. I know that our operations have done some considerable injury to the Creek and River, and been a source of considerable annoyance to people living down the River, and I am sorry for it, but I could not prevent it. But whatever cause of complaint against our operations the people down the River may have, the people of Heathcote certainly have none, they have had all the benefit and advantage of our work and enterprise. For several years I was working away, employing in addition to my own family of strong and willing young men, a large number of workmen of various kinds, and bullock teams, cutting a race, (26) twenty-six miles in length, chains of tall fluming, punching tunnels through rocky hillsides, constructing reservoirs, putting into circulation a constant stream of ready money, in the shape of wages, and bringing on to the place costly appliances in the shape of pipes and machinery, and when the water came over the Red Hill, it was greatly admired. The large amount of money necessary for carrying on the works was provided without stint. No one in the locality was asked to contribute a penny towards it. Since the completion of the works we had but one really good season for sluicing, during which we obtained a large amount of gold, but the whole of that was expended in an attempt to develop the resources of the district in another branch of Mining; in fact, the whole cost of construction, and nearly the whole proceeds of the work, amount in all to upwards of £20,000, was expended at Heathcote, and one of my sons is now carrying on at great expense the only progressive mining venture in the District worth consideration. The Echuca papers and yourself complained of our works and advocated the using of the water for a better purpose than sluicing, but you have never advocated confiscation. I always knew we held the only available source of water supply in the district. I often offered to fill a reservoir for the town if the Council would provide one, and did fill the only one they had. We know that...the members of Parliament for Rodney and Mandurang will be called on to protect their constituents by doing all they can to prevent the sludge from going down the river and we know that we cannot carry on our sluicing operations without making sludge and that there

589 McIvor Times, 5 November 1886

590 Mining Surveyors' Reports, June 1887

591 Mining Surveyors' Reports, December 1887

592 Department of Mines Annual Report, 1900, p. 45

593 Mining Surveyors' Reports, June 1888

594 Mining Surveyors' Reports, June 1889

595 Mining Surveyors' Reports, September 1889

is no way of dealing with two or three million gallons of sludge per diem, but to let it go down the only natural channel... We are quite willing to let the Railway Department or the Council, or both, have our reservoir and everything connected with our scheme for the price formerly offered, but Mr Lewis or any one else may rest assured that they will never be gratified by seeing us deprived of our property by confiscation. Such a course would assist to strangle mining enterprise. Thomas Hedley, Yackandandah.⁵⁹⁶

- December 1899:** McIvor Creek Dredging - Plans and specifications for barge completed. Machinery progressing.⁵⁹⁷
- 1900:** Mr Wallace's experience is that powerful machinery should be used. His plants, of which he has seven, in the North-east district, have cost from £6,000 to £25,000 each. The auriferous material operated by each of them ranges from 5,000 to 13,000 cubic yards per week, the average being about 8,500 cubic yards; 400 to 500 indicated horse-power is used in each of the large barges, the motive power being steam. In 1898 the attention of the mining community was directed to the large quantity of gold being won by pump hydraulic sluicing at Yackandandah...[see 'Thomas Hedley, Yackandandah', above]...with the result that in 1899 a boom took place. But it soon collapsed.⁵⁹⁸
- March 1901:** McIvor Creek dredge started, but trial not satisfactory.⁵⁹⁹
- December 1901:** McIvor Creek dredging - cleaned up No. 1 boiler, put in new runner shaft and new pulley wheel. Resumed sluicing today.⁶⁰⁰
- February 1905:** Castlemaine district company formed to work the McIvor Creek Hydraulic Sluicing Co.⁶⁰¹
- June 1905:** Work progressing on the McIvor Creek Sluicing plant, expected to commence operations in four or five weeks' time.⁶⁰²
- 1905:** The only form of mining now being carried on in this division worthy of mention is dredging. The McIvor Creek Hydraulic Sluicing Company is operating on the old McIvor lead at South Heathcote, with a fair amount of success.⁶⁰³
- May 1906:** Williams Reef - Head frame nearly up. Old shaft is being cut back and re-timbered. Shaft is being dewatered by a Cameron Steam pump capable of 'throwing' 9000 gallons per hour. This water has enabled the dredge on the creek to work two shifts. [probably McIvor Creek Sluicing Co.]⁶⁰⁴
- November 1906:** Company to sluice Sawpit and Mosquito Gullies is to be called McIvor Junction Sluicing Co.⁶⁰⁵
- 1906:** McIvor Creek Dredging Company has worked vigorously, with satisfactory results.⁶⁰⁶
- July 1908:** Sluicing plants - [include] McIvor Creek.⁶⁰⁷
- 1909:** McIvor Creek Dredging Company closed down at the end of the year on account of the poverty of the dirt treated.⁶⁰⁸

596 Mclvor Times, 6 March 1890
 597 Mclvor Times, 7 December 1899
 598 Department of Mines Annual Report, 1900, p. 45
 599 Mclvor Times, 7 March 1901
 600 Mclvor Times, 5 December 1901
 601 Mclvor Times, 16 February 1905
 602 Mclvor Times, 29 June 1905
 603 Mining Surveyors' Annual Reports, 1905
 604 Mclvor Times, 24 May 1906
 605 Mclvor Times, 8 November 1906
 606 Mining Surveyors' Annual Reports, 1906
 607 Mclvor Times, 9 July 1908

- May 1910:** McIvor Creek - Sluicing operations resumed at McIvor Creek dredge 16 days ago, by Mr Straede, who purchased the plant from the company recently.⁶⁰⁹
- June 1910:** McIvor Creek sluicing - completed barge site.⁶¹⁰
- 1910:** McIvor Creek Dredging Co. disposed of the plant, and the purchaser has, under more economic working conditions than that pursued by the former, been able to treat the wash with just about payable results.⁶¹¹
- February 1913:** McIvor Creek dredge is being dismantled after being sold at auction... Mr Straede bought sluicing apparatus in March 1910, and worked till August 1911, but results were unprofitable. The drought last year caused 7 months' idleness.⁶¹²

Morning Star Reef (see also Long Gully, Red Hill)

- December 1858:** Morning Star - 4 nuggets weighing 3 lb 3 oz, the largest 21 oz.⁶¹³
- March 1864:** Morning Star Reef is again taken up and being worked; it has hitherto been a good paying reef.⁶¹⁴
- October 1862:** New reef opened at top of Long Gully, named Morning Star. A crushing of 7 tons yielded 31 oz gold.⁶¹⁵
- December 1862:** Morning Star Reef - a crushing of 12 tons yielded 50 oz.⁶¹⁶
- January 1863:** Morning Star Co. - good return from crushing anticipated (about 4 oz per ton).⁶¹⁷
- August 1901:** Morning Star, Red Hill. Mr Debney - bailing out water. Head frame erected.⁶¹⁸

Mosquito Gully/Lead

- November 1906:** Company to sluice Sawpit and Mosquito Gullies is to be called McIvor Junction Sluicing Co.⁶¹⁹
- 1937:** Deposit of red ochre on Mosquito lead near the railway line about 4 miles NW of Heathcote. It does not appear to be sufficiently pure for use as a pigment.⁶²⁰

Old Racecourse Reef (See also Peters Gully, White's Gully)

- 1855:** Old Racecourse Reef - Attracted quartz miners' attention in 1855. Opened by Lewis (Balaclava Hill holder). Stephenson struck the reef crossing Peter's Gully where it was wide

- 608 Mining Surveyors' Annual Reports, 1909
- 609 Mclvor Times, 26 May 1910
- 610 Mclvor Times, 19 November 1908
- 611 Mining Surveyors' Annual Reports, 1910
- 612 Mclvor Times, 27 February 1913
- 613 Mclvor News, 11 December 1858
- 614 Mining Surveyors' Reports, March 1864
- 615 Mclvor News, 10 October 1862
- 616 Mclvor News, 19 December 1862
- 617 Mclvor News, 30 January 1863
- 618 Mclvor Times, 8 August 1901
- 619 Mclvor Times, 8 November 1906
- 620 Kingston, 1937

and very good. Williams and Tipper bought Argyle Co.'s plant, removed it to Peter's Gully, to crush stone.⁶²¹

1850s: The Racecourse Reef is a very old and famous one, being situated at the Old Racecourse, on the south side of White's Gully. It gave very good returns to different parties in the early days, subsequently Mr Stephenson, it is stated, obtaining about £6,000 worth of gold from it. The reef was up to 80 feet in width, and gave from 1 oz to 3 oz to the ton. The Peter's Gully Reef in Peter's Gully is on the same line as the Racecourse reef and a few hundred yards from it.⁶²²

mid 1850s-1860s: One of the earliest [reefs worked] in the district, once celebrated, now neglected. Was found on the south side of White's Gully...large quantities of gold obtained, especially by Stephenson, the owner of a crushing machine at Caledonia Gully (1-1/4 miles from the claim). Followed by a company, erected battery 600 ft too far north. As the gold dipped south, they would not work it systematically and expenses were too high. South of the company's claim, the Bonaventure claim was also a failure.⁶²³

1860s: Mr Stephenson who was in failing health, offered to sell his crushing machine and 90 tons of stone from the reef for £1,000, to Messrs Marchesi Bros., but unfortunately for them they were disinclined to accept at the time... Messrs Tipper and T.S. Williams made the purchase, and afterwards sold the machine to Messrs Hall and Marchesi, Mr A. Marchesi now occupying the machine.⁶²⁴

1860s: The Whites' Gully Reef is situated above the Old Racecourse on a hill near White's Gully. Muhland and Schwartz got good crushings out of it between 25 and 30 years ago [pre-1893]. The water was very strong in this reef, especially when Butler's which is supposed to be on the same line about a mile and half to the north, was not working.⁶²⁵

October 1862: Rush greatly increasing. Several hundred miners working. A rich gutter appears to have been struck... Chinese have taken up a large ground on lower part of the creek.⁶²⁶

October 1862: Alluvial rush at Racecourse still increasing. Good yields of gold.⁶²⁷

November 1862: Old Racecourse rush greatly extending, now nearly to Old McIvor Inn, some getting 1 oz to the tub.⁶²⁸

January 1863: A good patch of ground yields £2 per day to one miner.⁶²⁹

February 1863: A few make more than wages. Many leaving for New Zealand.⁶³⁰

March 1864: The reefers on the Old Racecourse are doing very well. A good deal of surface stone is being crushed, which pays, as the only expenses are filling, carting and crushing.⁶³¹

June 1864: Garibaldi Co. - Peters Gully, Old Racecourse - surfacing. Walters and Co., Peters Gully, Old Racecourse - surfacing. Van der Luft Co, Peters Gully, Old Racecourse - surfacing.⁶³²

c. 1860s: Parker Bros. obtained a lot of gold from [Peter's Gully] reef, getting as much as 2 oz to the ton from a reef taken 20 feet wide.⁶³³

621 Mclvor News, 17 September 1869

622 Mclvor Times, 19 October 1893

623 Mclvor News, 12 September 1878

624 Mclvor Times, 19 October 1893

625 Mclvor Times, 19 October 1893

626 Mclvor News, 3 October 1862

627 Mclvor News, 24 October 1862

628 Mclvor News, 14 November 1862

629 Mclvor News, 30 January 1863

630 Mclvor News, 6 February 1863

631 Mining Surveyors' Reports, March 1864

632 Mining Surveyors' Reports, June 1864

- March 1869:** New crushing plant erected by Parker on Old Racecourse.⁶³⁴
- c. 1869:** Mr Stephenson who was in failing health, offered to sell his crushing machine and 90 tons of stone from the reef for £1,000, to Messrs Marchesi Bros., but unfortunately for them they were disinclined to accept at the time... Messrs Tipper and T.S. Williams made the purchase, and afterwards sold the machine to Messrs Hall and Marchesi, Mr A. Marchesi now occupying the machine. After Mr Stevenson, the claim was worked by a Bendigo Company, including Messrs Tipper and Williams. The company erected an engine and battery, but the company, it was considered, erected the machinery too far north, the gold dipping south. After a good deal of up-hill work operations ceased.⁶³⁵
- September 1869:** Old Racecourse Reef - Reef mostly 20 ft wide, at least 15 ft. Lode is practically unlimited. Reef has been tested by shaft to 110 ft depth, better below. Main shaft to be sunk further 90 ft to secure water. Parker Bros. claim on the same line, looking magnificent... One of the best reefs in Victoria. Williams and Tipper bought Argyle Co.'s plant, removed it to Peter's Gully, to crush stone.⁶³⁶
- May 1870:** Tipper and Williams' claim flooded, taken by Bendigo tribute company.⁶³⁷
- 1870s:** After Parker Bros. had the [Peter's Gully] reef, it was worked by a party of tributers, who kept an 8-head battery going all the time with good results.⁶³⁸
- September 1870:** Peter's Gully Reef - Company formed to resume work. In the early winter, workings were flooded and choked by sand and mullock.⁶³⁹
- March 1871:** Union Jack Co. - During past fortnight, tributers met a run of magnificent quartz. Reef is 3 ft thick, stone improves in richness. Notice of application for gold mining lease: Bonaventura Gold Mining Co., Peters Gully, adjoining Union Jack Co.⁶⁴⁰
- 1871:** Another claim under the name of the Bonaventura Company, which included a number of townspeople, was taken up to the south of the Bendigo Company's workings. After sinking a shaft about 100 feet, and driving nearly another 100 feet and striking the reef and opening out about 6 feet on it work was ceased. It was considered the shaft was too far to the west.
- April 1871:** Union Jack Co. raising splendid stone, 10 tons a day, from the reef in the new 168-ft deep shaft... When ground opened, more stone will be got out to keep batteries supplied. Stampers to be increased.⁶⁴¹
- September 1871:** Prospectus - The Bonaventura Gold Mining Co., near Old Racecourse. To work 7 acres adjoining Neptune. Northern boundary a short distance from Neptune workings.⁶⁴²
- October 1871:** Old Racecourse Reef - Splendid line of reef, fossicked for patches, with great success, but only Williams, of Peter's Gully, worked it. Bonaventura Co... to sink shaft 100 ft on the S end of the workings on Racecourse Reef.⁶⁴³
- January 1872:** Bonaventura Co. to sink shaft 50 ft further. Present depth 72 ft.⁶⁴⁴

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- 633 [Mclvor Times](#), 19 October 1893
634 [Mclvor News](#), 19 March 1869
635 [Mclvor Times](#), 19 October 1893
636 [Mclvor News](#), 17 September 1869
637 [Mclvor News](#), 27 May 1870
638 [Mclvor Times](#), 19 October 1893
639 [Mclvor News](#), 3 September 1870
640 [Mclvor News](#), 10 March 1871
641 [Mclvor News](#), 28 April 1871
642 [Mclvor News](#), 22 September 1871
643 [Mclvor News](#), 20 October 1871
644 [Mclvor News](#), 12 January 1872

- January 1872:** Neptune - Tributers intend to take out a block of stone to the north, left by former owners, after which they intend to sink a permanent shaft.⁶⁴⁵
- April 1872:** Bonaventura... shaft is now down 121 ft, timbered and centred. Tenders called for driving a cross-cut... Neptune tributers get 85% from proprietors.⁶⁴⁶
- November 1872:** Union Jack Quartz Mining Co., Peters Gully. Right, title, interest, plant, etc. to be sold by auction.⁶⁴⁷
- 1900:** Old Workings at 'Peters Gully' or 'Road Crossing Gully' - There are several open cast workings which extend for about 400 yards along the line of junction. From these workings there has evidently been a considerable amount of stone removed in the past, and a battery was at one time at work on the spot.⁶⁴⁸
- March 1906:** Peters Gully, Alabama and Butler's Reef, and Long Gully Reef taken up again.⁶⁴⁹
- November 1906:** Peters Gully mine - New company will open the old shaft and have purchased machinery from North Beehive and Derby Co. Shaft has been under water for 35 years but it is in good order.⁶⁵⁰
- November 1906:** Construction at Peters Gully is making good progress.⁶⁵¹
- 1906:** Three quartz mines provided with steam machinery, viz. Mundy Gully, Peter's Gully and Williams' Reef Companies, as well as a number of co-operative parties, without steam machinery, are working.⁶⁵²
- 1907:** Peters Gully Company completed the sinking of a shaft to 200 ft... Payable stone said to have been struck while the shaft was being sunk, and a good quantity of stone is stacked on the surface, awaiting the erection of a battery. North Peters Gully Co. commenced work during the latter part of the year. A main shaft was sunk to water level, when work was suspended pending the erection of machinery.⁶⁵³
- June 1908:** Peters Gully - Battery to be erected.⁶⁵⁴
- November 1908:** Peters Gully No. 2 - North drive extended to 494 ft. Slate and quartz leaders. Draining old workings at 2/- per week.⁶⁵⁵
- 1908:** Peters Gully Co. continued work without finding anything payable.⁶⁵⁶
- early 1910:** Both quartz and alluvial mining in the Division appears to be practically dead. The following quartz mines, that were in active operation at this time in 1909, have ceased operations:- The Peters Gully, the Mundy Gully, the Homeland and Craven's Gold Mining Companies, and the prospects of them ever resuming operations in the near future do not appear to be bright.⁶⁵⁷

645 Mclvor News, 19 January 1872

646 Mclvor News, 26 April 1872

647 Mclvor News, 28 November 1872

648 Jenkins, 1900, p. 1

649 Mclvor Times, 29 March 1906

650 Mclvor Times, 1 November 1906

651 Mclvor Times, 22 November 1906

652 Mining Surveyors' Annual Reports, 1906

653 Mining Surveyors' Annual Reports, 1907

654 Mclvor Times, 18 June 1908

655 Mclvor Times, 26 November 1908

656 Mining Surveyors' Annual Reports, 1908

657 Mining Surveyors' Annual Reports, 1909

c. 1930s: Peters Gully Reef - At surface 40' wide went 1 oz per ton, worked to 218', shaft collapsed, so men sunk new shaft about 500' south, struck lode at 200', drove north but were 18' shallow, and left mine. It was started about 1837, worked for a very short time, it only went about 8 dwts to the ton, but they were above the shoot of gold... South of shaft 'main', there is an open cutting worked to 90', was paying well till Mines Department inspector stopped work, he said it was dangerous.⁶⁵⁸

1935: An attempt is being made to open the Peter's Gully mine.⁶⁵⁹

Opossum Reef/Gully (also known as Possum Gully, Alfred Reef) (includes No Flies Reef, Duke Reef, Duchess Reef) (see also Shakespeare's Reef)

1853: First rush to Creek flats in middle of May 1853, when 500-600 shafts were started. But water was too strong for buckets and windlass, and all parties left, finding remunerative work in Golden, Possum, Long, Sailor's and German Gullies, with dry, shallow workings.⁶⁶⁰

c. 1853: 'Possum Gully was very good. It starts in 'Possum Flat.'⁶⁶¹

January 1878: Just in Time claim, Possum Gully, owned by Charles Husfeldt, to be sold, including machinery and tools.⁶⁶²

November 1878: Alfred or Opossum Reef, between Big and Little Opossum Gullies. Worked 20 years ago, then, in 1868, found a little gold going south... Shaft further south cut reef at 70 ft; crushing 7 ox per ton, yield of gold worth £2575. They struck a very large reef and water, abandoned. Adjoining claim gave £1800 worth of gold.. later Charles Husfeldt discovered [reef?] 100 yards from old workings, recovering £2000 in less than one years, working to 80 ft depth.⁶⁶³

September 1884: A nugget has been unearthed by a miner named James Burgess in alluvial, at the junction of Opossum and Long Gullies, at a depth of 14 feet from the surface; it weighed 18 oz...it resembled a crushed beetle, and its length was 5 inches by 3 inches, with an average thickness of about 1/4 inch.⁶⁶⁴

1893: The 'Possum Gully Reef, averaging from 2 feet to 3 feet in thickness, also gave good yields. It crosses 'Possum Gully and lies between Big and Little 'Possum Gullies. It was worked in the early days by different parties... The reef was worked to a depth of about 180 feet.⁶⁶⁵

1900: The stoppage of these two mines, the Butler and the Alabama, seem to have paralysed the reef-mining of the district, first by destruction of confidence, second, by leaving a heavy task of unwatering to be met by the first freshcomer; for it is held by the old miners that even the Opossum Reef and the Shakespeare Reef were both considerably affected by the pumping upon the Butler and the Alabama. The Opossum Reef... There is a shaft every few yards, and it is reported that much of the ground was taken out to a depth of 200 feet, when water drove out the workers. This reef is an example of what must happen when the claims are made too small, no holder being in a position to do more with water than a very limited amount of baling.⁶⁶⁶

June 1905: Shakespeare Gold Mining Co. NL formed. Capital of £7,500 in 30,000 shares, 5/- per share. Property contains three well-defined lines of reef which have been worked to various depths

658 Hird, 1974, p. 5

659 Mining Surveyors' Annual Reports, 1935

660 Mclvor News, 9 June 1865

661 D. Sims, in evidence to the Gold Mining Commission, quoted in Mclvor Times, 9 July 1891

662 Mclvor News, 24 January 1878

663 Mclvor News, 7 November 1878

664 Mining Surveyors' Reports, September 1884

665 Mclvor News, 19 October 1893

666 Jenkins, 1900, pp. 1-2

ranging from 60 to 300 ft. Reefs are: Shakespeare and No Flies Reef, Duke Reef, Duchess Reef.⁶⁶⁷

- July 1906:** Possum Gully Barge - completed and boiler and part of the machinery placed in position.⁶⁶⁸
- 1906:** In December 1906, two hydraulic sluicing companies, the Wattle Flat Hydraulic and the Heathcote and Castlemaine Dredging [Heathcote Junction?], in full work, with up-to-date steam plants, manufactured by Thompson and Co., Castlemaine; and a third, the Caledonia Hydraulic Sluicing Co., preparing for the erection of machinery. An average of 50 men was employed by these companies.⁶⁶⁹
- August 1907:** Heathcote Junction (Possum Gully) has finished their water race and will start operations as soon as water is available.⁶⁷⁰
- 1907:** Three hydraulic sluicing companies situated in my portion of the Heathcote Division: Wattle Flat, Heathcote Junction, Caledonia Gully. Little work done by any of these companies, owing to the shortage of water.⁶⁷¹
- January 1908:** The Heathcote Junction Co., Possum Gully, has now commenced sluicing.⁶⁷²
- March 1908:** Heathcote Junction Co. (Possum Gully) - Owing to water giving out, had to clean up a small paddock.⁶⁷³
- July 1908:** Sluicing plants - [include] Heathcote Junction and Possum Gully.⁶⁷⁴
- August 1908:** Heathcote Junction - sluicing ground on hillside, which is mostly tailings, ground in barge site is about 7 ft deep.⁶⁷⁵
- early 1910:** One hydraulic sluicing plant only, viz, the Heathcote Junction, is at present working.⁶⁷⁶
- April 1910:** Heathcote Junction - sluicing - partial clean-up on 6th for 22 oz.⁶⁷⁷
- c. 1930s:** In Possum Gully...was German Charlies [Reef], worked to water, reef was going 4 to 5 oz [per ton], but reef was only about 4" to 6" wide, named in the Mines Department plan [c. 1974] as Shakespeare's Reef. It is a reef, which runs with the strata of the country... Also not marked in the plan - No Fly's mine or reef right over the crown of little 'Possum Gully Mine', worked to 200' 1/2 oz to the ton, 10' wide went to 20' wide, values slipped to 5 dwts. Chivillers and Lawson in big Possum Gully...went 5 to 6 oz per ton, also Bradleys 2 to 3 oz.⁶⁷⁸

Perthshire Reef

- March 1864:** O'Toole and Co. - 20 ft. Mitchell, McDonald and Co. - 50 ft.⁶⁷⁹

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- 667 Mclvor Times, 8 June 1905
668 Mclvor Times, 26 July 1906
669 Mining Surveyors' Annual Reports, 1906
670 Mclvor Times, 1 August 1907
671 Mining Surveyors' Annual Reports, 1907
672 Mclvor Times, 2 January 1908
673 Mclvor Times, 5 March 1908
674 Mclvor Times, 9 July 1908
675 Mclvor Times, 27 August 1908
676 Mining Surveyors' Annual Reports, 1909
677 Mclvor Times, 14 April 1910
678 Hird, 1974, p. 6
679 Mining Surveyors' Reports, March 1864

June 1864: Mitchell, McDonald and Co., Perthshire Reef, Long Gully - crushing from 60 ft.⁶⁸⁰

Peters Gully

1855: Old Racecourse Reef - Attracted quartz miners' attention in 1855. Opened by Lewis (Balaclava Hill holder). Stephenson struck the reef crossing Peter's Gully where it was wide and very good. Williams and Tipper bought Argyle Co.'s plant, removed it to Peter's Gully, to crush stone.⁶⁸¹

1850s: The Racecourse Reef is a very old and famous one, being situated at the Old Racecourse, on the south site of White's Gully. It gave very good returns to different parties in the early days, subsequently Mr Stephenson, it is stated, obtaining about £6,000 worth of gold from it. The reef was up to 80 feet in width, and gave from 1 oz to 3 oz to the ton. The Peter's Gully Reef in Peter's Gully is on the same line as the Racecourse reef and a few hundred yards from it.⁶⁸²

June 1864: Garibaldi Co. - Peters Gully, Old Racecourse - surfacing. Walters and Co., Peters Gully, Old Racecourse - surfacing. Van der Luft Co, Peters Gully, Old Racecourse - surfacing.⁶⁸³

c. 1860s: Parker Bros. obtained a lot of gold from [Peter's Gully] reef, getting as much as 2 oz to the ton from a reef taken 20 feet wide.⁶⁸⁴

September 1869: Williams and Tipper bought Argyle Co.'s plant, removed it to Peter's Gully, to crush stone.⁶⁸⁵

May 1870: Tipper and Williams' claim flooded, taken by Bendigo tribute company.⁶⁸⁶

1870s: After Parker Bros. had the [Peter's Gully] reef, it was worked by a party of tributers, who kept an 8-head battery going all the time with good results.⁶⁸⁷

September 1870: Peter's Gully Reef - Company formed to resume work. In the early winter, workings were flooded and choked by sand and mullock.⁶⁸⁸

March 1871: Union Jack Co. - During past fortnight, tributers met a run of magnificent quartz. Reef is 3 ft thick, stone improves in richness. Notice of application for gold mining lease: Bonaventura Gold Mining Co., Peters Gully, adjoining Union Jack Co.⁶⁸⁹

1871: Another claim under the name of the Bonaventura Company, which included a number of townspeople, was taken up to the south of the Bendigo Company's workings. After sinking a shaft about 100 feet, and driving nearly another 100 feet and striking the reef and opening out about 6 feet on it work was ceased. It was considered the shaft was too far to the west.

April 1871: Union Jack Co. raising splendid stone, 10 tons a day, from the reef in the new 168-ft deep shaft... When ground opened, more stone will be got out to keep batteries supplied. Stampers to be increased.⁶⁹⁰

680 Mining Surveyors' Reports, June 1864

681 Mclvor News, 17 September 1869

682 Mclvor Times, 19 October 1893

683 Mining Surveyors' Reports, June 1864

684 Mclvor Times, 19 October 1893

685 Mclvor News, 17 September 1869

686 Mclvor News, 27 May 1870

687 Mclvor Times, 19 October 1893

688 Mclvor News, 3 September 1870

689 Mclvor News, 10 March 1871

690 Mclvor News, 28 April 1871

- September 1871:** Prospectus - The Bonaventura Gold Mining Co., near Old Racecourse. To work 7 acres adjoining Neptune. Northern boundary a short distance from Neptune workings.⁶⁹¹
- October 1871:** Old Racecourse Reef - Splendid line of reef, fossicked for patches, with great success, but only Williams, of Peter's Gully, worked it. Bonaventura Co... to sink shaft 100 ft on the S end of the workings on Racecourse Reef.⁶⁹²
- January 1872:** Bonaventura Co. to sink shaft 50 ft further. Present depth 72 ft.⁶⁹³
- January 1872:** Neptune - Tributers intend to take out a block of stone to the north, left by former owners, after which they intend to sink a permanent shaft.⁶⁹⁴
- April 1872:** Bonaventura... shaft is now down 121 ft, timbered and centred. Tenders called for driving a cross-cut... Neptune tributers get 85% from proprietors.⁶⁹⁵
- November 1872:** Union Jack Quartz Mining Co., Peters Gully. Right, title, interest, plant, etc. to be sold by auction.⁶⁹⁶
- 1900:** Old Workings at 'Peters Gully' or 'Road Crossing Gully' - There are several open cast workings which extend for about 400 yards along the line of junction. From these workings there has evidently been a considerable amount of stone removed in the past, and a battery was at one time at work on the spot.⁶⁹⁷
- March 1906:** Peters Gully, Alabama and Butler's Reef, and Long Gully Reef taken up again.⁶⁹⁸
- November 1906:** Peters Gully mine - New company will open the old shaft and have purchased machinery from North Beehive and Derby Co. Shaft has been under water for 35 years but it is in good order.⁶⁹⁹
- November 1906:** Construction at Peters Gully is making good progress.⁷⁰⁰
- 1906:** Three quartz mines provided with steam machinery, viz. Mundy Gully, Peter's Gully and Williams' Reef Companies, as well as a number of co-operative parties, without steam machinery, are working.⁷⁰¹
- 1907:** Peters Gully Company completed the sinking of a shaft to 200 ft... Payable stone said to have been struck while the shaft was being sunk, and a good quantity of stone is stacked on the surface, awaiting the erection of a battery. North Peters Gully Co. commenced work during the latter part of the year. A main shaft was sunk to water level, when work was suspended pending the erection of machinery.⁷⁰²
- June 1908:** Peters Gully - Battery to be erected.⁷⁰³
- November 1908:** Peters Gully No. 2 - North drive extended to 494 ft. Slate and quartz leaders. Draining old workings at 2/- per week.⁷⁰⁴

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- 691 [Mclvor News](#), 22 September 1871
- 692 [Mclvor News](#), 20 October 1871
- 693 [Mclvor News](#), 12 January 1872
- 694 [Mclvor News](#), 19 January 1872
- 695 [Mclvor News](#), 26 April 1872
- 696 [Mclvor News](#), 28 November 1872
- 697 Jenkins, 1900, p. 1
- 698 [Mclvor Times](#), 29 March 1906
- 699 [Mclvor Times](#), 1 November 1906
- 700 [Mclvor Times](#), 22 November 1906
- 701 Mining Surveyors' Annual Reports, 1906
- 702 Mining Surveyors' Annual Reports, 1907
- 703 [Mclvor Times](#), 18 June 1908
- 704 [Mclvor Times](#), 26 November 1908

1908: Peters Gully Co. continued work without finding anything payable.⁷⁰⁵

early 1910: Both quartz and alluvial mining in the Division appears to be practically dead. The following quartz mines, that were in active operation at this time in 1909, have ceased operations:- The Peters Gully, the Mundy Gully, the Homeland and Craven's Gold Mining Companies, and the prospects of them ever resuming operations in the near future do not appear to be bright.⁷⁰⁶

705 Mining Surveyors' Annual Reports, 1908

706 Mining Surveyors' Annual Reports, 1909

c. 1930s: Peters Gully Reef - At surface 40' wide went 1 oz per ton, worked to 218', shaft collapsed, so men sunk new shaft about 500' south, struck lode at 200', drove north but were 18' shallow, and left mine. It was started about 1837, worked for a very short time, it only went about 8 dwts to the ton, but they were above the shoot of gold. South of shaft 'main', there is an open cutting worked to 90', was paying well till Mines Department inspector stopped work, he said it was dangerous.⁷⁰⁷

1935: An attempt is being made to open the Peter's Gully mine.⁷⁰⁸

Red Hill (including Dead Horse Gully)

June 1864: Rickard and Co. - surface.⁷⁰⁹

June 1865: The Red Hill Mining Co. have this day commenced operations and the discovery of a new auriferous quartz reef on their ground has been reported.⁷¹⁰

July 1865: Red Hill Gold Mining Co. - meeting of shareholders, appointment of 7 directors.⁷¹¹

October 1865: Red Hill Co. - crushed 18 tons for a yield of 42 oz... Dividend 10/- per share, double the amount paid.⁷¹²

April 1866: Red Hill Gold Mining Co. - Ground wanted as site for a crushing machine.⁷¹³

June 1866: Red Hill Co., Heathcote - crushed 18 tons from the surface, for a yield of 10 oz.⁷¹⁴

July 1866: Red Hill Gold Mining Co. - reef was abandoned in February, but reef will no doubt pay very well when machinery has been erected. Machinery now being erected at foot of Black Jack Gully.⁷¹⁵

September 1866: Red Hill Co.'s engine started.⁷¹⁶

September 1866: The machinery of the Red Hill Mining Company is now erected, and the stampers in constant work. The company has tunneled into the side of the hill, and purpose crushing everything taken out without selection.⁷¹⁷

November 1866: Red Hill Co. working gradually into the hill. At present, only covering expenses.⁷¹⁸

June 1867: Red Hill Co., Red Hill - crushed 2690 tons from 10 ft to surface, for a yield of 137 oz.⁷¹⁹

September 1867: Red Hill Co., Red Hill - crushed 3690 tons from surface, for a yield of 137 oz.⁷²⁰

December 1867: Red Hill Co. is persevering without any profitable returns.⁷²¹

707 Hird, 1974, p. 5

708 Mining Surveyors' Annual Reports, 1935

709 Mining Surveyors' Reports, June 1864

710 Mining Surveyors' Reports, June 1865

711 Mclvor News, 7 July 1865

712 Mclvor News, 6 October 1865

713 Mclvor News, 13 April 1866

714 Mining Surveyors' Reports, June 1866

715 Mclvor News, 6 July 1866

716 Mclvor News, 28 September 1866

717 Mining Surveyors' Reports, September 1866

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719 Mining Surveyors' Reports, June 1867

720 Mining Surveyors' Reports, September 1867

721 Mining Surveyors' Reports, December 1867

- December 1870:** Some very good yields have been obtained by Robinson and Neil, since my last report, from the Red Hill, close to Heathcote; the average yield from which has been 2 oz 5 dwt to the ton.⁷²²
- May 1873:** Auctions of McIvor Co. and of crushing plant at Red Hill.⁷²³
- December 1874:** 24 oz nugget found near Red Hill.⁷²⁴
- September 1878:** Red Hill - In 1860 the Cornish Mining Co. was formed, which worked as a model company but never got a speck of gold in 15 months. An old shaft 50 ft deep was sunk 50 ft deeper, then drove 90 ft, but met with only a few veins running in all directions. Then a third shaft opposite No. 1 to a depth of 150 ft, hard blasting ground. But some got over £2000 worth of gold from Red Hill, for there is gold on the summit, many pounds weight have been got on the surface.⁷²⁵
- February 1884:** Deep Lead Co. (McIvor) - called for tenders for sinking a shaft at the foot of Red Hill.⁷²⁶
- March 1886:** A Government diamond drill is working on Red Hill... it is now down 192 ft (so far without any beneficial results).⁷²⁷
- July 1892:** Hall and son started on the Red Hill tunnel.⁷²⁸
- August 1901:** Morning Star, Red Hill. Mr Debney - bailing out water. Head frame erected.⁷²⁹
- August 1903:** Mr Rogers had added four more stampers to his battery at Red Hill, making an 8-head.⁷³⁰
- June 1912:** Red Hill, Heathcote, iron ore is being opened up, with a view of smelting the antimony ore.⁷³¹
- c. 1930s:** There is...a big belt of soap stone or serpentine, then a fair belt of gossan rock. It was worked in a few places, only one place being payable to water, 'Hawwood lode', north of Red Hill... ..South Red Hill...went 4 dwts to each 4 gallon bucket... The gold cut out, we sunk a new 50' shaft, cut the lode but the best we could get was about three grains per dish, so we left it. Robinson's and O'Neil's...cross course right on top of Red Hill went each fortnight, all crushings 6 & 7 oz per ton. The best [crushing] report was 1602 oz from a few tons. new shaft 180' on top of hill still open was sunk by a few locals in a syndicate, struck lode only 4 inches wide 1 oz per ton - should have been driven north about 50 ft.⁷³²
- 1936-7:** Hermit or Try Again [Red Hill] - We worked this mine in 1936 and 1937 going about 3 grains to 1 oz per dish nearly all pug and fine crushed quartz, lost gold or it went poor at 65'... Big cutting, crushed the lot of fines picked out coarse lumps of mullock, went 5 dwts per ton about 100' wide. It would only go down to depth in belts 2' to 3' wide...most of the gold on the hill is coarse, a few pennyweights to several ounces in each colour or spec or small nugget. Surface gold or alluvial, the nuggets were 104 oz, 96 oz, 92 oz, 70 oz, and several smaller ones.⁷³³

722 Mining Surveyors' Reports, December 1870

723 McIvor News, 15 May 1873

724 Mining Surveyors' Reports, December 1874

725 McIvor News, 12 September 1878

726 McIvor News, 1 February 1884

727 Mining Surveyors' Reports, March 1886

728 McIvor News, 28 July 1892

729 McIvor Times, 8 August 1901

730 McIvor Times, 13 August 1903

731 McIvor Times, 13 June 1912

732 Hird, 1974, pp. 2-3

733 Hird, 1974, pp. 3-4

1937: The iron ore deposit first inspected is on Red Hill, about 1/2 mile S of the Heathcote Post Office, on Crown land, adjoining the SW corner of lease No. 4763 held by the Phosphate Co-operative Company. The deposit is a rather prominent outcrop, 10 chains long and from half a chain to 5 chains wide. On the west side is Opossum Gully, which has been worked for alluvial gold... [To the east]...lies Dead Horse Gully, the western bank of which consists of highly inclined west-dipping slates, sandstones and chlorotic talcose schist. In the bed of Dead Horse Gully, Magnesite and remarkably pure silica rock are being mined by the Phosphate Company. I understand the Costerfield Antox Mining Co. used some of the ore for fluxing purposes and that the ore carried 20 grains of gold per ton.⁷³⁴

Rosey Gully Reef (or Rose Gully)

- March 1870:** Rosey Gully Reef - 27 tons yielded 114 oz, besides £200 worth of specimens picked out of the stone.⁷³⁵
- March 1870:** Rosey Gully Reef has been traced into two claims outside the prospecting claim.⁷³⁶
- April 1870:** In a report of 1870 it is stated that 'Messrs Hall and Marchesi took from their mine at Rosey Gully a sample of stone with so much gold that it requires a strong man to lift a bucketful. Nothing like it has ever been seen in the district before'.⁷³⁷
- June 1870:** Rosey Gully Reef turning out well. Crushing of 24 tons of stone turned out a cake of 402 oz (result of 5 weeks' work by 4 picks).⁷³⁸
- June 1877:** Some very good stone struck in a claim held under miners' rights by Messrs Sims, Marchesi and party in Rosey Gully.⁷³⁹
- June 1881:** Messrs Winter and party, in their registered claim at Rosey Gully, within the past few days came upon some leaders about 3 ft from the surface, showing good coarse gold.⁷⁴⁰
- June 1883:** Claim known as 'Parker's' situated in Rose Gully, only 3 miles distant from Heathcote, was abandoned a few years ago on account of water coming in on the workings at a depth of 80 ft, and, at the same time, the stone, of which there was apparently plenty, yielded 1 oz to the ton.⁷⁴¹
- July 1891:** Royal Commission on gold mining. Rosey Gully Reef - Originally gave 25 oz to the ton. One crushing went 435 oz and another 325 oz, but rapidly petered out.⁷⁴²
- c. 1930s:** Rosey Gully reef - very good reef - rose quartz - worked well into water - one patch 600 oz. left by the old miners. New Syndicate worked new shaft in Rosey Gully, struck gold miner's, picked out 17-1/2 oz of gold when they knocked down the reef and crushing only yielded 17-1/2 oz so Syndicate left mine... Same reef in little Rosey Gully was also worked to water - best patch 200 oz...⁷⁴³
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734 Kingston, 1937

735 Mclvor News, 18 March 1870

736 Mclvor News, 25 March 1870

737 quoted in Randell, 1985, p. 23

738 Mclvor News, 3 June 1870

739 Mining Surveyors' Reports, June 1877

740 Mining Surveyors' Reports, June 1881

741 Mining Surveyors' Reports, June 1883

742 Mclvor News, 9 July 1891

743 Hird, 1974, p. 6

Sawpit Gully

- August 1859:** Main claims on this lead paying well. The rush extends to the Bendigo Road.⁷⁴⁴
- September 1859:** Sawpit Gully - the number of miners working is decreasing, but some of the original men are sticking to it.⁷⁴⁵
- October 1859:** Miners generally satisfied...sinking is very shallow.⁷⁴⁶
- November 1906:** Company to sluice Sawpit and Mosquito Gullies is to be called McIvor Junction Sluicing Co.⁷⁴⁷

Shakespeare's Reef (also known as James Service Reef, German Charlie's Reef?)

- December 1879:** The James Service Company, at Heathcote, are making preparations for the further sinking of the south main shaft, when they will follow with two winzes on both shoots of gold.⁷⁴⁸
- January 1880:** James Service Tribute Co. - Small winding and crushing plant purchased.⁷⁴⁹
- February 1880:** James Service Co. Ltd - Three dams completed. Battery at mine and erection of head frame commenced.⁷⁵⁰
- April 1880:** James Service Co., Heathcote - Machinery nearing completion. Holed through into Shakespere's old workings from north shaft.⁷⁵¹
- April 1880:** James Service Reef - Struck gold in Shakespeare's old spur... Erection of machinery at No. 1 shaft progressing.⁷⁵²
- June 1880:** The James Service Company struck gold, with every prospect of good results, and both the winding and crushing machinery recently erected are now at work.⁷⁵³
- July 1880:** Battery now in operation. Stone from lower level of north shaft showing free gold.⁷⁵⁴
- August 1882:** New Service Co. - Rich specimens shown in town before sending to directors in Melbourne.⁷⁵⁵
- 1900:** The stoppage of these two mines, the Butler and the Alabama, seem to have paralysed the reef-mining of the district, first by destruction of confidence, second, by leaving a heavy task of unwatering to be met by the first freshcomer; for it is held by the old miners that even the Opossum Reef and the Shakespeare Reef were both considerably affected by the pumping upon the Butler and the Alabama. The Shakespeare - evidence on all hands of persistent working of small claims and abandonment from want of the very rich stone met with on the surface and from the presence of water. The case of the James Service Shaft would bear this out. It is a shaft sunk on the Shakespeare Reef, but because it missed

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- 744 [Mclvor News](#), 26 August 1859
- 745 [Mclvor News](#), 23 September 1859
- 746 [Mclvor News](#), 14 October 1859
- 747 [Mclvor Times](#), 8 November 1906
- 748 Mining Surveyors' Reports, December 1879
- 749 [Mclvor News](#), 22 January 1880
- 750 [Mclvor News](#), 26 February 1880
- 751 [Mclvor News](#), 22 April 1880
- 752 [Mclvor News](#), 29 April 1880
- 753 Mining Surveyors' Reports, June 1880
- 754 [Mclvor News](#), 8 July 1880
- 755 [Mclvor News](#), 31 August 1882

the shoot of gold it was a failure, the systematic exploration of the reef being altogether too large an undertaking by the workers.⁷⁵⁶

June 1905: Shakespeare Gold Mining Co. NL formed. Capital of £7,500 in 30,000 shares, 5/- per share. Property contains three well-defined lines of reef which have been worked to various depths ranging from 60 to 300 ft. Reefs are: Shakespeare and No Flies Reef, Duke Reef, Duchess Reef.⁷⁵⁷

January 1907: Shakespeare Reef (Head of Little Possum Gully) - Company has been formed to work the reef. Capital of company is £1000 in 200, £5 shares.⁷⁵⁸

c. 1930s: In Possum Gully...was German Charlies [Reef], worked to water, reef was going 4 to 5 oz [per ton], but reef was only about 4" to 6" wide, named in the Mines Department plan [c. 1974] as Shakespeare's Reef. It is a reef, which runs with the strata of the country.⁷⁵⁹

Spaniards Reef

September 1860: This is a lately discovered reef, the proprietors of which are sanguine in their expectations - moreover when six tons of trial stone has given 2-1/4 oz to the ton. Six tons crushed, yielding 13 ox 10 dwt, an average of 2 oz 5 dwt per ton.⁷⁶⁰

c. 1930s: Spaniards reef very black in appearance - mostly manganese and quartz - went 5 to 6 oz per ton...reef only about 18" wide, not worth a damn in my opinion.⁷⁶¹

Thunderbolt Reef

1900: To the eastward of the 'Burrows' Reef I was shown the workings of the 'Thunderbolt', which is on the junction of a comparatively poor lode 2 feet wide and a narrow rich leader, but none of these mines are now at work.⁷⁶²

c. 1930s: Near British Queen, there is the Thunder Bolt...worked to about 100', mine went around 10 oz per ton, reef split and values went poor, gold would be in reef to the south east reef about 1' wide.⁷⁶³

Wattle Flat

January 1859: Wattle Flat, 50 men working.⁷⁶⁴

August 1859: Mainly puddling operations, with very fair results.⁷⁶⁵

September 1859: Puddling operations to a great extent, doing well. Also a good number of tub and cradle men.⁷⁶⁶

March 1860: A large number of tub and cradle miners have concentrated in Wattle Flat, in consequence of the discovery of a new lead, which proved highly remunerative to the discoverers.⁷⁶⁷

⁷⁵⁶ Jenkins, 1900, pp. 1-2

⁷⁵⁷ Mclvor Times, 8 June 1905

⁷⁵⁸ Mclvor Times, 24 January 1907

⁷⁵⁹ Hird, 1974, p. 6

⁷⁶⁰ Mining Surveyors' Reports, September 1864

⁷⁶¹ Hird, 1974, p. 6

⁷⁶² Jenkins, 1900, p. 2

⁷⁶³ Hird, 1974, p. 6

⁷⁶⁴ Mclvor News, 21 January 1859

⁷⁶⁵ Mclvor News, 26 August 1859

⁷⁶⁶ Mclvor News, 23 September 1859

- September 1860:** A party near Wattle Flat have each had a weekly average of 12 oz.⁷⁶⁸
- January 1869:** Three loads on Wattle Flat turned out 3 oz per load.⁷⁶⁹
- October 1905:** Wattle Flat Hydraulic Sluicing Co. will start to excavate a large reservoir at Wattle Flat in two or three weeks. Company consists of 6000 shares of 10/-. The plant itself will be similar to the McIvor Creek plant and will be complete in four months' time.⁷⁷⁰
- March 1906:** Wattle Flat - Hydraulic Sluicing Co. - grubbing for reservoir has been completed.⁷⁷¹
- 1906:** In December 1906, two hydraulic sluicing companies, the Wattle Flat Hydraulic and the Heathcote and Castlemaine Dredging, in full work, with up-to-date steam plants, manufactured by Thompson and Co., Castlemaine; and a third, the Caledonia Hydraulic Sluicing Co., preparing for the erection of machinery. An average of 50 men was employed by these companies.⁷⁷²
- 1907:** Three hydraulic sluicing companies situated in my portion of the Heathcote Division: Wattle Flat, Heathcote Junction, Caledonia Gully. Little work done by any of these companies, owing to the shortage of water.⁷⁷³
- February 1908:** Wattle Flat dredge - gave a return of 47 oz for a half acre.⁷⁷⁴
- September 1908:** Wattle Flat - continued sluicing out barge site, which is 11 ft deep.⁷⁷⁵
- end 1908:** Of the three hydraulic sluicing companies [in the division] Wattle Flat has closed down and the other two are working with indifferent success.⁷⁷⁶
- Mitchellstown**
- n.d.** [Coy's Diggings discovered September 1864, Cherry Tree Flat shortly afterwards] The quartz mining area known as Mitchellstown Reefs was opened up later, just north of Major's or Deegay Ponds Creek.⁷⁷⁷
- January 1896:** Mitchellstown - 33 oz from 27 tons from company's battery, and 500 oz obtained by puddlers and individual alluvial miners during past three months.⁷⁷⁸
- 1896:** The Mitchellstown reefs are situated east 7 miles from Graytown, and are probably the southern continuation of the auriferous belt of country on which the reefs known as the Cherry Tree reefs are situated... To the east of the main line about 20 chains, the following reefs are situated:- Mary Jane, Guiding Star, Try Again on hill south and close to Major's Creek, McBean's reef at the north end and west of the main line, Pontang's reef, these reefs have evidently formed along lines of fault. To the north-east of the main line a small reef and dyke formation has been worked. Reefs at the Four-Mile - Iveson's Reef - This reef is situated at the Four-mile, about 3 miles from Graytown... This reef was opened in 1879, by Torston Iveson, and was worked about 25 feet along the surface, and down to 180 feet in depth, the width of stone averaged from 2 inches to 3 inches, gold being well distributed throughout, and yielded from 2 to 5 oz. to the ton, the claim was then abandoned until taken up by the Wm. James Donnellan, who has sunk a vertical shaft for the purpose of finding the

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- 767 Mining Surveyors' Reports, March 1860
- 768 Mining Surveyors' Reports, September 1860
- 769 Mclvor News, 15 January 1869
- 770 Mclvor Times, 5 October 1905
- 771 Mclvor News, 29 March 1906
- 772 Mining Surveyors' Annual Reports, 1906
- 773 Mining Surveyors' Annual Reports, 1907
- 774 Mclvor Times, 20 February 1908
- 775 Mclvor Times, 10 September 1908
- 776 Mining Surveyors' Annual Reports, 1908
- 777 Flett, 1979, p. 82
- 778 Mclvor Times, 9 January 1896

reef, struck another parallel run, and has worked this new reef down for 60 feet. Morning Star Reef - This reef is situated a short distance east from Iveson's reef. Worked on surface for 60 feet, and down to 80 feet in depth. Beautiful Venus Reef - This reef is from 2 inches to 3 inches in width, and has been worked along surface for 100 feet, and down to 100 feet on the underlie...⁷⁷⁹

December 1898: Royal Oak, Mitchellstown - Reef at 41 ft. Shaft opened up nicely. Stone from 14 inches to 19 inches carrying fine gold.⁷⁸⁰

REDCASTLE DATABASE

Antimony Reef
 Babbidge and Chapman Reef
 Beautiful Venice
 Black Cat Reef (also Scrubby, Fontainbleau, and Mary Taylor's reefs)
 Blackfellow's Gully
 Chapman's Reef (see Beautiful Venice)
 Cocksey's Reef
 Curly Dog Gully
 Curly Dog Reef
 Damper Gully
 Fowlers Gully
 Great Northern Reef
 Happy Jack (see Mullocky Reef)
 Hit or Miss Reef (see Welcome Reef)
 Long Gully (continuation of Long Gully, Heathcote)
 Leviathan Reef
 Mary Ann Reef (see Welcome Reef)
 Mitchell's Gully
 Mount Camel
 Mountain Maid Reef (also Joe Enagge reef, Moonlight reef)
 Mullocky Reef (1.75 miles from Redcastle)
 Mullocky Reef/Tokalon No 1 south
 Native Gully
 Redcastle Diggings (also known as Jones's Creek, Balmoral Diggings and Redcastle Creek)
 Redcastle Reef
 Redcastle Reefs (various) - including Mitchell's Reef, Pioneer Reef, Lincolnshire Reef, Glen Garry Reef, Big Reef or Main Reef, Charley Cook's Reef.
 Slavonian Reef (see Welcome Reef)
 Staffordshire Flat
 Taragunyah Reef
 Temperance Gully
 Toolleen
 Union Reef
 Watson's Mill
 Welcome Reef (also known as Clarke's Welcome Reef)
 Why Not Gully
 Why-Not Reef

Antimony Reef (see also Mary Ann Reef)

March 1864: Campbell and Co. - crushing from 70 feet. The Two antimony lodes, viz. the Mary Ann and the Antimony line, are merely worked for the gold. No use is made of the ore, although upon analysis it was found fully as valuable as that of Costerfield.⁷⁸¹

June 1864: Hay and Co. - crushing from 80 feet. Michael and Co. - crushing from 30 feet. Campbell and Co. - crushing from 60 feet. The two antimony lodes at the north end of the village are being worked and promise to pay the shareholders. No attempt has yet been made to turn the ore to profit, the quartz being simply knocked off and crushed, and the mineral thrown on one side.⁷⁸²

779 Forbes, 1896, pp. 3-4

780 Mclvor Times, 22 December 1898

781 Mining Surveyors' Reports, March 1864

782 Mining Surveyors' Reports, June 1864

Babbidge and Chapman Reef

September 1893: A reef was recently opened by Babbidge and Chapman, about a mile north of the Why Not. They crushed 7 tons, taking it about 10 feet thick, without finding walls, and got a yield of 17 1/2dwts. The crushing was put through in June at Mr. Collins' machine.⁷⁸³

1898: Chapman and Barbage's Reef: a shaft has been sunk on this reef to a depth of 80 feet ... There are two reefs a short distance to the SE, from which a few colours to the dish have been obtained.⁷⁸⁴

Beautiful Venice (also Baddige & Chapman)

March 1864: The alluvial workings in this part of the Division are very small, being merely Long Gully and a portion of Staffordshire Flat. The yields are trifling. Beautiful Venice Reef, Staffordshire Flat:- Spero and party - crushing from 20 ft. Perry and Co. - crushing from 50 ft. Whierling and Co. - crushing from 70 ft. Brindara and Co. - crushing from 40 ft. Curly Dog Gully, Staffordshire Flat: - Whierling and Co. - crushing from 50 ft. Spero and party - crushing from 90 ft.⁷⁸⁵

late 1860s: Beautiful Venice line of reef - to a depth of 200 ft, yielded 7, 8 and 9 oz per ton 25 years ago [1893]. Water beat them.⁷⁸⁶

Sept 1893: The Beautiful Venice line of reef, with several parallel lines, was a notable reef for rich yields from the surface down to 200 feet. It yielded up to 7, 8 and 9 oz. to the ton about 25 years ago. The proprietors had horses working day and night to keep the water down, but they erected no engine, and the water beat them, and it has remained unworked to this day. It has recently been taken up however, under the lease by Mr Folvig. It is about 2 miles south-east of Redcastle, between the Union Mine and the Curly Dog. Running parallel with it there was Chapman's line of reef and a large antimony reef. The Beautiful Venice and Clarke's old reef now held by the Redcastle Co., were Redcastle's noted reefs in former days.⁷⁸⁷

September 1893: Beautiful Venice line of reef - Reef recently worked by Babbidge and Chapman about 1 mile north of Why Not.⁷⁸⁸

Dec 1897: The Venice mine at Redcastle has ceased operations.⁷⁸⁹

December 1897: One claim in the immediate vicinity of the township, now under protection of 2 months exemption, produced 2 years ago 200 oz in a fortnight. About a mile to the west of this claim is the mine known as the "Beautiful Venice" now apparently abandoned, the present company having disposed of the mining plant and offer the lease for sale. A quarter mile distance from this mine is the Welcome, the only mine working in the district at present with profit ... The New Why Not, situated a short distance from the Welcome, a mine, which until recently gave employment in the neighbourhood is also shut down, this mine has all the necessary facilities for carrying on mining on a large scale.⁷⁹⁰

1898 [history]: The Beautiful Venice reef was worked many years ago to a depth of 150 feet... The company who are at present working this reef have sunk a main shaft 217 feet to the west of the surface outcrop of the reef, to a depth of 284 feet... Chapman's reef, to the north of the Beautiful Venice has been worked for some distance. The chutes of gold have usually been from 6 feet to 20 feet in length. The reef also contains antimony...⁷⁹¹

783 Mclvor News, 14 September 1893

784 Report of Progress, Forbes 1898

785 Mining Surveyors' Reports, March 1864

786 Mclvor News, 14 September 1893

787 Mclvor News, 14 September 1893

788 Mclvor News, 14 September 1893

789 Mclvor Times, 2 December 1897

790 Mclvor News, 16 December 1897

791 Lidgley, 1898, p. 27

1898: Beautiful Venice Reef: The deepest shaft is 220 feet, and the water level is 180 feet. The reef has been worked on the surface for 200 feet and the bottom of the shaft 100ft in length. Average width of stone was 2 feet, and yielded from 3 ounces to 10 ounces to the ton.⁷⁹²

August 1903: Venus Mine, Redcastle - Erection of battery nearing completion.⁷⁹³

⁷⁹² Report of Progress, Forbes 1898

⁷⁹³ Mclvor Times, 6 August 1903

Black Cat Reef

September 1893: Six miles to the north-east of Redcastle and three miles from Staffordshire are the Black Cat Reefs, worked many years ago. They yielded very well, but were only worked to 100 or 200 feet, or when the water was struck, the stopping of work then was about a certainty. There are no reefs working there at the present time.⁷⁹⁴

September 1893: As showing the extension of the field on the other side towards Whroo and Rushworth, the Black Cat, The Scrubby, the Fontainbleau, and the Mary Taylor's reefs may be mentioned, which have all been worked with fair results. These reefs lie between Redcastle and Whroo in the order given.⁷⁹⁵

1898: Black Cat - includes Old Black Cat (worked on the surface for about 600 feet and down to an average depth of 100 feet; New Black Cat (This reef has been worked on the surface for 250 feet and down to 120 feet, the deepest shaft being 200 feet.⁷⁹⁶

Blackfellow's Gully

1898: Auriferous Gullies - Long, Fowlers and Why Not gullies trend north-westerly to the Cornella Creek; Native, Curly Dog, Mitchell's and Blackfellow's gullies trend south-easterly to Major's Creek. From the information obtained regarding these gullies, the returns average from 1 dwt. to half-an-ounce to the tub, shallow sinking, the wash principally ironstone with fragments of sandstone, and very little quartz.⁷⁹⁷

Cocksey's Reef

March 1864: Blundell and Co., Cocksey's Reef, Redcastle - crushing from 60 feet.⁷⁹⁸

Curly Dog Gully

September 1893: Three miles eastward from Redcastle is the Curly Dog reef, worked for about a mile in length, the gully alongside of it having yielded a large amount of alluvial gold.⁷⁹⁹

Sept 1893: Curly Dog Gully - running along the reef was exceedingly rich in alluvial, as much as 1 lb weight of gold to the tub being obtained. The way Sullivan discovered the reef is worthy of mention. He was stated to have been building a stone chimney for himself, and seeing gold in the stone, looked for the reef and found it.⁸⁰⁰

1898: Auriferous Gullies - Long, Fowlers and Why Not gullies trend north-westerly to the Cornella Creek; Native, Curly Dog, Mitchell's and Blackfellow's gullies trend south-easterly to Major's Creek. From the information obtained regarding these gullies, the returns average from 1 dwt. to half-an-ounce to the tub, shallow sinking, the wash principally ironstone with fragments of sandstone, and very little quartz.⁸⁰¹

Curly Dog Reef

March 1864: The alluvial workings in this part of the Division are very small, being merely Long Gully and a portion of Staffordshire Flat. The yields are trifling. Beautiful Venice Reef,

794 Mclvor News, 14 September 1893

795 Mclvor News, 14 September 1893

796 Report of Progress, Forbes 1898

797 Report of Progress, W. Forbes 1898

798 Mining Surveyors' Reports, March 1864

799 Mclvor Times, 7 September 1893

800 Mclvor News, 14 September 1893

801 Report of Progress, W. Forbes 1898

Staffordshire Flat:- Spero and party - crushing from 20 ft. Perry and Co. - crushing from 50 ft. Whierling and Co. - crushing from 70 ft. Brindara and Co. - crushing from 40 ft. Curly Dog Gully, Staffordshire Flat: - Whierling and Co. - crushing from 50 ft. Spero and party - crushing from 90 ft.⁸⁰²

September 1864: Curly Dog Gully, Staffordshire Flat: - Whirland and Co. - crushing from 120 ft.⁸⁰³

September 1893: Three miles eastward from Redcastle is the Curly Dog reef, worked for about a mile in length, the gully alongside of it having yielded a large amount of alluvial gold. This reef, which was abandoned on account of water 30 years ago, has been worked for nearly a mile in length, and is reported to have yielded up to 10 oz per ton and up to 5 oz from a thickness of 4 feet.⁸⁰⁴

September 1893: Curly Dog Reef yielded from 1-9 oz per ton from 31 loads of stuff. South of Bradley's Reef, on Curly Dog line, Sullivan, years ago, obtained 66 oz from 6 tons on trial crushing. Depth worked 150 ft when break occurred.⁸⁰⁵

Sept 1893: The Curly Dog Reef, Staffordshire Flat, with other lines of reefs running parallel, is included in the lease of 30 acres owned by Mr. W. A. Bradley senior. The Curly Dog reefs many years ago were owned by Hutchinson and Benny, the original proprietors, who worked it for years. The reefs yielded from 1 oz to 9 oz. to the ton and varied from 3 to 4 inches up to 20 inches in thickness ... The lines have been traced for at least a mile and a half, and have been worked to the water level, a depth of 200 feet, a number of years ago.⁸⁰⁶

1898 [history]: The Curly Dog reef has been worked to a depth of about 150 feet. There are several shafts reported to be 200 feet deep, but the chutes of gold are very short...⁸⁰⁷

1898: Curly Dog Reef: This reef has been worked on the surface for about 35 chains. There are several shafts sunk on this line, the deepest being 200 feet. Bradley's Curly Dog: includes Victoria, Go-As-You-Please, and Tommy David.⁸⁰⁸

Damper Gully

September 1893: To further show the extensiveness of the field we might mention Damper Gully, situated about half way between Redcastle and Costerfield. The gully was worked many years ago, the gully being afterwards puddled clean out, so that it must have paid well. Strange to say that specimens were found, with every indications of a reef, but no reef was found in the locality, though a great deal of prospecting was done.⁸⁰⁹

Fowlers Gully

1898: Auriferous Gullies - Long, Fowlers and Why Not gullies trend north-westerly to the Cornella Creek; Native, Curly Dog, Mitchell's and Blackfellow's gullies trend south-easterly to Major's Creek. From the information obtained regarding these gullies, the returns average from 1 dwt. to half-an-ounce to the tub, shallow sinking, the wash principally ironstone with fragments of sandstone, and very little quartz.⁸¹⁰

802 Mining Surveyors' Reports, March 1864
803 Mining Surveyors' Reports, September 1864
804 Mclvor Times, 7 September 1893
805 Mclvor News, 14 September 1893
806 Mclvor News, 14 September 1893
807 Lidgely, 1898, p. 27
808 Report of Progress, Forbes 1898
809 Mclvor News, 14 September, 1893
810 Report of Progress, W. Forbes 1898

Great Northern Reef

June 1875: The Great Northern and Why-Not, at Redcastle, have crushed as high as 10 oz to the ton, and as low as 7 dwts, with a reef about 8 ft thick.⁸¹¹

Long Gully

March 1864: German party - crushing from 20 feet. Hutchinson and Co. - crushing from 40 ft. Blundell and Co. - crushing from 60 ft. German Co. - crushing from 20 ft. Alluvial workings in this part of the Division are very small, being merely Long Gully and a portion of Staffordshire Flat.⁸¹²

1898: Auriferous Gullies - Long, Fowlers and Why Not gullies trend north-westerly to the Cornella Creek; Native, Curly Dog, Mitchell's and Blackfellow's gullies trend south-easterly to Major's Creek. From the information obtained regarding these gullies, the returns average from 1 dwt. to half-an-ounce to the tub, shallow sinking, the wash principally ironstone with fragments of sandstone, and very little quartz.⁸¹³

Leviathan Reef

March 1864: J. Collins and Co. - crushing from 40 feet. Great inconvenience is felt from want of water. Messrs Collins and Watson's mills have been for the last month idle.⁸¹⁴

September 1893: Eastward of the Mountain Maid line here is the Mary Ann, next to the Leviathan...⁸¹⁵

Mitchell's Gully

1898: Auriferous Gullies - Long, Fowlers and Why Not gullies trend north-westerly to the Cornella Creek; Native, Curly Dog, Mitchell's and Blackfellow's gullies trend south-easterly to Major's Creek. From the information obtained regarding these gullies, the returns average from 1 dwt. to half-an-ounce to the tub, shallow sinking, the wash principally ironstone with fragments of sandstone, and very little quartz.⁸¹⁶

Native Gully

1898: Auriferous Gullies - Long, Fowlers and Why Not gullies trend north-westerly to the Cornella Creek; Native, Curly Dog, Mitchell's and Blackfellow's gullies trend south-easterly to Major's Creek. From the information obtained regarding these gullies, the returns average from 1 dwt. to half-an-ounce to the tub, shallow sinking, the wash principally ironstone with fragments of sandstone, and very little quartz.⁸¹⁷

Mount Camel

November 1873: Application for gold mining lease - The Mount Camel Gold Mining Co. - 1-1/2 miles north of Redcastle.⁸¹⁸

April 1874: Limestone Reef, discovered on Barker's property, Mount Camel, is now being worked. Reef is 2-3 ft thick. Present depth 5 ft; 40-50 ton of stone recovered. Kiln to be built.⁸¹⁹

- 811 Mining Surveyors' Reports, June 1878
812 Mining Surveyors' Reports, March 1864
813 Report of Progress, W. Forbes 1898
814 Mining Surveyors' Reports, March 1864
815 Mclvor Times, 7 September 1893
816 Report of Progress, W. Forbes 1898
817 Report of Progress, W. Forbes 1898
818 Mclvor News, 13 November 1873

- June 1874:** Lime kilns to start working.⁸²⁰
- September 1874:** Mount Camel Lime Works to be operated by new company - Bendigo Marble, Lime and Cement Co. - £24,000.⁸²¹
- December 1874:** Bendigo Marble, Lime and Cement Co. - Fine specimens of marble, dark-grey with a slight bronze twinge, used for mantelpieces. Furthermore, building stone and excellent lime being obtained.⁸²²
- July 1906:** Another find of copper at Mount Camel. The new copper lode is 12 miles north of Heathcote.⁸²³
- December 1906:** Mt Camel - Ore is impregnated with malachite and azurite, and small seams of cuprite run throughout. Now 100 ft in with their tunnel and have met with galena, and leaders of high-grade copper ore.⁸²⁴
- 1908:** Copper lode, Mt Camel - Newly opened lode is situate about 12 miles from Heathcote, and about 1 mile W, 20° N from Mt Camel Homestead. The lode is at the east foot of the Mt Camel Range, 200 or 300 ft below the crests of the ridge. Lode discovered about 20 years ago during fencing operations. Prospected through trenching. Over a mile southward (on same line), 1-1/2 miles N from the Junction Hotel) there are old workings where Mr Mitchell, senior, over 30 years ago, obtained auriferous quartz which he crushed at a 5-head battery and obtained a few dwt per ton.⁸²⁵
- 1935:** An attempt was made to re-open a mineralised zone in the diabase, to the SE of Mt Camel, but this did not prove successful.⁸²⁶

Mountain Maid Reef (also Joe Enagge and Moonlight reefs)

- September 1893:** About 400 feet easterly from the Welcome is the Mountain Maid line off reef, also worked for a long distance, and stated to have yielded up to 8 oz per ton for 3 feet in width down to water level...⁸²⁷
- September 1893:** The Joe Enagge, the Moonlight and Mountain Maid reefs all on the one line and in Redcastle and running along at the rear of Mr Collins', Mr McKee and Mrs Geronovitch's residences were worked from the surface to 130 feet, the Moonlight being the deepest ... They were abandoned 15 or 20 years ago.⁸²⁸
- 1898:** Mountain Maid Reef - A shaft sunk 130 feet. This reef has been worked along the surface for about 150 yards, and a 100 feet in length to a depth of 80 feet.⁸²⁹

Mullocky Reef (also Happy Jack)

- Sept 1893:** Another reef known as the Mullocky Reef is about a mile and three quarters from Redcastle. A.T. Mitchell and party took up this old line of reef in four claims about a month ago, and started to sink a shaft at the north of the workings and are down about 40 feet, expecting to

- 819 [Mclvor News](#), 30 April 1874
- 820 [Mclvor News](#), 11 June 1874
- 821 [Mclvor News](#), 10 September 1874
- 822 [Mclvor News](#), 10 December 1874
- 823 [Mclvor Times](#), 26 July 1906
- 824 [Mclvor Times](#), 6 December 1906
- 825 Dunn, 1908
- 826 Mining Surveyors' Annual Reports, 1935
- 827 [Mclvor Times](#), 7 September 1893
- 828 [Mclvor News](#), 14 September, 1893
- 829 Report of Progress, Forbes 1898

strike the reef at about 150 feet ... The party appear to have a good property, and with a crushing machine on the ground it is considered there would be payable returns for many years. The reef was worked to about 150 feet.⁸³⁰

August 1895: Redcastle - battery to be erected on 'Happy Jack', originally known as 'The Mullocky'. Reef 3 ft 6 inches wide.⁸³¹

1898: Burgess' Mullocky Reef: This reef has been opened within the last 3 months ... Up to the present time the shaft has been sunk to 5 ft and opened out north and south.⁸³²

Redcastle Diggings (also known as Jones's Creek and Balmoral Diggings)

May 1859: It seems...that John Clarke...did in fact find the first gold at Redcastle, at Staffordshire Flat, three miles east of the later town, early in 1859. Many others came, but the whole field was unpayable until [Andrea] Franktovich discovered the first rich gold [in December].⁸³³

In the early days there were three crushing plants in Redcastle, namely Clarke's, Collins', and Russell, Neilson and party's, Harrison's and Co.'s being afterwards on the site of the plant of the last named. At Staffordshire Flat there was only one crushing plant, Mr S. H. Mitchell's, which is still there (1893), and was recently rented by Bradley & Co., and where they crushed stone from the Why Not mine. For many years there has only been one crushing plant in Redcastle, that of Mr Collins', who now crushes for the public, and works with the finest grating made - 180 to the square inch.⁸³⁴

1859-1898: The reefs in this district were opened in the year 1859, and were in full work until 1864, when the majority of them were abandoned. Two batteries were erected, one of eight heads, half mile north of the township, at the Redcastle Creek, by Mr Collins in 1859, and one of five heads, by Mr Mitchell, at Staffordshire Flat, 3 miles north-east of the township, in 1870; both have been crushing to the present time [1898].⁸³⁵

June 1860: Also at Jones' Creek - two crushing machines to operate shortly. Cake of gold from Clarke's claim, weighing 37 oz, resulted from a crushing of 9 tons. Bolton Bros. - another cake of 24 oz.⁸³⁶

June 1860: Jones's Creek ('Balmoral') increasing in importance.⁸³⁷

July 1860: Clarke's new rush prosperous - one crushing of 9 tons yielded 90 oz.⁸³⁸

July 1860: The first published reports of Redcastle goldfield did not appear until July 1860...⁸³⁹

July 1860: The new diggings in the Heathcote Division, known as Balmoral, or, more properly, Redcastle, situated between Hyde's Back Creek and Jones's Creek, are rapidly progressing. Most of the reefs there are yet undefined and unnamed, some of which have given good crushings. One claim (Fletchers) produced quartz yielding 17 oz to the ton, and several have averaged 4 oz. The quality of the stone is similar to that of Whroo, and contains a large quantity of antimony ore. A six hp steam quartz-crushing engine has been erected there; another of the same power is in the course of erection. Very little has been done in the way

830 [Mclvor News](#), 14 September, 1893

831 [Mclvor News](#), 30 August 1895

832 Report of Progress, Forbes 1898

833 Flett, 1979, p. 94

834 [Mclvor News](#), 14 September, 1893

835 Report of Progress, Forbes 1898

836 [Mclvor News](#), 15 June 1860

837 [Mclvor News](#), 22 June 1860

838 [Mclvor News](#), 6 July 1860

839 Flett, 1979, p. 94

of alluvial prospecting. As soon as plans are had of the township lately marked out there, I shall mark the position of the various reefs on one.⁸⁴⁰

August 1860: Official name for 'Balmoral' will be Redcastle.⁸⁴¹

September 1860: By September there were 280 men on what was called 'Balmoral Diggings, Staffordshire Flat'. There was then a crusher and various reefs being worked. Clark was there getting three oz per ton and 'Antonio' (who was without doubt Frankovich) was getting 4 oz 7 dwts per ton.⁸⁴²

November 1860: Redcastle or Balmoral - In this locality quartz reefing is much improved. There are two quartz crushing machines at work there, and one in the course of erection.⁸⁴³

June 1867: Table of quartz crushed for the quarter includes: Clarke's machine, Redcastle.⁸⁴⁴

December 1871: Redcastle and Wild-Duck appear to be the favoured localities just now.⁸⁴⁵

December 1878: At Redcastle there are a number of reefs abandoned, all payable, if worked in a systematic manner. The crushing machines in that locality are at present idle for want of water.⁸⁴⁶

June 1883: Mining at Redcastle is still more active. The following information respecting claims owned and worked by private individuals:

Thomson	Staffordshire Flat	9 tons yielded 10 oz
Thomson	Redcastle	11 tons yielded 10 oz
D. Hansen	Redcastle	5 tons yielded 2 oz
Thomson	Redcastle	16 tons yielded 8 oz
Falgrave	Staffordshire Flat	30 tons yielded 30 oz
Bock	Staffordshire Flat	14 tons yielded 5 oz. ⁸⁴⁷

1883-1886: [A publican's licence] was granted to Frederick Fowler for a house at Staffordshire Flat, which he named the Victoria Hotel. Fowler received his licence for the Victoria in December 1883 but did not apply for a renewal in December 1886 and the hotel closed.⁸⁴⁸

June 1884: At Redcastle and Staffordshire Flat there is also much improvement. The yield from 91 tons of stone has been 129 oz.⁸⁴⁹

September 1884: From Redcastle and Staffordshire Flat, Mr John Collins reports that he has crushed 185 tons of mullock for 5 oz gold. Hawkins and party, near Redcastle, have crushed at their claim 4 tons of quartz for a total of 2 oz. Thompson and party, Staffordshire Flat, 11 tons put through the mill yielded 8 oz 15 dwt. Miller and Co. have crushed 100 tons of mullock for 24 oz.⁸⁵⁰

840 Mining Surveyors' Reports, July 1860

841 Mclvor News, 10 August 1860

842 Flett, 1979, p. 94

843 Mining Surveyors' Reports, November 1860

844 Mining Surveyors' Reports, June 1867

845 Mining Surveyors' Reports, December 1871

846 Mining Surveyors' Reports, December 1878

847 Mining Surveyors' Reports, June 1883

848 Randell, 1985, p. 263

849 Mining Surveyors' Reports, June 1884

850 Mining Surveyors' Reports, September 1884

- September 1893:** In addition to the reefs the further treatment of tailings at Redcastle and Staffordshire promises to become an important industry. Five tons of tailings have been packed up by Mr. S. H. Mitchell at his battery at Staffordshire, and ready to be sent to Bendigo for treatment. The tailings were taken from the bank of the dam at the battery, where there are estimated to be 12,000 tons. A lease of tailings for crushing of the early days has been taken up by Messrs H. R. Palling and S. H. Mitchell on the site of Harrison and Co's. old battery at Redcastle, where there are many thousands of tons of tailings, a quantity of which sent to Bendigo recently for treatment yielded over 1/2 an ounce to the ton.⁸⁵¹
- 1893:** For many years there has only been one crushing plant in Redcastle, that of Mr Collins', who now crushes for the public, and works with the finest grating made - 180 to the square inch.⁸⁵²
- May 1894:** The recent revival at Redcastle would, however, seem to indicate that there is a chance of the many admittedly good reefs which were abandoned at a shallow depth by reason of the influx of water, or because the first shoots had run out, may yet be worked again, and the ancient glories of the McIvor gold-field revived.⁸⁵³
- June 1897:** Messrs Day Bros., who are working payable cement at Derrinal have purchased Collins' battery at Redcastle, and intend removing it to the site of their claim.⁸⁵⁴
- January 1903:** Redcastle - Prospecting party, Charlie Cook Reef. In addition to sinking a shaft 200 ft, well timbered, 27 tons of stone were raised and crushed, yielding 23 oz smelted gold, and sample of tailings sent to Lyddel's Pyrites Works, Bendigo, gave 8 dwt per ton by amalgamation. Nearest battery to mine is 9 miles distant, adding considerably to expense of workings.⁸⁵⁵
- 1903:** Redcastle - Imperial Boulder, Charley Cook and Babbage & Co. are the mines working in this locality.⁸⁵⁶
- 1904:** At Redcastle...mining has been very dull, although men have been at work intermittently, very little financial result has been obtained.⁸⁵⁷
- June 1905:** Redcastle - Hamilton Pioneer Reef. Small crushing of 8 tons of quartz and antimony, taken from the 230 ft level.⁸⁵⁸
- 1905:** Prospecting in the vicinity of Redcastle is being proceeded with by a few miners, but the results are not encouraging.⁸⁵⁹
- July 1908:** Laura Gold and Antimony Co., Redcastle. Trial crushing put through last week, gold over 1 oz to the ton.⁸⁶⁰
- 1935:** Near Redcastle, Eckert and party are still on payable stone, while two other parties are operating, one on either side of their claim. A similar reef is being worked further to the east near the Black Cat Reef.⁸⁶¹

851 Mclvor News, 14 September 1893
852 Mclvor News, 14 September, 1893
853 Mclvor Times, 24 May 1894
854 Mclvor Times, 10 June 1897
855 Mclvor Times, 8 January 1903
856 Mining Surveyors' Annual Reports, 1903
857 Mining Surveyors' Annual Reports, 1904
858 Mclvor Times, 22 June 1905
859 Mining Surveyors' Annual Reports, 1905
860 Mclvor Times, 2 July 1908
861 Mining Surveyors' Annual Reports, 1935

Redcastle Reef

- 1860s:** Hit or Miss Co. took up No. 2 north and first crushing gave 12 oz to the ton. Highest was 22 oz... claim abandoned when broken ground was encountered.⁸⁶²
- March 1864:** Campbell and Co. - crushing from 70 ft. Hawkins and Co. - crushing from 90 ft.⁸⁶³
- March 1865:** Perry and Co., Redcastle - 23 ton yielded 17 oz. Lazzarovitch and Co. - 10 ton from 40 ft yielded 8 oz. Roberts and Co. - 7 ton from 80 ft yielded 9 oz. Hit or Miss Co. crushing.⁸⁶⁴
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Redcastle Reefs: various - including Mitchell's Reef, Pioneer Reef, Lincolnshire Reef, Glen Garry Reef, Big Reef or Main Reef, Charley Cook's Reef

Mitchell's Reef:

The width of the reef averages 4 inches, worked for about 7 chains in length and to a depth of 80 feet.

Burgess' Mullocky Reef:

This reef has been opened within the last 3 months ... Up to the present time the shaft has been sunk to 5 ft and opened out north and south.

Pioneer Reef:

A shaft has been sunk 285 feet on the underlie, the reef averaging from 2 1/2ft in width at the surface to 4 inches in width at 138 feet below.

Lincolnshire Reef:

A shaft 180 feet has been sunk on this reef.

Glen Garry Reef:

This reef has been worked on the surface 100 yards to 100 feet in depth. Several shafts have been sunk along the line, averaging a little over 100 feet in depth ... Yield from 1/2ounce to 1 ounce to the ton.

Big Reef or Main Reef:

This reef has been worked on the surface for 150 yards and down to an average depth of 70 feet. The deepest shaft is 280 feet.

Charley Cook's Reef:

A shaft was sunk to a depth of 150 feet.⁸⁶⁵

Staffordshire Flat (including Beautiful Venice Reef, Australian Reef, Curly Dog Gully/Reef)

- May 1859:** It seems...that John Clarke...did in fact find the first gold at Redcastle, at Staffordshire Flat, three miles east of the later town, early in 1859. Many others came, but the whole field was unpayable until [Andrea] Franktovich discovered the first rich gold [in December].⁸⁶⁶
- c. 1860 - 1893:** In the early days there were three crushing plants in Redcastle, namely Clarke's, Collins', and Russell, Neilson and party's, Harrison and Co.'s being afterwards on the site of the plant of the last named. At Staffordshire Flat there was only one crushing plant, Mr S. H. Mitchell's, which is still there (1893), and was recently rented by Bradley & Co., and where they crushed stone from the Why Not mine.⁸⁶⁷
- May 1860:** Good rush of alluvial diggers to Staffordshire Flat, 3 miles from Jones's Creek, likely to become an extensive gold field. Depth 8-15 ft, average yield 2-3 dwts per tub up to 1/2 oz. Population 300-400. Two quartz crushers, puddling machines to be erected.⁸⁶⁸
- June 1860:** Jones's Creek...two crushing machines to operate shortly.⁸⁶⁹
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⁸⁶² Mclvor News, 14 September 1893

⁸⁶³ Mining Surveyors' Reports, March 1864

⁸⁶⁴ Mining Surveyors' Reports, March 1865

⁸⁶⁵ Report of Progress, Forbes 1898

⁸⁶⁶ Flett, 1979, p. 94

⁸⁶⁷ Mclvor News, 14 September, 1893

⁸⁶⁸ Mclvor News, 25 May 1860

⁸⁶⁹ Mclvor News, 15 June 1860

- June 1860:** Staffordshire Flat, 2 miles from Balmoral. Easy sinking, 5-9 ft. Gold yield 1/3 to 3 dwts per tub. Flat about 3 miles in length. Quartz reefs are main attention. Quartz from Welch and Co.'s claim (up to 3 ox per ton), machine just completed, with battery of 4 stampers.⁸⁷⁰
- July 1860:** That portion of Jones's Creek known as Staffordshire Flat has attracted a considerable number of miners, the ground is payable, but no extraordinary yields have been found.⁸⁷¹
- August 1860:** Good reef opened at head of Staffordshire Flat. Only six inches in width, but 4 oz per ton expected. Reef reached at depth of 3 ft. Population over 150.⁸⁷²
- September 1860:** Only alluvial workings, about 300 miners.⁸⁷³
- September 1860:** At Balmoral Diggings, Staffordshire Flat, there are about 280 persons employed in alluvial mining, and although the average remuneration is not above ordinary wages some claims are paying remarkably well.⁸⁷⁴
- November 1860:** At Staffordshire Flat, the number of alluvial miners has much decreased, the ground nearly being worked out. Australian Reef, Staffordshire Flat - 21 tons crushed for a yield of 65 oz.⁸⁷⁵
- March 1861:** Looks like becoming a first-rate diggings. Six puddling machines.⁸⁷⁶
- March 1864:** The alluvial workings in this part of the Division are very small, being merely Long Gully and a portion of Staffordshire Flat. The yields are trifling. Beautiful Venice Reef, Staffordshire Flat: Spero and party - crushing from 20 ft. Perry and Co. - crushing from 50 ft. Whierling and Co. - crushing from 70 ft. Brindara and Co. - crushing from 40 ft. Curly Dog Gully, Staffordshire Flat: - Whierling and Co. - crushing from 50 ft. Spero and party - crushing from 90 ft.⁸⁷⁷
- June 1864:** Perry and Co. - crushing from 70 ft. Spiro and Co. - crushing from 90 ft. Blondel and Co. - crushing from 90 ft. Reid and Co. - crushing from 120 ft. Sullivan and Co. - crushing from 60 ft. Alluvial mining has been abandoned.⁸⁷⁸
- September 1864:** Curly Dog Gully, Staffordshire Flat: - Whirland and Co. - crushing from 120 ft.⁸⁷⁹
- late 1860s:** Beautiful Venice line of reef - to a depth of 200 ft, yielded 7, 8 and 9 oz per ton 25 years ago [1893]. Water beat them.⁸⁸⁰
- 1870-1898:** Two batteries were erected, one of eight heads, half mile north of the township, at the Redcastle Creek, by Mr Collins in 1859, and one of five heads, by Mr Mitchell, at Staffordshire Flat, 3 miles north-east of the township, in 1870; both have been crushing to the present time [1898].⁸⁸¹
- 13 August 1874:** Most of population (which has considerably decreased since last year) engaged in mining near Staffordshire Flat.⁸⁸²

870 Mclvor News, 22 June 1860

871 Mining Surveyors' Reports, July 1860

872 Mclvor News, 3 August 1860

873 Mclvor News, 7 September 1860

874 Mining Surveyors' Reports, September 1860

875 Mining Surveyors' Reports, November 1860

876 Mclvor News, 22 March 1861

877 Mining Surveyors' Reports, March 1864

878 Mining Surveyors' Reports, June 1864

879 Mining Surveyors' Reports, September 1864

880 Mclvor News, 14 September 1893

881 Report of Progress, Forbes 1898

882 Mclvor News, 13 August 1874

- June 1878:** At Staffordshire Flat the Charlotte Registered Company crushed during the past week 4 tons, and obtained 10 oz 3 dwt.⁸⁸³
- September 1893:** Curly Dog Reef yielded from 1-9 oz per ton from 31 loads of stuff. South of Bradley's Reef, on Curly Dog line, Sullivan, years ago, obtained 66 oz from 6 tons on trial crushing. Depth worked 150 ft when break occurred. Beautiful Venice line of reef - Reef recently worked by Babbidge and Chapman about 1 mile north of Why Not.⁸⁸⁴
- September 1893:** In addition to the reefs the further treatment of tailings at Redcastle and Staffordshire promises to become an important industry. Five tons of tailings have been packed up by Mr. S. H. Mitchell at his battery at Staffordshire, and ready to be sent to Bendigo for treatment. The tailings were taken from the bank of the dam at the battery, where there are estimated to be 12,000 tons. A lease of tailings for crushing of the early days has been taken up by Messrs H. R. Palling and S. H. Mitchell on the site of Harrison and Co's. old battery at Redcastle, where there are many thousands of tons of tailings, a quantity of which sent to Bendigo recently for treatment yielded over 1/2 an ounce to the ton.⁸⁸⁵
- Dec 1897:** The Venice mine at Redcastle has ceased operations.⁸⁸⁶
- December 1897:** One claim in the immediate vicinity of the township, now under protection of 2 months exemption, produced 2 years ago 200 oz in a fortnight. About a mile to the west of this claim is the mine known as the "Beautiful Venice" now apparently abandoned, the present company having disposed of the mining plant and offer the lease for sale. A quarter mile distance from this mine is the Welcome, the only mine working in the district at present with profit ... The New Why Not, situated a short distance from the Welcome, a mine, which until recently gave employment in the neighbourhood is also shut down, this mine has all the necessary facilities for carrying on mining on a large scale.⁸⁸⁷
- 1898 [history]:** The Beautiful Venice reef was worked many years ago to a depth of 150 feet... The company who are at present working this reef have sunk a main shaft 217 feet to the west of the surface outcrop of the reef, to a depth of 284 feet... Chapman's reef, to the north of the Beautiful Venice has been worked for some distance. The chutes of gold have usually been from 6 feet to 20 feet in length. The reef also contains antimony... The Curly Dog reef has been worked to a depth of about 150 feet. There are several shafts reported to be 200 feet deep, but the chutes of gold are very short...⁸⁸⁸
- 1898:** Beautiful Venice Reef: The deepest shaft is 220 feet, and the water level is 180 feet. The reef has been worked on the surface for 200 feet and the bottom of the shaft 100ft in length. Average width of stone was 2 feet, and yielded from 3 ounces to 10 ounces to the ton.⁸⁸⁹
- August 1903:** Venus Mine, Redcastle - Erection of battery nearing completion.⁸⁹⁰

Taragunyah Reef

- Sept 1893:** The Taragunyah, another good line, about a mile south of Redcastle. was opened by Joseph Hyde, H. Hyde, H. Welsh, and C. Cook, Mr. James McKee purchasing an interest. It gave rich yields in 1862, but was abandoned when the break occurred.⁸⁹¹
- 1898:** Tara Gunya Reef: This reef has been worked on surface for 500 feet in length ... The deepest shaft on the line is 170 feet.⁸⁹²

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- 883 Mining Surveyors' Reports, June 1878
 884 Mclvor News, 14 September 1893
 885 Mclvor News, 14 September 1893
 886 Mclvor Times, 2 December 1897
 887 Mclvor News, 16 December 1897
 888 Lidgley, 1898, p. 27
 889 Report of Progress, Forbes 1898
 890 Mclvor Times, 6 August 1903
 891 Mclvor News, 14 September 1893

Temperance Gully

- July 1873:** Redcastle - Correspondent recommends Chilian Mill. Report of new reef, discovered by Bride whilst working alluvial ground in Temperance Gully, 3 miles from Redcastle.⁸⁹³
- September 1873:** Redcastle - Blake's new crushing machine to be erected three miles from village. Many miners working nearby.⁸⁹⁴
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Toolleen

- December 1898:** Ashley (Toolleen) at 127 ft, east crosscut extended 10 ft - total from shaft 182 ft.⁸⁹⁵
- December 1898:** Toolleen Pioneer - Level N from S shaft extended 17 ft.⁸⁹⁶
- March 1899:** Central Toolleen - Number of trenches cut, then shaft sunk to 90 ft, and crosscut put in 24 ft. Several leaders, but no gold. Toolleen, Pioneer - At S shaft, stone not promising... New shaft, 100 yards S boundary, sunk 16 ft, total 21 ft.⁸⁹⁷
- 20thC:** Some towns, like...Toolleen...have all but disappeared... Toolleen survived into this century with three churches, three hotels, blacksmiths' shops, a big general store and a street of houses, sustained by men of the nearby forests cutting timber and firewood... The railway and the motor car have put them out of business.⁸⁹⁸
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Union Reef

- c. 1893:** Union Gold and Antimony Co., 1 mile east of Redcastle on Graytown Road. Reef made into antimony at 12 ft, average gold was 2.1 oz per ton.⁸⁹⁹
- September 1893:** About a mile eastward from Redcastle is the Union Gold and Antimony mine, a recent discovery. The shaft is down about 100 feet and the antimony has been traced down from surface in pipe shoots up to as much as 12 feet long and 2 feet thick. The ore (stibnite) is very pure and contains a considerable quantity of visible gold.⁹⁰⁰
- September 1893:** The Union Gold and Antimony Mining Co.'s. mine situated about a mile to the east of Redcastle on the Graytown road, which runs through Staffordshire Flat, is under the management of Mr. W. Thomas. The reef was discovered by Mr Frank Mussie, between two and three years ago, on the surface, where oxide veins showed, the reef making into antimony at about 12 feet ... The shaft is down about 100 feet, where the reef is 18 inches thick ... The reef is now being worked by the company, the hauling being done by a horse. A start has not been made to open out yet. The ground is held by a lease of 33 acres and an extended lease to the south of 30 acres. The reef is said to be traceable for about 500 feet on the surface and proved to a depth of 100 feet The reef is stated to be quite a new line, being on nearly the same line as the Sawyer's Blow, about a quarter of a mile northwards from the shaft. The ore is to be sent to Melbourne for treatment that separates the gold from the antimony and saves both.⁹⁰¹
- October 1893:** The Union Co. have sent another small parcel of ore to the Otis Co.'s works, South Melbourne, making a total of 13 tons being now treated. Active preparations are being

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- 893 [Mclvor News](#), 3 July 1873
- 894 [Mclvor News](#), 13 September 1873
- 895 [Mclvor Times](#), 22 December 1898
- 896 [Mclvor Times](#), 29 December 1898
- 897 [Mclvor Times](#), 16 March 1899
- 898 Forster, 1965, p. 120
- 899 [Mclvor News](#), 14 September 1893
- 900 [Mclvor Times](#), 7 September 1893
- 901 [Mclvor News](#), 14 September 1893

carried on at the Tokalon mine for the reception of the machinery, which is expected to arrive in a few days.⁹⁰²

February 1895: The Christmas Processes - The principal work which Messrs May Bros. and Co. have in hand just at present is the construction of two mining plants suitable for the Christmas processes of metal extraction. About seven months [ago] we reported a successful trial of one of the processes of Mr J.J. Christmas at Messrs May Brothers and since that time, the inventor has been perfecting details, conducting tests, and bringing his valuable intention before the notice of mining authorities. Mr Christmas, after long and tedious experiments, has overcome the hitherto great difficulty of using lead as an amalgamating metal for the treatment of ores on a large scale. Molten lead has long been suggested as a means of obtaining gold from ores, and many persons have tried it for that purpose, but their difficulties have been that oxidation of the lead proceeded so rapidly that the process has been impracticable. The method adopted by the patentee is to prevent this oxidation of the lead by passing the finely-ground ore, previously mixed with a small quantity of kerosene or similar compound of carbon and hydrogen, through a bath of the molten metal. The addition of kerosene, as described, effectually prevents the oxidation of the lead, which alloys with the gold and silver, whilst the dry-powdered ore, being much lighter than the lead, rises to the surface of that metal and is carried away as tailings. Such a method of treatment should be of great value in districts where there is a scarcity of water, such as in Western Australia, where, indeed, the only water necessary on a mine would be for household and drinking purposes, and for horses and cattle. All ore crushing and hauling would be done by hot air and kerosene engines, and the use of steam boilers discarded... The antimony process of Mr Christmas is one of extreme simplicity. The native ore, or sulphide of antimony, is melted in large crucibles, and when on the point of cooling, a quantity of molten lead is poured into the ore, stirred with an iron rod, and poured into moulds to cool. When the ingot is turned out of the mould it is found that the lead, which has a greater affinity for gold than for antimony, robs the latter metal of its valuable contents, and having a greater specific gravity, settles at the bottom of the mould from which it is easily removed and the gold recovered by cupellation or other methods. The following is a striking example of the success of the antimony recovery process:- Samples of the gold-bearing antimony ore from the Union Mine, near Redcastle, in Victoria, were sent quite recently to Messrs Johnson Matthey, of London, for valuation; the sample contained gold at the rate of 20 oz to the ton. The two plants being made by Messrs May Bros. and Co. are going to the Union Gold and Antimony mine near Redcastle, Victoria. The first part of the gold extraction plant is May's Patent Rock Breaker, capable of taking in stone 9 in. by 5. From here the stuff is conveyed by means of an elevator to the rolls, which are 24 in. in diameter and a face of 5 in., and furnished with hard steel tires turned up perfectly true and made for fine crushing as a substitute for the stamp battery. From here the stuff is again elevated and passed through a circular screen furnished with the required mesh, and thence to the gold recovery machine. The screenings that will not pass through the screen are automatically returned to the rolls and the process is again repeated. The machine thus described is all fixed on to a frame in a compact manner so as to be easily driven by portable or other engine power on arrival at its destination. The crushed ore from this machine is then passed on to the Christmas metal extractor, which consists of a wrought steel tank 6 feet in length by about 1 foot wide. This tank is filled with lead, which is kept in a molten state by a furnace placed underneath. Above the tank is a hopper, and from this to the lead bath there are 12 Archimedean screws that force the ore down through the lead. The ore being of less specific gravity than the lead again rises to the surface and flows over the side of the tank, the metal having been extracted. The residue falls into a screw box, which deposits the stuff at one end of the machine. In the antimony extraction process the stuff passes through the rock breaker and after being dressed according to requirements goes into a reverberatory furnace. The metal being eliminated to the furnace it is run into pots, and afterwards passed through the lead bath where the gold is freed from the antimony by reason of the lead having a greater affinity for it than antimony. The plant now being sent away by Messrs May Bros. and Co. is equal in capacity to a 15 or 20 head of stampers. The new process is spoken very highly of by experts and it is satisfactory to Gawlerites to know that a local firm has been entrusted with the manufacture of the plants.⁹⁰³

February 1895: May and Bros - installing plants for extracting gold from antimony by the lead process. Union Gold Mining Co., Redcastle, is cleaning up old workings.⁹⁰⁴

902 Mclvor Times, 19 October 1893

903 Mclvor News, 15 February 1895

904 Mclvor News, 22 February 1895

April 1895: Mr. J.J. Christmas's process for separating gold from antimony ... erected a reverberative furnace at the Union Mine for crushing antimony about a fortnight ago ... the process has proved most satisfactory.⁹⁰⁵

⁹⁰⁵ Mclvor Times, 11 April 1885

- May 1895:** A public trial of the treatment of refractory auriferous ores, or the extraction of gold from antimony, as discovered by Mr J.J. Christmas, was given at the Union Mine, Redcastle, on Friday last. The appliances necessary for the carrying out of the process are situated on the Union mine from which the ore treated was obtained. The amount of antimony treated was four hundredweight. This was thrown into a reverberatory furnace eight by four in size, at the side of which is an outlet by which the molten metal issues into cast iron pots, which hold about 28 lbs. As the pots are filled they are taken away and left to cool until such time as the lead, which contains the gold, can be broken away from the antimony in a crude state. Pieces of lead weighing 2 lbs each are thrown into the trough, which opens into the furnace, each pot of 28 lbs of antimony requiring 4lbs of lead. From the 4 cwt of ore placed in the furnace, 7 pots, each averaging about 30 lbs of crude metal was obtained. Of course the plant now in use at the Union Mine, Redcastle, is of very small dimensions. Mr Christmas also treated a sample of quartz tailings belonging to Messrs Palling and Mitchell. The machine for this process which is also one of simplicity consists of a large iron bath or trough into which 8 cwt lead is kept molten by means of a fire underneath. On the top of this bath are four oblong screws, which are worked by cogwheels and windlass. The screws force the sand down through the lead bath and when the sand gets clear of the screws the lead forces it to the surface again. The gold remains in the lead and the sand is carried away in [inaudible] elevators finally passing through a dry blower to save any loss of lead that may have been forced out with the sand. As the lead in both treatments secures the gold contents of the ore, it is stated that the gold can be easily recovered again by the usual refining process. The visitors present from Melbourne, Sydney and Adelaide took possession of samples of the treated ore for the purpose of testing results. Those present were somewhat disappointed as they were possessed of the belief that doubtless they would have an opportunity of witnessing the extraction of the gold from the lead.⁹⁰⁶
- September 1895:** The Union Gold and Antimony Co. are about to start operations. Mr. J.J. Christmas, who has been away since the exhibition given at Redcastle, having successfully floated the Union, which has been further extended and taken in the old Mary Ann ... Mr G.H. Matthews (manager) intends starting work immediately. The company has not as yet erected their battery.⁹⁰⁷
- May 1896:** Union Gold and Antimony Mining Co. have amalgamated with McGaunders' leases at Redcastle.⁹⁰⁸

Watson's Mill

- March 1864:** Great inconvenience is felt for want of water, Messrs Collins and Watson's mills having been for the last month idle.⁹⁰⁹

Welcome Reef (also known as Clarke's Welcome Reef). Also Slavonian Reef Mary Ann Reef (also known as Marianne Reef) Antimony Reef

- 1859-c.1870:** [History]: The Redcastle Co.'s mine, known by the name of Clarke's Reef, and afterwards as the Niagara, was discovered by a party of Italians and Austrians, including the late Mr Antonio Geronovitch in 1859 or 60. They called it the Slavonian. A crushing from the surface taken by them into Heathcote and crushed at the plant at Milhaven, yielded 4 oz. to the ton. Clarke took up No 1 North, and obtained yields of from 4 oz to 30 oz and 40 oz., the gold being followed to a depth of about 175ft. The Hit or Miss Co., took up No 2. north on this line of reef, and their first crushing gave about 12 oz. to the ton, or 265 oz. for the crushing, the eight shareholders dividing between £800 to £900 after paying all expenses, for six weeks work. Broken country was then got into and the claim was abandoned. The Niagara Co. afterwards occupied the line in about 1870...⁹¹⁰

⁹⁰⁶ Mclvor Times, 17 May 1895

⁹⁰⁷ Mclvor Times, 6 Sept 1895

⁹⁰⁸ Mclvor News, 28 May 1896

⁹⁰⁹ Mining Surveyors' Reports, March 1864

⁹¹⁰ Mclvor Times, 14 September 1893

- 1859:** [Clarke's Reef] Discovered 1859, richest reef in district, but returns not available owing to lack of records.⁹¹¹
- 1859:** Redcastle Co. mine (Clarke's Reef) discovered by a party of Italians and Austrians, led by Antonio Geronovitch in 1859. Crushings yielded 4 oz to the ton. Clarke took up No. 1 north, and obtained yields from 4 to 40 oz to the ton. Gold followed for 175 ft.⁹¹²
- 1864:** [Clarke's claim] In 1864, 60 tons yielded 969 oz...⁹¹³
- March 1864:** Slavonian Reef - Welcome Claim - crushing from 230 ft. Clarke - crushing from 240-251 ft. Welcome Reef - Burgess and Co. - crushing from 40 ft.⁹¹⁴
- June 1864:** Slavonian Reef - Welcome claim - crushing from 270 ft. Hit-or-Miss Co. - crushing from 260 ft. The quartz mines here appear to be doing better than elsewhere, although the former prosperity of the place has disappeared. The Welcome and Hit or Miss Claims on the Slavonian Reef are very rich and show no symptoms of failure.⁹¹⁵
- June 1864:** Clarke's Mary Ann Claim, Mary Ann Reef - crushing from 14-60 ft. Collins' Mary Ann Claim - crushing from 120 ft.⁹¹⁶
- October 1864:** 13 tons of stone turned out a cake of gold weighing 321 oz.⁹¹⁷
- March 1866:** Clarke's Reef Gold Mining Co. Prospectus - Discovered 1859, richest reef in district, but returns not available owing to lack of records. In 1864, 60 tons yielded 969 oz... This claim is 165 yards along the [Welcome] line of reef. The 'Hit or Miss' Co.'s ground will be amalgamated with Clarke's.⁹¹⁸
- March 1869:** Redcastle, Clarke's Reef - One of the best, if not the best, in the district. Taken up again. There has never been a 'bad' crushing. When abandoned because of flooding, the yield was from 2 oz to 20 oz per ton. With machinery, the mine will pay well. Ground applied for includes Mary Ann Reef.⁹¹⁹
- August 1869:** Redcastle looking up. New crushing plant. Engine to be erected on Mary Anne, Clark's Reef.⁹²⁰
- c. 1870:** [History] The Niagara Co. afterwards occupied the line in about 1870, without any very good result, only obtaining about 2 oz. to the ton. The mine taken up by the Redcastle Gold Mining Co., has been worked by the company for about 15 months (June 1892), under the management of Mr. C. H. Nagel, having erected poppet legs, engine and shed with winding gear etc. ⁹²¹
- c. 1870:** Niagara Co. occupied line about 1870, obtaining only about 2 oz per ton.⁹²²
- May 1872:** Niagara Co.'s mine, Redcastle...has been pumped out. Great quantity of mullock raised, will be crushed by the company.⁹²³

911 Mclvor Times, 16 March 1866

912 Mclvor News, 14 September 1893

913 Mclvor Times, 16 March 1866

914 Mining Surveyors' Reports, March 1864

915 Mining Surveyors' Reports, June 1864

916 Mining Surveyors' Reports, June 1864

917 Mclvor News, 15 October 1864

918 Mclvor Times, 16 March 1866

919 Mclvor Times, 19 March 1869

920 Mclvor Times, 13 August 1869

921 Mclvor Times, 14 September 1893

922 Mclvor News, 14 September 1893

923 Mclvor News, 17 May 1872

- August 1872:** Redcastle - Old Welcome Reef, near Staffordshire Flat - Work resumed. Sufficient mullock to supply stampers.⁹²⁴
- October 1872:** Niagara Co. - employing 14 men.⁹²⁵
- November 1872:** All men employed on Niagara lease have been discharged. Mine will be let on tribute.⁹²⁶
- September 1887:** Company being formed to work Clarke's Welcome Reef, Slavonian and Hit-and Miss reefs, Redcastle. 24,000 shares, 5/- share.⁹²⁷
- June 1892:** [History]: The mine taken up by the Redcastle Gold Mining Co., has been worked by the company for about 15 months, under the management of Mr. C. H. Nagel, having erected poppet legs, engine and shed with winding gear etc. The company started in the old shaft which was down about 300 feet, and which they have sunk an additional 50 feet ... Levels 1, 2, 3, and 4 were worked by the Hit or Miss and Niagara companies. No 6. crosscut is about 36 feet, but is not now being worked.⁹²⁸
- May 1892:** Redcastle - Old Niagara Claim. Boiler engines and other appliances have arrived.⁹²⁹
- August 1892:** Clarke's Claim, Redcastle, taken up again. New head frame erected. Boiler strong and substantial. Shaft depth 320 ft, to be sunk a further 100 ft.⁹³⁰
- c. 1893:** [Former Niagara] Mine taken over by Redcastle Gold Mining Co. - have started in old shaft which is down about 350 ft.⁹³¹
- September 1893:** It is a somewhat remarkable fact that the present commencement of a revival of the field is in a large measure due to the enterprise of residents in South Australia, induced by the representations of Mr Charles Nagel, a miner of long experience in the district, now manager of the Redcastle Gold Mining Company, whose mine is the deepest in the vicinity, and of which I was able to make an underground inspection. The main shaft of the Redcastle Gold Mining Company is on the line of reef known as the Welcome or Clarke's Reef, which has here been closely worked from surface to about 250 feet for nearly half a mile in length, though with occasional blank intervals it can be traced by the old workings for 2 or 3 miles... The deepest level is at 352 feet, and here the lode has been followed about 90 feet, similar in character to what it is at the 275 feet level... Adjoining and north-west of the Redcastle Co.'s mine is the ground taken up by the Redcastle Extended Co., containing the extension of the same reefs closely worked along the surface. The stone here is stated to have yielded up to 12 oz. per ton and to have contained much antimony. Eastward of the Mountain Maid line here is the Mary Ann, next to the Leviathan, and another reef some 200 feet further eastward. All of these have been closely worked, and are stated to have yielded well. Next to the Redcastle Extended is the ground of the Eureka Co., containing the extensions of the same lines of reef, all worked along the surface at short intervals...⁹³²
- May 1894:** Redcastle Co. have made a purchase of crushing machinery at Chiltern and are about to remove it to the mine. Redcastle mine: 3 distinct reefs in this mine, known as Clarke's, the Welcome and the Hit or Miss. The directors have purchased a complete 12 head stamp battery, and the mine manager has constructed a dam and surface works, ready for erecting the plant.⁹³³

924 [Mclvor News](#), 9 August 1872

925 [Mclvor News](#), 31 October 1872

926 [Mclvor News](#), 14 November 1872

927 [Mclvor Times](#), 30 September 1887

928 [Mclvor Times](#), 14 September 1893

929 [Mclvor News](#), 19 May 1892

930 [Mclvor News](#), 18 August 1892

931 [Mclvor News](#), 14 September 1893

932 [Mclvor Times](#), 7 September 1893

933 [Mclvor Times](#), 31 May 1894

- July 1894:** Marianne Reef - 6 tons crushed at Tokalon battery yielded 4 oz 17 dwt; 4 tons crushed at John Collins battery yielded 2-1/4 oz.⁹³⁴
- August 1894:** Redcastle Co. The battery is a 12 head one, purchased by the Redcastle Co. from the Golden Bar, Chiltern ... The shaft is about 350 feet deep.⁹³⁵
- Nov 1894:** Redcastle Co. The carpenters have enclosed the battery shed and are completing the platform and poppet heads.⁹³⁶
- March 1896:** Niagara Mine, Redcastle - In the last fortnight, 53 tons yielded 65 oz.⁹³⁷
- Sept 1896:** Following our course through Celery Street we pass a store recently constructed and shortly arrive at the premises of the Redcastle G. M. Co., here we find a little township in itself, in the centre of which is a neat cottage erected by the company for the accommodation of its Mine Manager.⁹³⁸
- May 1897:** Redcastle - A new industry is about to commence in the immediate vicinity of the township, that of extracting the gold from the tailing heaps from the old batteries by the cyanide process. Manager's house and other necessary apartments are well nigh completed, and other works connected with the undertaking such as fencing and collecting the tailings are advancing steadily.⁹³⁹
- June 1897:** Welcome Gold Mining Co. - During 6 months, main shaft sunk 220 ft... will be opening up at the 300 ft.⁹⁴⁰
- December 1897:** Welcome Gold Mining Co., Staffordshire Flat, Redcastle. Reef is 4 ft wide and is mineralised over 3 ft. Driving and cross-cutting of 150 ft, also down at 300 ft level. Ore should go (sample) 3.45 oz to the ton.⁹⁴¹
- December 1897:** One claim in the immediate vicinity of the township, now under protection of 2 months exemption, produced 2 years ago 200 oz in a fortnight. About a mile to the west of this claim is the mine known as the "Beautiful Venice" now apparently abandoned, the present company having disposed of the mining plant and offer the lease for sale. A quarter mile distance from this mine is the Welcome, the only mine working in the district at present with profit ... The New Why Not, situated a short distance from the Welcome, a mine, which until recently gave employment in the neighbourhood is also shut down, this mine has all the necessary facilities for carrying on mining on a large scale.⁹⁴²
- 1898:** The Welcome mine is situated at the south-east corner of the parish of Redcastle, county of Rodney. It is about 15 miles from Heathcote on a fair road, 3 miles of which is heavy sand. There are three main reefs - the Old Welcome, Little Welcome, and North Welcome. I could obtain no definite information as to the returns obtained from the reef when first worked, but was informed that the owner of a battery nearby carted and crushed 1,100 loads of the material thrown away by the original proprietors for a return of 5 dwt of gold per load... The North Welcome reef. The outcrop is traceable for a distance of nearly 20 chains, many shafts having been sunk, some to a depth of 170 feet. The Little Welcome reef. The chute of gold was about 30 feet long, and was worked to a depth of 70 feet. The present company are sinking a main shaft 8 ft x 3ft 6in., with three compartments, and at the time of my visit were down 206 feet. Winding is done by a whim, there being no water in the shaft. The legal manager estimates that the total cost of sinking the shaft to 250 feet, including

934 Mclvor News, 20 July 1894
 935 Mclvor Times, 3 August 1894
 936 Mclvor Times, 9 November 1894
 937 Mclvor News, 19 March 1896
 938 Mclvor News, 17 Sept 1896
 939 Mclvor Times, 27 May 1897
 940 Mclvor News, 17 June 1897
 941 Mclvor News, 9 December 1897
 942 Mclvor News, 16 December 1897

cost and erection of whim, rope, forge, office, tools, and labour complete will be £570, unless a heavy flow of water be met.⁹⁴³

⁹⁴³ Lidgey, 1898, pp. 27-8

- 1898:** Clarke's Welcome Reef, now known as the Redcastle G. M. Co. The reef has been worked on the surface for about half-a-mile south, though it can be traced further. From the surface down to 240 feet the reef has been stoped out to 120 feet north of shaft and a considerable distance south ... at 240 feet a fault, dipping E, crossed the reef, cutting off the gold; the shaft was then sunk to a further depth of 310 feet, and not meeting with any success the mine was abandoned, until taken up by the present company ... who have sunk, timbered, and divided the shaft to a total depth of 360 feet ... They have also erected poppet heads and winding plant, consisting of a 12 horse-power steam winch and vertical boiler, 9ft by 4ft 6in., also crushing battery of 12 heads, boiler 30 feet by 6 feet, 14 horse-power engine, plunger pump, 8-in. lift, and ordinary copper-plate and blanket tables, also tailing pump now being erected.⁹⁴⁴
- Sept 1898:** Welcome Company is constructing a large dam at their mine for conserving water for battery and cyanide purposes. There being a large quantity of low grade ore on this mine, it is anticipated the cyanide process will greatly augment the yield of gold. I understand the battery is to be erected shortly.⁹⁴⁵
- October 1898:** Welcome Co. engineer appointed, specifications being prepared for immediate removal and re-erection of all winding machinery, poppet heads and boiler.⁹⁴⁶
- November 1898:** We are informed by the management that a complete 10 head stamp mill and other appliances have been secured at St Arnaud, in addition to the machinery purchased from the owners of the Cosmopolitan mine at Graytown, and tenders as per advertisement in last issue have been called for the removal and erection of the two plants. For full information of shareholders and the district in general, we append a schedule of the machinery. It is anticipated that work will be in full progress in 10 or 12 week's time. Horizontal steam engine (for winding and pumping) by Pollock and McNab of Manchester, cylinder 18in diameter, 86in stroke, fitting with link motion reversing gear, with shafting complete. Horizontal engine for battery, dia. of cylinder 14 in, and 30in stroke, fitted with a Pickering governor, bed plates for reversing the engine right to left. Feed pump on bed plate driven off crosshead. Ten-head battery by Thompson of Castlemaine, two boxes, 5 head in each; dia. of wiper shaft, 5in; spur wheel and pinion shrouded to pinch line, Oregon framing, copper plate tables and copper plates, heads 9in dia. and 10 false bottoms, weight of heads about 8cwt. Cornish boiler, 26ft long, and 6ft 6in dia., with fittings complete. One small dollee, 8 x 5ft for exhaust steam. Pumping plant with 7in shaft, spur wheels 5ft 6in dia., with sweep rods, bell bob and all accessories complete. 225ft of 9in lifts. Poppet heads, about 65ft high, with 6ft pulley wheels, ladders, braces, and all timber work complete. Battery housing 58ft x 28ft Oregon framing with galvanised iron walls and roof. Engine and boiler housing, 50ft x 40ft, hardwood frame and walls and galvanised iron roof. Blacksmith's shop, hardwood frame and walls and iron roof. 1 Blake pump, 7in. steam cylinder by 7in. water cylinder by 6in. stroke with suction and delivery pipes. 1 Watson and Denny grinding machine with rollers complete. 1 Cast iron amalgamating barrel with troughs, table and copper plate. 1 Line of 3-1/4in. shafting with cast iron wall brackets, pulleys and belting; 1 line of 2in shafting, do. do. 1 Brick retort furnace with retorts and sundry tools. 1 large wooden tank, capacity about 8,000 gallons, with piping complete. 1 Double purchase iron crab winch, 300ft steel rails for trucks, with flat sheets, etc. 5 coils rope. 7 iron pulley blocks - treble double and single, from 5 to 3in. 5 Trucks. 4 Iron truck tumblers. Quantity of chains, 4 cages, 1 iron safe, 1 set of gold scales and weights, 11 sluice boxes, 3 coils, 12in. double leather belting. 1 set stocks and dies, blacksmith's bellows, anvil, vice and tools, large quantity timber, iron and sundries.⁹⁴⁷
- March 1899:** Redcastle - Welcome Co. continues to carry on the working of the mine by contract having accepted the second tender for driving an additional 100 feet.⁹⁴⁸
- March 1899:** The cyanide process of extracting gold from the heaps of tailings that have accumulated in the district has so far advanced that operations have commenced under the management of Mr Gutsham.⁹⁴⁹

944 Report of Progress, Forbes 1898
 945 Mclvor News, 1 Sept 1898
 946 Mclvor News, 6 October 1898
 947 Mclvor Times, 17 November 1898
 948 Mclvor Times, 10 March 1899
 949 Mclvor News, 10 March 1899

- May 1899:** Niagara Battery - crushings for: Quick and party, Jubilee Claim; Molloy and Evans - Easter Gift; Babidge and Connelly - Old Gentleman.⁹⁵⁰
- July 1899:** Clarke's Welcome Mine, Redcastle - 300 ft level, the reef averages 2-1/2 ft, shows fair gold.⁹⁵¹
- 1900:** Redcastle - I was able to see Mr Hamilton's 'Pioneer' claims which are situated near the 'Black Cat' reefs though we did not have time to descend his shafts... The shaft is reported to be down 300 feet on the underlay, but water is at 285 feet... It is now closed... The Niagara mine in Redcastle township was, I regret to say, temporarily closed owing to legal proceedings, and I was only able to see the surface plant, which consisted of three four-head batteries, blanket tables, and Berdan pan, and the usual winding and pumping gear.⁹⁵²
- March 1901:** Redcastle Company - erecting machinery for extraction of gold from tailings.⁹⁵³
- July 1901:** Redcastle - Ore extraction works complete. These are erected on Clarke's old battery.⁹⁵⁴
- April 1902:** Cyanide works at Redcastle being erected by Mr G. Hyndman are rapidly approaching completion.⁹⁵⁵
- April 1902:** What was formerly known as Redcastle Gold Recovery Co., which is entirely in the hands of Mr Hyndman, has the erection of a windmill on the Niagara claim completed. Vats are being erected.⁹⁵⁶
- September 1902:** Cyanide works at Redcastle now completed.⁹⁵⁷
- August 1903:** Work resumed at Redcastle cyaniding works.⁹⁵⁸

Why-Not Gully

- 1898:** Auriferous Gullies - Long, Fowlers and Why Not gullies trend north-westerly to the Cornella Creek; Native, Curly Dog, Mitchell's and Blackfellow's gullies trend south-easterly to Major's Creek. From the information obtained regarding these gullies, the returns average from 1 dwt. to half-an-ounce to the tub, shallow sinking, the wash principally ironstone with fragments of sandstone, and very little quartz.⁹⁵⁹

Why-Not Reef (also Mullocky Reef/Tolakon No 1. south)

- September 1878:** At Redcastle the Why-Not Company have obtained 72 oz from 100 tons of stone. At Fowler's Company they obtained 42 oz from 17 tons crushed. Joyce's Co. have crushed 6 tons and obtained 2 oz 9 dwt. Hawkin's claim crushed 12 tons and obtained 1 oz to the ton.⁹⁶⁰
- December 1879:** The crushing at Why-Not Company, at Redcastle, averaged 16 dwt per ton of quartz. A new reef has been opened by Fowler and Co. in the same locality, which produced 1-1/2 oz per

- 950 Mclvor Times, 25 May 1899
- 951 Mclvor Times, 13 July 1899
- 952 Jenkins, 1900, p. 7
- 953 Mclvor Times, 11 July 1901
- 954 Mclvor Times, 11 July 1901
- 955 Mclvor Times, 14 April 1902
- 956 Mclvor Times, 24 April 1902
- 957 Mclvor Times, 4 September 1902
- 958 Mclvor Times, 6 August 1903
- 959 Report of Progress, W. Forbes 1898
- 960 Mining Surveyors' Reports, September 1878

ton; also another reef by Syddell and Co., which produced 15 dwts to the ton - the reef is 4 ft deep.⁹⁶¹

- February 1880:** Why-Not Claim, Redcastle. Court proceedings, dissolving partnership and seeling assets.⁹⁶²
- September 1881:** A crushing recently at the Why Not Company, Redcastle, gave a yield of 3 oz 3 dwts to the ton; and a company has been formed, to be called the May Day Company, to work this mine.⁹⁶³
- September 1893:** [History] The Tolakon Co. (the Old Why Not) at Staffordshire Flat about 3 miles from Redcastle, has 27 acres under lease and intend to get a boiler for the battery and winding engine shortly. There are 30,000 shares in the Company, floated at 2 shillings. In the forepart of last week we were informed the shares were up to 3s. 10 1/2d. Mr W. A. Bradley, one of the old proprietors of the mine, is managing temporarily. At present there is on the ground the old 10 head battery, housed in, with engine, poppet legs and winding gear, complete in fact, everything complete except the boiler. The company is now making a large dam to give a supply of water for the plant, 1000 yards of earth having been taken out last week. A good substantial dam bank is being made ... The ground was recently purchased by Mr. Ware Copeland for a Ballarat syndicate, from Bradley, Bock, Burgess and Co., the Ballarat people apparently being well satisfied with the purchase. It is believed the machinery will be erected and at work, and crushing started in about two months ... Immediately adjoining the Tolokon, to the north, Mr Trelor, of Ballarat, has taken up a lease. Connected with the Tokalon, is the Mullocky Reef, taken under lease of 30 acres, and known as the Tokalon No 1. south, being on the same line as the old Why Not.⁹⁶⁴
- September 1893:** Tolokon Co. (Old Why-Not) intends to buy machinery. Tolokon No. 1 South yielded 2 dwt - 1 oz per ton ten years ago. Only worked to 50 ft. Thousands of tons of mullock about.⁹⁶⁵
- March 1894:** Tolakon mine - let on tribute.⁹⁶⁶
- April 1894:** Tolakon mine - tributers cleaned up 30 oz of gold for 13 days work.⁹⁶⁷
- July 1894:** Marianne Reef - 6 tons crushed at Tokalon battery yielded 4 oz 17 dwt.⁹⁶⁸
- November 1895:** New Why Not - over last 6 weeks, machinery has been overhauled. Crushing got underway with a 5-stamp battery.⁹⁶⁹
- December 1897:** One claim in the immediate vicinity of the township, now under protection of 2 months exemption, produced 2 years ago 200 oz in a fortnight. About a mile to the west of this claim is the mine known as the "Beautiful Venice" now apparently abandoned, the present company having disposed of the mining plant and offer the lease for sale. A quarter mile distance from this mine is the Welcome, the only mine working in the district at present with profit ... The New Why Not, situated a short distance from the Welcome, a mine, which until recently gave employment in the neighbourhood is also shut down, this mine has all the necessary facilities for carrying on mining on a large scale.⁹⁷⁰
- Dec 1897:** The houses of the New Why Not Gold Mine situated near Redcastle with all the machinery contained within have been entirely burnt by fire ... a large amount of valuable machinery,

961 Mining Surveyors' Reports, December 1879
962 Mclvor News, 26 February 1880
963 Mining Surveyors' Reports, September 1881
964 Mclvor News, September 14, 1893
965 Mclvor News, 14 September 1893
966 Mclvor News, 15 March 1894
967 Mclvor News, 26 April 1894
968 Mclvor News, 20 July 1894
969 Mclvor News, 8 November 1895
970 Mclvor News, 16 December 1897

including steam engine and battery with all the necessary acquirement's are in a heap of ruins.⁹⁷¹

⁹⁷¹ Mclvor News, 30 December 1897

TOOBORAC DATABASE

**Ford's Gully (including Half Moon Reef)
Mundy Gully
Tooborac (also known as Sugarloaf)**

Ford's Gully (including Half Moon Reef, Dairy Flat/Reef)

- February 1905:** New Year Venture leases, Ford's Gully, 1-1/2 miles from Mundy Gully on the same line of reef.⁹⁷²
- December 1905:** New Years Venture - Half a mile south of Mundy Gully, shaft is 130 ft deep, with a drive along the reef. South New Year Venture - Shaft down 100 ft and some payable crushings are said to have been taken out of the mine... 200 yards to the west the Half Moon Reef has been worked for several hundred feet by shaft, and a half mile west of Dairy Flat Reef has been worked for a considerable length.⁹⁷³
- March 1906:** Government battery to be erected near New Year Venture claim has been delivered.⁹⁷⁴
- July 1906:** Government battery working satisfactorily.⁹⁷⁵
- November 1906:** Yield of gold for the quarter ending 30 September 1906 included yields from the Government Battery at Ford's Gully.⁹⁷⁶
- 1907:** New Year's Venture Mine - lies 1/2 mile south of the Mundy Gully Mine. The shaft is 130 feet deep, and a drive has been made along the reef. South New Year's Venture - adjoins the New Year's Venture on the south side...shaft sunk to 100 ft. Half Moon Reef - about 200 yards to the west of South New Year's Venture is the Half Moon Reef, which has been worked for a length of several 100 ft by means of shafts. Dairy Flat Reef - 1/2 mile to the west of South New Year's Venture is the Dairy Flat Reef, also worked for a considerable length. new Year's Venture Extended Mine - lies 1/2 mile south of the South New Year's Venture, and its workings are the most southerly on tis belt of country. A shaft has been sunk to 30 ft.⁹⁷⁷
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Mundy Gully (including Wiley's Reef, Syndicate Reef)

- August 1867:** Tooborac - New quartz crushing battery erected. Application for gold mining lease. Foot of Mundy Gully, Tooborac. Machinery for quartz crushing.⁹⁷⁸
- April 1869:** Tooborac Quartz Mining Co. Prospects improving, have sunk shaft much deeper, driving at a lower level. Crushed from a large reef 80 tons, for a yield of 24 oz.⁹⁷⁹
- December 1881:** A crushing of 27 tons from Wiley's Reef, Mundy Gully, Tooborac, yielded 14 oz 17 dwts of gold.⁹⁸⁰
- April 1899:** Mundy Gully, Syndicate Reef, Tooborac - 58 tons gave 104 oz. Sixth crushing taken out in last 14 months. During this time 242 loads gave 573 oz.⁹⁸¹
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⁹⁷² Mclvor Times, 16 February 1905

⁹⁷³ Mclvor Times, 7 December 1905

⁹⁷⁴ Mclvor Times, 1 March 1906

⁹⁷⁵ Mclvor Times, 5 July 1906

⁹⁷⁶ Mclvor Times, 22 November 1906

⁹⁷⁷ Dunn, 1907

⁹⁷⁸ Mclvor News, 16 August 1867

⁹⁷⁹ Mclvor News, 8 June 1883

⁹⁸⁰ Mining Surveyors' Reports, June 1881

⁹⁸¹ Mclvor Times, 20 April 1899

- February 1901:** Mundy Gully, Tooborac - Driving and stoping continues at 150 ft level. Stone is 18 inches wide... During 14 days crushed 155 ton for a yield of 54 oz.⁹⁸²
- July 1901:** Mundy Gully - contractors have sunk shaft 13 ft with total 181 ft.⁹⁸³
- January 1902:** Mundy Gully - cleaned and tested boilers and affected all necessary repairs.⁹⁸⁴
- April 1902:** Mundy Gully - crushed 84 tons for 22-1/2 oz.⁹⁸⁵
- June 1902:** Mundy Gully Co. - have suspended operations.⁹⁸⁶
- August 1902:** Mundy Gully - Machinery, etc. auctioned - bought for £605 by former workers.⁹⁸⁷
- November 1905:** Government battery of 5 stamps to be sent to Mundy Gully.⁹⁸⁸
- December 1905:** Mundy Gully mine - is being worked by a co-operative party of twelve. The shaft is down 240 ft. From 1901 to September 30 1905, 7,452 tons crushed yielded 2,789 oz.⁹⁸⁹
- 1905:** The only mine of any importance in this division is the Mundy Gully Co-operative Co.'s mine, in which active operations have been carried out throughout 1905 by a party of 13 men, 9 of whom are employed below ground... 1283 tons yielded 446 oz. The shaft is 260 ft deep...the mine is well equipped with a 10-head battery and a winding winch.⁹⁹⁰
- February 1907:** Mundy Gully Syndicate, Tooborac - Cleaned up crushing of 90 tons for 75 oz.⁹⁹¹
- 1906:** Three quartz mines provided with steam machinery, viz. Mundy Gully, Peter's Gully and Williams' Reef Companies, as well as a number of co-operative parties, without steam machinery, are working.⁹⁹²
- 1907:** Mundy Gully mine - situated in timbered ranges about 6 miles from South Heathcote, in a direction somewhat to the east of south. The alluvial gullies, a little further to the south, such as Surface or Little Surface gullies, have been extensively worked for alluvial gold. The former gully has been worked for over 2 miles in length. At present being worked by a co-operative party of twelve, with very satisfactory results. Returns: 1901-1905 - 7,452 tons yielded 2,789 oz.⁹⁹³
- 1907:** Mundy Gully Co-operative Co... continued to work as usual, between the 250 ft level and the surface - 795 tons yielded 230 oz. Thirteen men are employed.⁹⁹⁴
- 1908:** Mundy Gully Co-operative Co. worked throughout the year with indifferent success - 11 men employed.⁹⁹⁵
- early 1910:** Both quartz and alluvial mining in the Division appears to be practically dead. The following quartz mines, that were in active operation at this time in 1909, have ceased operations:- The Peters Gully, the Mundy Gully, the Homeland and Craven's Gold Mining

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- 982 Mclvor Times, 21 February 1901
- 983 Mclvor Times, 25 July 1901
- 984 Mclvor Times, 9 January 1902
- 985 Mclvor Times, 10 April 1902
- 986 Mclvor Times, 5 June 1902
- 987 Mclvor Times, 29 August 1902
- 988 Mclvor Times, 2 November 1905
- 989 Mclvor Times, 7 December 1905
- 990 Mining Surveyors' Annual Reports, 1905
- 991 Mclvor Times, 7 February 1907
- 992 Mining Surveyors' Annual Reports, 1906
- 993 Dunn, 1907
- 994 Mining Surveyors' Annual Reports, 1907
- 995 Mining Surveyors' Annual Reports, 1908

Companies, and the prospects of them ever resuming operations in the near future do not appear to be bright.⁹⁹⁶

- c. 1930s:** Mundy Gully about 5 miles south of Heathcote. Mundy Gully Reef 1800' long... Mine worked to 260' stoped out. Mines Department wanted four compartment shaft. Company closed mine as shoot would be away south. New shaft would then have to be sunk... There is also another lode south, known as Hagan's [which] was a several ounce show worked to water.⁹⁹⁷

Tooborac (also known as Sugarloaf) (includes Dairy Flat)

- March 1865:** McIvor Hydraulic and Gold Mining Co. - Prospectus - Capital £10,000. Purpose:- Conservation of head waters of Sandy, McIvor, Wild Duck Creeks, and conveying of same, by means of race, through the known auriferous country from Tooborac to Heathcote, at an elevation sufficient to command the whole McIvor gold field. Race to be capable of conveying 6 million gallons per day (equal to 60 sluice heads), to commence at the base of Sugar Loaf Mountain. For the present, 7 miles to be constructed... Water race will command 90 square miles of auriferous ground which, owing to lack of water, had to be abandoned... Sites for flour, quartz and saw mills have been selected along the line.⁹⁹⁸
- August 1869:** Sugarloaf quartz mines turn out good stone, keep ore crushing machine going.⁹⁹⁹
- September 1869:** Reliance Gold Mining Co. - Tooborac, near hotel - 30 acres, £2,000, steam machinery.¹⁰⁰⁰
- September 1874:** An application has been made for a water race, about 30 miles in length, commencing near the base of the Sugarloaf Hill, Tooborac, and terminating about Wattle Flat, and two small reservoirs in connection with the race.¹⁰⁰¹
- June 1878:** Hedley's water race, from Tooborac to Heathcote, has been completed, and will commence running on the 1st July.¹⁰⁰²
- June 1879:** Last month a small rush took place at Tooborac, owing to the discovery of a new reef lying between Dairy Flat and Sugar Loaf, several claims having been taken up... The prospects are promising...but no crushing has yet been done...¹⁰⁰³
- September 1879:** Hedley's Hydraulic Sluicing Claim Co. is in full work at present, but, owing to the scarcity of water hitherto, operations have been retarded; but in the event of a more favourable season, the claim will be the means of developing the old workings at McIvor.¹⁰⁰⁴
- March 1880:** Late rains have given a plentiful supply of water for sluicing purposes, and Hedley's sluicing works have again commenced operations.¹⁰⁰⁵
- June 1883:** Victory Gold Mining Co. Lease comprises Sugarloaf Hill, Tooborac. Lodes proved to a depth of 40 ft.¹⁰⁰⁶
- September 1883:** At Tooborac, or as it is commonly called Sugar Loaf (distant 11 miles S of Heathcote) matters are particularly quiet, and there are no returns from the quartz mining operations; in fact, for a time, all work ceased. No, however, there is a prospect of amendment; the Victory, late Garfield, Company recommenced work about a fortnight ago, and they are busily

996 Mining Surveyors' Annual Reports, 1909

997 Hird, 1974, p. 7

998 McIvor News, 17 March 1865

999 McIvor News, 13 August 1869

1000 McIvor News, 17 September 1869

1001 Mining Surveyors' Reports, September 1874

1002 Mining Surveyors' Reports, June 1878

1003 Mining Surveyors' Reports, June 1879

1004 Mining Surveyors' Reports, September 1879

1005 Mining Surveyors' Reports, March 1880

1006 McIvor News, 8 June 1883

engaged in sinking and driving; they are down 80 feet, and have an engine of 8 hp connected with a six-head battery, the value of which is £600. When the Garfield Co. stopped work, the stuff was going 16 dwt to the ton. The Tooborac Company ceased working 6 weeks ago, and has no yield to report; it is intended to start again shortly. There are 15 to 16 Chinamen at work on the creek paddocking the alluvial; it is known they are doing well, but it is utterly impossible to obtain results from them.¹⁰⁰⁷

December 1883: At Sugarloaf, Tooborac, the Victory (late Garfield), according to Mr Yabsley, manager, are going ahead and anticipate great results. The Chinese are still paddocking.¹⁰⁰⁸

June 1884: The Victory Co. has crushed 80 tons for 80 oz; depth of claim 75 feet. The alluvial remains much the same.¹⁰⁰⁹

September 1884: An application for a lease of 18 acres, at Tooborac, has been made during the quarter by Messrs Campbell, Wylie and Company for the Mariners Quartz Mining Company. Six men, it is stated, will be employed on the ground for the first six months.¹⁰¹⁰

June 1893: Tooborac Co. struck reef in tunnel.¹⁰¹¹

July 1893: Tooborac tunnel - 15 lbs hand picked. Specimens went 5 oz to the ton. Reef 9 inches thick.¹⁰¹²

HEATHCOTE UNKNOWN DATABASE

Reedy Creek

February 1859: Reedy Creek - Two parcels were crushed and yielded 27 oz to the ton. Machinery on the spot under construction.¹⁰¹³

June 1879: Kilmore and Quartz Alluvial Gold Mining Co. let on tribute to Dr C. Robinson for 5 years, at 10% of gross yield of gold.¹⁰¹⁴

August 1879: Dr Robinson's machinery is being erected and a battery is working at Reedy Creek.¹⁰¹⁵

Emu Creek

February 1896: Kilcorran Gold Mining Co. (Emu Creek) - Machinery nearly erected. 50 tons on grass, and considerable cross cutting done.¹⁰¹⁶

March 1889: Two new reefs have been discovered at Emu Creek, one 4 ft thick, which prospectors expect to go 8 oz to the ton.¹⁰¹⁷

July 1896: New Kilcorran Mine, Emu Creek, crushed 25 tons for a yield of 44 oz.¹⁰¹⁸

1007 Mining Surveyors' Reports, September 1883

1008 Mining Surveyors' Reports, December 1883

1009 Mining Surveyors' Reports, June 1884

1010 Mining Surveyors' Reports, September 1884

1011 Mclvor Times, 29 June 1893

1012 Mclvor Times, 13 July 1893

1013 Mclvor News, 25 February 1859

1014 Mclvor News, 12 June 1879

1015 Mclvor News, 21 August 1879

1016 Mclvor Times, 27 February 1896

1017 Mining Surveyors' Reports, March 1889

1018 Mclvor Times, 23 July 1896

Water Flat

December 1908: Water Flat - sluicing - clean up on 24th November for unsatisfactory yield of 23.5 oz.¹⁰¹⁹

Mt Ida

1937: In company with the manager, I inspected the site of operations of the Mt Ida Manganese Mining Co. NL on the Bendigo-Heathcote railway line, about 1/2 mile from the Heathcote railway station. The deposit is being developed by open cut, and a tram line from the face to the crushing and concentrating mill is being constructed. The work to date has revealed a manganese ore body apparently of considerable dimensions. Its position adjacent to the railway line is favourable for economic handling.¹⁰²⁰

WILD DUCK CREEK DATABASE

Derrinal One Eye Gully/Rush Wild Duck Creek/Reef

Derrinal

- June 1897:** Messrs Day Bros., who are working payable cement at Derrinal have purchased Collins' battery at Redcastle, and intend removing it to the site of their claim.¹⁰²¹
- Dec 1897:** Work of an extensive nature is progressing satisfactorily at Messrs Day Bros. alluvial find at Derrinal. The battery is kept going constantly and a cleaning up takes place on Saturday.¹⁰²²
- June 1898:** Messrs Day Bros. have recently added new machinery to their plant at Derrinal for treatment by the cyanide process, but they are unable to carry on work for want of water. Messrs Day Bros. have now men engaged on the Aurum Reef (Walley's old reef) near Wattle Flat.¹⁰²³
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One-Eye Gully/Rush

- February 1873:** New rush at One-Eyed Gully, back of Speed's property, between 4 and 5 miles from Heathcote. 100 miners on the ground; yields 4dwt to 8 dwt per load, 2 ft thickness of washdirt. Sinking 5-30 ft. May be regarded as a new field.¹⁰²⁴
- March 1873:** One Eye Rush - 200 people on ground. Prospects very encouraging... washdirt averaged 6 inches to 2 ft thick. Several holes have been bottomed on payable gold. Sinking deep and tough. Influx of miners going on. Run is about 3 chain wide, and has been traced a considerable distance.¹⁰²⁵
- March 1873:** Small alluvial rush has taken place about 6 miles from the township of Heathcote, and about 3/4 mile south of what is known as the Wild-Duck road, and close to Mr Speed's purchased land (allotment 27, Parish of Heathcote). There are about 300 people on the ground, but many of them are not working. There are, perhaps, about 30 shafts bottomed, in which gold was obtained - many without the 'colour'. The sinkings vary from about 12 ft to 18 ft, through clay, cemented gravel, and pipeclay. The washdirt is from about 2 inches to 6 inches in thickness, the width not yet determined. The yield of gold varies from about 5 dwts to 1 oz to the load [load = 1 drayload, 15-18 cwt - according to Jack Cox, former battery

1019 Mclvor Times, 3 December 1908

1020 Kingston, 1937

1021 Mclvor News, 10 June 1897

1022 Mclvor News, 2 December 1897

1023 Mclvor News, 9 June 1898

1024 Mclvor News, 13 February 1873

1025 Mclvor News, 20 March 1873

operator]. The ground is very patchy. I do not think it is likely to be a permanent digging.¹⁰²⁶

- April 1873:** One Eye Rush - No yields of much importance, but population increasing. Lead may be said to be in a 'string' of patches. The few holes stand a good chance to miss these spots.¹⁰²⁷
- June 1873:** The small alluvial rush in my last report called the 'One Eye' exhibits no new features.¹⁰²⁸
- June 1873:** In June 1873 John Henry Gheradine and Quong Sou applied for publican's licences at One Eye Gully but did not appear in court and both were refused.¹⁰²⁹
- August 1873:** One Eye Rush - parties still getting good prospects.¹⁰³⁰
- September 1873:** Some claims turning out very well, especially the prospecting claims. Depth of sinking is best part of 30-40 ft, through 5-6 ft of unusually hard cement.¹⁰³¹
- September 1873:** The small alluvial rush called the 'One Eye' is, I think, in a state of decadence. I believe that the miners at work on it are barely earning moderate wages; a few of them have left, and are now working at a place about 1-1/2 miles N of the 'One Eye', known as Mullocky Hill. some of the claims at this place have proved to be tolerably remunerative.¹⁰³²
- 1873-74:** In September 1873 Thomas Chow Mow got a hotel licence at One Eye and in December of that year Jane Chow Mow was granted the licence in here name. She did not renew it in December 1874.¹⁰³³
- 1873-1883:** In April 1873 Charles Schrevelius was granted a publican's licence for a house at the One Eye Gully rush to the north of Heathcote... He held the licence until...February 1883.¹⁰³⁴
- 1900:** I was able to visit Day's claim in Speeds paddock, near Wild Duck Creek. This claim is an alluvial one, it is on the 'One Eye Lead' of Mr Dunn's report, 1891, and has been worked by a party of several brothers, who erected a battery, and were at one time successful but have more recently been off the run of their gold, and after spending a good deal of money in the employment of labour, besides giving their own, were seeking aid at the time of my visit.¹⁰³⁵
- 1974:** One Eye Forest or North Heathcote... There is Woolley Reef, which was worked to water level 6 & 7 oz to the ton. The Woolleys left this mine as they got the wind up as the ground became bad and water and bad rotten ground don't go together if the miners don't know their jobs.¹⁰³⁶

Wild Duck Creek/Reef

- January 1852:** Gold was reported discovered at the Wild Duck Creek in January 1852, possibly in the vicinity of McIvor...¹⁰³⁷
- December 1858:** Wild Duck Rush - some washing 3-6 dwts coarse gold per tub. 3 oz nugget found.¹⁰³⁸

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- 1026 Mining Surveyors' Reports, March 1873
1027 Mclvor News, 14 April 1873
1028 Mining Surveyors' Reports, June 1873
1029 Randell, 1985, p. 263
1030 Mclvor News, 21 August 1873
1031 Mclvor News, 4 September 1873
1032 Mining Surveyors' Reports, September 1873
1033 Randell, 1985, p. 263
1034 Randell, 1985, p. 263
1035 Jenkins, 1900, p. 2
1036 Hird, 1974, p. 1
1037 Flett, 1979, p. 83
1038 Mclvor News, 4 December 1858

- January 1859:** Some parties doing remarkably well.¹⁰³⁹
- January 1859:** Wild Duck Creek - good accounts.¹⁰⁴⁰
- February 1859:** Population increasing - prospecting.¹⁰⁴¹
- March 1864:** Wild Duck Reef Co. - crushing from 130 feet. The only quartz workings are at the Wild Duck Reef. The tributers have raised upwards of 1000 tons at an average yield of 4 dwt 20 grs.¹⁰⁴²
- June 1864:** Great Leviathan and Co., Wild Duck Creek - crushing from 150 ft. The Leviathan Quartz Mining Co., on the Wild Duck Reef, have raised and crushed but 455 tons of stone within the quarter, nearly 600 tons less than were raised the previous 3 months.¹⁰⁴³
- September 1864:** Wild Duck Reef abandoned, engine idle. But some mining parties doing very well on Wild Duck Creek between Warren's Store and the old reef.¹⁰⁴⁴
- October 1864:** A new lead of gold discovered, about 9 miles in a westerly direction from the township of Heathcote, near Wild Duck Creek. There were upwards of 150 miners at work on the rush, most of who appeared to be profitably employed.¹⁰⁴⁵
- February 1865:** Wild Duck Creek - Permanent miner's village of Quackton, 9 miles from Rodney. Population daily increasing, mainly alluvial mining, favourite spots being made hills, deep and shallow sinkings. Gold also in most gullies around, deserted owing to lack of water. Gold struck at Hard Hills, 15 ft deep.¹⁰⁴⁶
- March 1865:** These diggings seem to consist of a narrow auriferous belt, one extremity being the Hard Hill in the direction of McIvor, the other the shallow Clark's Gully (2 miles distant from each other). At Clark's gully, coarse gold has been found, including a 5 oz nugget. Three feet of washdirt averages 5dwt per load. From 5 to 6 ft deep.¹⁰⁴⁷
- March 1865:** Wild Duck Creek, Hard Hill. Nearly whole population sinking or 'shepherding'. Many payable claims in full work... Lead appears narrow but extending in length... Depth 24 ft, very good driving.¹⁰⁴⁸
- March 1865:** On the 19th October 1864...a new rush had taken place to the Wild Duck Creek, about 9 miles west of Heathcote. Since then gold has been discovered about half a mile west of the original prospecting claim, and the place (Hard Hill) has since been extensively rushed. There are at present about 500 miners on the ground; the sinking, through hard cement and boulders, to a depth of 22 to 27 feet. The lead consists of very narrow leaders, or 'strings', patchy and easily lost, but there is little doubt that when water becomes plentiful, and the prospecting consequently more active and efficient, these 'strings' will be found to unite, and form a well defined lead. The yield reported varies from 1 oz to 6 dwts to the load.¹⁰⁴⁹
- June 1865:** The Wild Duck Creek new rush still maintains its proportions; and though not very large yields are reported, the miners seem in general to be profitably employed, and anxiously await a supply of water.¹⁰⁵⁰

1039 [McIvor News](#), 15 January 1859

1040 [McIvor News](#), 28 January 1859

1041 [McIvor News](#), 4 February 1859

1042 Mining Surveyors' Reports, March 1864

1043 Mining Surveyors' Reports, June 1864

1044 [McIvor News](#), 2 September 1864

1045 Mining Surveyors' Reports, October 1864

1046 [McIvor News](#), 28 February 1865

1047 [McIvor News](#), 9 March 1865

1048 [McIvor News](#), 23 March 1865

1049 Mining Surveyors' Reports, March 1865

1050 Mining Surveyors' Reports, June 1865

- July 1868:** Vegetable and fruitgrowing began in the district almost as soon as the goldrush started. In July 1868 Kit Foo selected 10 acres on the west side of Wild Duck Creek, near the later Langwarnar State School. The flat land was easy to cultivate for vegetables but most of the stony ridge in the middle was terraced and laid out with a great deal of hard work and considerable ingenuity by the party of Chinese. The vegetable garden was watered from the Wild Duck Creek by horse power and the produce was sold mostly in Heathcote.¹⁰⁵¹
- late 1860s:** In the late 1860s Duke and Company constructed a large earthen bank across the upper Meadow Valley Creek, in what was later Sam Campbell's property. This dam was designed to provide a considerable head of water for sluicing purposes, at diggings in the British and American Hills, some miles below it. These old diggings have, in more recent years, had their name contracted to the American Hills. The water was conducted to the sluicing site in an open channel, which followed the contour of the ground, through Hamilton's and Marshall's properties. From the end of the channel, in the American Hills, the water was led into a well constructed wooden flume, made of three sawn planks about twelve inches wide and one inch thick. Then it went into a heavy canvas hose to increase the pressure. At the end of this hose there was a nozzle, made of stout galvanised iron and tipped with cast iron.¹⁰⁵²
- April 1869:** New rush near Wild Duck. Locality not known.¹⁰⁵³
- 1870:** Back in 1870, J.H. Reilly was Duke and Co.'s manager and, when he raised the sluice gates at the dam and deepened its bywash, the local people claimed that the thing was positively dangerous.¹⁰⁵⁴
- March 1871:** Two notices of application for licence to cut a race and construct a reservoir. The Meadow Valley and Wild Duck Water Supply and Sluicing Co., Wild Duck Creek, north-east and south-west, 12 miles, Meadow Valley, 70 acres. Reservoir 50a 2r 29p - 193 million gallons.¹⁰⁵⁵
- September 1871:** The ground held by Parker brothers, under lease, near the Wild Duck Creek, is exhibiting encouraging prospects; it is now in the hands of a company.¹⁰⁵⁶
- December 1871:** Redcastle and the Wild-Duck seem to be the favoured localities just now.¹⁰⁵⁷
- September 1875:** The lessees of the lease of Wild-Duck Creek have also erected a crushing machine, with a battery of eight stamps, and had a crushing of stone, with a yield which they think payable.¹⁰⁵⁸
- November 1878:** London Reef, on Wild Duck Creek, 1 mile south of the bridge on Kyneton Road. Reef taken by Parker brothers, many years after its discovery in 1871. Got a little gold, crushed in their own machine at Old Racecourse.¹⁰⁵⁹
- August 1882:** Excelsior Co. - Lease taken up on old Wild Duck Reef. Water all bailed out of old shaft, which was originally sunk to 150 ft. Shaft being repaired. Engine and machinery in good order.¹⁰⁶⁰
- March 1883:** Excelsior Quartz Mining Co., Wild Duck Creek - Since June 9, 1882, machinery and head frame erected. Water 110 ft from surface.¹⁰⁶¹

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- 1051 Randell, 1985, p. 197
 1052 Randell, 1985, p. 26
 1053 Mclvor News, 23 April 1869
 1054 Randell, 1985, p. 29
 1055 Mclvor News, 31 March 1871
 1056 Mining Surveyors' Reports, September 1871
 1057 Mining Surveyors' Reports, December 1871
 1058 Mining Surveyors' Reports, September 1875
 1059 Mclvor News, 28 November 1878
 1060 Mclvor News, 31 August 1882
 1061 Mclvor News, 8 March 1883

- September 1883:** Mr John Hedley has applied for 19 acres on the Wild Duck Creek, 3 miles W of Heathcote. £2,000 is to be expended on machinery and manual labour. [Prospecting for deep lead.]¹⁰⁶²
- December 1883:** At Wild Duck and Meadow Valley Creeks, the sluicing companies are doing splendidly. [Meadow Valley Sluicing Company]¹⁰⁶³
- June 1884:** At the Wild Duck the Meadow Valley Creek Sluicing Co. were at work with every prospect of success, but an adverse verdict in the court has caused operations to cease.¹⁰⁶⁴
- September 1884:** Meadow Valley Sluicing Co., Wild Duck Creek, has not sent in their report.¹⁰⁶⁵
- September 1885:** Meadow Valley Sluicing Co. has not washed up.¹⁰⁶⁶
- September 1886:** The Meadow Valley Co. are also busily running off a paddock on the Hard Hills, Wild Duck Creek, with encouraging prospects.¹⁰⁶⁷
- November 1886:** The Sludge Question - The Sludge Inquiry Board...took the following evidence: Henry Thomas sworn, said: I am connected with the Meadow Valley Sluicing Co. The company is at work at present under a miner's right. It has been at work this year since about September. The sluicing operations have been going on for about 4 years. About 30 acres of ground has been worked, the depth from 3 to 9 or 10ft. There is over 200 acres to work on the spot. The water commands other diggings - Kimbolten &c obtain the water from the Meadow Valley Creek. The service dam has a capacity of about 27 million gallons, length of race the 3 miles. Don't know the fall of the race. Discharge the water into the Wild Duck Creek. The tailings don't go down to the creek. The proportion of tailings is about 8 or 10 per cent. Run all the balance into the creek. Don't know how much water is used per day. The tail-race is nearly a mile in length. It delivers directly into the Wild Duck Creek. Don't stack the sludge. It would be impossible to do so. There is no where to stack it. It would have to go into private land. The race passes through private land. 7 men were employed last tribute. The first year 17 men were employed for 4 months. Since then 6 and 7 men as long as the water lasted. Not 3 months a year on an average. General complaints have been made about the sludge, farmers complained. Have not taken into consideration the questions as to mitigating the injury. It would be impossible to impound the sludge. My partner told me he had received notice not to go on with the work. He has since died. We went on with the work. Suspended the work on a partnership quarrel, not on account of an action threatened. Never had an action threatened. If we can raise capital we intend to enlarge the dam and go as far as Pohlman's Creek. No steps are being taken at present to enlarge the capacity for water storage. If the Government allow us to do so, we intend going into the 200 acres. There is much more land available - about 400 acres altogether... William Speed, sworn: I am a land owner on the McIvor and Wild Duck Creeks... Have had numbers of cattle bogged in the sludge... The first were bogged about 3 years ago... Have to move them away in consequence of the sludge. Water them at dams. Would water at the creek if there were no sludge. The sludge does not come from the Meadow Valley Creek into my property... Robinson Cocks, sworn: My father owns land on Wild Duck Creek... Knew splendid holes - 200ft long and perhaps 25 to 30 ft deep - in the Wild Duck Creek, below the junction of the McIvor Creek, that are now filled up level, and you can walk across them. Have seen stock stuck in the sludge, and have helped to pull them out. Generally, in pulling them out, the strain is so severe that they are useless afterwards...¹⁰⁶⁸
- March 1887:** Meadow Valley Sluicing Co. is now waiting for more rain to wash up a large quantity of dirt.¹⁰⁶⁹

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- 1062 Mining Surveyors' Reports, September 1883
- 1063 Mining Surveyors' Reports, December 1883
- 1064 Mining Surveyors' Reports, June 1884
- 1065 Mining Surveyors' Reports, September 1884
- 1066 Mining Surveyors' Reports, September 1885
- 1067 Mining Surveyors' Reports, September 1886
- 1068 McIvor Times, 5 November 1886
- 1069 Mining Surveyors' Reports, March 1887

Knowsley

1900: Further to the northward of [One Eye], at Knowsley, I examined Mr Sims' claim. This is about a quarter of a mile to the east of the Knowsley Railway Station, and adjoins the public road. It is several miles away from any other mining claim... Mr Sims has adopted the use of numerous shallow shafts, that are each about 15 feet deep, at which depth water was found, and the work is at present nearly suspended, whilst means are being taken so as to deal with the difficulty.¹⁰⁷⁰

SPRING CREEK - GRAYTOWN DATABASE

Spring Creek-Graytown (including Compton's Creek, Bayne's Diggings, Five Mile Flat, Four Mile Reefs, Moonlight Flat) Surface Hill

Spring Creek-Graytown (including Compton's Creek, Bayne's Diggings, Five Mile Flat, Moonlight Flat, Surface Hill)

The Graytown or Spring Creek goldfield, a place surveyed by Hoddle in 1848, was situated halfway between Heathcote and Whroo, on a tributary of Major's or Deegay Ponds Creek.¹⁰⁷¹

November 1860: At Spring Creek some good reefs have been struck, but as there are no crushing machines within 9 miles, and the road being bad, cartage becomes expensive, so that a few only continue to be worked.¹⁰⁷²

March 1864: Shepherd and Co. - crushing from 15 ft. But little is doing in this secluded locality. No stone is being crushed, the few miners being employed in merely raising and stacking. On Saunders' pre-emptive right, quartz is being raised; the reef is thick.¹⁰⁷³

June 1864: Spring Creek has proved a complete failure. The famous Crinoline Reef, that yielded, some eighteen to twenty months back, from 8 to 12 oz to the ton, has been given up because not more than 1 dwt to the ton can be obtained now. The other reefs have been abandoned and the people are preparing to leave the place altogether.¹⁰⁷⁴

October 1868: The rich alluvial field was discovered by a party of four diggers, consisting of Alfred Corbett, J. Mills, C. Wollf and W. Polkinghorne... The party...struck a rich lead in the first hole. They reported their discovery to the mining registrar at Heathcote on 20 October 1868, and on account of the distance to the nearest diggings received a claim 150 yards square, which they had considerable trouble holding. This was situated near the later north end of the town survey, and near the junction of the Nardoo Lead.¹⁰⁷⁵

December 1868: The Spring Creek Rush continues to be further developed and the population to increase daily. The principal drawback to this goldfield is the scarcity of water. A great portion of the washdirt is carted from four to five miles to be washed; and unless a fall of rain occurs shortly the distance will be doubled, as Compton's and Major's Creeks are being rapidly exhausted, and the Goulburn will be the only resource.¹⁰⁷⁶

1868-69: The rush of diggers to the new field began soon after the discovery and by January 1869 there were 20,000 there; a large area of lead was opened up, and the town surveyed in

1070 Jenkins, 1900, p. 3

1071 Flett, 1979, p. 82

1072 Mining Surveyors' Reports, November 1860

1073 Mining Surveyors' Reports, March 1864

1074 Mining Surveyors' Reports, June 1864

1075 Flett, 1979, p. 82

1076 Mining Surveyors' Reports, December 1868

November 1868. This was named by the Mark Foy committee after Wilson Gray, the local M.P., and the streets were named after the discovery party.¹⁰⁷⁷

- 1869:** In January 1869 the rush to Spring Creek, later known as Graytown, was at its height. In that month 33 applications for beer licences and one for a publican's licence came before the Heathcote Licensing Bench, all of them for Spring Creek. Soon after this the Borough of Graytown, which had been excised from the Shire of McIvor, had its own Licensing Bench... There was very certainly a great number of hotels and beer tents in Graytown at this time.¹⁰⁷⁸
- January 1869:** Spring Creek Rush - Rapid increase in population, now 12,000. Many claims, now considered worthless, will be profitable when water can be supplied. Puddlers have exhausted Compton's Creek. Petition for water supply to the Minister of Mines.¹⁰⁷⁹
- January 1869:** Spring Creek Rush attracting people from all parts of Victoria, but most miners postpone their washing until the winter, owing to a lack of water. At the south end of the lead, near Compton's Creek bridge, the prospecting hole was bottomed at 40 ft... Many claims marked out. It is believed that the lead goes along the creek into the flat between Miller's and Costerfield. Washing-ups generally payable. Three loads on Wattle Flat turned out 3 oz per load.¹⁰⁸⁰
- January 1869:** Spring Creek Water Works Co. - Prospectus - Capital £20,000, in 10,000 shares. To construct a reservoir and water conduits from Goulburn River. Present limited supply 4.5 miles from lead. Proposed to raise water by steam engines from Goulburn River to reservoir for distribution. At present 20,000 loads of stuff, to yield 6 dwts to 4 oz per load, waiting, and hundreds of claims. Although ground very patchy, there is every reason to believe that a most extensive and general goldfield exists which will, when the water comes, furnish highly profitable employment for a very large population for years. Not only Moonlight Flat, but nearly every flat for miles around, appears auriferous. Compton's Creek rush extending rapidly, holes going down on Five Mile Flat, on the road to Costerfield.¹⁰⁸¹
- January 1869:** Spring Creek Rush - population fluctuating, not increasing. Excessive business competition. Anticipating gold washing outputs.¹⁰⁸²
- February 1869:** Band of Hope Prospecting and Gold Mining Co. Prospectus - 20 acres, including Bayne's Diggings, at the head of 5-mile Flat, Spring Creek Road, 4 miles NE of Costerfield. Three shafts have been sunk, not bottomed, one to 165 ft. Deepest alluvial ground in the district. Prospecting proved that an extensive lead of gold from Spring Creek runs into 5 Mile Flat, which may be one of many tributaries to a deep lead.¹⁰⁸³
- March 1869:** Spring Creek Rush - past the rule. Population decreases fast. Loss of gold at both ends of the lead. Large quantities of very payable dirt will be washed up in winter, unless severe flooding set in.¹⁰⁸⁴
- July 1869:** Spring creek - Miner's Protection League established.¹⁰⁸⁵
- August 1869:** On 9 August 1869, and in response to the estimated 20,000 people at the Spring Creek rush, the Government proclaimed Spring Creek as the Borough of Graytown, named after Wilson Gray, MLA. An area of 8 and 9/10 square miles was excised from the Shire of McIvor.¹⁰⁸⁶

1077 Flett, 1979, pp. 82-3

1078 Randell, 1985, p. 278

1079 Mclvor News, 1 January 1869

1080 Mclvor News, 15 January 1869

1081 Mclvor News, 22 January 1869

1082 Mclvor News, 29 January 1869

1083 Mclvor News, 26 February 1869

1084 Mclvor News, 12 March 1869

1085 Mclvor News, 23 July 1869

1086 Randell, 1985, p. 89

- September 1869:** Spring Creek rush is finished. Lead nearly worked out. In dry weather, fossicking still possible, but if wet will be unworkable ever after.¹⁰⁸⁷
- February 1869:** New Rush, Spring Creek - in a flat 2 miles west. Sinking over 60 ft, very hard. Prospect said to be good... Many claims marked out, 500 miners, large rush expected.¹⁰⁸⁸
- March 1870:** At Spring Creek mining does not wear a prosperous aspect at present. The new crushing machine has commenced work...and put through considerable quantities of quartz from the various claims opened out in the district, but I am afraid with unprofitable results to the claimholders. The average from all the quartz crushed is shown to be 6 dwts; when the expenses of carting and crushing are placed against this the balance is on the wrong side.¹⁰⁸⁹
- May 1870:** Mary Taylor's Rush - many people moving from Graytown.¹⁰⁹⁰
- June 1870:** Spring Creek - instead of suffering from a scarcity of water, it is now the reverse; the late heavy and continuous rains have flooded a great many of the alluvial claims and considerably impeded the operations of the miners.¹⁰⁹¹
- September 1870:** Spring Creek gradually losing its population. Mining in the locality is extremely dull.¹⁰⁹²
- December 1870:** Still being deserted.¹⁰⁹³
- March 1871:** The miners continue to leave Spring Creek, and the place seems gradually declining; occasionally a small rush takes place and gives employment for a few weeks to perhaps 100 to 150 men and is then worked out. One of this description took place during the quarter at a place called Nardoo Gully, about 1-1/2 miles NE from the township.¹⁰⁹⁴
- December 1871:** I have no improvement to report in mining matters in the locality of Graytown.¹⁰⁹⁵
- June 1878:** The United Miners Alluvial Claim, at Graytown, struck 2 ft of washdirt at a depth of 95 ft, with very satisfactory prospects. There have been several small crushings at Coy's Diggings, near Graytown, averaging 3 oz to the ton. Mining is apparently improving in and about Graytown.¹⁰⁹⁶
- September 1878:** At Graytown the only mine worthy of note is the United Miner's Registered Co., where work has been pushed on, and the prospects are so encouraging as to induce the company to purchase machinery. The prospects in this company's claim are about an ounce to the load.¹⁰⁹⁷
- December 1883:** Application for lease by Messrs J. Brennan and M. Blackall for 30 acres on Compton's Creek, about 1-1/2 miles from Graytown, which ground was formerly worked by a private company, and the returns were very good, even when the working ceased for want of capital.¹⁰⁹⁸
- June 1884:** At Gray Town (the Spring Creek Goldfields), Mr W.T. Oddy reports the total number of miners at work is 32, 12 in quartz mining, and 20 in alluvial. There is no machinery in the

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- 1087 [Mclvor News](#), 3 September 1869
- 1088 [Mclvor News](#), 18 February 1870
- 1089 Mining Surveyors' Reports, March 1870
- 1090 [Mclvor News](#), 13 May 1870
- 1091 Mining Surveyors' Reports, June 1870
- 1092 Mining Surveyors' Reports, September 1870
- 1093 Mining Surveyors' Reports, December 1870
- 1094 Mining Surveyors' Reports, March 1871
- 1095 Mining Surveyors' Reports, December 1871
- 1096 Mining Surveyors' Reports, June 1878
- 1097 Mining Surveyors' Reports, September 1878
- 1098 Mining Surveyors' Reports, December 1883

neighbourhood, and all quartz raised has to be crushed at the Cherry Tree, Costerfield, distant some ten miles... the average depth at which quartz has been obtained is 140 ft.¹⁰⁹⁹

- September 1884:** At Graytown there has been an increase of a third in the yield from quartz.¹¹⁰⁰
- October 1887:** Graytown Co. floated to work ground at Graytown (Miller's Freehold Gold Mining Co.) - 27,000 shares of 10/-.¹¹⁰¹
- December 1887:** The Spring Creek Company, Graytown, are now sinking on the deep lead (from which a considerable amount of gold was formerly obtained) and have got down about 60 ft, when a strong flow of water stopped further progress. They are now erecting pumps. The Miller's Freehold Company are down about 95 feet, but at present are idle, awaiting the arrival of machinery from Seymour.¹¹⁰²
- February 1888:** Spring Creek Gold Mining Co., Graytown. Mining operations commenced. A 'powerful engine and splendid plant'. 2 oz of gold off bottom of shaft.¹¹⁰³
- March 1888:** Spring Creek Co. have bottomed and obtained a very good prospect. They are now putting in trial drives, and expect to open up shortly.¹¹⁰⁴
- June 1888:** The Spring Creek Co. have put through 3-1/2 machines of dirt, which was taken from the 96-ft level, which gave a return of 28 oz 3 dwt. The Miller's freehold have temporarily suspended their underground working, and are at the present erecting their puddling machine.¹¹⁰⁵
- August 1888:** Spring Creek Co. - week ending July 27, washed off two machines for 13 oz.¹¹⁰⁶
- September 1888:** Spring Creek cleaned up for a return of 161 oz 13 dwt from 22 machines. Miller's Freehold Co. are at present occupies in progressive work.¹¹⁰⁷
- December 1888:** Spring Creek Co. have washed up for a return of 228 oz from 38 machines. Miller's Freehold is still doing progressive work.¹¹⁰⁸
- June 1889:** Spring Creek Co. have suspended operations for the present, owing to the flooding of the main shaft by surface water from Spring Creek. The company has decided to sink a new shaft on higher ground, and are at present putting down a series of bores. Miller's Freehold also suspended, for want of capital.¹¹⁰⁹
- September 1889:** Spring Creek are at present taking down and removing their machinery to the site of the new shaft.¹¹¹⁰
- October 1893:** While quartz mining steadily progresses it is pleasing to notice that our alluvial leads are receiving attention from Melbourne and Ballarat investors of a type that is likely to restore public confidence. Personally I am not acquainted with any of the directors of the new company that now holds the ground formerly held by the defunct Spring Creek Company [Graytown]. Mr Young arrived here some days back and commenced to have the machinery overhauled and the unsightly rust cleaned away. Steam is now up and pumping going on, so that if the unexpected does not happen the first underground shift goes on this week.

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- 1099 Mining Surveyors' Reports, June 1884
1100 Mining Surveyors' Reports, September 1884
1101 Mclvor News, 14 October 1887
1102 Mining Surveyors' Reports, December 1887
1103 Mclvor News, 24 February 1888
1104 Mining Surveyors' Reports, March 1888
1105 Mining Surveyors' Reports, June 1888
1106 Mclvor News, 17 August 1888
1107 Mining Surveyors' Reports, September 1888
1108 Mining Surveyors' Reports, December 1888
1109 Mining Surveyors' Reports, June 1889
1110 Mining Surveyors' Reports, September 1889

Relative to the new company I take the following from the 'Ballarat Courier' of the 2nd inst. 'Cosmopolitan Company, Graytown - The first meeting of shareholders...' ¹¹¹¹

March 1894: Cosmopolitan Co., Graytown. Crushing, pending repairs, only a 'few lots of quartz' - yielded 63 oz. ¹¹¹²

May 1894: Graytown - so satisfied are quartz miners of the permanence of the four mile reefs that ten or a dozen young men could be seen on Saturday afternoon making preparations for a village settlement or co-operative garden, which, apart from supplying small dainties, will add to the melody of the place, many of the young men are members of the Whroo Brass Band. ¹¹¹³

November 1895: Graytown - Local crushing plant closed for want of water. ¹¹¹⁴

1896: The Spring Creek deep lead commences at the Four-mile, north from Graytown township, and continues from there in a southerly direction to where it junctions with the Red Streak, and then continues in a westerly direction to the Spring Creek Company's workings. The sinking on this lead commences at 20 feet, and increases in depth to 30 feet, 40 feet, 45 feet, 60 feet, and 76 feet, where the Red Streak junctions with the main lead: it is fed by a number of tributaries, the principal ones being the following, viz.:- Tallow Candle, Crawfish, Slushlamp, Total Darkness, Nardoo, and the Red Streak. (Tallow Candle) commences east of the Four-mile: at 20 feet sinking the wash averaged 6 feet in width, 2 to 8 inches in depth, and averaged from 7 dwts to 10 dwts to the load. (Crawfish) starts from Surface Hill and runs into 10 feet, sinking as it approaches the main lead. The gutter averaged 12 feet in width and 6 inches to 1 foot in depth of wash, the average yield being 1 oz to the load. A number of nuggets were obtained in this lead, the largest being 3 oz in weight. (Total Darkness) commences at 30 feet sinking: the wash was from 4 to 6 inches in depth, and 8 feet in width, and averaged 1 oz to the load. (Slushlamp) - This commences at 15 feet sinking, and averaged 17 dwts to the load, the wash being 8 inches in depth, and gutter 7 feet in width. (Nardoo lead) commences east from Surface Hill: the sinking starts at the surface, and continues in depth to 50 feet, where it joins the main lead (when the Nardoo passes the cemetery it is known as the Cemetery lead)... (The Red Streak) is a narrow gutter, 4 feet wide, and starts at 15 feet sinking, the wash averaging 4 inches thick, and yielded 1 oz to 1 oz 5 dwt to the load. At the commencement of the main lead the wash was 4 inches in depth, and averaged 10 feet in width; at 10 feet sinking it increased to 1 foot in depth, and kept on increasing in width and depth until the lead reached View Point, at the foot of Camp Hill, where it formed a whirlpool or basin 90 feet in depth; the wash at this point was 12 feet deep, 6 feet of wash yielded 2 oz to load, the remainder 4 dwts to 2 dwts to the load; the lead then continues its course to Red Streak, where it junctions at 76 feet. The gold obtained from the lead down to this point averaged from 15 dwts to 2 oz to the load. Continuing in a westerly direction from the junction of the Red Streak with the main lead towards the Old Spring Creek Company, the lead has been worked as far as Mack and Party's shaft and workings, from which was obtained between 1,400 oz and 1,500 oz of gold; from information I have obtained the lead was flooded in 1870, and stopped further progress in these workings; a run of gold was picked up a little south of the main lead in shallow ground, also patches of a dark-reddish cement which, being crushed yielded 1 oz up to 2-1/2 oz to the ton, and was worked a short distance west, and about parallel with the continuation of the main lead; it was evidently considered to be the main lead at that time, but bores which have been put down since have proved the main lead to exist to the north of these shallow workings. The length of unworked ground is about 1,100 feet, and a proved width of 100 feet or more of auriferous wash from 18 inches to 2 feet in thickness. To the west of the bores and on the main lead the Exhibition Company is situated, this company has worked a small area of ground, and obtained 96 oz of gold, and 68 machines gave an average of 10oz 7dwt to the machine, 800 oz in all. Further west and across the Graytown-road Miller's freehold is situated: this company bottomed at 93 feet on the north side of the gutter, a little work was done, and the gutter dipping away south lost their level through not opening out deep enough, work being discontinued through want of capital to carry on. There is also a semi-portable engine 14-horse power, pumping machinery 6-in. lift, also one steam puddling mill. At the west side of lease a number of bores were put down, the deepest one is 114 feet, and it is quite possible it has bottomed in a pothole, as at View Point. ¹¹¹⁵

1111 Mclvor Times, 19 October 1893

1112 Mclvor Times, 8 March 1894

1113 Mclvor News, 10 May 1894

1114 Mclvor Times, 15 November 1895

1115 Forbes, 1896, p. 5

Dec 1896: Graytown - The Wet Lead Company is making wages

1900:

Graytown - This again is a township that, like Costerfield, has much decreased in importance, but is unlike Costerfield, in that some mining is still carried on near it, thought chiefly on a very small scale... Commencing at a point about half-a-mile from Oddy's Hotel, I found some work going on at the Wesleyan Hill. The operations had some old shafts as a basis... At one time a battery existed near here, the mill dam alone remains. Crinoline Reef is a little to N or NE of the Wesleyan Hill... Mine at Surface Hill - I found that altogether about 25 men were employed, mostly underground. There is a shaft at the top of the hill put down a distance of 175 feet, with levels at 100 feet and 130 feet respectively... There are extensive and old surface workings, which local tradition records as having been very rich. The surface equipment [at the mine] includes winding engine and ten-head battery (the gold is free). Ordt and Bronlees' Claim - This is a working in which I found four men employed, including one of the holders of the claim. It is now an opening 70 feet long on a reef 6 inches thick... This has been worked by a vertical shaft cutting the reef at 35 feet from the surface, followed by 75 feet working on the underlay. Ordt's Claim - The 'Beautiful Venus'...appears to have only two workers employed upon it. Ferguson's Reef - A neighbouring mine to this is said to be 4 inches to 9 inches wide, but work is there stopped at the water level, 260 feet down on the underlay. Clarke's Reef - This reef...has had extensive workings made upon it.... Mr Oddy, an old resident, told me that Clark took £10,000 from one spot, but proof on this point seems now impossible to obtain. He also told me that he had at one time been connected with work upon the reef, that the shaft was down 200 feet, part of which at least is in good order. At the present time the property is not being worked at all, indeed I could only hear of some ten or twelve men at work on the whole district between 'Surface Hill' and 'Four Mile', these men all work singly or in small parties. As regards the property to the direct east of the township, I made a detailed inspection of 'McKenzie's Reef'. This, I have no hesitation in saying, is not of the nature of a vein at all, but is a deposit of gold in a bedded deposit of very hard sandstone, now converted into a quartzite... Alluvial Gold at Graytown - The alluvial workings are in the condition described by Mr Forbes in 1896, and are likely so to remain unless some private speculators saw it to their interest to unwater the deeper part of the lead that still remains unworked towards Compton's Creek. On the creek NW of the town there is a ten-head battery, which supplies the needs of the district as regards power to crush stone. The battery at Surface Hill is chiefly employed upon the stone from its own mine, which is sufficient for the purpose but its presence seems to give much stimulus of competition as may be if at all required.¹¹¹⁶

Surface Hill

- June 1897:** Surface Hill Gold Mining Co., Graytown. Once 30,000 people, but flood in 1870 wiped the mining out. New shaft 200 feet NE of old shaft sunk to 100 ft since January last. Dam and battery are being erected. Over 100 tons of ore at grass.¹¹¹⁷
- July 1897:** Surface Hill, Graytown - 10-head battery in course of erection. Mine has 300 tons on grass. Start made on adjoining lease, and shaft 10 ft x 4 ft is down 30 ft.¹¹¹⁸
- September 1897:** Surface Hill - New 10-head battery started. Ore at Surface Hill about 10 dwt to the ton.¹¹¹⁹
- December 1897:** Surface Hill - dam built.¹¹²⁰
- December 1897:** Surface Hill - 297 tons crushed for 98 oz. Battery capable of crushing 120 tons per week.¹¹²¹
- June 1898:** 5-head battery installed at the Sandstone Mine.¹¹²²
- August 1898:** Surface Hill, Graytown - Monthly return 120 oz. Sandstone mine is 1-1/2 miles W of Surface Hill - 500 oz taken out.¹¹²³

1116 Jenkins, 1900, pp. 4-5

1117 Mclvor Times, 3 June 1897

1118 Mclvor Times, 29 July 1897

1119 Mclvor Times, 23 September 1897

1120 Mclvor Times, 23 December 1897

1121 Mclvor Times, 30 December 1897

1122 Mclvor Times, 23 June 1898

September 1898: Sandstone main shaft, down first 100 ft.¹¹²⁴

January 1899: Surface Hill Mine, Graytown - During last half year, 1789 tons yielded 381 oz.¹¹²⁵

February 1899: Surface Hill - cleared up last week for 10 oz from 70 tons.¹¹²⁶

1900: Graytown - On the creek NW of the town there is a ten-head battery, which supplies the needs of the district as regards power to crush stone. The battery at Surface Hill is chiefly employed upon the stone from its own mine, which is sufficient for the purpose but its presence seems to give much stimulus of competition as may be if at all required.¹¹²⁷

1123 Mclvor Times, 25 August 1898

1124 Mclvor Times, 1 September 1898

1125 Mclvor Times, 5 January 1899

1126 Mclvor Times, 2 February 1899

1127 Jenkins, 1900, pp. 4-5

MALDON—HISTORICAL NOTES

As an alluvial field Maldon ranked only second-rate in importance, but comes close to running second to Bendigo among Victoria's richest quartz mining centres... Quartz mining was active over a wide area, extending southward through Sandy Creek to Newstead, along to Mia Mia and Muckleford, eastward to Fentimen's and Smith's Reefs, and even to the apex of Mount Tarrengower. In all, over seventy reefs were proven to be auriferous. Maldon was undoubtedly a poor man's paradise, for the number of its excellent yields from very small claims.¹

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 discoverer 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 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.

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 1854.¹

1853:

In an editorial published on September 28, 1866, the *Tarrangower Times* placed Mechosk in a minor role in the first actual gold discovery. It states: 'The facts are 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 large sums of money and, in some instances, '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 6 December (1853). It may be mentioned that the present writer and his 'chum', were actually lost in the bush for two days and three nights in their essay to take a short cut to Bryant's Ranges ... The forest was very dense, so much so that the party was unable to discover the prospectors until the 11 December. 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 Captain, however, 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. It was soon determined to sink a few holes in Long Gully, as it was there and then christened. Washdirt yielding half an ounce to the tub was found in nearly every claim. Before the end of the month 'Rush-Ho' had been sounded, and by the time Christmas and New Year were over, there were 20,000 diggers and others congregated on Bryant's Ranges. The place was now known as Tarrangower'.²

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.

1854-55:

In January, 1854, rich gold was found in the gullies about Bryant's Range, some 14 miles north-west of Castlemaine, and within ten days from the first circulation of the news several thousand persons reached the scene of the finds and occupied several gullies which were auriferous, and in which good patches were occasionally met with. The locality was, however, barren, bare, and stony, and there was no permanent water within eight miles. There were no rich surface workings and no deep leads found, so that the payable alluvial patches were soon exhausted of their riches. On the hill sides, however, there were great quantities of quartz specimens to be picked up, and in depressions of the surface, where the detrition of ages had lodged earth and gravel, there were good quantities of ragged, heavy gold to be obtained - the sheddings of rich reefs in the higher ground. With the exhaustion of the alluvial patches, the population dwindled rapidly to some 3000 individuals, who founded the town, since called Maldon. [A visitor to the diggings wrote...] The deepest workings were 57 ft., and the diggers had undermined a great deal of the ground... For a year or so those who had secured claims on the quartz reefs did well by pounding the rich specimen stone with hammers, and ere long a number of dollies were constructed and profitably worked. These contrivances consisted of a swing sapling, acting as a balance lever, with an iron-shod short log at one end, which came down into a strong casing fixed over an iron grating upon a hollowed stump. The crushed quartz and its golden contents fell through the grating into a space, from which it was removed by hand and the gold washed out. Improving upon these primitive crushing plants, the users devised methods of crushing 5 cwt of quartz daily, and, making large profits, were able to purchase and erect crushing batteries.¹

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 Gardiner's 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.²

1854:

The stampede of gold-seekers to Tarrangower Diggings in 1854 coincided with a severe drought, and water shortage drove thousands within a few weeks westward to Simpson's Ranges (Maryborough). Were it not for natural springs discovered around the granite hills region of the Butts Reserve, also round about the present site of the Methodist Church, full development of the goldfield could have been seriously retarded, for the drought persisted right through the year. These springs were a godsend for many years.³

1 Adcock, W.E., *Gold Rushes of the Fifties*, 1912, reissued by Poppet Head Press, 1977, pp. 146, 148

2 Flett, pp. 201-202

3 Williams, p. 35

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.¹

1854:

There is a new rush, and a violent one. Thousands of the people who have come up here [Buckland River] from the Ovens are now off again to a place called The Porcupine, from the Porcupine Inn, beyond Bendigo. These crowds will 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. It lies between Bendigo and Forest Creek, and not more than 60 miles from Ballarat. A host of tents announced a well-populated scene. We found them surrounding a part of the valley, which was completely dug up. All was bustle, and man thronging on man. We could see that thousands of holes had been put down which had proved shicers, but in the middle, the white heaps of pipeclay which were thrown out, and the windlasses at work, showed that some diggers had struck the gold. 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. The majority of the holes had yielded little, but 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. Most of the holes sunk ranged from 10 to 20 feet deep. As we came down Long Gully, we saw heaps of stuff, which had been piled up during the summer to await the rains of winter. 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 population of this goldfield is said to be 18,000 or 20,000, the gold procured from 1,000 to 2,000 ounces a week. A little beyond the diggings the country dips rapidly down into the valley of the Loddon. At the bottom of this valley, water-dealers have sunk wells with great success. They are called The Springs and here during the summer the people congregate and pitch their tents for the sake of the water. Here would be the site of a beautiful township ... but the surveyors laid out the township on an adjoining barren hill, where the whole ground is stone and where the people would have to carry in carts, for nearly a mile, every drop of water they required ... 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 being responsible for a population of over 20,000. Those who made rushes amounting to 300 miles within the fortnight were dreadfully disappointed. Tarrangower in summer is destitute of water to drink or to wash the dirt. To cart the stuff to the Loddon cost £3 per load. Some who tried the surface part of the ranges got three pounds weight of gold from one cartload. This produced a 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. Vast was their consternation when rain came, and they found that their mountains of surface stuff yielded mere dwts. to the load. In consequence we expected to find these diggings nearly exhausted; but on the contrary, there was the busiest throng we had seen since our arrival at Spring Creek (Beechworth).²

1 Williams, p. 15

2 Howitt, W., *Land, Labour, and Gold*, 1855, quoted in Williams, pp. 10-13

- 1854-55:** In 1854... a quartz specimen found on the surface weighing 183 ounces contained 87 ounces of gold, and the following year another of 180 ounces gross is officially listed.¹
- 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.²
- 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...³
- 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 4cwt 3grs. 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.⁴
- 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.⁵
- May 1855:** Another steam quartz-crushing machine is being erected on the Porcupine Flat.⁶

1 Williams, p. 14

2 Williams, p. 15

3 Williams, pp. 13-14

4 Mt Alexander Mail, 4 April 1855

5 Mt Alexander Mail, 27 April 1855

6 Mt Alexander Mail, 18 May 1855

- May 1855:** Another 8-horse power team crushing machine is in course of erection at Long Gully. About 500 persons have left for the new rush at Muckleford, and it is reported here that 17oz to the load have been obtained at the new diggings.¹
- 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.²
- June 1855:** A considerable sum has been invested in quartz crushing machinery at Eagle Hawk Gully. Muckleford - the population... now numbers about 4000... The lead of gold it is considered will incline to Tarrangower.³
- June 1855:** Tarrangower - The Chinese on this gold field now number about 2000.⁴
- 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 Gardiner's Gully... A party of 4 having a claim here, have sold 5lbs 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.⁵
- 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. The Bradford lead, about five miles north of the town, and not then so called, was originally worked in 1855...⁶

1 Mt Alexander Mail, 25 May 1855

2 Mt Alexander Mail, 1 June 1855

3 Mt Alexander Mail, 8 June 1855

4 Mt Alexander Mail, 16 June 1855

5 Mt Alexander Mail, 22 June 1855

6 Flett, J., The History of Gold Discovery in Victoria, Poppet Head Press, 1979, pp.

- 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.¹
- 1855:** Smith's and Fentimen's Reefs were scenes of excitement in 1855.
- 1857:** A crushing of 82 tons from Brewer's Reef in 1857 yielded 245 ounces.²
- 1857:** Sale of town lots at Maldon in 1857 - list of improvements existing on land to be auctioned included: Edwards Crushing Machine, £2,500.³
- 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 1857-58.⁴
- 1858:** 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...⁵
- 1858:** A Council offer of £25 in 1858 to anyone devising a scheme which would assure a supply of clear water was unsuccessful.⁶
- August 1858:** Muckleford in August, 1858, is described as follows: - 'The main street of the old rush instead of counting stores and tents by the hundreds, as it did a short time ago, now consists of perhaps ten stores and fifty tents.'⁷

1 Williams, p. 14, quoting George McArthur's letter to 'a local newspaper' in 1898.
 2 Williams, p. 27
 3 Williams, p. 79
 4 Flett, pp. 201-202
 5 Williams, p. 29
 6 Williams, p. 35
 7 Williams, p. 14

August 1859:

(W.A. Hadwen, Mining Surveyor)

The population is as follows:

Alluvial miners - 1139 Europeans, 623 Chinese

Quartz miners - 487 Europeans

Totals - 1626 Europeans, 623 Chinese

The machinery is as follows:

Alluvial mining: Steam-engine 1-20 horse-power; puddling machines, 75; horse-whims, 13; hand-machines, 3.

Quartz mining: Steam engines, 27-340 horse-power.

Total value of all mining plant in the division, £79,714.

[Mr Hadwen states that three steam-quartz-crushing machines and 50 puddling-machines idle are included in the above return]. The applications during the month for registration are: 42; abandoned reefs, 1, of 320 ft, at Ivory's Reef, contiguous to Nuggetty, and 1 at Dunn's Reef, also 320 ft; claim and puddling machine, 1, at Parker's Gully; amalgamation, 1, for 174 ft at Nuggetty Reef; protection to water-holes for domestic purposes, 3: all at Eaglehawk; also one for a heap of tailings at Nuggetty Flat. The applications for mining leases are 3 in number, and occur at Linscott's Reef, for 11a. 3r. 30p. Beehive Quartz-mining Association has pushed forward its operations. Since the last report the tramway down the incline has been made, and sunk near the clearing dams, and an eight-inch lift pump put up, for the purpose of raising the water a second time, before being done with. The supply of water is sufficient to supply 12 heads of stampers. The remaining set of 12, making a total of 24, will soon be complete. It is supposed that the main reef will be at a depth of 170 ft, at which point a considerable influx of water is anticipated. The Union Eagle Hawk Reef: Work at the pump shaft now down 215 feet, and continues day and night. When depth of 230 ft is reached a much better supply of water is anticipated. In the central part of the company's ground men are 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 18gr extracted from 350 tons quartz. The Atlas Association, German Reef: The water supply is increasing, and is ample. Considerable time has been spent in trials to test the efficiency of the crushing machinery. The results have been satisfactory. Time taken for these trials, and the erection of the back-water pump, together with the interruption caused by the holidays, occupied much of the month; but the receipts for crushing have been £311 10s 2d, to which must be added £224 0s 4d for pumping charges, making a total of £535 10s 6d. The adjoining claim of Noel, Gordon, and Co. is being opened out, and promises well for the southern part of the reef. Messrs Rhodda, Robinson, and Co. continue to raise payable quartz, great activity is observable on the various claims on the reef. Perseverance Co., Wattle Gully Reef: The boiler for this company is in position; the brick shaft, to be 50 feet high, is carried up 24 ft; and all necessary machinery is on the ground. Work is expected to begin in about a month. 11 men are employed. The depth of water in the pump-shaft is 32 feet. South Eagle Hawk Mining Association: The pumping-engine of 25-horse power is complete, and began work yesterday. There is in most shafts a depth of 80 ft of water. Porcupine Flat Company: The engine, engine-house, and carpenter's shop are already fixed. The company has an abundance of water, and will commence operations as soon as the puddling-machines, which are intended to be driven by steam power, are complete. Smith's Reef South Muckleford, Reform Association: The engine of 20-hp, with a battery of 20 stampers, is already fixed. Porter's patent shaking-tables will be attached. The engine-shaft is now down 150 ft, and operations will commence in a week. [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.]¹

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
	Long Gully	16	46
	Seventy-Foot	<u>16</u>	<u>50</u>
		897	857

The number of miners employed at reefing, 1006.

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. The table I enclose is...gathered from the various proprietors and officials connected with the crushing-machines throughout the district. The means of ascertaining the numbers of the population were by persons going over the works and counting them whilst engaged in their occupations. No new rushes have occurred during the month, but a report reached me yesterday that the extension of the rush at Sandy Creek, previously reported, was attracting large numbers to a locality near the Seventy-Foot Diggings. The proprietors of the crushing engine at the Springs (Messrs. Foy and Co.) are now crushing tailings from the stuff that has already been crushed, and, I believe, passed under rollers, at the Great Eastern Crushing Company's works, at Eagle Hawk. In some instances they are getting 11oz per week merely by submitting the stuff a second time to the crushers and afterwards to a mill with a revolving pair of wheels, of which there are two in this district. Maldon Gold Mining and Washing Association: This company is now at work, having the tram-roads completed, engine in good working order, and lifting and washing stuff. The first week's work gave 10oz, and on the following week 34oz was obtained in only four days. 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-ft in length finished. 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. Machinery is being erected, and work is expected to begin in a month. The Atlas Association is busy putting up a stamping battery of 12 iron stampers. They are sinking a shaft and draining the reef. They expect to begin crushing in a fortnight. The Lisle's Reef Quartz-Mining Company is putting up a 15-hp engine. The boiler, bedplate, and the small gear are already fixed. The ground in possession of the company is 920 feet by 400 feet. The Union Company is at work, but is merely crushing top stuff and debris; for results see table.

Manton's Gully Reef: The reef was opened three years ago by an American named Rich. For a long time previously Mr Manton had been living on the reef, where he owned a small crushing-machine, and had for a considerable time been prospecting the surrounding hills, in search of quartz reefs, little thinking that under his feet a comparatively rich one existed. Mr Rich obtained from the first two or three tons 20oz to the ton, and for a depth of 30 feet the quartz paid well. Altogether about 500oz was taken from the claim, but the yield falling off, he preferred searching further and leaving the reef. Never since has anything remunerative been obtained. A small amalgamated company was then started, with Mr Barclay for its chairman. It consisted of 12 shareholders - 8 paying and 4 working; but hand-labour being adopted, and the water coming in too fast, returns did not accrue to the satisfaction of the paying shareholders, and the company broke up. A man named Pollock for some time made wages by picking out the best stones, and crushing them with a small hand-machine. Mr R. Watt also worked for a considerable time, but without success. He then stacked and registered the bank stuff, and left the reef. The reef as presently opened consists of two spurs, about 30 feet apart, which dip into each other. This led many to suppose that two separate reefs existed. Claims were originally taken up on both, no rule being then in force giving 100 feet on each side to the original workers. Altogether this reef has averaged 8oz to the ton, and is undoubtedly a fair opening for a company possessed of steam-machinery. Price's Reef: This reef was opened by a Mr Price, who for some months obtained payable quartz, but not sufficient to encourage prospecting, after the best of it had been extracted. Mr Robinson, now of Swipers' Reef, was the only other individual who got anything payable, and that only for a short time. At present only one party is at work, and the remuneration is small. 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. The Muckleford Reefs: Some six or seven reefs have been opened at Muckleford; however they are not worthy of special remark, except Thornehill's Reef, which was opened in the early part of 1856 by Mr Thornehill. Some surface-stones promised exceedingly well; 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 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 13oz to the ton was at one time obtained. This was the exception; 1oz was the average. The Blow-up Reef: Mosquito and Nuggety 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 100oz per ton. This unfortunately only lasted for a length of 8 feet by about 18 inches in depth. It then completely ran out.

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
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

[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.]¹

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

On the 25th May an application for a mining lease was made by Messrs Poepple, Crawford, Lawlor, and Locke, of 20 acres, at Mosquito Reef, Green Gully. All the conditions 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 ft of the surface, and one crushing has been made at Mr Buttingham's machine, Green Gully, but without paying results. An application made in 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 to Messrs Toomby, Kerby, and Wecker, at Captain's Gully, Newstead ... Water at present available is listed as follows:

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
Omega Reef, Green Gully	1

¹ Mining Surveyors' Reports, December 1859

The other machines on the line of Beehive Reef and the Atlas Association drain their supplies from the reef, which at present is sufficient for all purposes. The lessees of the mining lease at Manton's Gully have commenced by forwarding a double cylinder engine, portable, and are preparing for the necessary supply of water. The Beehive Association. Beehive Reef: The works of this association are the most extensive in the colony, and carried on with systematic care and economy. The engine is the most powerful in mining speculations in Victoria. It is of 60 hp, the diameter of the cylinder being 30 inches and the stroke 5-ft. 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 principal features of the mine are 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 ft to strengthen and uphold the ground. This shaft is divided in the centre by stout boarding, 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 ft gold was struck, and a drive is now being carried north and south at this depth. No. 1 shaft North, is sunk to a depth of 95 ft, 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 ft deeper than the old working, and followed by a drive north and south nearly 150 feet when it ran out. Miners were employed to sink near the spot where the gold was first struck, and within 6 ft found a succession of veins or lodes 13 ft thick, all 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 ft from the surface, is a tunnel 500-ft long, with tramways the whole length by means of which much payable ground has been opened. From this level there are three large stalls for supporting the ground, which are unequalled in the district for solidity and magnitude ... The tunnel in the 40-ft level is over 600 ft in length, with tramways the whole distance. This level, in common with all the others is intersected with traps, or mills, by means of which the wagons are filled and savings of labour effected. This is also called the incline level, because the wagons are brought to the surface by means of an incline at an angle of 45 degrees. From the mouth of this incline the stuff is lifted and run direct to the stampers by means of tramways and turntables. The whole expense of these 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. Over fifty men are constantly employed, and, as the works become more extensive, a greater number will obtain employment ... The works were erected, and are now superintended by Mr Henry Tregaskes, the company's engineer and manager ... The Atlas Association, German Reef: This company is sinking an engine shaft a further 50 ft, making the total depth 333 ft, being the deepest shaft in the district. Strong indications are now seen of a new reef, the water having left the upper part of the mine, and flooding in from the bottom of the new shaft. All claims on this reef are being worked, the engine having thoroughly drained them. Crushing for the public is satisfactory, and, from the appliances used, highly remunerative. The Maldon Gold Mining Association (alluvial), Long Gully: 30 men of all grades are employed, and the yield of gold, for June [totals] 71 oz 6 dwt 12 gr. The men pay a subsidy of one-tenth of all gold extracted to the original promoters, for use of engine, plant, &c. The Union Company, Eaglehawk Reef (28 men employed). Quartz raised during June [totals, from 400 tons, 221 oz 8 dwt 12 gr of gold]. Perseverance Association, Wattle Gully: This company is erecting stamping machinery; and will commence operations in 14 days. [Table lists gold yields from the following reefs: Beehive, Brewer's, Fenteman's, Perkins', Linscott's, Eaglehawk, Swiper's, Ladies', Nuggetty, Welshman's, Irish Billy's, Thornhill's, Wilson's.]¹

July 1860:

The 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:

Alluvial mining -
 Steam engines employed in pumping, winding, &c. - 1 - 20 hp
 Whims at work - 17

Quartz mining -
 Steam engines employed in pumping, winding, crushing, &c - 24 -
360 hp
 Crushing engines erected - 1 - 15 hp
 Hand machine - 1

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; Dun'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 Dun's Reefs.

Areas of ground for machinery (1) - For 1a 2r 28p area at Long Gully

Prospecting Claims (1) - Two hundred and forty feet on a reef unnamed.

The absence of rain during the preceding month has curtailed the amount of water in the division. The number of crushing engines now at work 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 applied. Atlas Co. German Reef: Supply constant; drain from reef. Vivian and Co. Beehive Reef: Supply constant; drain from reef. Isaacson's, Beehive Reef: Not working. Lisle's Reef Co. Lisle's Reef: Supply very limited. Great Western Co. Beehive Reef: Supply constant. Edwards, Maldon: Not working; supply precarious. Kangaroo Reef, South Muckleford: Removed. Omega Reef, Greenfalls: Supply Exhausted. Long Gully: Four machines. 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 Co. Eaglehawk Reef: Supply very moderate. Dun's Reef, Muckleford: Removed. Smith's Reef, Muckleford: Supply abundant; making dam. Eaglehawk Co: Supply abundant. Beehive Assoc., 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 being made for water. Wattle Gully Reef: Drain from reef. Porcupine Flat Alluvial: Large dam at present sufficient. The Beehive Assoc., Beehive Reef: Surface operations are going steadily, and a new winding shaft is being prepared 125 feet south of the 95 feet winding shaft, in time for working the south ground when the slopers arrive. The size of the tailings dam, for the purpose of sluicing away the greater portion of the tailings, is to be enlarged. Tarrangower Reform Quartz Mining Association, Smith's Reef, Muckleford: A 25 hp engine on the company's ground works 20 head of stampers, of 6 cwt., each working day and night, crushing weekly 240 tons, and employing six men. 12 to 20 men are also engaged raising quartz from depths of 80 and 110 ft respectively. A contract has been let to 14 men for the construction of a reservoir capable of holding a water supply to last 8 or 9 months, by an embankment 21 ft high and 150 yards long.

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. Eaglehawk Mining Association, Eaglehawk Reef - Twelve men are employed excavating the reef on the surface and extending drive below southwards. An engine of twenty horse is employed day and night in draining the reef of water. Extent of ground, 968 feet. Water supply abundant. An adjoining company, that of the Union, on the same line of reef, are purchasers of a considerable quantity of this water for crushing purposes. Payable stone is now being raised from a depth of 156 feet. Manton's Gully Lease - the lessees of this company are erecting a crushing and pumping engine of about fifteen horse-power. Arrangements will be made for lifting and removing quartz at so much per ton, or on the tribute system. Work will begin in earnest at the end of the present month. Lisle's Reef Mining Association, Lisle's Reef - Forty tons of bank stuff has 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. Perseverance Association, Wattle Gully Reef. - This company began crushing on Monday last, with eight head of stampers; it is the intention to erect eight more, in addition. Water supply, one month. 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. Engine shaft, 225 ft. deep. Reef at this depth very nearly dry... The number of tons crushed during the month is 650 tons, and the yield 283-oz of smelted gold. Number of men employed, 30. Water supply very moderate. The price of carting, crushing, burning, and removing tailings per ton is 9s. 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. [Table listing gold yields includes two reefs not previously mentioned: Post Office Reef and Davies' Reef.]¹

August 1860:

The population is as follows:

Alluvial miners - 283 Europeans, 170 Chinese
 Quartz mining and men employed at machines - 437 Europeans
 Totals - 720 Europeans, 170 Chinese

The machinery is as follows: -

Alluvial mining -
 Steam engines employed in
 pumping, winding, puddling, &c. - 1 - 20 hp
 Puddling machines - 51 (32 at
 work, 19 idle)
 Quartz mining -
 Steam engines employed in pumping, winding and crushing
 - 26 (19 at work, 7 idle) - 420 hp
 Whims at work - 16

Approximate value of all mining plant in the division, £81,000.

¹ Mining Surveyors' Reports, July 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 ... On the 27th July an application was made by the secretary of the Central Eaglehawk Mining Association for a lease of 3a 3r 2p on Eaglehawk Reef ... 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.

Amalgamation (1) - For 600 feet on Tiverton Reef.

Mining Companies on the Maldon Division. - The Union Association, Eaglehawk Reef - The number of tons crushed during the month of August is 322, yielding 144 oz 8 dwt. Number of men employed, 36, viz.: - underground 24, top 7, at machine 5 ... Perseverance Company, Wattle Gully Reef - This company commenced crushing operations on the 20th of the month. Number of men employed, 29, viz. - underground 17, top 6, at machine 6. The engine is of 25 hp. driving 8 head of stampers, and 8 more erecting; depth of working shaft, 35 ft. Quartz raised during August, 80 tons, yielding 36 oz of gold. The water supply is from both dam and reef. Engine shaft 105 ft deep. 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. 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 sluice away the tailings. Mr R. Tregaskis's patent amalgamator is now on the ground, and if it succeeds, it will be a great improvement upon the Chilian mill principle of amalgamation. The yield of gold during the last month is just 648 oz 10 dwt of retorted gold. Lisle's Reef Company, Lisle's Reef - This company has ceased working, with the intention 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. Eaglehawk Association - The workings on the reef have been carried on as rapidly as the funds of the company will permit. The reef has been opened on the surface in three different places, at intervals of 150 feet; the prospects obtained both from the quartz and mullock, and from the surface on the eastern side of the reef, have been satisfactory; a trial of five tons produced 12 dwt to the ton; 400 tons are now awaiting crushing. An eligible contract has been entered into with Messrs Vivian and Co., of Castlemaine, for the erection of the necessary machinery. Reform Mining Association, Smith's Reef, North Muckleford - The company is now raising quartz from depths of 80 and 130 ft, and during the month of August, crushed 167 tons, yielding £212 sterling. Number of men employed 11, viz., underground 7, top 4. Plenty of water exists on the ground for all purposes. The engine is of 25-hp horizontal, driving 20 head of stampers, with Porter's improved shaking tables. The company has just completed a dam 330 feet long and 21 feet deep, at a cost of £291. The engine shaft is 200 feet deep ... Two more reefs also found ... and gold has been found on the surface ... Manton's Gully - Lease - The proprietors of this lease have almost completed the erection of their engine, and are on the eve of commencing operations, with one of Hill's patent rotary crushing mills with 12 stampers. In my next report I will give a detailed account of its performance, more especially as this is the first of its kind put up on the Maldon Division.¹

¹ Mining Surveyors' Reports, August 1860

1861:

The first natural catchment reservoir was constructed in 1861 by the Mines Department in a gully above the Shire Reserve. The cost was £1,385, the earthwork only 2/8 per cubic yard, and holding capacity 8,591,504 gallons; but it leaked badly and was of little immediate use. An additional catchment reservoir was constructed in 1876.¹

January 1861:

(Robert Nankivell, Mining Surveyor)

The population is as follows:

Alluvial miners - 483 Europeans, 425 Chinese

Quartz miners - 570 Europeans

Totals - 1,053 Europeans, 425 Chinese

The machinery is as follows:

Alluvial mining

Steam engines employed in winding, pumping, puddling, &c. - 2 (1 at work, 20 horse-power, 1 idle, 22 horse-power)

Horse puddling machines - 79 (63 in work, 16 idle)

Quartz mining

Steam engines employed in pumping, winding, crushing, &c - 30 (25 at work, 5 idle), 620 hp

Crushing engines erecting - 3 - 77 hp

The number of distinct reefs known to be auriferous is 41.

Mining operations in my division consist chiefly of quartz mining ... I would judge that Tarrangower will be a permanent mining district ... the reefs are better defined and equally as productive at the depth of 250 feet as at the shallow workings ... One great obstacle to the working of deep reefs by individual enterprise is the influx of water, but this is being overcome by the formation of companies. When the said companies are formed for the purpose of systematic working they will doubtless be ultimately successful, but I regret to observe that the system of stock-jobbing as at present practised will very much retard quartz mining in this and other districts. As the mining is confined chiefly to quartz reefing the population is a settled one, and is steadily on the increase. The South Eaglehawk Company ... this company's ground includes some of the richest claims in time past on Tarrangower ... The Beehive Company's yields have fallen off of late, but within the last week it has again struck upon some rich ground ... Linscot's Reef Company is, at a depth of 250 feet, yielding at the ratio of 4 oz to the ton; this company has been but recently formed, and is now erecting a steam engine of twenty-five horse-power for crushing, together with a smaller one for the purpose of pumping, hauling, &c. 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 ... The Parkins Reef Association are 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. The Perseverance Quartz Mining Association has suspended operations for the present. Although excellent prospects have been obtained from the reef, it is found that the present process of amalgamation is inefficient from the peculiar nature of the quartz. Samples of the tailings have been forwarded to Melbourne for analysis, but the result is not yet known.²

1 Williams, p. 35

2 Mining Surveyors' Reports, January 1861

February 1861:

The machinery is as follows:

Alluvial mining:

Steam engines employed in winding, pumping, puddling, &c. - 3 (1 at work, 1 idle, 1 erecting), 50 hp

Horse puddling machines - 79 (63 at work, 16 idle)

Quartz mining:

Steam engines employed in pumping, winding and crushing. - 30, 620 hp

In course of erection - 3, 90 hp

Horse whims - 25

Approximate value of all the mining plant in my division, £85,000.

No change has taken place in the population since my last. Of the machinery, two crushing engines have been completed, and three are in course of erection. The South Eaglehawk Company is at present bearing a very promising aspect; the yield for the month is, from 850 tons, 520 oz of pure gold. A large portion of the stuff is old banks that has been lying on the surface for the last two years ... This company has two steam engines on their ground, one for pumping and winding, and the other for crushing and winding. The Eaglehawk Union Company is still obtaining excellent prospects from various parts of their ground. Their new battery of twenty heads of stampers will soon be ready for work. 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. The machinery of the Linscot's Reef Company is now complete, and a new dam constructed, and they are only waiting for water in order to commence operations; the reef is still looking well. 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. 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. 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. 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. The Concord Company, at Sandy Creek, is progressing rapidly with the machinery; prospects from this reef are also very encouraging. 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. A number of claims have also been taken up on another reef, supposed to be a continuation of the Beehive Reef. A want of water is greatly felt by the miners generally, as the supply from the dams, &c., is nearly exhausted from the continued drought.¹

March 1861:

The population is as follows:

Alluvial miners - 680 Europeans, 450 Chinese

Quartz miners - 600 Europeans

Totals - 1,280 Europeans, 450 Chinese

The machinery is as follows:

Alluvial mining:

Steam engines employed in winding, pumping, puddling, &c. - 2 (both idle for want of water), 42 hp

Horse puddling machines - 79 (62 at work, 17 idle)

Quartz mining:

Steam engines employed in pumping, winding, crushing, &c. - 31 (25 at work, 6 idle), 640 hp

Crushing engines erecting - 5, 125 hp

Number of quartz reefs known to be auriferous, 41.

During the past month three applications have been made for quartz leases, three for extended claims on abandoned reefs, and one for an extended claim on abandoned alluvial ground. Quartz reefing has progressed but slowly this month, as several machines are still idle for want of water. The following yields have been obtained during the past month: - The North Linscot's Association has purchased an engine and is making preparations to work the mine on a large scale. Several tons have been crushed on trial, at the Atlas Company's mills, and found to average nearly an ounce to the ton. The operations of the South Linscot's Company have been retarded from scarcity of water. No returns have been made this month. 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. The yields of the South Eaglehawk Company are still excellent ... the returns made for this month have been, from 659 tons crushed, 399 oz 11 dwt of fine gold extracted, averaging 12 dwt to the ton ... 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. The Parkin's Reef Company is still proceeding with the 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. 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 expects to be ready in course of the ensuing month. Mining is still being carried on below with fair prospects. The Grand Junction Company has commenced crushing 154 tons chiefly of bank stuff, the yield from which has been 49 oz of fine gold. The Perseverance is still idle ... 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. Fourteen private claims on various reefs have this month been registered through want of means, the expense attendant upon deep sinking being very heavy for individual enterprise. Very little is being done at present in this locality, from want of water, in alluvial mining. 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.¹

April 1861:

The population is as follows:

Alluvial miners - 750 Europeans, 400 Chinese

Quartz miners - 620 Europeans

Totals - 1,370 Europeans, 400 Chinese

The machinery is as follows:

Alluvial mining:

Steam engines employed in winding, pumping, puddling,
&c. - 4 (3 at work, 1 idle), 64 hp

Quartz mining:

Steam engines employed in pumping, winding, crushing,
&c. - 31 (26 at work, 5 idle), 640 hp

Crushing engines erecting - 5 - 125hp

Due to rains during the month mining has received fresh impetus, 2 alluvial companies, the Maldon and Porcupine Gold Washing Assoc's, have recommenced working, with good prospects, and the horse puddling machines are averaging fair returns. Two rushes have occurred; one about a mile from Newstead, where 30 diggers are at work; and the other on the Govt-road passing through Cayhill's farm on the Loddon, where holes have been bottomed but nothing found. The miners at Pickpocket are leaving, as the water is too difficult to overcome without machinery. Diggers are employed along Jim Crow Creek, and some are getting good wages. Fenteman's Reef, which is situated about 2-1/2 miles from Maldon: is remarkable for being nearly the same breadth throughout as far as opened up; the claimholders are forming a company to work the reef with machinery, in consequence of the influx of water ... The Eaglehawk Union Mining Assoc's mine is yielding well; 2 dividends of 10% each have been declared within the last 5 months; and it has cleared over £4,000 ... The latest returns from the Eaglehawk Union Co. on the same reef, give 115 oz. of gold from 222 tons of quartz; the quartz looks good, and the new battery of stampers works well. The Linscot's Reef Assoc. washed off last week: the yield from 8 head of stampers was 193 oz of gold ... North Linscot's Co. is proceeding with its machinery ... The yield from the Beehive Co's ground is very low ... The machinery of the Parkin's Reef Assoc. should be ready on the 8th ... Two large dams have been excavated ... The engine shaft is down 188 ft, and water has been struck. The Independent Co. on the same reef, is erecting machinery for pumping, crushing etc. Two dams have been built and a contract has been let for sinking an engine shaft 150 feet. There are 2 private claims on this reef; both are registered pending the erection of machinery. The engine and stampers of the Cookmans' Reef Assoc. are complete, and crushing will start next week. The Concord Assoc. at Sandy Creek made a trial start of a new battery of stampers, and will soon be ready for crushing ... Nuggetty Reef continues to pay well. Gold was struck last week in a claim known as Marshall's. This reef has been one of the richest on Tarrangower. Most of the private quartz claims have amalgamated into companies. Leighton and Co. have crushed 39-1/2 tons of which 4-1/2 tons yielded 13-1/2 oz to the ton, the remainder 2-oz to the ton. The Prince Llewellen Co., at Yorkshire Hill, Sandy Creek, crushed 60 tons, which yielded 30 oz. of gold. At Omega Reef, South Muckleford, Ramsden and party crushed 4 tons, from a heap of 70 tons, at the Atlas Co's mills, which yielded 22-1/2 dwt to the ton. The process of amalgamation was that of shaking tables. Porter's process was tried and from 10lbs. of tailings, 6 gr. of gold was extracted. I think if the quartz was first crushed and then calcined, it would expose all the baser metals to the action of fire, after which gold could be easily separated by washing, thereby doing away with quicksilver, which is a very expensive process. For this purpose furnaces might be constructed similar to those used for calcining tin or silver in England. ¹

May 1861:

The population is as follows: -

Alluvial miners - 750 Europeans, 400 Chinese

Quartz miners - 638 Europeans

Totals - 1,388 Europeans, 400 Chinese

The machinery is as follows: -

Alluvial mining: -

Steam engines employed in winding, pumping, puddling,
&c. - 4, 62 hp

Horse puddling machines - 82 (69 at work, 13 idle)

Quartz mining: -

Steam engines employed in pumping, winding, crushing,
&c. - 34 (26 at work, 8 idle), 725 hp

Steam engines erecting - 2, 40 hp

Number of quartz reefs known to be auriferous, 41.

A decided improvement in alluvial digging is that about 200 men are employed at the new rush on Nuggetty Flat, most earning fair wages. A rush has also occurred about three-quarters of a mile west of Bradford, the depth of sinking is from 7 to 15 ft to a bottom of decomposed granite, the wash-dirt being of from 2 to 18 inches in thickness and averaging 2 dwt to the tub. Opinion is that this rush will last, as the country presents excellent gold-bearing indications. On the west bank of the Loddon, ground is being applied for to be taken up in large associated mining claims. Several attempts have been made to bottom this ground but owing to the water; it will now be worked by machinery. From 400 to 500 miners are engaged higher up the river on private property, and some are doing very well. At Pickpocket matters are quiet, 2 companies have started with steam machinery, and hopes are that it will pay when the ground is opened up. The horse puddling machines on Porcupine Flat are doing well, but the yield from the company's steam puddling machine has been indifferent. The Maldon Gold Washing Co. in Long Gully employs 30 men; but the wages have not averaged £2 per week each man. Quartz mining has also improved during the month; the machines of 3 companies, viz.: Parkins's, Cookman's and Concord, are ready for work as soon as water is available. The quartz now raised from Parkins's and Cookman's Reefs indicates good yields. The Perseverance Co. at Wattle Gully will start again shortly; the Co has been registered under Pyke's Act and shareholders have agreed to a further payment of 5 shillings per share for the purpose of again testing the mine. The South Linscot's Assoc augurs well ... The North Linscot's Co, on the same reef, will be ready for crushing in a month, quartz in the mean time is being taken from the mine. The returns from the Union Co on Eaglehawk Reef, are nil because their machinery undergoing alteration. Amalgamation as adopted by them, viz: ripples with copper plates, being found not the answer, they had some quartz crushed at the mills of the South Linscot's Co. The yield more than doubled their own, and this decided them upon Chilian wheels and revolving basins. The Eaglehawk Co crushed 888 tons of quartz, the yield was 233oz of fine gold, averaging over 5 dwt per ton, the ground is being opened up for the purpose of working the mine more extensively. The Beehive Co crushed 533 tons and produced 486oz of fine gold. The ground is very patchy, but the lode at the bottom of the mine looks well. Irish Billy's Reef, Sandy Creek has been taken up again, and crushing yielded about 13 dwt per ton. One party on this reef has 60 tons ready for crushing, which is expected to yield 1oz to the ton. Payable gold has also been struck on Victor Emanuel's Reef, Green Gully, and on an abandoned reef, newly named Salop Reef, between Muckleford and Maldon. Nuggetty Reef keeps its old reputation, the average yield from its claims is 3 to 4 oz of gold per ton, taking the whole of reef which is from 4 to 6 ft wide, at a depth of 240 feet.¹

1862: The Bradford Lead ... there were large rushes there during 1860-62. The continuation of the lead to Walmer was worked in 1862.¹

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 98 feet.²

1863: The population of Tarrangower Goldfield ten years after its discovery was 7,000, and the community was pulling in over a quarter-million £'s per annum from the diggings and the quartz mines.³

1863: Batteries crushing for the public included... Atlas (German Gully) renamed Phoenix after partly demolished by fire in 1863...⁴

March 1864:

Mining population:

Alluvial miners - 864 Europeans, 463 Chinese - 1,327

Quartz miners - 522 Europeans

Totals: 1,386 Europeans, 463 Chinese

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 Gardiner's Gully	119	Eaglehawk	
	182		
Sandy Creek	413	Bradford	45
Nuggetty Flat	126		

Machinery:

Alluvial

Steam engines employed in pumping, winding & crushing - 2, 42 hp

Derricks - 5 (2 at work, 3 idle)

Puddling Machines - 76 (69 at work, 7 idle)

Toms - 9

Water Wheels - 2

Quartz mining:

Steam engines employed in pumping, winding & crushing - 26 (19 at work, 7 idle), 563 hp

Whims - 37 (33 at work, 4 idle)

Derricks - 5 (4 at work, 1 idle)

Total value of all mining plant in the division, £67, 500.

Number of distinct quartz reefs which have been actually proved to be auriferous to the present time, 53.⁵

1 Flett, J., The History of Gold Discovery in Victoria, Poppet Head Press, 1979, pp. 193-201

2 Tarrangower Times, 2 April 1862, quoted in Williams, p. 67

3 Williams, p. 13

4 Williams, p. 29

5 Mining Surveyors' Reports, March 1864

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	Eaglehawk		203
Sandy Creek	496	Bradford		17
Nuggetty Flat		121		

Machinery:

Alluvial

Steam engines employed in pumping, winding & crushing - 5 (4 at work, 1 idle), 62 hp

Derricks - 5 (2 at work, 3 idle)

Puddling Machines - 77 (70 at work, 7 idle)

Toms - 12

Water Wheels - 2 (both idle)

Quartz mining

Steam engines employed in pumping, winding & crushing - 24 (20 at work, 4 idle), 543 hp

Whims - 40 (33 at work, 7 idle)

Derricks - 5 (4 at work, 1 idle)

Total value of all mining plant in the division, £67, 350.

Number of distinct quartz reefs which have been actually proved to be auriferous to the present time, 53.¹

September 1864:

Mining population:

Alluvial miners - 724 Europeans, 377 Chinese - 1,101

Quartz miners - 536 Europeans

Totals: 1,260 Europeans, 463 Chinese

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
Gardiner'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

Machinery:

Alluvial -

Steam engines employed in pumping, winding & crushing - 7 (5 at work, 2 idle), 71 hp

Derricks - 5 (2 at work, 3 idle)

Puddling Machines - 74 (65 at work, 9 idle)

Toms - 12

Water Wheels - 3

Quartz mining -

Steam engines employed in pumping, winding & crushing - 22 (17 at work, 5 idle), 532 hp

Whims - 42 (35 at work, 7 idle)

Derricks - 5

Total value of all mining plant in the division, £67,350.

Number of distinct quartz reefs which have been actually proved to be auriferous to the present time, 53.¹

¹ Mining Surveyors' Reports, September 1864

March 1865:

Mining population:

Alluvial miners - 566 Europeans, 362 Chinese - 928

Quartz miners - 565 Europeans

Totals: 1,131 Europeans, 362 Chinese

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
Gardiner'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

Machinery:

Alluvial

Steam engines employed in pumping, winding & crushing - 1, 10 hp

Derricks - 5 (2 at work, 3 idle)

Puddling Machines - 74 (24 at work, 50 idle)

Toms - 15 (8 at work, 7 idle)

Water Wheels - 3 (1 at work, 2 idle)

Quartz mining

Steam engines employed in pumping, winding & crushing - 29 (17 at work, 12 idle), 312 stamp heads, 598 hp

Whims - 43 (30 at work, 13 idle)

Derricks - 6 (3 at work, 3 idle)

Total value of all mining plant in the division, £67,350.

Number of distinct quartz reefs which have been actually proved to be auriferous to the present time, 53.¹

September 1865:

Mining population:

Alluvial miners - 582 Europeans, 753 Chinese - 1,335

Quartz miners - 583 Europeans

Totals: 1,165 Europeans, 753 Chinese

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
Gardiner'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		

Machinery:

Alluvial

Steam engines employed in pumping, winding & crushing - 1, 10 hp

Derricks - 5 (2 at work, 3 idle)

Puddling Machines - 74 (58 at work, 16 idle)

Toms - 15 (9 at work, 6 idle)

Water Wheels - 3 (2 at work, 1 idle)

Quartz mining

Steam engines employed in pumping, winding & crushing - 30 (19 at work, 11 idle), 312 stamp heads, 606 hp

Whims - 45 (36 at work, 9 idle)

Derricks - 6 (3 at work, 3 idle)

Total value of all mining plant in the division, £67,885.

Number of distinct quartz reefs which have been actually proved to be auriferous to the present time, 53.¹

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.

¹ Mining Surveyors' Reports, September 1865

March 1866:

Mining population:

Alluvial miners - 610 Europeans, 978 Chinese - 1,588

Quartz miners - 637 Europeans

Totals: 1,247 Europeans, 978 Chinese

Miners distributed thus:

Pickpocket and Strangways	855	Growler's Gully	50
Newstead	7	Porcupine Flat	60
Gardiner'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

Machinery:

Alluvial

Steam engines employed in pumping, winding & crushing - 1, 10 hp

Derricks - 5 (3 at work, 2 idle)

Puddling Machines - 74 (18 at work, 56 idle)

Toms - 15 (6 at work, 9 idle)

Water Wheels - 3 idle)

Quartz mining

Steam engines employed in pumping, winding & crushing - 33 (22 at work, 11 idle), 320 stamp heads, 632 hp

Whims - 47 (34 at work, 13 idle)

Derricks - 6 (4 at work, 2 idle)

Total value of all mining plant in the division, £72,943.

Number of distinct quartz reefs which have been actually proved to be auriferous to the present time, 53.¹

September 1866:

Mining population:

Alluvial miners - 515 Europeans, 1,200 Chinese - 928

Quartz miners - 650 Europeans

Totals: 1,165 Europeans, 1,200 Chinese

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
Gardiner'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		

Machinery:

Alluvial

Steam engines employed in pumping, winding & crushing - 2 (1 at work, 1 idle), 15 hp

Derricks - 5 (2 at work, 3 idle)

Puddling Machines - 74 (65 at work, 9 idle)

Toms - 15 (12 at work, 3 idle)

Water Wheels - 3

Quartz mining

Steam engines employed in pumping, winding & crushing - 32 (21 at work, 11 idle), 328 stamp heads, 647 hp

Whims - 49 (30 at work, 19 idle)

Derricks - 6 (4 at work, 2 idle)

Total value of all mining plant in the division, £73,443.

Number of distinct quartz reefs which have been actually proved to be auriferous to the present time, 53.

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. 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. 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. 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. 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. 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. The South Eaglehawk Company's new engine shaft is down 230 feet; when they reached this level the influx of water was so great that sinking was suspended and must continue to be so until the pumps are taken out of the old shaft and fixed in the new one. This shaft is calculated to strike the lode at a depth of 400 feet, which will drain it 170 feet below the present workings, and enable the tributers in the south part of the mine to resume operations. The average yield from this part of the mine is about 1-1/2 oz per ton.¹

¹ Mining Surveyors' Reports, September 1866

December 1866:

Mining population:

Alluvial miners - 536 Europeans, 1,199 Chinese - 928

Quartz miners - 552 Europeans

Totals: 1,198 Europeans, 1,199 Chinese

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
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		

Machinery:

Alluvial

Steam engines employed in pumping, winding & crushing - 5 (2 at work, 3 idle), 30 hp

Derricks - 5 (2 at work, 3 idle)

Puddling Machines - 74 (65 at work, 9 idle)

Toms - 15 (9 at work, 6 idle)

Water Wheels - 3 (2 at work, 1 idle)

Quartz mining

Steam engines employed in pumping, winding & crushing - 30 (25 at work, 5 idle), 259 stamp heads, 668 hp

Whims - 69 (52 at work, 17 idle)

Derricks - 11 (7 at work, 4 idle)

Total value of all mining plant in the division, £45,180.

Number of distinct quartz reefs which have been actually proved to be auriferous to the present time, 74.

The long pending lawsuit 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. 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... have struck the reef again with a very good prospect; the Union claim has improved, and still continues profitable.¹

March 1867:

Mining population:

Alluvial miners - 561 Europeans, 699 Chinese - 928

Quartz miners - 662 Europeans

Totals: 1,223 Europeans, 699 Chinese

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
Gardiner'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

Machinery:

Alluvial

Steam engines employed in pumping, winding & crushing - 3 (1 at work, 2 idle) 16 hp

Derricks - 5 (2 at work, 3 idle)

Puddling Machines - 74 (60 at work, 14 idle)

Toms - 15 (9 at work, 6 idle)

Water Wheels - 3 (2 at work, 1 idle)

Quartz mining

Steam engines employed in pumping, winding & crushing - 33 (24 at work, 9 idle), 261 stamp heads, 688 hp

Whims - 69 (57 at work, 12 idle)

Total value of all mining plant in the division, £75,180.

Number of distinct quartz reefs which have been actually proved to be auriferous to the present time, 74.

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; whilst the Pioneer Company, on Wilson's Reef, have been for some time past, and are at present, getting an average of 5 and 6 oz per ton ... It will be noticed that there is a considerable decrease in the number of Chinese alluvial diggers - some have gone to other parts of the colony, and the remainder to New Zealand. 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. Many parties in Maldon, interested in mining affairs, are anxiously looking out for the arrival of Mr Gardiner with the machine. Should it prove a success it is very likely to produce quite a revolution in the modus operandi of sinking shafts, and in the making of cross drives; and not only in the Maldon mining division, but throughout the colony generally. In alluvial mining there is but little doing: only a few parties fossicking about here and there. Maldon may now be regarded almost entirely as a quartz-mining district.¹

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.¹

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 decrease in quantity of quartz crushed this quarter, and consequent reduction in yield of gold, is principally in consequence of the South Eaglehawk Co. having crushed but 638 tons in three months, consequent upon re-letting the mine and plant; they have now started again, and are cross-cutting for the lode at 300 feet from surface. 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 ... 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 ... A small rush to the alluvial took place on Fiddler's Flat, in consequence of and 18 oz nugget having been found there, but nothing of any consequence has been discovered since. The late heavy and continuous rains have greatly retarded alluvial mining, particularly in and about Strangways, and on the Loddon River.²

December 1867:

The South Eaglehawk Co's tributers cut the reef at 300 ft from the surface, with very encouraging prospects. The Beehive is idle in the deep ground, having not obtained enough payable stone. The rush to Fiddler's Flat has subsided, the ground being too poor. The quantity of stone put through this quarter appears to be within 12 tons of last quarter's return, for a yield of 3,359 oz less. The Derby Co has been sinking its shaft, and thus has not raised much stone. A slip of earth took place in the Alliance Co's claim on Nuggetty Reef on 22 Nov 1867, from about 110 feet under the surface. In his report for December, Mr J. Cogdon, the warden, states 'on the 15th inst the Nuggetty Alliance Co's claim was almost demolished by a landslip. This claim has produced a large yield of gold. It is on the highest part of the Nuggetty Ranges, and was first worked to a depth of 70 ft, 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. About 60 ft down, a granite ledge appeared, upon which the underlay seemed to rest. Surface water had collected in the open workings, and this appears to have occasioned the whole to slip the ledge upon which it rested. This made the machinery on the surface inoperative; and as the shaft had been partly filled in, the claim became unworkable. A few days later another slip took place and a chasm some 50ft square opened out. Down went tons of earth, together with the smith's shop and other buildings; but the machinery on the surface remained, and being quickly taken to pieces, was removed to safety. The buildings covering it and the stack subsequently were engulfed. The company's underground workings were uninjured, and it may be expected that this claim will prove remunerative.'³

1 Mining Surveyors' Reports, June 1867

2 Mining Surveyors' Reports, September 1867

3 Mining Surveyors' Reports, December 1867

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. The Caledonia 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. The Derby Company is in 40 feet from their shaft, and expects to strike the reef in a few days. Upon the whole, our mining prospects at present are very gloomy; the lodes in the deep ground are very poor.¹

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. In the Esperance Company's claim, on Linscott's Reef, at about 380 feet deep, a new reef has been discovered about 4 feet west of the old lode, which pinched out. The new reef shows prospects of gold, but has not been opened out upon, the shareholders having determined to sink deeper. The Albert Company, on Fenteman's Reef, has 4 feet of stone, at about 400 feet deep, with gold visible in the stone. The Beehive mine is drained and sinking resumed. The Great Western Company tried their machinery some days since, and will commence work underground shortly. [Section drawing of Albert Company's workings on Fenteman's Reef.]²

September 1868: The Beehive, in sinking, has cut a very promising reef, carrying gold at about 465 feet deep. The Albert Company, Fenteman's Reef, still continues to get good yields from the 400 feet level. The Great Southern Company, South Eaglehawk Reef, has discovered a large body of stone at about 270 feet deep, of very good character, but as yet no gold has been discovered. The Cymru Company, Tiverton Reef, now over 480 feet deep, cannot be long before they strike the Great Western lode. The Great Western have 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. 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 shute 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.³

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. The Cymru Company's shaft is now down about 493 feet. The decrease in the European miners engaged in alluvial work is owing to the exodus to Spring Creek and Berlin rushes.⁴

1 Mining Surveyors' Reports, March 1868

2 Mining Surveyors' Reports, June 1868

3 Mining Surveyors' Reports, September 1868

4 Mining Surveyors' Reports, December 1868

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 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.¹

March 1870: Two of our crushing machines have been idle during the last two months for want of water. 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 tributers 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. The Great Western Company is obtaining payable returns, 2-1/2 dwts of gold to the ton paying all expenses in breaking, raising, and crushing. Wilson's Reef - The Nelson Company are 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 that averages from 1-1/2 oz to 2 oz of gold per ton. Parkins' Reef - The tributers in the Independent Company's ground are raising quartz that averages from 1/2 oz to 1 oz per ton. Post-office Reef - This reef has changed hands, and the new occupant informs me that he intends to resume operations in a few days. Alluvial mining in my division is almost at a standstill, the majority of miners not making wages.²

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. 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. The yield from the Nelson Extended Company averages about 1 oz per ton. The North Block Tributers, 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. 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.³

September 1870: The small rush reported by me near Garrett's slaughter-yard has not turned out according to my expectation; it seems to be nothing but a surface

1 Williams, p. 73

2 Mining Surveyors' Reports, March 1870

3 Mining Surveyors' Reports, June 1870

patch confined to two claims; nothing can be traced away in any direction, consequently most of the diggers have left it. Some claims on Mount Tarrangower show signs of improvement. In Lease No. 371, Edmondson and Co. (Braithwaite's Reef) have struck a new reef west of their former one; they had sunk, after losing the old reef, some 50 feet, and finding nothing, came up the shaft to a few feet below where the reef had run out, and started to drive west, and in 4 or 5 feet driving discovered a new reef, from which they have had one crushing of 26 tons, which yielded 34 oz 6 dwts of smelted gold. This party has been struggling with difficulties for some time, but are now likely to get repaid for their outlay. 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 their energies in working the reefs from the surface. The Nelson Extended (Tributing) Company is obtaining payable gold, but, owing to hard ground and water, they are not able to declare any dividends. 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. The Nelson Company have recently erected a new battery of ten heads of stampers, which enables them to reduce twice the quantity of quartz; are looking forward with the present yield (8 dwts per ton), and a large quantity of reef open before them, to declare dividends. The tributers 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.¹

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 0ozs of gold, or an average of 1 oz 8 dwts 14 grs per ton. The tributers 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. The Nelson Extended Tributing Company have 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. There is also a slight improvement in alluvial mining. This I account for from the plentiful supply of water we have had, which has enabled the puddlers to keep constantly at work. 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.²

1 Mining Surveyors' Reports, September 1870

2 Mining Surveyors' Reports, December 1870

March 1871:

Quartz mining has slightly improved during the past quarter. **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 are 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. **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, have now let their mine on tribute. **Speculation Company** - The tributers are busy at work, and during the quarter have crushed 80 tons, which yielded 65 oz, 11 dwts of gold. **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. **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. The various crushing plants have been busily engaged during the quarter crushing for the public. Alluvial mining is very dull, both the puddlers and the fossickers being barely able to obtain a livelihood.¹

June 1871:

The Eaglehawk Preference Company, having completed the erection of their engine, are now pumping the water from the mine, but, owing to the immense body of water that has accumulated in the old workings since the works in the deep ground were stopped, the progress made is but slow. The parties referred to in my last report are still working the shallow ground on the gully, but the yield of gold has fallen off considerably; the last crushing from Davis' claim only averaged 2 dwts per ton. The Eaglehawk Union Company, in their cross-cut east at the 405-foot level, has cut through a very promising reef. About 6 feet in thickness of this reef on the east side was put through the company's batteries, and yielded 13-1/2 dwts per ton. The company have stopped the works here for the present, during the erection of poppet-heads to connect the gear from the winding-engine to this shaft, as they found the cost of baling water and hauling dirt at this depth with a whim too expensive. NUGGETY REEF - The Alliance Company have 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 frame-work 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. 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. 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 tributers.¹

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. The Alliance Company, on Nuggetty Reef, have commenced to clear and reform their 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. The Preference Company (Eaglehawk South) having drained the mine, have let a contract for sinking the shaft a further depth of 50 feet; the reef in the bottom cross-cut, at the 350-foot level, is 36 feet wide, but very poor; prospects in other parts of the mine are very encouraging. One party of tributers is now working on a reef 3 ft 6 in. in width, the average yield from which has been, during the quarter, 1-1/2 oz per ton. Six new mining leases have been recently applied for, to be worked chiefly with outside capital. On the whole, I think, there are signs of improvement in the district.²

December 1871:

The prospects of the Union Company's mine at Eaglehawk Reef are favourable; the reef at the bottom of the mine (460 feet) is 7 feet thick, the quartz from the last crushing averaged 19 dwts per ton. The Great Western

¹ Mining Surveyors' Reports, June 1871

² Mining Surveyors' Reports, September 1871

Co's prospects in the bottom drive are also favourable. The company has sunk the shaft another 80 ft, 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 130 feet ... In sinking the last 50 ft there was a lot of water to contend with, it having accumulated in adjoining claims and but for the efficient machinery the company would have had to cease work. The Nuggetty Alliance Co is sinking its shaft down the Gulf, through the debris that caved in some four years ago. The men have come on to huge blocks of granite, which fell from the surface, and these blocks had to be blasted as work proceeded. The shaft is now down about 90 ft, where it has been secured with strong timbers (underneath the frames) let into the solid rock at each end. Another contract is preparing for sinking to the further depth of 160 feet (which is the water-level), and also for re-erection of the engine. This company has been induced to work again through the prospects of the Speculation Co's mine. Adjoining, on the south (Speculation), a new reef has been discovered diverging from the original reef westward of the old workings. They are following this new reef 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. 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. 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.¹

March 1872:

Statistics for the quarter show a decrease from quartz mines of over 1000 oz, and an increase from alluvial mining of 780 oz. In the latter case gold was obtained by Chinese on the Loddon River, in the parish of Baringhup, where about 100 men are employed in sluicing. Crown lands have been taken up for some distance, and portions of private property purchased for mining purposes. United Eaglehawk Co last week crushed 29 tons from the bottom of the mine (420 feet), which yielded 87 oz of gold; and stone being broken in the course of crushing, appears to be as good. The Eaglehawk Union Co's mine still looks favourable. The Troubadour Company, a party of tributers, has recently struck payable gold, and erected a steam engine for the purpose of winding. The tributers in the Speculation Co's mine are getting payable stone. About 4 ft of the reef is being taken out and crushed, the average yield is over 1-1/4 oz per ton. At Thornhill's Reef, Green Valley, some new machinery brought from England has been started. The crushing plant is being erected, and will soon be ready. The quartz raised from the mine shows gold, and with the improved machinery the mine will pay well. The Great Western Co is driving the bottom cross-cut west at the 530-foot level, to strike the reef. They are in over 100ft, and expect to meet the reef in another 20ft. The Nelson Extended (Vivian and Co.) completed their machinery for pumping. The mine is baled out, and men are employed in breaking quartz. The Old Nelson Co, on Wilson's Reef, has done little work during the quarter. They lost the reef in the bottom of the mine, where it was cut off by a dyke. The backs have been let on tribute, but the men, finding it too poor, have left it. The old Beehive Company has several men on tribute to work the upper ground. The lower part of the mine is full of water, and the engines are idle.²

June 1872:

The Union Co (Eaglehawk Reef) is likely to be a dividend-paying mine. The tributers in the south part of the mine (The Troubadour Co) are getting stone at 460 ft. The last crushing of 85 tons produced 374 oz 11

1 Mining Surveyors' Reports, December 1871

2 Mining Surveyors' Reports, March 1872

dwts, and the stone now being raised promises an even better yield. The lead is dipping at the ratio of 1 in 1 south towards the Central Co's ground, and is increasing in richness. The claims between this and the Eaglehawk Preference Co are now being prospected. The north part of the mine is being worked by the Union Co itself. The reef at 470 ft, is 5 ft thick, and averages an oz of gold per ton. The Maldon United Co, adjoining the Union on the north, is averaging 1 oz 11 dwts per ton. The Eaglehawk Preference Co, on the same line of reef, has sunk the shaft to 436 ft, and is now cross-cutting west to cut the reef. In the last cross-cut, at the 350-ft level, the reef was struck at 32 ft west from the shaft. The reef here was 36 ft thick, but very poor. The Great Western Co, in driving north at the 470-ft level, has come upon a good reef, containing gold below the dyke that cut off the reef in the Beehive Co's ground. The new make is about 100 ft below the dyke. On the old Nuggetty Reef, the Speculation Co has come on good stone west of the old workings. The mine is let to a tributing co, who are breaking out stone 12 ft thick, averaging about 1 oz per ton, at a depth of 360 ft. The claims of the north and south are preparing for a fresh start. Altogether matters are looking healthier than they have for a long time. At Green Valley, Muckleford, the Thornhill's Co is sinking the engine-shaft below the 500-ft level, and opening up the mine to the north at the 300 and 500-ft levels. The quartz being taken out shows a sprinkling of gold at the 300-ft level, and the reef at the bottom of the mine looks promising. Alluvial mining on the Loddon River is suspended for the winter season. 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 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.¹

September 1872:

The Union Co's mine, Eaglehawk Reef, continues to give good yields. The south portion of the mine, held by the Troubadour (tributing co), has crushed 766 tons, which yielded 2381 oz 12 dwts of gold and the stone being broken in the bottom of the mine (500 feet) looks as good as any; it is extending southwards towards the boundary of the Central Eaglehawk Co's mine, and shares in the companies are in demand at a high figure. The ground south of the Central Co's mine, has been amalgamated, and a company of 18,000 shares has been formed. The Maldon United Co's mine has also been paying dividends; 318 tons has been crushed for a yield of 427 oz 5 dwts; the reef is improving as it is opened up northward. The Eaglehawk Preference Co has struck the reef in the cross-cut, 68 ft west of the shaft; they are in about 6 ft, but have not yet got the west face; the stone looks promising, but no gold yet. The Great Western Co has struck the reef in the bottom cross-cut, 130 ft west of the shaft; in driving north 20 ft it has opened out to 18 ins, and contains gold. On the Nuggetty Reef the Speculation Co, owing to rain, have been occupied in baling. At Green Valley, Muckleford, the Thornhill's Co is breaking quartz from the 500 and 300-ft levels for crushing with their improved patent crushing stamper. Alluvial mining on the Loddon - The Chinese have again started work; two parties have bottomed, and are getting gold, and seem satisfied with their returns; but, there being no interpreter, I could not ascertain the yield.²

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

1 Mining Surveyors' Reports, June 1872

2 Mining Surveyors' Reports, September 1872

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 Leighton's, 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. 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 Central United Quartz Mining Company, Eaglehawk, recently formed, has commenced operations. A contract has been let to sink a new shaft from the surface to a depth of 300 feet. 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. At Green Valley (Muckleford) the Thornhill Company are 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. The Speculation Company's Tribute, Nuggetty Reef, has been compelled to suspend operations for the want of machinery to contend with the water. In alluvial mining the yield has fallen off considerably, except at the Loddon River; the most of the miners have gone harvesting, &c. [Report includes plan of Great Western Quartz Mining Co.'s mine on Beehive Reef, with Beehive and Cymru Co.'s adjoining.]¹

March 1873:

The Eaglehawk Union Company have not completed their 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. ...the Maldon United Company's mine, on Eaglehawk Reef, is improving in depth, and I am informed that they have struck a fine body of stone in sinking their shaft. The Great Western Company still continue to receive average returns, and are getting a fine body of payable stone along the west boundary of the Beehive Company's least at the 470-foot level. At Green Valley the Thornhill Company have tried their new machinery, which, I am informed, worked very well; they crushed 100 tons, the yield I have not yet ascertained. 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. Alluvial mining - The yield has improved a little. Parties are setting in to work again who have returned from the harvesting. The whole returns from the workings on the Loddon River I have not been able to get, but I am informed that the claims are yielding very well.¹

June 1873:

The Eaglehawk Union Company, at Eaglehawk Reef, have completed their very large improvements, and the machinery is working satisfactorily; also the Thornhill Company, Thornhill Reef, Green Valley, have commenced operations with the patent stamps, and are well satisfied with the working of them. This company has now suspended crushing operations, pending the erection of their 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. In the Adventure and Welcome Leases new runs of gold have been found, and, from the prospects obtained, appear to be highly remunerative. The Central and United Central Companies, on the Eaglehawk Reef, are busy sinking; the former company have struck a reef in the shaft at 490 feet, with good prospects; it is supposed to be the continuation of the good lode that the Troubadour Tribute Company worked so successfully in the Eaglehawk Union Lease adjoining. 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. Alluvial mining - In this branch of mining matters seem to be about the same average; no doubt a little more impetus will be given to it now the wet weather has commenced; although on the Loddon River it will retard operations, flooding the miners out of their claims.²

1 Mining Surveyors' Reports, March 1873

2 Mining Surveyors' Reports, June 1873

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. 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, has 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 dwts per ton; this is considered very fair, as a lot of poor stuff was mixed with it; this company have 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 their 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 their mine on tribute; the tributers intend driving west to strike the run now being worked in the last-mentioned claims. Beehive Reef - The Beehive Company on this line are sinking their 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 have stopped work at the bottom of their 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 their 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. At Watson's Freehold, Sandy Creek, the prospects are improving; in the 150-foot level the reef is 7 feet in thickness, from which, in four days' crushing with two batteries of stampers, 18 oz of gold was obtained; if this continues, it will soon become a dividend-paying mine, as the ground is comparatively inexpensive to work. At Thornhill's Reef, Green Valley, the English Company have 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. Alluvial mining - ... The chief work is fossicking in the old diggings and washing the headings thrown away in the old drives and on the surface.¹

December 1873:

The new battery of stampers erected on Thornhill's Reef has been started, but, owing to a defect in the flues and stack, sufficient steam could not be kept up to work it satisfactorily. Alterations must be made before more crushing can be done. The prospects are good, and there is a large body of stone ready for crushing. The Union Co, adjoining on the south, is prospecting the deep ground, sinking and crosscutting to open up below the 500-ft level. The shallow ground has been tried, but does not pay. The Great Western Co, owing to the poverty of the reef, has suspended operations in the deep ground, and let the upper ground on tribute, until the Cymru Co, 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 Co, on the north, has sunk their engine-shaft another 50 ft, and is crosscutting eastward to pick up the lost reef. The upper part of the mine is being worked by tributers, who recently came upon some good patches of stone; one lot of 49 tons yielded 91 oz 6 dwts of gold. The line of Eaglehawk Reef, for a mile in length, is being worked, and employs a large number of hands. From the Great Southern Co's mine to the South Eaglehawk Co's nearly the whole of the ground is let on tribute; and one of the parties, known as Rechabite No. 1, has crushed 67 tons for a yield of 88 oz 19 dwts of gold. Other parties have been crushing stone yielding over an oz of gold per ton, at a depth of 150 ft. Further north on this line the Central Co has erected a steam engine for hauling dirt and baling water. They have drained the mine, and commenced breaking out stone below the 500-ft level. The level has been driven north to the south boundary of the Union Co's mine, and the prospects along the drive are promising - the last 60 tons sent to the mill gave over an oz per ton. Alluvial mining - there is not much doing. The greatest portion of the alluvial gold is obtained by Chinese, with quicksilver cradles, washing sludge and tailings behind the crushing-machines and along the creeks. Most of the old diggers have gone to the harvest-fields, with a view of making a rise (as they term it), and return to the diggings when the harvest is over.¹

March 1875:

The yield of gold has fallen off during the quarter, owing partly to the stoppage of Union Co's mine for want of water. The manager, has been busily engaged in cleaning the machinery, &c., and is waiting for a rainfall, there being no other source of water. Another cause of the falling off in this quarter's returns is the poverty of our mines generally. For the want of funds, operations have been suspended; and the companies, having no calling power on the shareholders, are unable to search for the lost lodes. These remarks apply especially to the Nelson, German, Reef, Vittoria, and South Eaglehawk Co's. Others of our mining co's, viz., the Eaglehawk Limited, the Wellington, the Alliance, the Speculation, the New Enterprise, and Beehive Co's, have been expending large sums of money in sinking and driving, to find the lost rich lodes. The Eaglehawk Limited Co is now sinking the shaft below the 615-ft level; the reef here is from 10 to 12 ft thick; occasionally good stone is found, and the prospects are promising. The Eaglehawk Union, the Central, the North Eaglehawk United, and the Linscott's Tribute Co's, are the only paying mines at present. The Central Co, has crushed 145 tons of stone from the 570-ft level, which yielded 797 oz 18 dwts of gold; and regular crushings are expected. In the Linscott's Tribute and the North Eaglehawk United Co's mines the prospects are also promising. The Cookman's Reef Co has sent 60 tons of quartz to the crushing mill; but the result is not yet known. In alluvial mining there is nothing new. The Chinese are washing sludge and tailings in the creeks and gullies. The Europeans are fossicking in old diggings.²

1 Mining Surveyors' Reports, December 1873

2 Mining Surveyors' Reports, March 1875

June 1875:

Two of our principal mines [are] working on poor ground to open up the mines for ventilation and for the advantage of future operations. The Union Company has just completed a cross-cut at the 700-foot level from the engine-shaft to the reef, a distance of 30 feet. The reef is three feet in thickness, and containing gold; a contract has been let for sinking the shaft below the 720-foot level a further depth of 100 feet; the first six weeks of the quarter this mine was idle for the want of water, but is now in full work, with the dams overflowing. The prospects of the Eaglehawk Central Company are very good; the last crushing of 62 tons gave 101 oz of gold. There are 61 tons at the kilns ready for crushing next week, which are likely to give a better yield than the last. The Eaglehawk United Mine has considerably improved during the quarter, and is still looking well; 412 tons of quartz have been sent to the crushing mills, which gave 649 oz of gold. The Eaglehawk Limited Company has purchased a second boiler for their engine, and has called for tenders for fixing it; they are still sinking on the reef. The whole line of Nuggetty Reef is idle at present, as well as the Nelson, the German Reef, Brewer's and Cookman's Reefs. A tribute party in the old Wattle Gully Reef has recently come upon a good-looking reef, with good golden stone, but there has been none crushed as yet to test its value. There has been no improvement in alluvial mining during the quarter.¹

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. The Central Eaglehawk Company's mine is still yielding good payable stone, and now that ventilation has been opened to the Union Company's mine, the manager will be able to increase the number of hands, and get more work done. The Eaglehawk Limited Company have 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. The Alliance Company have started work again, and have a very promising looking reef in the bottom of the mine, but hitherto not payable. The Wellington Tribute Company struck the reef about a fortnight ago in their cross-cut at the 600-foot level, 40 feet west of the engine-shaft; it is about 4 feet in thickness, and shows gold. This company has sunk 300 feet through dead ground, and, according to the prospect, they are likely to be remunerated for their outlay. The prospects in the Eaglehawk United and Linscott's Companies are good at present; the yields for some time past have been very regular, and are likely to continue. They are both dividend-paying mines. The Nelson, Great Southern, Cookman's Reef, and Wattle Gully Companies are all idle at present. The Wattle Gully mine has been flooded by the late heavy rains; it is full of water to the surface. The Great Western and Cymru Companies mines are 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. 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. The engine and plant of the Cookman's Reef Company have been sold by auction, and purchased by one of the creditors. The Dunn's Reef Company, at Muckleford, have 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.²

December 1875:

The prospects in most of the deepest mines at present are not very good. The Alliance Company, on Nuggetty Reef, at the 600-foot level, have

¹ Mining Surveyors' Reports, June 1875

² Mining Surveyors' Reports, September 1875

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. 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. The Eaglehawk Limited Company, at the 600-foot level has driven a cross-cut west to test the reef... The Beehive Company has stopped their 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. 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. 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. No water was sold during the quarter.¹

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. The Eaglehawk Union Company is still sinking their 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. The Eaglehawk Limited have driven north on the course of the reef at the 600-foot level... The Beehive Company have 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. 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. The Alliance and New Enterprise Companies, on the nuggetty line of reef, are still persevering, but hitherto have found nothing payable. In alluvial mining there is nothing of importance to report. No water was sold for mining purposes.²

1 Mining Surveyors' Reports, December 1875

2 Mining Surveyors' Report, March 1876

June 1876:

This quarter the yields from our quartz mines show an increase of 94 oz, which have been kept up chiefly by the crushings from the North Eaglehawk United Company's mine; but the prospects in this mine at present are not so good, the last crushing having fallen off considerably. The Eaglehawk Union Company have let a contract to sink their engine-shaft a further depth of 100 feet, which, when completed, will be 900 feet from surface. The reef has been struck in the 800-foot cross-cut, and a contract let to continue the winze on the course of the reef. The Eaglehawk Limited Company are extending their bottom drive northward; ... a crushing of 26 tons from the back of the drive gave 22 oz 4 dwts of gold... In the Central Eaglehawk United mine the reef has been struck at the 400-foot level... A contract has been let to drive 100 feet north and south from the cross-cut... Several claims have been taken up on a reef about two miles west of the township, named Miller's Reef, after the prospector. Eleven tons of quartz has been crushed from the prospectors' claim, yielding 11 oz 13 dwts of gold; prospects have been got from the adjoining claims, but not in payable quantities. Another reef has been taken up on Blackie's Hill, north of the township, known as the Charcoal Reef; the prospectors, at a depth of 80 feet, have struck a reef 5 feet in thickness, the first crushing from which, 16 tons, gave 12 dwts per ton; should this yield continue, it will pay well, as the stone is easily broken. In alluvial mining there is nothing new to report. The number of miners fossicking in the old diggings is gradually diminishing, and, owing to the late heavy flood on the Loddon, several of the Chinese have left.¹

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 Co's, have suspended operations, and about forty men are thrown out of work. The prospects in each of these mines should encourage a further outlay of capital, to develop their resources. In the Beehive, a crushing of stone from below the bottom level yielded an oz and half to the ton. The reef is from 1 ft to 1 ft 6 inches thick; 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. The reef in the Eaglehawk Limited, at the bottom of the mine, is 22 ft in thickness... The Eaglehawk Union Co, in sinking the engine shaft, came on to a dyke about 44 ft below the 800-ft drive. 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 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-ft level, from which it is baled. The total quantity of water from the mine is 363 tanks, or 50,820 gallons, per week. The Charcoal Reef, recently re-opened by Wratten and Co., has turned out a good paying reef; it is from 2 to 5 ft in thickness, the last crushing from which gave an oz of gold per ton. The gold has been followed for about 80 ft 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. At the Bell's Reef mill, the stone was crushed, 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.²

1 Mining Surveyors' Reports, June 1876

2 Mining Surveyors' Reports, September 1876

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. 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. The Grand Junction Company have 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. The Eaglehawk Union Company have 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. 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 them sold.¹

June 1877:

Our quartz mines have fallen off considerably in the yield this quarter, owing partly to the suspension of operations in some of our deep mines, nearly all of which are only employing a few men on tribute in the shallow workings. 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. 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. 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. The Charcoal Reef continues to pay dividends, and the present prospects are improving. The Parkins' Reef Company are also paying the tribute parties pretty well, and giving good dividends to the owner. These are the only two payable mines at work at present. 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.²

1 Mining Surveyors' Reports, March 1877

2 Mining Surveyors' Reports, June 1877

September 1877:

Mining has not improved during the quarter. The quantity of gold is about the same from our quartz mines but the average per ton is considerably less. 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, and a contract let to sink 50 feet, to test the reef at a deeper level. The Union Company is still driving their 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. 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. The tribute parties in the Alliance and Speculation Companies' mines are getting out quartz that gives nearly an ounce per ton. One crushing of 22 tons from the Speculation mine gave 24 oz 6 dwts of gold. The Eaglehawk United Company has let their mine on tribute for a term of five years. 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.¹

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... The German Reef Company have 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. 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. 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.²

1 Mining Surveyors' Reports, September 1877

2 Mining Surveyors' Reports, December 1877

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 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 oxidized that the substance iron was not more than one-eighth of an inch in thickness, and consequently could not bear the pressure. 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. The Eaglehawk Union Company is 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. A discovery of a new lode has been made on the south-west slope of Mount Tarrangower, crossing the old tunnel. The prospectors have had two or three crushings, giving 2 and 3 oz per ton; and the No. 1 claim north has also struck the lode, a crushing from which this week gave 3 oz per ton. There is nothing new to report on alluvial mining this quarter. A small engine has been erected at Clydesdale to work the old diggings on the Jim Crow Creek, but hitherto no returns have been obtained.¹

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... 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. The reef discovered during the last quarter on the south-west slope of Mount Tarrangower still continues payable in two of the claims. Two engines have been sold and removed to Dunolly. The German Reef tributaries 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. Alluvial mining in my division consists chiefly of fossicking in the old workings and sluicing in the gullies.²

¹ Mining Surveyors' Reports, March 1878

² Mining Surveyors' Reports, June 1878

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. 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. 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. The Eaglehawk Union Company is still cross-cutting east from the shaft, to strike the line of reef. Men are employed stoping quartz from the upper levels. 500 tons have been crushed during the quarter, for a yield of 275 oz 13 dwts of gold. The engine and plant on Welshman's Reef have been sold and removed. Alluvial mining has improved during the quarter, owing chiefly to there having been a plentiful supply of water for washing and sluicing purposes.¹

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. Another company, known as the Duke Tribute Company, have taken the Wellington mine for a term of five years, having been induced to do so by the prospects in the Linscott's Company mines adjoining on the south, where a new reef 10 feet thick has been struck at the 550-foot level; this new make has been opened up about 40 feet in length, and the yield has been over 1 oz of gold per ton. The Duke Company started baling about the middle of November, and has now drained the mine, which is 606 feet deep. There was over 400 feet of water in the mine when they started. The Eaglehawk Limited Tribute Company started baling on the 22nd of September last, and are 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. 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.²

1 Mining Surveyors' Reports, September 1878

2 Mining Surveyors' Reports, December 1878

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 is from the Eaglehawk Limited Co's mine. It has been purchased by Chinese, who have conveyed it by a race to Growler's Gully, where they are now sluicing the gully, and to all appearances are highly satisfied with the profits obtained. Quartz mining - This branch of mining shows a decrease of 824 tons in the quantity crushed, and over 350 oz in the yield, the cause of which 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. About half-a-dozen tribute companies (backed by tradespeople and others in the locality) have recently started, and, after draining the mines and getting them in working order, are likely to be well remunerated. One of the parties, known as the Linscott's Tribute Co, has been in receipt of good dividends for the last seven months. It was the good prospect in this mine that induced the Duke Tribute Co to start in the Wellington mine, about four months ago. They have drained the mine of over 400-ft of water and driven over 60-ft westward, and expect to strike the reef in a few feet further. The German Reef and Welcome Tribute Companies have come upon some splendid stone. A bucket of stone sent up from the Welcome yesterday caused great excitement among the shareholders, most of who are local men. 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. Maldon only wants prospecting under good management to make it one of the best quartz mining districts in Victoria.¹

June 1879:

The German Reef Tribute Co, from 68 tons of stone crushed, obtained 202 oz 1 dwt; and the last crushing from the South German Reef Tribute Co of 11 tons yielded 4 oz per ton. Irish Billy's Reef is also turning out well; 100 tons of quartz yielded 391 oz 10 dwts, and the owners are now crushing. 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. The old Welshman's Reef has also shown some good prospects, but hitherto no crushing has been done. The rock borer introduced by Frederick C. White has been used in sinking the Eaglehawk Union Co's shaft, and the result was that 17 ft 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... The Duke Tribute Co has driven the cross-cut west 120-ft, to strike the reef being worked by the Linscott's Tribute Co in the adjoining ground, but so far have found nothing. The Eaglehawk Limited Co is offering terms to parties to sink the engine shaft a further 70-ft; when completed, the shaft will be about 700 feet. At this level it is contemplated to drive for the reef. The distance will be about 120 ft. In this case the rock borer and compressed air-winch would be found very beneficial.²

1 Mining Surveyors' Reports, March 1879

2 Mining Surveyors' Reports, June 1879

September 1879:

The last crushing from Locke and Co's claim on Irish Billy's Reef gave 256 oz 14 dwts from 33 tons of stone; there is another crushing now on, which 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 years ago; it was taken out to a depth of 90 ft, and some of the stone gave 12 oz per ton. 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 South German Reef Tribute Co 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 1 ft wide, and the water troublesome. On the whole, our quartz mines have a better appearance than they have had for some years. The Eaglehawk Union Co is sinking their engine shaft; the present depth of the mine is 1,200 ft, 200 ft below the last cross-cut. The rock-borer and compressed air winch are answering well; about 16 ft a fortnight being sunk through rock of the worst kind, with the water troublesome. The Prince of Wales Co, 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 he will make the mine pay. The Welshman's Reef Co is also erecting a plant on the mine, and will be ready to start in a fortnight. 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.¹

December 1879:

Three companies have, for two months out of three, been doing dead work. The German Reef Co has sunk the shaft further, and opened up the ground for stoping; during last month 175 tons have been passed through the mills, yielding of 508 oz 1 dwt of gold; another lot of 60 tons is being crushed, which is expected to yield 3 oz per ton. Locke and Co, on Irish Billy's Reef, have sunk a new shaft about 90 ft. They crushed this quarter, 35 tons, which gave 265 oz 10 dwts of gold. The North British Tribute Co finished the contract for sinking; the shaft is now down 500 ft; they are driving on the lode, and stoping the back. The last crushing, 30 tons gave 32 oz 1 dwt 12 grs of gold. The Old Mount Tarrangower is turning out good stone from Lisle's Reef. Blamy's Tribute Co sent 28 tons to the mills, which yielded 45 oz 5 dwts of gold. A new company has been floated for the Eaglehawk reef, adjoining the Eaglehawk Co Limited on the south. Most of the scrip has been bought up by Ballarat gentlemen and tenders are being called for the supply of a steam engine for pumping and hauling the dirt. The bottom of the mine has not been seen for several years, but it is known that payable gold exists. The Prince of Wales Co, on the Excelsior Reef, came upon a fair prospect, gold being visible in the stone; the mine is likely to give dividends as soon as they get a supply of water for crushing; there are two good dams on the ground, and all that is wanting is a downpour of rain. The Homeward Bound Co, on Welshman Reef, has also completed the engine and battery; they have fair prospects, but cannot start for the want of water. The South German Reef Co has been idle; operations 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. The Eaglehawk Union Co has completed the shaft to the depth of 1,220 ft, and started a cross-cut east, at 1,200 ft, to strike the reef.²

¹ Mining Surveyors' Reports, September 1879

² Mining Surveyors' Reports, December 1879

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, and 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.¹

March 1880:

The German Reef Tribute Company are still getting good stone; the last crushing of 71 tons gave 160 oz 2 dwts of gold; they have another lot ready for the mills which, to all appearance, is equal to the last, with every promise of the continuance. The North British Tribute Company, after paying 25 per cent to the owner, are 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. 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 oz 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. Linscott's Reef Tribute Company is still getting gold at the 650-foot level; the last 60 tons of quartz gave 71 oz 14 dwts of gold. The Duke Tribute Company, adjoining the Linscott on the north, after a hard struggle for the last eighteen months, have come upon the reef they have been in search of; it is small at present, but appears to be opening wider in depth; it contains gold, but not yet in payable quantities. 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. 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. 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. 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.²

1 Williams, p. 27

2 Mining Surveyors' Reports, March 1880

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. 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. Locke and Co. have 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. The Alliance Company, working on Eaglehawk Reef south, is pushing ahead with their contract for the erection of machinery, and will be soon ready to start pumping. The Duke Tribute Company has ceased operations; after prospecting for nearly two years, they have not been able to find any payable reef. The German Reef Tribute Company has suspended operations for the present, pending a lawsuit, which is to come off shortly. The Nelson Company are 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. Rimmer and party are still obtaining good returns; the last 12 tons of stone gave 24 oz 10 dwts of gold. 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. Alluvial miners have been benefited by the late rains giving them a plentiful supply of water.¹

September 1880:

The Eaglehawk Union Company has not yet resumed operations. The North British Tribute Company have 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. 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. The Eaglehawk Alliance Company has started their new machine, and are now draining the mine and enlarging the shaft for future operations. The German Reef Tribute Company, having lost their reef (it having been cut off at the 360-foot level by a dyke), have gone down to the 400-foot level, and in driving south have struck a new make of quartz about 6 feet wide and well defined; they are now sinking on it to test it, but not having crushed any, its value is not yet known, but the stone looks very favourable. The South Eaglehawk Company Limited have struck the reef in the bottom cross-cut, at 124 feet west from the shaft, and have started to drive north on the course of the reef... Alluvial mining -... The work in this branch of mining consists of fossicking in old workings.²

¹ Mining Surveyors' Reports, June 1880

² Mining Surveyors' Reports, September 1880

December 1880:

The North British Tribute Co still pays good dividends; 1,255 tons of stone have been crushed, yielding 2,486 oz 14 dwts of gold. The Co has recently purchased a boring machine with air compressor; but they find that it will require alteration before it can be used to advantage. When the repairs are finished, the Co expects to increase the quantity of stone for crushing. On the adjoining lease, No. 1831, the owner has erected a steam engine of 25-hp, and it will soon be ready for work. Locke and Co., at Irish Billy's reef, have lost the lode, it having been cut off by a fault; but 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 shortly. The Alliance Co. has had a great deal of trouble with water, having had to drain about 60 chains of the Eaglehawk line of reef. This great body has been drained enough to enable them to continue sinking. They have struck gold, and shares have risen considerably.¹

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 Nuggetty Reef, and the other on Parkins' Reef. A contract has been let to erect on the United Central Company's ground. Want of water has caused a stoppage at three crushing machines. The Prince of Wales Company has been prospecting extensively in their mine, by driving and sinking, but has not yet struck any payable reef. The prospects of the German Reef have improved of late, the last crushing of 29 tons yielding 36 oz 2 dwts of gold. 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. 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.²

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 dividends, and is likely to do so for some time. 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. The Eaglehawk Alliance Co, in driving north on the line of reef, recently struck gold, which is likely to prove payable. A crushing of 20 or 30 tons will be sent to the mills in a few days. 92 tons of stone, from Lisle's Reef, on Mount Tarrangower, gave 132 oz 5 dwts of smelted gold. The new Co, known as the Great Western Cymru, 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. The new steam engine on the Nuggetty Reef is complete; the manager now waiting a rock-borer to start operations. The Resurgam Co, on Bell's Reef, have drained the mine with a horse-whim, and is now sinking a winze on the reef. The prospects are favourable. Alluvial mining - Since the rain set in, an impetus has been given to this branch of mining, the yield being double that of the last quarter.³

1 Mining Surveyors' Reports, December 1880
2 Mining Surveyors' Reports, March 1881
3 Mining Surveyors' Reports, June 1881

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 Co having sunk the shaft a further 50-ft, and not being able to get at crush-dirt until the reef was drained. The Independent Co, adjoining, since draining the mine, have cut down the shaft and driven south, where they struck a new make of reef which had been lost. The stone looks favourable. The Eaglehawk Limited Tribute Co is getting out stone yielding over 1 oz to the ton, and it is still improving. The Eaglehawk Alliance Co is still breaking out crushing-dirt; 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 ft 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. Tenders have been called and accepted for driving the first 250-ft 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. 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 ft a week.¹

December 1881:

The Beehive Co is making good progress; since starting they have got down 100 ft; the size of the shaft is 11 ft by 4 ft 6 ins. 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. The Great Western Cymru Co 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. In driving at the 200-ft level they struck good stone, the quantity is estimated at 7,000 tons. The Independent Co, in sinking, struck a new make of reef ranging from 1 ft to 4 ft 6 ins in width, which shows good gold. The Tarrengower Co is still sinking the shaft, and making headway with the rock-borer. Locks' Gold Mining Co, Irish Billy's Reef, is producing good stone, averaging 5 oz 0 dwts 5,09 grs per ton. The Eaglehawk Alliance Co has opened up the bottom drive for 190 ft in length, showing golden stone the whole length. A battery is on the ground, and they have about 200 tons of stone ready for crushing. No change in alluvial mining except that some of the puddlers have knocked off to go harvesting.²

March 1882:

During the quarter there was a falling-off in the yield of gold from quartz. The Alliance Co has just started the new battery of 20 stamp-heads, which is expected to put through 200 tons of stone per week. The prospects look well; a payable reef has been opened up for a length of 250 ft, and a number of miners employed to keep the battery in constant work. The Great Western Cymru has 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. The Beehive Co is erecting machinery, and preparing for pumping. The Eaglehawk Union Co, at the 700-ft level is boring east with the diamond drill, and is now in about 360 ft. The Tarrangower Nuggetty Co has struck the reef in the shaft, and the stone shows a fair prospect of gold. The Grand Junction Co has also started new plant, and commenced baling and cutting down the engine shaft. The John McIntyre Co, on Mount Tarrangower, has struck gold, and is preparing for a crushing. The Carlyle Co is getting payable stone at 150 ft. The Resurgam Co (Bell's Reef) is getting fair prospects from the mine; they have opened the reef about 90 ft in length, and gold can be found the whole distance. Alluvial mining - Owing to want of water, the puddling machines have not been at work during the quarter.³

1 Mining Surveyors' Reports, September 1881

2 Mining Surveyors' Reports, December 1881

3 Mining Surveyors' Reports, March 1882

June 1882:

Quartz mining has improved during the quarter; the yield of gold has more than doubled, owing to the good returns from the Great Western Cymru Co, Lisle's Reef. Since starting, they have paid off liabilities of £3,000 to the original company for engines and plant, and a dividend of 1s per share on 30,000 shares. The prospects of the mine are still good. 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 taken up, and several claims are getting gold, especially the Exhibition Co'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 ft 6 ins thick. The Grand Junction Co has progressed with the tunnel in Manton's Gully since the rock-borer was introduced. They will strike the reef in two or three weeks. The work in the mine below the tunnel consists of baling water and enlarging the engine-shaft, to admit 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. 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. In Locke's Mine, Sandy Creek, where the reef was lost through its displacement by a dyke, the reef has again been found 25 feet east, and it shows prospects as good as when it was cut off.¹

September 1882:

The Western Cymru Co, 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 kept at work, with prospects still good. The contractor for the Beehive and German Reef machinery will soon have the two mines at work. The South German Reef Co is also erecting an engine for pumping and hauling. The Grand Junction Co'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, struck payable gold. In the North British mine the rock borer has started, and gold struck at the 500-ft level. The battery of 24 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 work, so we may expect the yield this quarter to 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. 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. The Alliance Co's mine is improving, the lode showing gold more freely than it has done for some time. 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.²

1 Mining Surveyors' Reports, June 1882

2 Mining Surveyors' Reports, September 1882

December 1882:

Quartz mining has improved during the quarter, the yield chiefly from Mount Tarrangower and Locke's mine, on Irish Billy's Reef. The run of gold opened up on Lisle's Reef, Mount Tarrangower is 1,600 ft, and the yields vary from 1 oz to 12 oz per ton. Locke's Co's mine, at Irish Billy's Reef, is 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 400 ft. The prospects of the Alliance Co, on the Eaglehawk Reef, have much improved. The reef is 15 ft thick, and is opened up for 25 ft. The Eaglehawk Union and Eaglehawk Limited mines have changed hands, and are idle, new companies are being formed to re-work them. The Great Western Cymru Co has fallen off, so much so that the crushing plant is stopped for want of payable stone. They are now prospecting. The Nelson Co in driving south have struck the lode, which shows gold, but no stone has been crushed, the value of the discovery is not known. The Great International Co started a tunnel and set the rock-borer to work to drive under the mount. They are driving about 25 ft a week. The Tarrangower Co, on Nuggetty Reef, in driving south from the shaft, have come upon payable stone; the last crushing of 42 tons gave 46 oz 4 dwts of gold. The German Tribute and Beehive co's have finished the erection of their engines and started to pump. Alluvial Mining - Boring has been carried on extensively on the Newstead Flats. Several holes were put down, nearly all of which show gold. The deepest hole is 110 ft, and from one charge of the auger 7-1/2 grs of gold were obtained. The Muckleford Estate Co has struck the rock 97 ft on the side of the gutter, and have since sunk the shaft a further 37 ft, and driven 75 ft. They are preparing to open out on the gutter.¹

March 1883:

The yield of gold for the quarter is less by 900 oz than that of the previous quarter, owing to the decrease in Alliance Co's yields. The tribute claims on Lisle's Reef, Mount Tarrangower, are yielding well and six are dividend paying. From 157 tons of stone crushed from Locke's claim, on Irish Billy's Reef, a yield of 1,083 oz 16 dwts of gold was obtained. The Tarrangower Co on Nuggetty Reef crushed 163 tons of stone for 96 oz of gold; the prospects of the mine are improving. The United Central Co from 132 tons obtained 172 oz 19 dwts of gold. The Beehive Co is down within a few feet of the bottom of the engine-shaft; this shaft has been enlarged and timbered from the surface; its depth is about 530 ft. It is intended to sink another 100 ft, before driving to strike the reef. The German Reef Tribute Co erected a rock-boring machine and is now driving south on the course of the lode, which is small at present, and not payable. The South German Reef Co completed the engine; and is enlarging the shaft. The Great Nelson Co 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 a good indication of gold being at hand. The Great International Co is tunnelling with the rock-borer and driving about 25 ft per week. They crossed one reef known as Armstrong's, from which 12 tons were crushed giving 1 oz 6 dwts of gold, they are now driving westerly to Lisle's Reef. Alluvial mining - Very little mining for want of water. There are 4 parties boring on Loddon Flats, the last bore in Kennedy's paddock (Newstead) was bottomed at 120 ft and 4-1/2 grains of gold obtained. One party is boring a line of holes between the Deep Creek and the Loddon River. From the last hole bored, the prospect was sufficient to induce them to start a shaft, and a steam engine has been purchased to work the mine.²

1 Mining Surveyors' Reports, December 1882

2 Mining Surveyors' Reports, March 1883

June 1883:

Lisle's Reef, on Mount Tarrengower, 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. Locke's mine is still turning out well. From the last crushing of 70 tons a yield of 480 oz of smelted gold was obtained. The United Central Company is driving north and south on the lode, the stone showing gold, but not in payable quantities. The Beehive Company have 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. The South Parkins Reef Company has purchased an engine; it has just arrived on the ground, and will be erected as early as possible. The German Reef Company, since starting their 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 are still cutting down their shaft, and erecting their rock-boring machine, so as to be prepared for further sinking as soon as the cutting down of the shaft is completed. Alluvial mining - There is not much doing in this branch. On the Loddon Flats boring operations have been suspended for the present. The Newstead Loddon Company has started to sink a shaft in Kennedy's paddock, having been induced to do so by the prospects obtained in the different bores; the shaft is now 40 feet in depth. The company on the Charlotte Plains, near Rumbold's farm, are also sinking a shaft and erecting a steam-engine for pumping and hauling the dirt.¹

September 1883:

The claims on Mount Tarrangower are looking well, and three of them are paying dividends. The Grand Junction Company have purchased the crushing plant which formerly belonged to the Eaglehawk Limited Company, and are 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. Locke's Company, on Irish Billy's Reef, have 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. The Beehive Company has sunk their shaft to a depth of 610 feet, and is now preparing to start a crosscut westward to strike the reef. The South Parkins Reef Company has completed the erection of their machinery, and is at present sinking on the reef, but as yet nothing payable has been found. The Tarrangower Company, on Nuggetty Reef, have 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. 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. 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.²

1 Mining Surveyors' Reports, June 1883

2 Mining Surveyors' Reports, September 1883

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. Apart from two tribute parties working the shallow ground in the Eaglehawk Limited Company's mine, the whole line is unworked. Locks' mine, on Irish Billy's Reef, is holding its own. A steam engine of 35 hp has been erected for baling and hauling, and a battery of stampers is being erected for crushing. The Beehive Co has struck the reef in the bottom cross-cut at 60-ft west from the shaft; the reef is 14 ft thick, and shows gold in the stone, but none has been taken to the mill to test its quality... The South Parkins Reef Co is still sinking the engine shaft. The reef shows good indications in metals, and occasionally gold. The Tarrengower Co, on Nuggetty Reef, has crushed for the quarter 222 tons of stone, which gave 200 oz 1 dwt of gold; they are driving a cross-cut east, to intercept any reefs in their ground. The South German Reef Co has struck a reef in the engine shaft, at a depth of 430 ft, and is 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. Thornhill's Co, 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. The claims on Lisle's Reef are looking well. In the Young Nuggetty Tribute claim, the yield fell off in the middle of the quarter, but the owners 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 Co, joining the Young Nuggetty Co on the north, also found the same formation, the stone from which looks very well. The Exhibitions Co's No. 1 and No. 2 are dividend paying. Alluvial mining - In this branch the yield of gold has improved, due to the supply of water, now very plentiful. Prospecting for deep leads on the Loddon Plains is being carried on. One Company, in Kennedy's paddock, at Newstead, sunk a shaft 150-ft, and is now driving for the lead. They have erected an engine for pumping and winding.¹

1884:

[Maldon's connection to the Coliban water scheme occurred in 1884]²

March 1884:

The increase [in gold yield for the quarter] is due to better stone obtained from the Beehive and Lisle's Reefs. The Great Western Cymru Co struck good stone at 560-ft, from which 1,320 oz 10 dwt 6 gr of gold was obtained, and the stone now being broken appears equally rich. The New Beehive Co, adjoining the Great Western Cymru on the north, has also struck a good shoot of gold at the 600-ft, from which 152 tons of stone has 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. The South German Reef Co's mine also looks well; during the quarter they crushed 140 tons of stone which yielded 110 oz 8 dwt 12 gr of gold. The lode is improving in appearance. The Lisle's Reef Co, Mount Tarrangower, is holding its own. 4 of the claims, ie. the Young Nuggetty and South Exhibition Tributes, and Exhibitions Nos. 1 and 2, paid good dividends throughout the quarter, and the prospects are good. The Thornhill's Reef Co erected a small crushing plant and started crushing; the yield from 244 tons of stone was 45 oz of gold. Messrs Bamford and Co. also erected a small battery of 8 heads at Sandy Creek. They intend to prospect several reefs recently taken up under lease, and crushing the stuff near the mine. On Parkin's Reef stone has been struck in the Independent mine, which is now being burnt previous to crushing. Alluvial mining - ... Prospecting is proceeding in Kennedy's paddock, and the holders of the Racecourse claims have started sinking on their lease block.³

1 Mining Surveyors' Reports, December 1883

2 Williams, p. 35

3 Mining Surveyors' Reports, March 1884

June 1884: Railway line to Maldon opens 16 June 1884.¹

June 1884: [Decrease in gold yield] is due to the decrease in the Great Western Cymru Co's returns. This co has been delayed a month in erecting percussion tables for treating the sand from the mills; they are preparing to sink the main shaft a further 120 ft, to drain the mine, so as to work the run of gold gone down from the bottom level. The prospects in the New Beehive Co's mine are good. The shoot of gold referred to in 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 was paid. The South German Reef Co has sunk the shaft a further 70 ft. In cross-cutting to the west a reef was struck showing good prospects, but there was no crushing to test its quality; about 50 tons of stone has been raised ready for the mills. Three companies on Lisle's Reef, Mount Tarrangower, are 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 Co has crushed 864 tons for a yield of 1,216 oz 4 dwt 2 gr. Lock's Co has completed a ten-head battery of stampers, and started crushing, but has not yet had a washing off. In the bottom of the mine, they came on a body of granite, which cut the lode clean off. About 50 ft has been sunk in it, but no sign of getting through. Messrs Bamford and Co. were engaged for some time making improvements in their battery, and building a house over it, so operations in the mine were suspended; but they are now ready to resume work. Alluvial mining - Prospecting on the Loddon Flats was suspended, due to an accident in the mine in Kennedy's paddock. Preparations are being made to resume.²

September 1884: The Great Western Cymru suspended work in parts of the mine, to sink the main shaft to greater depth. The battery has been idle having only crushed 150 tons. The Beehive Co. has been at work stoping the back of the 600-ft level. They crushed over 1,000 tons, which gave an average of 9 dwt per ton. The reef is from 12 to 14 ft wide, and pays the expenses, but gave no dividends for the quarter. The directors decided to sink the engine shaft, and erect a battery of stamps for crushing the quartz. The Tarrangower Co has extended the drives along the reef, there being a large body of quartz, but hitherto not payable. A recently formed Co, the 'New Nelson', purchased the mine and plant from the former owners, and succeeded in floating the whole of the shares, will start work as soon as possible. The South German Co 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 very good, the reef varying from 3 to 12 ft thick. The South Exhibition and Exhibition Nos. 1 and 2 Co's are paying dividends. The Mountaineer Co, has a new make of quartz, containing various metals, with gold visible, but not yet payable. This is on the same line of reef as the Exhibition claims. The new make in the Mountaineer is below this pinch. The Grand Junction Co just completed a new 24-head battery for crushing quartz. They are extending their drives northward along the line of the lode on the Lisle's and Manton's Gully reefs. Governor Loch Co, since starting the battery of 10 heads crushed 580 tons, which gave a yield of 9 dwt per ton. In this mine the yield has fallen off of late, and no dividends were paid during the quarter. Two dividends have been declared by the South Exhibition Co, one of 2s and the other of 1s 6d per share on 12,000 shares; and the South German Co had one dividend of 1s per share (number of shares, 2,400; amount £1,200). The alluvial miners are old fossickers, working on different parts of the diggings, without any defined claims.³

1 Williams, p. 79

2 Mining Surveyors' Reports, June 1884

3 Mining Surveyors' Reports, September 1884

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. The New Beehive Company is sinking their 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. 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. 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. 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. The Otago Company, Sandy Creek, has also been very fortunate. In sinking their 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. Upon the whole, I think the prospects of Maldon in quartz mining are looking brighter than for many years past, but alluvial mining does not improve. No new leads have been discovered, and the work done consists almost exclusively of fossicking in the old diggings and washing the sludge and tailings from the old gullies.¹

March 1885:

The Great Western Cymru Company have sunk their main shaft a further depth of 120 feet, making a total of 670 feet from surface... They have also started the crushing plant that has been idle since they commenced sinking the shaft. The quartz for supplying the stamps is being taken from the upper levels. The Beehive Company has nearly completed the sinking of their main shaft to the depth of 100 feet, which will make a total of 630 feet. The South German Reef Company have 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. The North British Company have 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... The German Reef Tribute Company has finished the sinking of their main shaft, and are now driving south on the line of reef... The Tarrengower Company, of Nuggety Reef, has also struck gold. The prospects are good...²

1 Mining Surveyors' Reports, December 1884

2 Mining Surveyors' Reports, March 1885

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, have 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. The New Beehive Gold Mining Company is now driving a cross-cut westward at the 700-foot level... 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. The South German Company has completed the sinking of their shaft to the depth of 550 feet... The prospects of the North British mine are excellent... with the length of ground now opened up, good dividends may be relied on for a long time to come. The Eaglehawk Alliance Quartz Mining Company have their 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. The Derby Union Company have succeeded in floating their claim, and are 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. The Tribute Company, known as the South Exhibition, are still breaking out good stone, and paying dividends, and are likely to do so to the expiry of their tribute term, which is for about twelve months longer. The No. 1 Exhibition Company, adjoining on the north, have worked out their ground up to their eastern boundary, and the few blocks of ground left in the old workings above are now offered to the public on tribute, but no applications have yet been made. The No. 2 Exhibition Company, on the same line of reef, are still getting good stone and paying dividends. The Grand Junction Company has expended a large sum of money in prospecting the Manton's Reef, in Manton's Gully, but hitherto has 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 result 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.¹

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. 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... Hitherto nothing payable has been found, although various kinds of minerals exist plentifully in the stone... 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. 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. 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. 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 their 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.¹

December 1885:

The New Beehive Co is sinking a winze through from the 600 to 700 ft levels. 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 boring east at the 600-ft level, but nothing of importance has been struck. Mr R.D. Oswald's North British and Independent mines have produced excellent yields during the last quarter, and the prospects are looking better than ever. The Derby United Co is engaged cutting down and securing the Derby and Darling shafts. A contract has been let for erecting pumping and winding engines. The contractors have made good progress, and the erection of the plant will be complete before the end of the quarter. The German Reef Co (tribute) completed sinking the shaft, which is now a total depth of 630 ft. At this depth a cross-cut has been driven east, and the reef struck about 16 ft from the shaft. The reef is about 2 ft thick, containing metals, but no gold visible. The shaft of the South German Reef Co has been sunk a further 68 ft, making a total depth of 618 ft ... A trial crushing of 10 tons from this part yielded half an ounce to the ton. The New Nelson Co struck a reef 40-ft thick about 400 ft east of the engine shaft...¹

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 due to the extraordinary yields from the New Beehive Co's mine. The prospects of the mine are excellent. A battery of stampers is to be erected for crushing the stone on the ground. The Great Western Cymru Co 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 stone is being raised, and dividends may be expected. 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. The New Nelson Co is pushing north and south drives. In the south drive gold is seen in the stone, but hitherto there has been none crushed to test its value. Some of the claims on the old Mount are again showing up; the last crushing from the No. 2 Exhibition of 142 tons gave a yield of 145 oz 9 dwt of gold, and from No. 3 Exhibition 21 tons gave a yield of 34 oz 5 dwt 6 gr, and the prospects improving. Mr R.D. Oswald's mine, on the Parkin's Reef, is 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 ft, and varies in thickness from 3 to 5 ft. 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. The Derby United has completed the erection of machinery and the timbering and skidding of their two shafts, and is ready to bale out the mine. Lock's Co in driving south at the bottom level struck a new make of stone, which looks promising, and has been the cause of raising the shares considerably. The Welshman's Reef Co is driving a cross-cut east at the bottom of the mine, in which they crossed several quartz leaders, but have not yet come upon any defined reef. The extraordinary yields from the Beehive Co's mines caused a rush for leases, thirteen having been applied for during the last month. Alluvial mining - The Company for Mining on Private Property, Gibson's paddock, Sandy Creek, is sinking a new shaft from the surface, and purchased a small steam-engine for baling and hauling dirt. A small alluvial rush has taken place near Welshman's Reef, and at present there are about twenty men employed on it.²

1

2

June 1886:

The prospects in the New Beehive mine are good, the last crushing of 135 tons gave over 1,000 oz of gold. They are engaged in stoping the backs and extending the north drive. A new battery of stampers will soon be completed for crushing the quartz. The Great Western Cymru Co has driven to the northern boundary, and come to terms with the New Beehive Co to break through for ventilation, when they will be able to work their mine to greater advantage. The South German Co is erecting a battery of stampers for crushing the quartz on the ground. The prospects are improving, and the quartz being taken out will, no doubt, give dividends when they start crushing. 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 ft; 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. The Derby Co has started to drain the mine, in order to find the old rich reef, which was cut off by a dyke, and lost. The North Beehive Co, recently started, commenced to sink a new engine shaft 11 x 5 ft. A contract has been let for the first 100 ft, and the ground so far has been favourable. Alluvial Mining – No change in alluvial mining here; the small rush spoken of in the last quarter's returns was a failure. The Gibson's Freehold Mining Co is prospecting for the lead, but has not come upon it.¹

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 their 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 have 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.²

¹ Mining Surveyors' Reports, June 1886

² Mining Surveyors' Reports, September 1886

December 1886:

Our yields of gold have fallen off due to some mines having been engaged in dead work sinking main shafts and opening up at greater depths. The New Beehive Co has completed their new battery of 20 heads of stampers, crushed some of the quartz which had been stacked as of inferior quality. The engine shaft has also been sunk to 820 ft... A shed of ovens for roasting the blanket sand is being erected, and also a smelting furnace and office. The South German Co's shaft is now 700 feet deep. The lode has been struck at the bottom, but no work done to test its quality. The new battery has been started on quartz taken from the upper levels. The German Reef Tribute Co completed the sinking of the shaft to 600 ft, and put a cross-cut in westward. A reef was struck 246 ft from the shaft, and a drive is being put in north and south on the course of the reef, which is about 5 ft thick, and the stone looks promising. The Great Western Cymru Co is sinking the engine shaft, and is down 750 ft. They intend sinking another 50 ft before starting a cross-cut towards the reef. The New Nelson Co is putting in a cross-cut from the bottom of the shaft... The Bell's Reef Co is down with their new shaft 230 ft. It is 10ft 6in long by 3ft 6in wide in the clear, divided into three compartments, and secured timbered. They struck water 170 ft from the surface, since this they have had difficulty in sinking. They have just got the reef in the bottom, which looks promising, but they have not yet opened on it. The North Beehive Co is down 200 ft with their new shaft. They have also driven a cross-cut west, and struck a reef about 60 feet from the shaft. They have called for tenders for sinking a winze on the reef, to test it. The alluvial mine (Gibson's Freehold Co) ceased work, and the engine, which was hired, has been removed.¹

March 1887:

Three of our principal mines [are] still engaged in doing dead work. The Great Western Cymru just completed sinking the main shaft another 145 ft. The Beehive Co also sunk another 100 feet. The Great Western Co expects to strike the reef at 170-ft west. The Beehive, is now in over 100 feet, expect to strike it in a week or two. 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) 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. The Derby Co has been driving a cross-cut eastward since draining the mine, but has not succeeded in striking the reef. The Nelson Co sunk the shaft to a depth of 700 ft, 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. The Grand Junction Co is deserving of great credit for perseverance to find Lisle's Reef; they sunk the main shaft to a depth of 700 ft, 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. The South German Co's new battery is now in full play, and crushing stone from their mine. They started upon a quantity of poor stuff, but the stuff is improving and looks 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. The Tarrangower Co is struggling on in the old Nuggetty Reef; encouraged occasionally by patches of gold, but nothing yet to pay. The Bells' Reef Co have been sinking the shaft through quartz having no face on either side, the quartz looks very promising, but not payable. The Beehive Co just let a contract for the erection of 6 Chilian wheels, the directors preferring burning the quartz, and passing the sand through the mills after the battery instead of crushing it raw.²

1 Mining Surveyors' Reports, December 1886

2 Mining Surveyors' Reports, March 1887

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 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. 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. The Loddon Reef Gold Mining Company, on the Excelsior reef (on private property), is 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. 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.¹

September 1887:

The Great Western Cymru Co struck the reef 167 ft west from the shaft, at the 800-ft level, and at the end of the cross-cut they rose up on the reef and knocked through to the winze from the level above, which gave them fresh air to work the mine below. They are now driving north on the reef. The North British mine is 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. Prospects are good, and the owner is erecting new machinery on the new engine-shaft to work the south end of the mine. The prospects in the New Beehive mine are improving; the last crushing yielded over an ounce to the ton. The New Eaglehawk Co (recently floated in the London market) started to pump the water from the mine; but found that the shaft had given away at one end, which gave them trouble in repairing as the water is being lowered. The Loddon Reef Co erected their pumping and crushing machinery, but for the want of water has not been able to do much crushing. They 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 a better supply of water by so doing. The South German Co again started crushing during the week. The prospects of the mine are improving. The reef is still large, and shows more gold than it has for some time past. The Old German Reef Co lately purchased by Mr R.D. Oswald and Mr W.B. Gray, has been idle for the last two months. The Derby United Co struck the reef in their shaft at the 700-ft level, and opened about 4 ft in width, but are not yet through it. The stone looks well, and shows gold freely. The shares have gone up in price considerably. The North Beehive Co let a contract for sinking the main shaft to a further depth, and erected a whim for hauling the dirt. The Beehive Consols Co, in sinking the shaft, came across several small quartz leaders, each showing gold; but the water came in with such force that they were obliged to stop working, and have decided to erect steam machinery to contend with it. Boring is proceeding on the Charlotte Plains, and the third bore on lease No. 659 P.P. is now down 177 ft, and still in drift.¹

December 1887:

Some mines have been driving and sinking, to prepare for stoping out the quartz for crushing. The yields from the New Beehive mine improved during the quarter, being 256 oz more than the previous one. The co'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 Co is extending the drives at the 800-ft level. The Derby United Co is driving south on the lode, which looks promising, containing a little gold, and a large quantity of pyrites and other metals. The Beehive Consols Co is erecting steam machinery to contend with the heavy body of water struck in the new shaft at the 130-ft level, and which they could not beat with the whim by baling night and day. Some rich quartz leaders were the principal inducement to purchase steam machinery, to overcome the difficulty with water. They expect to be ready for a start with the new machinery at the end of January. The Grand Junction Co is driving north and south on the course of the lode). Two parties of tributers working in the shallow ground, crushed during the quarter 104 tons, yielding 215 oz 11 dwt 6 gr of gold. Alluvial - The only work done on the Charlotte Plains is on lease No. 659, private property. The fifth bore recently bottomed at 133 ft, 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. The Government prospectors, on Porcupine Flat, sunk about twenty holes, varying from 7 to 50 ft. Washdirt was found in some of the deepest holes, but not payable. They moved to another place, and sank several holes, varying in depth from 9 to 24 feet, but without profitable result.²

1 Mining Surveyors' Reports, September 1887

2 Mining Surveyors' Reports, December 1887

March 1888:

The yield for this quarter shows an increase... This is owing chiefly to a rich patch being struck by a party of tributers 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. Our principal mines (with the exception of the North British) are not looking very bright at present. 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. 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. The Beehive Consols Company have completed the erection of their steam machinery and drained the mine, and are now securing their shaft, and making preparations to open out on the reef, which at present shows good prospects. 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. The Tarrengower Company has been struggling hard, with heavy water and hard ground, but can find nothing profitable. The Thornhill Company, at Green Valley, have sunk their main shaft to the depth of 500 feet and driven a crosscut 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. 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. Alluvial - In alluvial mining there is no change, the little gold that has been got is by old fossickers and Chinamen in the old diggings.¹

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. 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. The South German Reef Company is sinking their main shaft below the 680-foot level, and also a winze at the same level, south of the shaft... The Derby United Company, in driving south at the 700-foot level, struck gold, and is saving the quartz. The lode is about 5 feet wide, and prospects improving as they proceed. The Thornhill 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. The Dividend Company, on what is known as the Blow Reef, in Mia Mia, parish of Tarrangower, 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. The Young Australian Company, who have recently obtained a lease on Kangaroo Reef, in Mia Mia, north of the Dividend Company's mine, have 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. Boring is still going on Lease No. 659 (private property) on the Charlotte Plains. The deep ground has been discovered, the deepest bore being about 265 feet; they are now boring to find a suitable spot to sink a shaft. They have also started boring on Lease No. 723 (private property), adjoining, and are now down about 150 feet. Boring is still being carried on the Loddon Leads Company's ground, between Newstead and Joyce's Creek; the last bore was bottomed at 124 feet. They are now boring to find a position to sink a shaft in shallow ground, so as to have their shaft in rock down to the level of the deep leads before opening out. By so doing they expect to avoid the heavy drifts which they would have to contend with in sinking directly on the lead.¹

September 1888:

During the past six months there was a falling off in the yields of gold. Most mines have been doing dead work in preparing for stoping on the backs; the prospects so far are not very bright. The New Beehive, Great Western Cymru, and the Tarrangower Co's have not come on anything payable, and no crushing has been done for the quarter. The Derby United Co is driving on the course of the reef, north and south, and dish prospects show a little gold. The South German Reef Co during the greater part of the quarter has been sinking the main shaft to cut the reef at a greater depth, and is now down 742 ft. They cut the reef at this level, and opened a drive south on its course, which shows payable gold, but the width of the reef has not been ascertained. The Loddon Reef Co sunk the shaft a further 60 ft, and, till Saturday last, was opening up the mine, when the men were all discharged and work stopped. The Young Australian Co is erecting a battery of 12 head of stampers and will be ready to start in a month. Alluvial - Boring is still going on in Lease No. 977, Charlotte Plains. In the last bore they got through the rock at 75 ft, and came on to a heavy wash, where (at 91 ft) 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).²

1 Mining Surveyors' Reports, June 1888

2 Mining Surveyors' Reports, September 1888

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 Co's have been sinking, driving, and prospecting in the deep ground, but without any payable discovery. The lode in each of the mines is large and well defined, with promising looking stone, gold being visible, but not in payable quantities. The only chance is to sink deeper, but this will require increase of capital, and, in some instances, more powerful machinery. The lode in the South German Reef Co's mine has greatly improved the average yield for last quarter being 9 dwt 21 gr. The Beehive Consols Co are persevering with the assistance from the Prospecting Vote. The North Beehive Gold Mining Co's shaft is 400 feet deep, at which level they are cross-cutting and driving for the reef, but nothing payable yet. The Pioneer Co, on the Charlotte Plains, bottomed their ninth bore at a depth of 278 ft 9 ins; there is 5 ft 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 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.¹

March 1889:

The Derby United Co sunk the engine shaft to a depth of 840 feet. The New Beehive Co in their 900-ft cross-cut struck a reef 5-ft wide, 180 ft west of the shaft. The Golden Crown Co sunk their shaft a further 60 ft, making a total of 140 ft. The object in sinking is to cut Fenteman's reef at about 500 ft from the surface. The Grand Junction Co cross-cut west at the 700-ft level is in 513 ft from the main shaft. At 250 ft in from the shaft a well-defined reef 6 ft wide, supposed to be Lisle's reef, was struck, which they drove north 166 ft, but could not get the colour of gold. The Tarrangower Co suspended operations for the present. From information received, the intention, when they start again, is to sink so as to test the ground at greater depth. Down to the 751-ft level they can find nothing payable. Alluvial - The Charlotte Plains Pioneer Co commenced to sink a shaft, and is now down 85 ft, but has not yet got through the basaltic rock. The Havilah Co, adjoining on the west, bottomed another bore at 296 ft.²

June 1889:

The Derby United Co, during the quarter drove north and south on the course of the lode, and had gold in dish prospects but not payable. The New Beehive Co, during the quarter, drove north on the course of the reef about 220 ft; and although they have a good looking reef containing metals nothing payable has yet been found. The South Parkin's Reef Co is now sinking the main shaft a further 150 ft which will make a total of 573 ft from surface, where they intend cross-cutting for Parkin's reef. The Sydney Co, during the quarter, drove on the course of the reef which is large, and contains various metals with a little gold, but not payable. A party of two men has been prospecting on Frenchman's reef, Mia-mia, and at 40 ft, they 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. Alluvial - The Charlotte Plains Pioneer Co bottomed their main shaft at 107 ft 3 in 'on rock', and secured the shaft to that depth, prior to commencing to sink in the rock. Boring operations started on lease No. 820, P.P.³

1 Mining Surveyors' Reports, December 1888

2 Mining Surveyors' Reports, March 1889

3 Mining Surveyors' Reports, June 1889

September 1889:

The mines in my division are looking very dull at present, and some of the principal mines have been engaged in sinking and other dead work during the greater part of the quarter. The New Beehive Company have ceased driving north on the reef at the 900-foot level, not being able to find anything payable, and have 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, have also started to sink another 100 feet. The Parkin's Reef Company has completed sinking operations, and is now cross-cutting at 573 feet eastward, to strike Parkin's Reef. 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. The tributers in Lock's United Company came upon golden stone last week, the prospects of which look very promising. Alluvial - The Charlotte Plains Pioneer Company is still sinking in soft slate, and will soon be down the depth required for cross-cutting for the lead. Boring operations on lease No. 820 P.P. have been suspended for the last month, for the want of funds. Alluvial mining in my district is chiefly carried on by fossickers in old ground.¹

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 their 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. The South German Reef Company during the quarter has been sinking their main shaft a further depth of 74 feet, making it 816 feet from the surface. The New Nelson Company has sunk their shaft to a depth of 913 feet. The North British and Independent shafts have been sunk to a depth of 700 feet... The Parkin's Reef Company is still cross-cutting east for Parkin's Reef. Alluvial - The Charlotte Plains Pioneer Company have sunk their shaft the required depth, and are now driving westward to strike the lead found in the bores.²

¹ Mining Surveyors' Reports, September 1889

² Mining Surveyors' Reports, December 1889

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 8in 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 70lbs 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.¹

- 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. In the cross-cut, at the 1,000-ft level, the New Beehive Company expects to strike the Derby reef. The South German Company have sunk their main shaft to a depth of 884 feet, and have crushed 1,420 tons of stone, which gave an average yield per ton of 7 dwt 2 gr of gold.¹
- March 1891:** Through the unfortunate destruction by fire of the greater part of Mr R.D. Oswald's pumping and winding machinery the claim has been idle for seven or eight weeks, chiefly accounting for the decrease in the quarter's yield. 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. The Lock's United Company have also struck a new reef, 4 feet in thickness, and carrying nice gold, but no trial crushing has yet been taken.²
- 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. 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. In connection with alluvial mining, the Charlotte Plains Pioneer Company have 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.³
- September 1891:** During the quarter the Beehive Company have 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 their 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. Nothing of a payable nature has yet been discovered by the Eaglehawk Consolidated Company, who has been extending their drive at the 750-ft level northward. Fair results are still being met with in the South German and Lock's United mines. In the former eight patent vanners are being erected for treating the quartz tailings. Payable gold is still being obtained at the North British and Independent mines. The Charlotte Plains Pioneer Alluvial Company is making extensive preparations for the erection of washing machines, as the prospects from the bores are very favourable.⁴
- 1890s:** A surprise discovery in the Nineties along Templeton Street, a select residential quarter of Maldon, led to excellent results. A total of 6,446 tons yielded 4,869 ounces to the following claimholders:- Patterson and Perry 861 ounces, Morcom and Longstaff 1,644 ounces, Lamph and Halfpenny 1,703 ounces, Young and Snart, 117 ounces, Edwards & Co. 142 ounces, Woodlock & Co. 59 ounces, Evans 283 ounces.⁵
- 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

1 Mining Surveyors' Reports, December 1890
 2 Mining Surveyors' Reports, March 1891
 3 Mining Surveyors' Reports, June 1891
 4 Mining Surveyors' Reports, September 1891
 5 Williams, p. 27

closed down at 405 feet. The Lady Brassey worked only to 325 feet and crushed 6,293 tons for 2,723 ounces.¹

1887-1907:

The Charlotte Plains Consolidated Co's lease, consisting of 4,000 acres, is midway between Carisbrook and Baringhup. Boring commenced in 1887, and proved a deep lead, resulting in the formation of the Charlotte Plains Pioneer Co, with a nominal capital of £40,000, in £1 shares, the shareholders principally those who supplied the money for boring. A pumping and winding plant was erected, and developmental work was done, when a burst of water occurred, resulting in the loss of the mine. Subsequent operations proved that, even if loss had not occurred, the old plant would not have coped with the volume of water to be pumped before driving could be commenced. The shareholders were unable to supply the funds to recommence, and a two-thirds interest in the property was granted to London capitalists for a sum of £20,000. An adjoining mine (the New Havilah) obtained £25,000 from English capitalists on similar conditions. An amalgamation then took place and this mine now forms part of the Charlotte Plains Co's workings. The present Co consists of 260,000 shares at £1 each, and 520,000 shares at 3s 4d each, the legal manager is the Hon. J. Drysdale Brown, of Melbourne. Boring operations proved a lead about 500 ft wide. An eastern and western run of gold frequently occurs in this lead. From the Pioneer shaft, which is 344 ft deep, a main level has been driven westward 1,040 ft to the edge of the lead. About 1,000 ft from the shaft, a south-west branch bottom level has been driven towards the New Havilah. Auriferous quartz leaders, which have assayed up to 10 dwts per ton, have been cut in the bottom level. Recent developments indicate that the main and deeper deposit of washdirt contains highly payable gold. The Havilah shaft, which is 339 ft deep, was sunk at a distance over a mile south-west from the Pioneer shaft. Extensive wash workings were carried out on the eastern deposit of wash. Up to the end of 1907, the co called up £232,400 of capital, and 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 was spent on electrical equipment of the power house, the plant being the property of the Deep Leads Electric Transmission Co. The plant at the Central Power Station, which adjoins the Charlotte Plains mine, consists of 3 sets of 400 Kilowatt generators of the revolving field type, direct coupled to 600 hp. compound condensing engines running at 150 revs per minute, and producing a three-phase alternating current at 6,600 volts and 60 cycles per second. Two generators are in use, a third being kept as a stand-by. Pumping at both shafts is done by 2 three-throw double-acting plunger pumps, each capable of raising 2,500,000 gallons of water per 24 hours. The underground haulage plant at each shaft consists of a motor generator supplying 75 amps at 240 volts, an earthed return being used. A 10-hp electro-locomotive, with electrical parts protected from water, is used for hauling, and will pull 60 full-loaded trucks, at a speed of 6 miles per hour, along a tramline 5,000 ft long. The lighting of the drive is by 16-candle-power electric incandescent lamps, and an extensive telephone system is also in operation. The puddling plant is capable of containing 4 puddling machines, but only 2 are erected. The harrows make 8 revs per minute, and power is supplied through bevelled gear from a 40 B.H.P. electro-motor. Another 40 B.H.P. electro-motor drives a Root's blower capable of discharging 15,000 cubic ft of air per minute, which is used for ventilation. 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.²

1 Williams, p. 27

2 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

- September 1895:** Maldon rocked on September 9, 1895, when the steam boiler at Alliance battery exploded with a roar heard throughout the township. The boiler house entirely disappeared, and iron fragments rained down. One flying missile struck an unlucky Chinaman a quarter-mile off with fatal results.¹
- 1896:** Hundreds of new homes, and an expanding mining industry in the boom period of the Nineties, called for yet more water, and a pumping plant was installed at London Gully in 1896 to accelerate the stream gravitating into the storage basin.²
- 1897:** Last rush of all, as late as 1897, came as a surprise. Gold was discovered between granite outcrops on a small flat opposite the old Springs Hotel, two miles out along the Baringhup Road. About forty claims were worked with fair results, the best hole yielding approximately ten ounces. Gold was obtained at Muckleford Deep Leads in 1897, but not in payable quantity.³
- 1897-1907:** The Loddon Valley Goldfields mine is 2 miles in a north-east direction from the Moolort railway station, and on the north extension of the main Berry-Moolort-Loddon lead in the parish of Moolort. The lease is 6,921 acres. It was originally included in the lease of the Victoria Gold Estates, which owned 7 miles of the main lead first referred to in 1897 as the Berry-Moolort-Loddon lead. The Victorian Gold Estates in 1898 sank two shafts 4 miles apart; the northern one 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 as the line of bores was carried in a north-east direction from the shaft a sectional drawing of the results showed the lead to be over 5,000 feet east from the shaft, but driving towards the lease was continued. Around 1901, the Victorian Gold Estates Co divided the property into two, which were worked by the Moolort Goldfields and Loddon Valley Co's respectively. Pumping and exploration in a small tributary lead was carried on by the Loddon Valley Co until June 1903, when the reconstruction of the companies became necessary. By then the Loddon Valley Co (No. 1 shaft) extended the reef drive east to the main lead, and pumped about 2-1/2 million gallons of water per diem. The cost of all this was £120,000. On reconstruction the pumping plant was increased to between 3-1/2 and 4 million gallons per diem, and a beam-engine pump from one of the Berry mines was set to work. This pump was found to be so expensive and inefficient that it was discarded. After this a new shaft, now known as the Keystone Shaft, some 4,500-ft nearer the head, and 15-ft 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. The expenditure from the end of 1903 until now is £82,000, making 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. No mines are presently working this portion of the main lead, the Loddon Valley goldfields and the Victorian Deep Leads having recently closed down. The latter sunk a main shaft and drove a main reef 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.⁴

1 Williams, p. 72

2 Williams, p. 35

3 Williams, p. 14

4 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

1898-1906:

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. Work was resumed 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 £40,000.¹

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.²

¹ 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

² 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

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 have 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 multitubular boiler, with Fox's corrugated flue. The working pressure of the boiler is 120 lbs. 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. The Columbia Gold Mining Company, during the last quarter of the year, struck stone from which 290 tons were crushed for a yield of 327 oz 18 dwt of gold, valued at £1,307. The shaft is 255 feet deep, and there is a very complete winding plant attached. This mine should render a good account of itself this year. 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. 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. 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. 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. 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. The Springs Company (practically a privately owned mine), on the north and adjoining the Columbia Company, has had a fairly successful year. The Central Cookman's Gold Mining Company resumed operations, under a new mine manager, in August last, after a period of suspension, since when several payable crushings have been taken out. This company has a very complete plant on the mine.

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. 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. 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. 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. 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.¹

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. The Beehive and German Consolidated Companies have done no work during the year, and the Maldon Gold-fields and German and Derby Companies closed down and sold their machinery. 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. 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 Colombia 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. 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. 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. 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. The North Nuggetty Gold Mining Company, at Green Gully, has employed a few hands only, and nothing payable has been found. The Nuggetty Co-operative Company has continued to work with about payable results. The shaft was deepened 50 feet, making the total depth 250 feet... Water is beginning to be a serious trouble with this company, although it is manfully fighting against it. 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.¹

1905:

Quartz mining in this division is dull, the total yield of gold being below that of 1901. Oswald's North British mine, which, is privately owned, again heads the list as a gold-producer. The total yield from all sources at this mine, during the year, was 7,642 oz. Work was carried on from the North British (or main) shaft at the 700-ft, 800-ft, 900-ft, 1,000-ft and 1,200-ft levels, and from the Independent (or No. 2) shaft at the 600-ft and 700-ft levels. A considerable amount of work has been done, but no shaft sinking. The deepest shaft, viz., the North British, is 1,250 ft. Eighty-two men, on average, have been employed, half of them on the surface. The large cyanide and chlorination works, account for the large proportion of surface hands employed. The Eaglehawk Consolidated obtained from all sources the profitable return of 6,090 oz of gold during the year. The shaft is 1,170 ft deep and equipped with good winding and pumping machinery. There is also a 20-head battery, a cyanide plant, and a reverberatory furnace connected with the mine. An average of 85 hands was employed, 41 of whom worked on the surface; 17 of the 41 worked in connection with the cyanide plant. The South German Company, having suspended crushing operations for some years, resumed work with the crushing plant during the latter half of the year, and from stone taken from stopes over the 440-ft, 1,100-ft and 1,750-ft levels, 1,118 oz of gold was obtained. The shaft is 2,200 ft deep. 28 men, on average, were employed - 18 below and 10 on the surface. The stone crushed left a fair margin of profit, and there is hope of this once-famous mine again appearing on the dividend list in future. The Derby United Co resumed underground operations last March, after a long suspension, and has continued prospecting at different levels, from the 500-ft to the 1,220-ft, without finding anything payable. Work is now being carried on at the 1,220-ft level only. 21 men were employed in connection with the operations, and fifteen in connection with a cyanide plant. The gold obtained from the sand has helped to pay the expenses incurred in prospecting. 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 disappointed the shareholders, which expected very much better results. However, the mine manager is sanguine of the mine proving payable. 18 men were employed by this company, on the average - 11 underground and 7 on the surface. The shaft is 240 ft deep, and the stone crushed was taken from the 160-ft and 235-ft levels. The formation is of a spurry nature. 9 men, on average, have been employed by the Central Cookman's Co 7 below and 2 on the surface, 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 are encouraging. The Mount Tarrengower Co, whose operations are carried on in a tunnel driven into the north slope of the Mount, 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 9 men, on average, were employed throughout the year. The Byron Reef Co decided 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. 18 men, on average were employed. On the Brassey line of reef little work has been done during the year. The Lady Brassey Co employed five men, three below and two on the surface. 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 ft, will assume a payable character with depth.

The Great South German Amalgamated Co'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-ft level and from that to the surface. The mine is well-equipped with a winding plant and a 15-heads crushing plant. The Nuggetty Co-operative Co, situated on the Nuggetty line of reef at Green Gully, continued to work on the lode, which is well defined, between the 250-ft and 200-ft levels, with payable results. This Co has a 12-heads crushing plant in connection with the mine, and the hauling is done with a horse-whim. About ten men, on 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 Co, at a depth of 190 ft. About 4 men, on average, are employed. The South British Co continued to prospect without payable results throughout the year. Work is confined to the 1,000-ft 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. 9 men are employed. The Nuggetty Extended Co also continued prospecting work without success. A cross-cut is being driven west at the 350-ft level, with the object of picking up the continuation of the reef worked by the North of England Company. The shaft is over 500 ft deep, winding is done by whim, and ten men are employed. 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. Work at the Columbia Co's mine was suspended during the greater part of the year, and operations at the Central Columbia Co's mine was carried on by a few tributers only. 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 ft of main-reef drives and crosscuts 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 40,000 cubic yards of rock taken out. When completed, the cost of the chamber, pumps and machinery will be £9,000. The shaft is 310 ft deep, and the end of the main reef drive is 1,700 ft from the shaft. The average number of men employed is 32, of whom 11 are 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 no 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.¹

1906:

Owing to developments at the South German Co's mine, there is a probability of revival during 1907. Oswald's North British mine had highly payable results. The main or North British shaft was sunk a further 200-ft, making its total depth 1,450 ft. An average of 98 men was employed, 54 on the surface, and 44 below ground. A large number of the surface hands are employed on the chlorination and cyanide plants. The Eaglehawk Consolidated Co had another successful year. 11,861 tons of stone was crushed for a yield of 6,384 oz of gold. In addition a complete winding plant was erected over the north shaft. The north shaft, which was 650 ft, and in a bad state of repair, was cleaned out and put in good repair. A winze was sunk from the bottom of the north shaft a depth of 100 ft, and connected with the 750-ft level from the Alliance shaft; the distance between the two shafts is 1,700 ft. Alterations were made to the winding and compressing machinery. The prospects of the mine are favourable. The South German Co. An average of 55 men was employed, of whom 22 were surface hands. Work carried on at the Derby United Company's mine had payable results. An average of 49 hands was employed. The North England Company found, after spending a large sum of money erecting an up-to-date crushing plant, that the large spurry formation, which looked well prior to the erection of machinery, was defunct. The Central Cookman's Co continued work during the year with an average of 13 men below ground, and 8 surface hands, with payable results. The lowest level is 300 ft from the surface. The mine is equipped with winding, crushing and cyaniding machinery. The South British Company continued prospecting, but nothing payable was found. The Nuggetty Extended Co working with an average of 10 underground and 3 surface hands took out a few crushings of payable stone, but during the greater part of the year the men were employed in developmental work, which does not indicate payable results. The Mount Tarrengower Co employed 8 men on average. The Great South German Amalgamated Co continued pottering about above water level, with an average of 4 men. Work by the North Lady Brassey Co resumed in June after a lengthy suspension. Since resumption the shaft has been unwatered, and sunk to a depth of 780 ft, where it is intended to open out. This mine is equipped with a first-class winding plant and an up-to-date 20-head battery. The Byron Reef Co continued prospecting throughout the year. The shaft was sunk to a depth of 940 ft, and driving and cross-cutting was done at the 780 and 920-ft levels. The lode was struck at the 920-ft level, but while it carried a quantity of galena, black jack, and pyrites, it has not yet proved payable. The Nuggetty Co-operative Co at Green Gully employed an average of 9 men, 5 underground, and 4 on the surface. This Co worked for a number of years on a well-defined reef, but was handicapped by having water to contend with, and only a whim for hauling. Noakes and Smythe, also a co-operative co, 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 ft deep. The Old Union, England Consols, Western Derby, Exhibition Consolidated, Mount View, and Ivy Reef Co's carried on operations, mostly of a developmental character during the year with an average number of men, varying from 3 to 8 for each company. The Victorian Deep Leads Co. installed a double action 3-throw pump, similar to those at work in the Charlotte Plains Consolidated mine. This, with the two 20-ft Cornish pumps previously at work, gives a pumping capacity of over 5,000,000 gallons per day. The whole of the pumping machinery in this mine is driven by electric power from the power station of the Charlotte Plains Electric Transmission Company, some five or six miles distant. There are still 40 cyanide plants at work in this division, employing an average of 200 men, and a number of horses and drays.¹

1907:

150 men were engaged in cyaniding the quartz tailings in different parts of the division. Oswald's North British mine stands out with a yield from all sources, of 9,944 oz. 98 men on average have been employed on the mine. A considerable amount of work has been done during the year at different levels down to 1,450 ft. The steam power was supplemented by the addition of a new high-pressure boiler of the multi-tubular type. The Eaglehawk Consolidated Gold Mining Co Limited came second with a yield of 5,136 oz of gold from all sources. Considerable alterations and improvements to the machinery have been effected. 100 men were employed on average. The new find on the west side of the shaft in the South German Company's mine at the 1,900-ft level has not proved as valuable as hoped. The Derby United Co continued work at the Derby shaft during the first quarter of the year, with unprofitable results, and decided to temporarily suspend work at this shaft, and direct its attention to developing the different levels in the Beehive, and Beehive and German shafts, also within the boundaries of their holding... 1700 tons of stone, taken principally from the Beehive shaft, was 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 47 men was employed. The Central Cookman's Co sunk a new main shaft to 245 ft, about 500 ft 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 is now well equipped with winding, crushing, and cyaniding machinery. 2290 tons of stone were crushed for 736 oz of gold, while 625 oz of gold was obtained from 3,660 tons of tailings and concentrates treated by cyanide, &c. The Columbia Co resumed work early in the year, after a long suspension, and since unwatering the mine, has been engaged in developmental work. The Mount View Co prepared 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. The North Lady Brassey Co's shaft is 780 ft deep, and the lode is being driven south at the bottom level without payable results. Some payable stone has been crushed from the stopes over the 670-ft level. The Byron Reef Company. An average of 16 men was employed. The Nuggetty Co-operative Company continued work during the year with payable results. The crushing mill was 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. The North of England Co which, after working during the first half of the year with unprofitable results, closed down for the remainder of the year, has resumed work. J.J. Williamson and party of Green Gully worked their mine during the latter half of the year with payable results. The following companies, although doing a large amount of work, have not met with success viz., Union, Mount Tarrengower, Nuggetty Extended, Western Derby, South British, and Parkin's Reef. 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 - continued 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. The Loddon Valley Goldfields Co has not yet been able to open up the deep ground, owing to the water pressure, and hence its yields are small. The fourth company, The Victoria Deep Leads Junction, has been hampered due to the difficulty in getting the requisite capital to carry out necessary work.¹

1908:

Quartz mining has remained quiet, no material improvement having taken place in any of the principal mines. 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. The Eaglehawk Consolidated Company has not had a successful year. The main shaft, which is now 1,250 feet deep, is about to be sunk a further 200 feet. The South German Reef Company has continued work... with payable results... An average of 84 men has been employed by this company. The South German Reef Extended Company resumed work late in the year... This company hopes to strike the west reef now being profitably worked by the South German Company, and also a reef known as the Post Office, which lies still further west of the main shaft. 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. 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. The Columbia Company met with some very rich stone during the year; but, unfortunately, it did not last long enough to enable the shareholders to receive more than one dividend. Work is still being carried on, and the average number of men employed during the year was fifteen. 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. The Mount Tarrengower Company sunk a shaft to a depth of 200 feet on a line of reef on the crest of Mount Tarrengower, from which a payable crushing had previously been taken. Driving on this reef is now about to be commenced. This company obtained a loan of £400 under the Mining Development Act. 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. The Maldon United Company commenced work during the year on the Old Day Dawn line of reef at North Maldon. What appears to be a payable shoot of gold has been struck. A winding plant has been erected, and a crushing plant obtained. 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.¹

1909:

Quartz mining in this division has continued in a depressed state. The South German Reef Co carried on work with results that gave a little profit. At Oswald's North British Mine operations continued during the year, with an average of 65 hands. The main shaft was sunk to a depth of 1,673 ft. The Eaglehawk Consolidated Co spent the year in developmental work without meeting success. It has been decided to sink the main shaft another 200 ft, which, with the 100 ft sunk during 1909, will make a total depth of 1,550 ft. The South German Reef Extended Co, after working for a short time, suspended operations. The Derby United Co continued work during the greater part of the year with a few tributers, and the present prospects are not encouraging. The Central Cookmans Co sunk the main shaft to 572 ft. Large bodies of stone exist in this mine, but it is of such low grade as to render it difficult to pay expenses. An average of 38 men was employed. The Columbia Co has tried to find the continuation of the rich stone met with in 1908, without success. The Maldon United Co has not met the success anticipated 12 months ago, and work is now suspended. The Old Union, Mt Tarrengower, and North Lady Brassey Co's continued work throughout the year without anything payable. The North Otago Co had a successful year, and the prospects for the current year appear to be good. The Pioneer Otago and Lock's New Find Co's have yet to prove the reefs now being prospected as payable. The Great South German Amalgamated Co continues to prospect at shallow levels. There are several co-operative parties of from two to six men engaged in quartz mining in this division, some of which have met with success. 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.¹

1910:

Quartz mining in this division has not improved. The South German Reef Co has done 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 low grade of stone mined, little if any profit has been made. At Oswald's North British mine operations were carried on at different levels, from the 1,650-ft upwards. Nothing of a favourable nature was found in the deep levels. The Eaglehawk Consolidated Co sunk the main shaft a further 200 ft, making its total depth 1,550 ft, and did a good deal of driving at this level, without finding anything payable. During the latter half of the year work was confined to breaking stone for milling from the lode between the 500-ft and 600-ft levels. The Central Cookman's Co suspended underground operations during the second half of the year, to erect an up-to-date 10-head battery, to be driven by suction gas. This battery is now in full work, and is fulfilling all expectations. The Old Union Co continued work with two or three men below ground, but nothing much has been found. A little work was done on the Derby United Co's lease by a few tributers. The North Otago Co continued work, but owing to the quality of the stone the profits have been small. The Pioneer Otago Co continued prospecting, but did not meet with success. The Great South German Co worked during the year with three or four men below ground, without finding anything sensational. Maloney's Red, White, and Blue syndicate, situated near Gowar, had a successful year, and the prospects for 1911 are favourable. The Nuggetty Co-operative Co, Green Gully, struggled against heavy water and want of payable stone without success. Williamson and party, and the John Bull syndicate, who carried on mining operations on the Nuggetty Co-operative Co's line of reef, had

only fair success. No alluvial mining is at present being carried on in this division.¹

1911:

Quartz mining in this division has been comparatively quiet during the year. The South German Reef Company has continued to break stone for milling purposes at different levels... with about payable results. At Oswald's North British mine the prospects are good, as favourable developments at [various] levels have taken place during the year. The Eaglehawk Consolidated Company has, owing to the want of payable stone and of the necessary capital to continue the prospecting work, been obliged to temporarily suspend all underground work. 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. The Old Union Company suspended operations early in the year. 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. 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. 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. 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. 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. Lock's Syndicate has continued prospecting throughout the year without having met with success. The Great South German Company has continued work with indifferent results. Maloney's Red White and Blue Company has not been so successful as 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. The John Bull Co-operative Company, Green Gully, has had a successful year. There are a number of prospecting parties scattered throughout this division, but only one up to the present has been fortunate enough to find any stone of a payable nature, viz., Wm Bailey and party, of North Gowar. This party, when I visited it on the 21st December 1911, was breaking out payable stone from a strong reef at a depth of about 50 feet. This is a line of reef on which very little work has been done so far. 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.²

1 Annual Report, 1910

2 Annual Report, 1911

1912:

Mining in this division has been quiet during the year. Two leading companies, viz., the Eaglehawk and Central Cookmans, were obliged to close down and sell their extensive, and most up-to-date mining plants. Oswald's North British continued to work with very profitable results, and the prospects for 1913 are reasonably good. The South German Reef Co continued work with only fair results. A good deal of developmental work is being done in the mine, some of which may lift this once famous mine to its former prosperous position. The Derby United Company struck payable stone in 1911 and continued to operate during 1912 with results that scarcely came met expectations. Work is being carried on with vigour, and the principal shareholders appear very hopeful. The Nuggetty Extended Co worked through the year with indifferent results. The Old Nuggetty Syndicate continued work with satisfactory results. Through want of capital, the Pioneer Otago Co was obliged to work intermittently. A fresh start is being made, and it is hoped success will follow. The Great South German Co continued work, but nothing of importance was found. A few men only have been employed. Maloney's Red, White, and Blue Co have carried out developmental work during the greater part of 1912. Large bodies of stone exist in this mine, but it is too low in value to leave any profit to shareholders. The Blow Reef Co commenced operations early in 1912, since when it completed a main shaft to 292 ft, erected a steam winding plant, opened out at 280 ft, 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. The South British Syndicate Co sunk a main shaft on the South British line of reef at Maldon West to 207 ft. This Co has a crushing plant on the ground. Dudley Brothers, the John Bull Syndicate, and McAuliffe and party continued work in their respective claims on the Nuggetty line of reef, near Newstead, with barely payable returns.¹

1913:

Mining in this division has been comparatively dull. Oswald's Gold Mine (the only dividend-paying Co in the division) had a successful year, and the future prospects are encouraging. Considerable improvements are being made to the crushing plant with the object of increasing the tonnage and reducing costs. The South German Reef Co did prospecting work while a number of tribute parties broke stone (mostly unpayable) at different levels from 600 ft to 2,000 ft. The Derby United Co experienced an unsuccessful year, being obliged to make an occasional call to pay expenses. The South British Syndicate Co continued prospecting without meeting the payable shoot of stone that was worked at the shallow level. The Pioneer Otago Co continued work below ground with two men only. Up to the end of 1913 nothing payable was found. Two men have been employed prospecting in the shallow ground on the Great South German Co's lease. A few small quantities of poor stone have been crushed. Maloney's Red White and Blue Co worked through the year on the lode with disappointing results. This Co only now employs a few men. The Blow Reef Co sunk the shaft a further distance of 80 ft, making the total depth 360 ft. The expected payable shoot of stone had not been met by 15 December. The Uncle Sam Co commenced work, and timbered a main 10 ft by 4 ft shaft to a depth of 200 ft (or water level), where a chamber was cut and a cross-cut was driven to the lode; notwithstanding the fact that the company knew before starting work that the payable shoots of stone in the lode had been worked to below that depth. Fourteen tons of stone were got at this level, which yielded 10 dwt per ton. The company then suspended operations. The John Bull Co-operative Co continued work with barely payable results.²

1 Annual Report, 1912

2 Annual Report, 1913

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. Oswald's Gold Mines, which still heads the list of the mines in this division, has had another successful year. The installation of a rock-breaker, a belt conveyor, and automatic self-feeders in connection with this company's crushing plant, has considerably reduced the cost of the ore treatment. This company's prospects for 1915 are favourable. 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. The New Day Dawn Company has had what may be termed a payable year, notwithstanding the fact that, owing to the crushing plant being some distance from the mine, the cost of ore treatment has been very high. I understand the company is now considering the advisability of erecting an up-to-date mill with suction gas as a motive power on the mine. 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. The Pioneer Otago Company has continued prospecting work, but has not yet found payable stone. Annand's Reward, a new find, situated about 3/4 mile south of the Pioneer Otago mine, commenced work during 1914, and crushed several parcels of stone with payable results. 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. Davey's Freehold, one of the new finds that recently caused some excitement in Maldon, is situated at the south of the Maldon township, and in the private property of the Reverend Davey. Mr James Lahn discovered the reef by loaming, and when I visited the mine on the 10th November 1914, a small shaft had been sunk on the reef to a depth of about 40 feet. The reef is almost vertical, and from 1 to 2 feet thick; 12 tons were crushed, from which a good return was obtained. Thomas Baxter and party located a reef showing payable gold, about 1/2-mile south-west of Davey's Freehold. A trial crushing was treated, which yielded 15 dwts per ton. The payable stone in this case did not continue down, and the party, when I visited the mine on the 7th December, 1914, were engaged in sinking a shaft a little distance south of the original find with the hope of picking up the continuation of the payable stone. Jones and Bryson, of Maldon, discovered a shoot of stone on the south slope of Mount Tarrengower, and near the east end of the Mount, from which they have taken several crushings that have paid handsomely. There are a number of other co-operative parties working in this division, whose success up to date does not warrant any special mention.¹

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. The Great South German Company still continues to carry on work on a very limited scale above water level; nothing promising has been found. The Pioneer Otago has done very little work, and the work done failed to discover anything payable. The Davey's Reward Company sold the mine and plant to James Lahn and party, who have since had the good fortune to discover a new shoot of payable stone in the lode. A number of co-operative parties have worked the shallow ground in different parts of this field with, in some cases, good results. The Concord and Maloney's Red White and Blue companies closed down during the year.¹

1917: Oswald's Company has carried out a large amount of work. Employing up to 80 men, it treated 9,504 tons of quartz for 7,125 oz of gold and paid in dividends £5,625. This company has still large areas of lode country to open up. 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 zos. A number of small parties have been working in the district with fair results, and keeping the Government battery well employed.²

1918: The Oswald Gold Mines Company has carried on active mining operations during the year, and has shown a profit over working expenses. The Derby Company, not meeting with success, suspended work at its mine during the year, and sold the machinery. Preparation is being made by the New Day Dawn Company to resume work at its mine. Several small parties in the district are producing payable stone.³

1919: Two brothers, George and Jack Annand, and Richard Knight, met with success in 1919 at Sandy Creek on a par with the Lisle's Reef sensation sixty years earlier. Within two months they crushed 53 tons for 627 ounces (averaging close to 12 ounces) worth £2,503. It is said that they obtained gold worth £30,000 in all.⁴

1 Annual Report, 1915

2 Annual Report, 1917

3 Annual Report, 1918

4 Williams, p. 27

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 that 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 resoiling 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.¹

- July 1937:** The Maldon field, as far as large scale operations go, is practically abandoned, although several small prospecting parties are working with, in many cases, good yields. The country is, however, for the most part very hard, being a contact zone area, so that prospecting with primitive methods is slow and costly. Should capital be attracted to this district and large-scale operations carried out on well-directed and systematic lines, there would be every prospect of payable results. On the old Brassey line a prospecting claim worked by Messrs Pitts & Cox recently yielded 66-1/2 oz from 30 tons. A number of hydraulic and pump dredges and nozzle sluicing plants is in operation and returns, in most cases, have been satisfactory. Few of these plants are, however, able to continue operations throughout the year owing to lack of water.¹
- 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.²
- July 1938:** Operations in the Maldon district are confined to a few prospecting parties who at times obtain payable yields.³
- 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.⁴
- 1947:** Lakey and Sond crushed eight tons obtained on Union Hill in 1947 for a return of 103 ounces, an average of almost 13 ounces per ton.⁵
- September 1948:** The Victorian Gold Dredging Company ceased dredging on its leases at Strangways at the end of February, 1948, after all available ground was dredged. The dredge was then sold to the Central Victoria Dredging Company for use at Amphitheatre where two boring plants are operating in an endeavour to increase dredging reserves. This company is also building a 6 cubic yard bucket dredge on the Jim Crow Creek at Strangways. During the term, South Broken Hill Pty Ltd was granted a lease of a large area at Maldon, and at present a geophysical survey of the area is being
- 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.⁶
- 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.⁷

1 Mining and Geological Journal, July 1937
 2 Mining and Geological Journal, January 1938
 3 Mining and Geological Journal, July 1938
 4 Mining and Geological Journal, September 1940
 5 Williams, p. 27
 6 Williams, p. 30
 7 Williams, p. 30

RUSHWORTH - WARANGA NORTH MINING DIVISION

Rushworth gold was exceptionally rich - only a fraction off 24% which is the purest gold - when it was found, that is. The finding was difficult, more so than on other gold fields ... Through volcanic upheavals that occurred hundreds of thousands of years ago ... the ground in Rushworth and at Whroo was twisted around, as if by a giant hand, from the north-south trend of the land to east-west - and upside down as well, according to geologists. The alluvial (surface) gold in Rushworth was erupted during a volcanic spasm long ago and eventually 'discovered' 200 feet beneath the surface in some parts of Rushworth. The gold was patchy and inconsistent, the winning of which caused much heartbreak and sweat. Water, or lack of it, was another big problem miners had to face on this water-less goldfield, so far from fresh water - 12 miles from the Goulburn River, 6 miles from Waranga Swamp and creeks. The dry summers drove many away. Geologists advised that gold would be found at greater depth when more settled country was reached, but no investors could be found for expensive pumping machinery to work the mines when water level was reached. The average depth of the Rushworth mines - and there were over 26 of them - was only 400 to 500 feet - 'only tickling the hide of the rhinoceros' was the favourite expression used by frustrated miners. In a few isolated cases - the Crown Cross mine was worked to a depth of 866 feet. Altogether it was a most frustrating goldfield.¹

Rushworth has always been a town of surprises. Never one of the bigger gold rushes, it nevertheless produced over a million pounds sterling in gold. When the mines were closed down because no financial help was given to pump water when water-level was reached, the forest provided many thousands of railway track sleepers for the new Colony's railways.²

The early name of the Rushworth diggings was the 'Dry Diggings' and this contrasted with the workings round Whroo, known as the 'Wet Diggings' ... From the outset, the alluvial 'leads' near Rushworth provided much gold. The lead running easterly from Rushworth, which heads at Growler's Hill, and is joined in its course by other leads from Camp, Church, Specimen, Nuggetty and Cockatoo Hills, was the richest ... The Waranga area seldom yielded nuggets ... It was the reefs...rather than alluvial gold, which contributed to the permanence of Waranga's gold-mining...³

1853: There is remarkably little information available on the first gold discoveries at Waranga, which was the original name of the large rush to the Rushworth-Whroo area in 1853. The only reference to the discovery of gold there was in the Argus, 3 August 1853, which said the diggings were discovered by a sawyer, who, looking for timber, saw the resemblance to Bendigo, and got the first gold in St Louis Creek. This was the Argus' name, given no doubt to the gully from the St Louis Stores there, to what soon after became known as Main Gully, where gold was first found, some time in July 1853. The field was known as Waranga for some weeks, and in the official reports Whroo was not mentioned until 24 September although a note in the Argus, 30 August, told of 'Commissioners Creek Diggings', four miles south-east of St Louis Gully. In official reports in October the name was spelt 'Wooroor', which was possibly the correct pronunciation of the name, an Aboriginal one, meaning lips. The prospector of Whroo is also unknown ... The first commissioner in charge at Waranga was William Willoughby, who arrived early in August, and camped on Waranga Creek, between the Lagoon and Main Gully ... The first accounts of the rush to Waranga in August 1853 mention seven digging localities, only one of which - Waranga Creek - had a name that survived. Mr D.J. Shewin [in 1953] wrote that gold was found in old Main Gully and New Main Gully, Parramatta Gully, Perseverance, Specimen and Nuggetty gullies in 1853. The name, New Main Gully, never figured on any map, but Howitt mentions Parramatta Gully in 1853. The exact sequence of the discoveries is unknown, although the constant reports of nuggets, and the opening in October 1853 of a gully, 'about a mile from Main Gully and bearing north-east and south-west, five miles from the Camp' (then on the Lagoon) more than suggests Nuggetty Gully opening.⁴

1853: In 1853 a party of gold-diggers camped overnight near Waranga Swamp...showing local aboriginals samples of gold they had found on the north-eastern gold fields, the surprised diggers were shown the same 'pretty' stones lying hidden under the grass not far from where they had slept. The site was later known as Main Gully - when the 'rush' began.⁵

1 Hammond, 1978, p. 11

2 Hammond, 1978, p. 1

3 Forster, 1965, pp. 20, 27

4 Flett, 1979, p. 80

5 Hammond, 1978, p. 10

- 1853:** Gold Commissioners Willoughby and Richard ‘Orion’ Horne were transferred from Heathcote gold field to the new rush, named Waranga Division, also known as Goulburn or Rushworth Goldfields. The Commissioners set up their camp with 50 troopers on Waranga Creek, near Waranga Swamp, close to William Gunn’s first homestead. Both establishments were permanently covered by Waranga Basin water in 1908. It was Gold Commissioners Horne and Willoughby’s great courage that prevented bloodshed and loss of life at their Camp near the Waranga Swamp when the nine thousand miners there rioted against the harsh mining licence fee. This incident was a forerunner of the Eureka incident on the Ballarat Goldfields. The Waranga incident was never publicised, no doubt because no lives were lost.⁶
- July-August 1853:** The Waranga (Rushworth and Whroo) goldfield was a large one, opened first in about July 1853. William Willoby, an Assistant Commissioner at the McIvor goldfield, was sent to take charge of it in August of that year. The discovery is said to have been made by a sawyer in search of timber at St Louis Creek, known later as Main Gully. Richard H. Horne (‘Orion’) described an anti-licence riot, which took place there on 20 August 1853.⁷
- c. August 1853:** Being one of the earliest parties on the Goulburn diggings (Rushworth) we witnessed the first license raid made by the police there, resulting in the apprehension of some men who had not provided themselves, perhaps through lack of means, with that expensive authority to occupy, or even to reside on, auriferous Crown lands. This arbitrary proceeding within a fortnight of first breaking ground there, before the great rush had set in, when the population might have been counted by the score, so incensed the men that at an indignation meeting hastily convened, it was resolved that these men’s release be insisted on. We therefore, *en masse* proceeded to the police camp at Waranga Swamp and demanded the immediate release of those under arrest for being unlicensed. Mr Com. Horne seeing himself confronted by 150 resolute men and having only two or three constables to depend upon for his defence, no doubt thought it the more prudent to accede to our demand, and liberated the men, whom we triumphantly escorted back to the diggings.⁸
- 1853:** The first hectic gold-rush days of 1853 only lasted a brief period at Whroo. The gold diggers came in great numbers in August - the rush was part of the Waranga Mining Division (also known as the Goulburn or Rushworth Mining Division) - which began near the Waranga Swamp. Later that summer, lack of water and the intolerable heat of summer drove most of the miners away. The many thousands of fossickers first swarmed on to the flat, slightly west of Balaclava Hill, where bark huts lined each side of the track and a rowdy canvas township sprang up. The first hotels began here. Giant cacti still mark the site, on the west side of the road to Graytown - just before the cross-road named Tait-Hamilton.⁹
- Late 1853:** The Waranga goldfields were first opened in the latter part of the year 1853. They may therefore be reckoned amongst the oldest of Victorian goldfields... The name ‘Waranga’ was obtained from the native title of the squatter’s run on which the first gold discoveries were made.¹⁰
- October 1853:** Precisely when Whroo was opened up is uncertain, but in mid-October it was being referred to as the ‘new diggings’ though it already had its own government camp, to which Assistant Commissioner Mollison was soon transferred. Later in the month an 81-ounce (2314g) nugget was discovered, but nevertheless the excitement waned and there was a lull when Whroo was almost deserted for two or three weeks, followed by a new rush in mid-November. At this time another two nuggets of 21 and 32-1/2 ounces (600g and 929g) were found, and 1560 ounces (44570g) were dispatched with the gold escort. The principal gold-bearing gully was the Union lead, which began near Balaclava Hill and ran south-easterly towards Reedy Lake...¹¹
- 1853-72:** For twenty years, ie. 1853 to 1872, the alluvial deposits at Rushworth were profitable.¹²

6 Hammond, 1978, p. 6

7 Randall, 1985, p. 19

8 Account by Gordon Duncan, in McIvor Times, 13 July 1894

9 Hammond, 1978, p. 114

10 Geological Survey of Victoria, Report of Progress, 1878, p. 155

11 Lewis, 1977, p. 4

12 Victoria: Gold and Minerals, 1935, p. 49

- 1853-54:** Apart from the headquarters establishment at the Camp in Heathcote and a police station at Rushworth, there were Mounted Police Stations on the Wild Duck Creek near Patterson's Langwoornar Station and another of similar strength at Barrow's Inn, on the Campaspe between the present towns of Elmore and Goornong but on the east side of the river. The first was known as the Campaspe Police Station and the second as the Barrow's Inn or Runnymede Police Station.¹³
- 1853-54:** Early settlements around Rushworth were: the Old Lead, Chinaman's Flat (Moora Road), Nine-mile, Five-mile, Growlers Hill, Dunlop Hill, Canadian, Corup, Buffalo, Whroo, and Nuggetty - the latter being by far the busiest area from August 1853-54 up to the new century.¹⁴
- 1854:** Whroo itself was never one of the really big rushes, though during April and May of 1854, for example, its population was greater than that of Rushworth - but it never became so established as to have more than a handful of substantial permanent buildings. The one mile (1.6km) square reserve for the township is supposed to have been set out in 1854, and in July of that year one of the first goldfields publican's licences was issued to Ludovic Marie, apparently for his hotel at Whroo.¹⁵
- 1854:** It is said that [Richard Horne] named the township Rushworth after Henry and Rose Rushworth, with whom he travelled to Australia in 1852. The name was used first in September 1854.¹⁶
- 1854:** North Growler's reef ... was opened in 1854 by M. Manuel, a Spaniard. At this time, under the old code of mining regulations only 16 yd. claims were allowed, and it was not till about the end of 1854 (after the Ballarat riot) that an extension of 24 yds was granted.¹⁷
- October 1854:** Gold on Balaclava Hill found by John T. Lewis, James Meek Nickinson and their sailor mates.¹⁸
- December 1854:** After the Eureka Riot on 3 December 1854, the 'Miners Right' was issued for a fee of £1. Later this was reduced to 2/6d and gave the holder the right for one year, to seek and remove gold, fell trees, build a house and fence in half an acre of land. He also obtained the privilege to become a free and independent voter.¹⁹
- 1855:** Balaclava Hill was called after the battle of that name in the Crimean War by J.M. Nickenson and John T. Lewis, who opened the Balaclava Hill Mine in 1855.²⁰
- 1856:** [Electoral list] shows that in the whole of the Whroo diggings only thirty-six men were registered to vote by virtue of holding miners' rights, or because they were freehold property owners or licensed innkeepers, or as the proprietors of quartz leases. Of the quartz lessees there were four, Charles Baud, John Thomas Lewis, James Meek Nickinson and William Wilson Junior, and the significance of Wilson's Berdan machine is that it demonstrates the introduction of quartz crushing machinery to Whroo. The machine was an American invention consisting of an annular pan, tilted to one side and made to revolve so that one or two iron balls which lay in it would roll about the lower side and crush any stone in the pan. It was not a device adapted for crushing on a large scale, but it is still useful today for small-scale work such as testing samples. Wilson's machine was not necessarily the first or only one at Whroo, for the other quartz reefers were all working to the north on the Balaclava Hill, and any equipment they had would not show on the 1856 survey.²¹

13 Randell, 1985, p. 35

14 Hammond, 1978, p. 5

15 Lewis, 1977, p. 4

16 Randall, 1985, p. 19

17 'The Rushworth Gold Mines', 1918

18 Hammond, 1978, p. 114

19 Hammond, 1978, p. 114

20 Randell, 1985, p. 19

21 Lewis, 1977, pp. 7-8

- 1856-58:** By 1856 Growler's Gully, Black Joe's Gully and others are mentioned by name. Only about 500 remained at Waranga in 1856, but there was a large rush there to the Old Lead in 1857, and the diggings came alive again in 1858, when Long Gully, Canadian Gully, lower Old Ned's Gully and other places were opened.²²
- 5 December 1856:** The splendid machine named 'The Golden Fleece' belonging to Mr Fisher and Messrs Randolph and Evans was christened. The new 15hp engine was expected to crush 90 tons per week, to work day and night, It worked with eight stampers and twelve and a half circle cylinders; each worked separately... The stampers were worked by a large shaft. In place of shaking tables, the cylinders stood in front to receive the 'stuff'; when crushed it passed through. There were three to four bars on the bottom like a cradle to catch the gold. The stuff was crushed by six large rollers, like a barrel of a windlass. They were placed close together as to let the stuff pass close under them... There were two good dams of water attached. Randolph and Fisher in partnership opened up many of the Rushworth mines, Evans helping in some. Randolph ... lived on Growlers Hill, his hut surrounded by a 10-ft fence like a fortress.²³
- late 1850s:** Chinese came in quite large numbers to the field in the later 1850s... There were two Chinese camps at Rushworth, under Chinese head-men, and four of the local puddling mills were operated by Chinese in 1863. The main Chinese camp in Rushworth was west of Nuggetty Hill and south of Specimen Gully. At Whroo there was a Chinese camp and eight Chinese puddling machines in 1863. Two Chinese had stores at Whroo, and there were a number of Chinese market gardeners at Moora, Rushworth and Long Gully.²⁴
- c. 1857:** Dunlop dug to 90 feet - the depth allowed by the Act at the time.²⁵
- 1857:** Between January and April of 1857 the population at Whroo grew from an estimated 260 to 2100, while Rushworth trailed with from 100 to 600; nine months later both places had about 500 inhabitants, and then with another winter, and water to feed the puddling machines, the population rose once more.²⁶
- April 1857:** Miners left Epsom to join the rush at Whroo. After the dry summer, dams were over-flowing and mining was better than ever.²⁷
- May 1857:** The 5-mile creek provided the nearest waster for the 4000 diggers in May 1857. Puddling machines were being built... Several crushing machines appeared on the scene.²⁸
- June 1857:** There were 5000 miners on Whroo goldfield by June 1857... The 5000 diggers were scattered from Sandy Creek to Whroo, right into Rushworth, over an area of 16-17 miles, extending further north of Rushworth - 23 miles altogether. Population fluctuated as each summer approached. A census revealed by the end of 1857 the population of Whroo was reduced to 344.²⁹
- 1859:** [Several large companies] - Albert Reef Quartz Mining Company, Balaclava Hill mine and Anderson Walpole and Company invested £5000 in crushing machinery in their claim north of Lewis' Balaclava claim.³⁰
- 1859:** The only area [at Rushworth] not worked when Philip Chauncy's map [CPO, Goldfield Plans, Waranga, 1859, by Philip Chauncy, No. 31] was made of the field in 1859, was Chinaman's Flat, near Moora Road. Rushworth field then was entirely an affair of reef workings and puddling machines.³¹

22 Flett, 1979, p. 80
 23 Hammond, 1978, p. 12
 24 Forster, 1965, pp. 26-7
 25 Hammond, 1978, p. 21
 26 Lewis, 1977, pp. 17-18
 27 Hammond, 1978, p. 115
 28 Hammond, 1978, p. 115
 29 Hammond, 1978, p. 115
 30 Hammond, 1978, p. 117
 31 Flett, 1979, p. 80

February 1859: Mosquito Gully Rush - about 500 people working a week ago, has dwindled to 120.³²

February 1859: Mosquito Gully - Great Rush reminding of the old days, but little success.³³

May 1859: Mosquito Gully appears to be the most favoured one. Fair wages, population increasing steadily, lead continues up the hill, traceable to Sawpit Gully.³⁴

1859: The village of Whroo had its own Mechanics Institute and Library in 1859. It began as a slab building...it was the first in the District. And so Whroo developed into a typical English village, with its own Church, school, mechanic's, pub and cricket pitch.³⁵

1859: One thousand Chinese protested at a meeting over the tax on Chinese miners.³⁶

1860 onwards: In 1860 quartz mining began, and good yields were obtained. Only a few of the reefs have been mined below water level. The Crown Cross, mined to a depth of 400 feet, produced £36,000 worth of gold; and the Perseverance yielded, down to 600 feet deep, 6,864 oz. of gold from 4,531 tons of stone. The South Devon crushed 2,041 tons for a yield of 3,399 oz. of gold. At Whroo, 7 miles south of Rushworth, the Balaclava Co. mined auriferous quartz veins to a depth of 410 feet, and produced £150,000 worth of gold. Quantities of auriferous antimony occurred in the formation.³⁷

Nov 1859 on: Under the Bendigo Mining Regulations, which applied at Whroo [and Rushworth], any quartz tailings left on crown land after November 1859 were the property of anyone who chose to take them, but those deposited before that date still belonged to the original owner.³⁸

1860: The Chinese population consisted of one third of the population in the new colony. [?]³⁹

January 1860: [John Breen, Mining Surveyor, Waranga Division]
Mining population:

	European	Chinese
Alluvial	520	265
Quartz	356	-
Total	876	265

Machinery:

Alluvial - horse puddlers - 187

Quartz - steam engines employed crushing etc. - 5 totalling 48 hp

whims - 7

Approximate value of machinery in Division is £25,300. There is an extreme scarcity of water, so that puddling is almost wholly suspended. The majority of reefs are paying little more than the expenses, yet they are being perseveringly worked. The quantity of water necessary to supply the Goulburn Goldfields in their present state, as well as their further development, would be about 600,000 gallons daily. In consequence of the great dearth of water, and knowing that the ultimate progress of these fields is dependent on the obtaining of it in sufficient quantity, I have taken levels for a considerable distance along the Goulburn River, and thence to Whroo Diggings, for the purpose of ascertaining the feasibility of conveying water thereto from the river.⁴⁰

32 Mclvor News, 18 February 1859

33 Mclvor News, 25 February 1859

34 Mclvor News, 14 May 1859

35 Hammond, 1978, p. 117

36 Hammond, 1978, p. 117

37 Victoria: Gold and Minerals, 1935, p. 49

38 Lewis, 1977, p. 29

39 Hammond, 1978, p. 117

40 Mining Surveyors' Reports, January 1860

- July 1860:** Prospectus of Balaclava Hill Quartz Mining Co. - For working quartz reef on Balaclava Hill, Whroo. £100,000 worth of gold taken out already from a ground 100 yards in length. Company's claim includes an area on line of reef, 666 yards in length, 8-110 ft in depth. Four east-west reefs: Albert, Victoria, Carr's and Black Reef intersecting the Coy's ground.⁴¹
- September 1860:** Some very rich washdirt in Cemetery Gully has been rushed and abandoned 3 times. Two feet below the previous workings, 8dwt per tub had been got. Gold turns out of the gully, follows the hillside, is expected to form a lead. The gutter averages 3-ft deep, in parts only 3-4 ft wide. Nearly all the holes have hard cement, 1-5 ft thick, many have several thin layers, containing gold near the bottom. Most important rush for two years.⁴²
- September 1860:** Crushing machine on Scotchman's Reef, later moved to Balaclava Hill in 1863... Also the following reefs were also prosperous - Siberia, Fontainbleau, Happy-go-lucky, Malakoff... In all, 15 reefs were producing gold - Scotchman's Reef was the busiest part. Alluvial was still paying - several gullies at White Hills were paying good gold. As well - Cement Rush, Old Ned's Gully, Long Gully, Golden Point, Sailor's Flat, Graveyard Gully, Cousin Jacky's Gully, Nuggetty Gully were all busy.⁴³
- January 1861:** Albert Reef, Whroo: Extension of tailing operations.⁴⁴
- 1 February 1861:** *McIvor News and Goulburn Advertiser*. Eight one-acre allotments of land in the township, between Mrs Primrose Wilson's 'Victoria Hotel' and the schoolhouse reserve, are advertised for sale. They are situated on a flat at the foot of Balaclava, and one not known to be auriferous. The township has been placed in the centre of the diggings, and the lots now offered for sale are perhaps the only ones, which it would be wise to allow to be sold. There are plenty of business sites not likely to be disturbed - the whole of the auriferous ground in this township will be worked by the diggers.⁴⁵
- March 1861:** Whroo - Chinese seem to be the only puddlers doing well.⁴⁶
- April 1861:** Albert Reef, Whroo - Improvement expected by installing pumping engine and cheaper crushing. Tailing amalgamator machines commence working day and night.⁴⁷
- July 1861:** Whroo - Cement is the busiest part of the alluvial.⁴⁸
- September 1862:** In alluvial mining, at Whroo, prospecting is done with good results at 40-50 ft. Good lead expected running down to flat.⁴⁹
- Summer 1862/63:** After the dry summer of 1862 there was a general exodus to the New Zealand gold rush, miners leaving their claims at Whroo because of lack of water. By the next April they returned when every dam and waterhole was filled to overflowing. The precious rain was about to 'unfold the dormant beauty of solid gold nuggets'. It did too! A nugget was found weighing 6 oz. The census reveals that in the year of 1863, ten years after the hectic 'rush' there was a population of 457 males and 145 females at Whroo. Chinese numbered 92, many of whom had stores and market gardens.⁵⁰

41 [McIvor News](#), 27 July 1860

42 [McIvor News](#), 21 September 1860

43 Hammond, 1978, p. 117

44 [McIvor News](#), 21 January 1861

45 *McIvor News and Goulburn Advertiser*, 1 February 1861, quoted in Hammond, 1978, p. 118

46 [McIvor News](#), 18 March 1861

47 [McIvor News](#), 22 April 1861

48 [McIvor News](#), 15 July 1861

49 [McIvor News](#), 30 September 1862

50 Hammond, 1978, pp. 118-19

1863: Constable Flint was at the Whroo Police Station; Baud and Bazeley had the hotel and store north west of the Balaclava mine. Mr George Thompson had built the 'Albert Family and Commercial Hotel-Store', near the Albert mine, on the easternmost border of the town reserve. Malakoff store was situated near the Malakoff mine.⁵¹

March 1863: Whroo - For seven years, mining matters have not been so dull as now. Lack of water almost stops alluvial mining.⁵²

July 1863: Whroo - Puddling, once so popular, is left mostly to Chinese.⁵³

October 1863: The Waranga area seldom yielded nuggets - the largest discovered being one of 60 oz found at Siberia in October 1863.⁵⁴

November 1863: The first ratepayers' list for the Waranga Roads Board in November 1863. In the neighbourhood of Rushworth there were considered worthy of rating 102 huts of independent diggers scattered about the Old Lead, Nuggetty Gully, Storekeeper's Gully, Growler's, Skiting Dick's, Billy Button's, Canadian Gully, Old Ned's, Chinaman's Flat, Antonia Gully, Long Gully, Parramatta Gully, Shellback Gully. There were 35 puddling mills and huts for their owners... one [hotel] at Chinaman's Flat, John Rooke's 'Beehive'... dairies...at Chinaman's Flat ... There were four quartz crushing machines about Rushworth, two stables at Growler's, where miners could leave their horses, the slaughter yards of Geo Brice (at North Canadian) ... At Whroo...there were 61 rated huts, and five cottages, seventeen puddling machines and dwellings for their operators... There were three quartz crushers, with John T. Lewis engaged at the Balaclava. There were several non-Chinese gardeners at Whroo ... There were two Chinese camps at Rushworth, under Chinese head-men, and four of the local puddling mills were operated by Chinese in 1863. The main Chinese camp in Rushworth was west of Nuggetty Hill and south of Specimen Gully. At Whroo there was a Chinese camp and eight Chinese puddling machines in 1863. Two Chinese had stores at Whroo, and there were a number of Chinese market gardeners at Moora, Rushworth and Long Gully.⁵⁵

1863: Around Rushworth there were 162 slab huts, some weatherboard and a few brick dwellings.⁵⁶

March 1864:

Mining population:

	European	Chinese	Total
Alluvial miners	160	140	300
Quartz miners	266	-	266
Other	560	5	
	936	145	1,131

Machinery:

Quartz: steam engines - 7, totalling 86 hp.

The noteworthy feature in mining for the past month, is a general improvement in the produce of the quartz reefs, the proportion of quartz gold to alluvial by the last two escorts being 7 to 5.⁵⁷

August 1863 to May 1864:

Gold escort receipt book shows that the gold escort carried a total of 140,000 oz. of gold plus £50,000 cash from Rushworth and Whroo goldfields, known as the Waranga Mining Division, to Melbourne.⁵⁸

51 Hammond, 1978, p. 119

52 Mclvor News, 3 March 1863

53 Mclvor News, 10 July 1863

54 Forster, 1965, p. 20

55 Forster, 1965, pp. 24-7

56 Hammond, 1978, p. 5

57 Mining Surveyors' Reports, March 1864

58 Hammond, 1978, p. 10

June 1864:

Miners thus distributed:

Nuggetty, Main Gully - old leads	62	
Chinaman's Flat	64	
Old Ned's and Mousey's Gully	32	
Parramatta and Growlers	29	
Rushworth	23	
Shellback and Liverpool Gullies, and Chinese camps	60	
Balaclava Hill	27	
Main Gully and Poverty Gully	36	
Albert's, Carr's, Peep O'Day and Victoria Reefs		33
Fontainbleau	28	
White Hills	26	
Champagne Gully	34	
Scotchman's and Happy-Go-Lucky	47	
	Total	501

Steam engines:

	no.	no. heads	hp
Fisher and Co., quartz crushing	1	16	12
Farquharson & Co., quartz crushing	1	16	16
Stewart and Smith, quartz crushing	1	12	16
Rook and Co., quartz crushing	1	6	6
J.T. Lewis, quartz crushing	1	12	20
Renison and Co., quartz crushing	1	8	8
Law and Darroch, quartz crushing	1	8	8
Horse puddling machines	54		
Horse whims	6		
Horse whips	14		

During the quarter, alluvial mining has been characterised by considerable activity in prospecting ... extensive alluvial discoveries may be anticipated. Quartz tailings and cement crushed.⁵⁹

September 1864: Near Whroo, M. Coy, G. Anderson, and J. O'Brien split £400 for having opened Coy's Reef.⁶⁰

September 1864: Miners thus distributed:

Rushworth		Whroo	
Old Lead	17	Nuggetty Gully	19
Main Gully	17	Ballarat Flat	1
Antonia Gully	3	Chinaman's Flat	6
Storekeepers Gully	2	Main Gully	24
Black Joe's Gully	8	Champagne Gully	3
Nuggetty Gully	6	Butchers Gully	8
Growlers Gully	7	Scotchman's Gully	3
Paramatta Gully		Gravel pits	1
Mousey's Gully	5	Graveyard Gully	1
Skiting Dicks Gully	4	Poverty Gully	9
Shellback Gully	14	Mosquito Gully	13
Billy Button's Gully	7	Long Gully	5
Chicken Flat	6	Two-mile	2
Diamond Gully	5	White Hills	3
Old Ned's Gully	14	Blackwall Gully	8
Canadian Gully	11	Fontainbleau	5
Chinaman's Flat	54	Siberia	3
Nuggetty Reef	30	Kilmore Reef	7
Charcoal Reef	3	Balaclava Hill	31
Cockatoo Reef	15	Malakhoff Reef	2
Main Gully Reef	2	Happy-Go-Lucky Reef	3
Growler's Reef	11	Albert Reef	7
Crocker's Reef	14	Stockyard Reef	3
Chinaman's Reef	4	Carr's Reef	5
Perseverance Reef	4	Peep-O'Day Reef	2
Belfast Reef	8	Johnson's Reef	2
Victoria Reef	2		
	276		178

⁵⁹ Mining Surveyors' Reports, June 1864

⁶⁰ Randell, 1985, p. 21

Also New Rush - Coy's New Rush - 36 miners.

Machinery:

Crushing, pumping and winding - 1 engine, 12 stamps, 16 hp
 Crushing - 6 engines, 66 stamps, 66 hp
 Puddlers - 54
 Whims - 6
 Whips - 15.⁶¹

December 1864:		Miners thus distributed:	
	Rushworth		Whroo
Old Lead	23	Nuggetty Gully	20
Main Lead	17	Ballarat Flat	1
Antonia Gully	3	Chinaman's Flat	6
Storekeeper Gully	2	Main Gully	26
Black Joe's Gully	8	Champagne Gully	3
Nuggetty Gully	10	Butcher's Gully	8
Growlers Gully	9	Scotchmans Gully	3
Paramatta Gully	5	Gravel Pits	3
Mousey's Gully	5	Graveyard Gully	4
Skiting Dick's Gully	4	Poverty Gully	5
Shellback Gully	14	Windlass Flat	2
Billy Button's Gully	7	Mosquito Gully	13
Chicken Flat	6	Long Gully	4
Diamond Gully	5	Two-mile	2
Old Ned's Gully	21	White Hills	3
Canadian Gully	11	Blackwall Gully	8
Chinaman's Flat	59	Fontainbleau	5
Charcoal Gully	2	Siberia	5
Nuggetty, Sth Nuggetty Rfs	36	Kilmore Road	3
Cockatoo Reef	15	Telfords Reef	2
Charcoal Reef	2	Balaclava Hill Reef	31
Main Gully Reef	2	Malakhoff Reef	2
Growlers Reef	11	Happy-Go-Lucky Reef	3
Crocker's Reef	14	Albert Reef	7
Chinaman's Reef	4	Scotchman's Reef	2
Union Reef	4	Stockyard Reef	2
Belfast Reef	8	Carr's Reef	5
Scrub Reef	5	Peep-O'-Day Reef	2
Champion Reef	5	Johnson's Reef	8
Frenchman's Reef	2	Victoria Reef	2
		Mysterious Reef	2
		Vogelsang's Reef	2
	319		201

Machinery:

Quartz crushing - 6 engines, 66 stamps, 66 hp
 Crushing, pumping and winding - 1 engine, 12 stamps, 16 hp
 Puddlers - 55
 Whims - 6
 Whips - 15.

Quartz tailings and cement crushed [= reprocessing] - work included rubbish from shaft mouth; cement and tailings, puddler's tailings and cement. In alluvial mining on the older parts of the Waranga goldfield, payable, and in some cases very satisfactory returns, have been reported to me. The question of water supply for our usually very dry district is forced upon the attention of the miners by a continued drought of the dry season.⁶²

⁶¹ Mining Surveyors' Reports, September 1864

⁶² Mining Surveyors' Reports, December 1864

March 1865: Mining population as follows:

	European	Chinese	Total
Alluvial miners	207	83	290
Quartz miners	214	-	214
	421	83	504

Coy's Diggings:	no.
Hard-scrabble Gully	23
Coy's Reef	3
Byron Reef	12
Welcome Reef	18
London Reef	8
Murray Reef	2
Essex Reef	4
Cousin Jack Reef	<u>10</u>
	80
Rushworth	293
Whroo	131

Machinery as follows:

Alluvial:

Puddlers - 2 at work, 53 idle
Horse whims - 6

Horse whips - 15

Quartz:

Crushing - 6 steam engines (idle), totalling 66 head of stamps, 66 hp
Crushing, winding and pumping - 1 steam engine, 12 stamps, 16 hp

Total value - £17,000

Square miles of alluvial ground - 35

Auriferous reefs - 69

Of the 7 crushing machines usually in full work, six are idle, and of the 55 puddling mills reported last quarter, 52 are stopped, for want of water. Alluvial mining is comparatively at a standstill.⁶³

April 1865: [Whroo - Albert, Carr's, Black Reefs]. Crushing machinery in good order. Dams are in a good situation, have an extensive watershed, can be enlarged. Good fall for discharge of tailings.⁶⁴

June 1865: Miners are distributed thus:

Rushworth

Old Lead, Main Gully, Black Joe's and Nuggetty Gullies	36
Storekeepers, Growlers, Paramatta, Mouseys and Shellback Gullies	22
Skiting Dicks, Billy Button's, Chicken Flat, and Diamond Gully	11
Old Ned's Canadian and Chinaman's Flat	41
Antonia and Charcoal Gullies	5
Nuggetty, South Nuggetty and Cockatoo Reefs	45
Growlers, Crocker's, Luna and Champion Reefs	26
Chinaman's, Union and Belfast Reefs	11
Ahern's, Frenchman's and Charcoal Reefs	7
sub-total	204

Whroo

White Hills, Fontainbleau, Siberia, Two-mile, Blackwall and Kilmore Road	11
Main, Butcher's, Chinaman's, Nuggetty and Champagne Gullies	32
Scotchman's, Graveyard, Poverty, Windlass Flat and Mosquito Gully	13
Balacava, Malakhoff and Stockyard Reefs	21
Happy-go-Lucky, Carr's, Johnson's Reefs	10
Vogelsang's and Victoria Reefs	4
sub-total	91

Coy's

Hardscrabble, Corbett's and Russell's Gullies	23
London, Welcome, Essex, Murray, Hicks and Guernsey Reefs	161
Byron's, Union, Coys, and Great Eastern Reefs	128
Cousin Jack's, Brighton, and Cherry-tree Reefs	117
Fourmile - Sandy and Spring Creeks	19

⁶³ Mining Surveyors' Reports, March 1865

⁶⁴ Mclvor News, 4 April 1865

Sub-total 448
Total 743

Machinery as follows:

Alluvial

Puddlers - 12 working, 42 idle

Whims - 6

Whips - 15

Quartz

Quartz crushing - 4 engines working, 2 engines idle, totalling 66 stamps, 66 hp

Pumping, crushing and winding - 1 engine, 12 stamps, 16 hp

Most important manifestation in the Division is Coy's Diggings. The population is now nearly 500; and daily additions taking place. The 460 tons of quartz crushed from Coy's produced upwards of 1,100 oz. of gold, and larger crushings are anticipated. Thousands of tons of quartz, which now would not pay expenses, will, when the machinery in course of erection is at work, be a good source of profit.⁶⁵

December 1865: Miners as follows:

	European	Chinese	Total
Alluvial miners	54	77	131
Quartz miners	487	-	487
	541	77	618

Miners thus distributed:

Rushworth:

Old Lead and its branches 51

Chinaman Flat and its branches 33

Nuggetty and Growler's and parallel group of reefs 130

Chanaman's and parallel group of reefs 21

White Hills and Siberia 29

Whroo:

Main Gully and its branches 47

Balaclava and its parallels 31

Albert and its parallels 25

Johnson's and its parallels 13

Coy's

London Reef and its parallels 97

Byron Reef and its parallels 63

Cherry Tree Reefs 78

Machinery as follows:

Alluvial

Puddlers - 7 at work, 48 idle

Horse whims - 9

Horse whips - 18

Quartz

Crushing - 3 steam engines at work, 4 idle, 82 stamps, 80 hp

Crushing, winding and pumping - 1 steam engine at work, 12 stamps, 16 hp

Alluvial mining has entirely ceased, and exemption from working the quartz claims until it rains becomes the rule. At Rushworth and Whroo, the older portions of the gold workings of this district, excepting from the water obtained from the Pioneer and Albert Company's shafts, the whole of the machinery would be similarly situated, and it is to the engines supplied from those sources that quartz is being carted from 10 to 15 miles. At Coy's diggings there are now 2000 tons of quartz lying upon different claims, and consequent on the continued drought, causing the cost of cartage to the nearest crushing mills, to range from 12s to 17/6d per ton; there it must remain.⁶⁶

March 1866: The water resulting from the fall of rain, which occurred, in this subdivision in the early part of January is nearly exhausted. The number of alluvial miners now at work is about one-third of those employed in this manner twelve months since, the decrease is caused by want of water, and not from the poverty of the alluvium; one-half of our quartz machines are also idle from the same cause.⁶⁷

⁶⁵ Mining Surveyors' Reports, June 1865

⁶⁶ Mining Surveyors' Reports, December 1865

⁶⁷ Mining Surveyors' Reports, March 1866

June 1866: The frequent rains of the past 3 months have well filled the majority of the dams in the district. The puddlers are again regularly at work, and crushing is resuming at all the mills. At Rushworth the comparatively new reefs, the Sunset Freedom, South Devon, Mongolian, and Foresters, maintain their position.⁶⁸

September 1866: Miners as follows:

	European	Chinese	Total
Alluvial miners	77	91	168
Quartz miners	512	-	512
	589	91	680

Machinery as follows:

Alluvial

Puddling mills - 33 at work, 22 idle
Horse whims and whips - 22 at work

Quartz

Crushing - 6 steam engines, 82 stamps, 80 hp
Crushing, winding and pumping - 1 steam engine, 12 stamps, 16 hp

Miners thus distributed:

Rushworth

Old Lead and adjacent gullies 48
Chinaman's Flat and adjacent gullies 46
Nuggetty and parallel reefs 121
Mongolian and parallel reefs 47

Whroo

Main Gully and adjacent gullies 48
Balaclava Hill 31
Albert and parallel reefs 36
White Hills and Fontainbleau 19

Coy's

London and parallel reefs 127
Byron and parallel reefs 67
Cherry Tree and parallel reefs 45
Spring Creek 14
Buffalo Ranges 12
Mary Taylor's Creek 9

The prospectors at the Buffalo Ranges, and in the country between Tait and Hamilton's and Coy's Diggings are obtaining payable gold.⁶⁹

March 1867: Miners as follows:

	European	Chinese	Total
Alluvial miners	79	112	191
Quartz miners	371	-	371
	450	112	562

Alluvial mining on Rushworth and at Whroo, shows healthy signs of progress; several new puddling mills have been erected at both places, and the quantity of alluvial gold is increasing. In quartz mining, Balaclava Hill maintains its position as the finest quartz reef in this subdivision. From Messrs Lewis and Menzies' claim, the average yield of 3000 tons crushed during the quarter have been above 1/2 oz. to the ton.⁷⁰

1867: [Mongolian Reef] was discovered in the year 1867 by some Chinamen, who had a puddling machine in Goss's Gully... they took out a crushing of 6 loads, which returned the magnificent yield of 45 oz. They were not long in getting out another crushing of three loads, when a break occurred in the stone... they were unable to pick up the run of stone again, and agreed to sell the claim...for £150, and the claim was shortly afterwards registered in their names under the title of the Mongolian Reef.⁷¹

68 Mining Surveyors' Reports, June 1866
69 Mining Surveyors' Reports, September 1866
70 Mining Surveyors' Reports, March 1867
71 'The Rushworth Gold Mines', 1918

- June 1867:** Alluvial mining is almost entirely confined to puddlers, who participate in the general benefit derived from an abundant supply of water ... The yield of gold from our principal reefs continue satisfactory.⁷²
- September 1867:** The population returns show a considerable decrease, caused by the rushes which have taken place at Yea, Myers Flat, etc. The alluvial miners of the division have suffered severely from the flooding of their claims, and as the rain continues their prospect of resuming work is distant. The rainfall in the district is said to be unprecedented.⁷³
- October 1867:** John Woods Russel [received] £50 for opening Nine-Mile Creek in October 1867.⁷⁴
- December 1867:** Generally, I have to report the returns from our quartz reefs as slightly below average.⁷⁵
- March 1868:** In consequence of the good result obtained from Messrs Wigg and Spence from their cement claim, numerous parties have been prospecting the cement deposits which are so widely spread over this field. Wigg and Spence - Rushworth - 45 tons yielded 155 oz - depth 6ft 6in. A slight improvement in quartz mining is observable at Coy's Diggings. On the older fields, in this branch of mining, I have nothing new to chronicle.⁷⁶
- June 1868:** Our mining population is again slowly increasing. Many old familiar faces are to be met returning from 'rushes' to our more regularly productive reefs and gullies. The miners employed crushing cement at Rushworth are doing well.⁷⁷
- September 1868:** Yield of gold from alluvial workings shows a decrease, which can only be due to the want of water during the early part of the wet season. An increased area of alluvial payable gold is being opened at the Buffalo Ranges and near Fontainbleau, and, with the plentiful and general supply of rain which has lately fallen, we may fairly anticipate that a much larger quantity of gold will be produced next summer. The prospectors of the new gullies will continue to make good wages. The greatest number of men employed at both places at the same time would not exceed 100. Our quartz mines also show a slight decrease in their gold return.⁷⁸
- December 1868:** The extensive rush to Spring Creek from North Waranga has caused the stoppage of nearly all the puddling mills and tubs and cradles in the subdivision. Many of the principal quartz claims have been left to the charge of owners and managers; and although the miners were in receipt of wages above the average rate paid in the Sandhurst District, it was found impossible to retain even regular hands who had been employed upon the various claims for many years.⁷⁹
- December 1868:** Most of the males rushed off to the new Spring Creek goldfields (Graytown) in 1868 - but the 35 men then employed in the Balaclava mine stayed.⁸⁰
- March 1869:** White Hills, Whroo - Three old quartz reefs taken up by 13 miners. Reefs have been renamed. Chinaman's is now Evening Star. White's old Reef is now Ivor's Reef. Law's Hill Reef is now Royal Standard.⁸¹

72 Mining Surveyors' Reports, June 1867
 73 Mining Surveyors' Reports, September 1867
 74 Randell, 1985, p. 21
 75 Mining Surveyors' Reports, December 1867
 76 Mining Surveyors' Reports, March 1868
 77 Mining Surveyors' Reports, June 1868
 78 Mining Surveyors' Reports, September 1868
 79 Mining Surveyors' Reports, December 1868
 80 Hammond, 1978, p. 119
 81 Mclvor News, 25 May 1869

- March 1870:** The decrease in the number of miners in this subdivision is principally at the Nine-mile and North Spring Creek, from whence many of the alluvial miners have migrated to the rushes at Berlin and Alexandra. In quartz mining the prospects of most cheering character are at Balaclava Hill, Fontainbleau, South Nuggetty and the Frenchman's Reefs, all giving substantial proof of permanent discoveries of rich quartz. The old ground at Whroo and Rushworth continues to maintain the usual number of puddlers.⁸²
- September 1870:** The reduction in the number of the mining population in this Division is the result of the unprecedentedly wet weather, which prevailed from June to the end of September. Its effect has been injurious to both quartz and alluvial miners; but principally to the latter class by flooding claims, filling surface paddocks, and at times, entirely stopping cartage.⁸³
- December 1870:** Alluvial mining - At the Buffalo Ranges a further development at the old lead has caused an addition to the population of about 100 miners. The returns from puddling at Rushworth appear to be improving.⁸⁴
- 1871:** By 1871 the miners returned to Whroo after the rush at Graytown finished. There were 455 person and 139 buildings recorded that year at Whroo.⁸⁵
- March 1871:** I have but little that is of importance to report from this subdivision for the past 3 months. Alluvial mining at the Buffalo and Nine-mile Creek is slowly progressing. On the old fields the puddlers almost exclusively occupy the alluvial ground.⁸⁶
- June 1871:** Alluvial prospecting in the neighbourhoods of Rushworth and Whroo has been partially successful. The tribute system is spreading in this division. The results proved by the Perseverance and Balaclava Hill Gold and Antimony Mining Co. and at the Frenchman's and Nuggetty Reefs, are such as to lead me to strongly recommend the more general adoption of the system. Where prospecting has been done, the tributers have a small amount per week assured, and a liberal percentage of the gold. In other cases, a sliding scale of percentage, according to the yield of gold per ton, is preferred. Under any circumstances, it appears to me that the encouragement of this spirit of enterprise amongst the working miners must be beneficial in its effects, and more especially on the older gold fields. [Quartz table includes Darrock's mill - North Spring Creek]⁸⁷
- September 1871:** No change in this quarter... Many of the mills have been idle part of the time from want of water.⁸⁸
- December 1871:** Very little has been done in the Division, many of the claims that a short time ago were paying well having been idle; upon the success or otherwise of these arrangements depends the working of a large area. A large shifting population having visited here during the quarter, several rushes in alluvial diggings have taken place, but no lead has been struck. [Tributing a phase = quite late]⁸⁹
- March 1872:** Very little done in the opening up of new ground, and all the old ground in work has given very poor returns. Two rushes - town end of Old Ned's Gully, and Cemetery Lead, Whroo.⁹⁰
- June 1872:** No Mining Surveyor's Report.
- September 1872:** Rushworth - Mining very depressed. Few or none of the claims are paying anything.⁹¹

82 Mining Surveyors' Reports, March 1870
 83 Mining Surveyors' Reports, September 1870
 84 Mining Surveyors' Reports, December 1870
 85 Hammond, 1978, p. 120
 86 Mining Surveyors' Reports, March 1871
 87 Mining Surveyors' Reports, June 1871
 88 Mining Surveyors' Reports, September 1871
 89 Mining Surveyors' Reports, December 1871
 90 Mining Surveyors' Reports, March 1872
 91 Mclvor News, 27 September 1872

September 1872: The alluvial mining is nearly at a rest; there are no works of any importance going on at the present, and the number of private miners is very small. The gullies are all deserted, with the exception of a lone miner fossicking at great intervals of space with very little success. The quartz mining is more prosperous and the reefs are in many places being worked successfully, with good returns of gold, at Rushworth, Whroo and Coy's. At Rushworth there are three steam-crushing engines, at Whroo three, and at Coy's two, all actively employed.⁹²

December 1872: The alluvial mining is almost abandoned. There are but eight puddling machines in existence, four of which are idle, and a few isolated tub and cradle workers. The gullies and flats are in a very deserted condition, the miners having gone off to shearing or harvesting. More attention is paid in this division to quartz mining and most of the resident tradesmen are interested in quartz works, some of them with satisfactory results. The quartz reefs are not deep generally, which enables men with small capital to engage in quartz mining, crushing their stone at one or other of the steam-crushing mills for hire, at a rate of 9/- per ton.⁹³

March 1873: Alluvial mining at very low ebb... Quartz mining occupies the attention of the Division. A new winding and crushing plant has been erected at Cherry Tree, Coy's Diggings, during the last quarter, and is now actively at work.⁹⁴

June 1873: Quartz mining has been in a very depressed state throughout the quarter.⁹⁵

September 1873: The depression in alluvial mining in this division increased during the quarter. Very few are now engaged in this pursuit. Quartz mining, though still depressed, has latterly exhibited some improvement. The stoppage of the Perseverance Co., and the partial stoppage of the Balaclava mine, has caused a number of miners to leave the district, and to seek employment elsewhere. But the discovery of several payable reefs at the White Hills and Coy's Diggings, and the satisfactory crushing of the Schleswig Holstein Co., yielding an average of 6 oz. to the ton, have given a fresh impetus to quartz mining throughout the division.⁹⁶

December 1873: Alluvial mining very depressed...gullies in all directions are abandoned, and the flats are equally deserted, even by the Chinese. The quartz interest is generally more successful, and receives the principal attention. Though the large companies have not hitherto proved successful, small companies working under miners' rights have sprung up, and by them gold in paying quantities has been obtained. The neighbourhood of White Hills has been the most productive.⁹⁷

March 1874: General depression in alluvial mining continues... Most of the miners have left, and have taken up land in the neighbourhood, upon which they have settled as farmers. The quartz interest has maintained its stand, and some of the claims - Welcome Reef, Coy's Diggings, Schleswig-Holstein tributers - have yielded some exceedingly rich stone, though not in large quantities.⁹⁸

June 1874: Improving gold yields should continue with the success of the Mongolian Co.⁹⁹

September 1874: Nothing worthy of reporting. A small rush to Shellback Gully, Rushworth.¹⁰⁰

92 Mining Surveyors' Reports, September 1872
93 Mining Surveyors' Reports, December 1872
94 Mining Surveyors' Reports, March 1873
95 Mining Surveyors' Reports, June 1873
96 Mining Surveyors' Reports, September 1873
97 Mining Surveyors' Reports, December 1873
98 Mining Surveyors' Reports, March 1874
99 Mining Surveyors' Reports, June 1874
100 Mining Surveyors' Reports, September 1874

- December 1874:** [New Mining Registrar, Henry Hicks.] The reefs now worked are chiefly held by miner's right and worked by holders. The satisfactory crushings from Welch Co.'s, at the White Hills, have given an impetus to prospecting, the result being the discovery of several new reefs. One of the latter - the Hope of Denmark - at Old Ned's Gully. In alluvial mining the puddling machines are, with two exceptions, idle for want of water. This remark would apply to the miners generally. The owners of the former accept contracts for road making and fencing, and the latter, in consequence of the liberal wages given in the surrounding district are, with few exceptions, employed at harvest. Present state of the quartz mines is very satisfactory, for although the principal companies who have hitherto contributed most largely to the general average are either temporarily unemployed, or, as in the case of Balaclava Tribute Co., sinking shafts, the yield of gold has increased, and is considerably in excess of the corresponding period in 1873.¹⁰¹
- March 1875:** Yield of gold obtained from the quartz mines within this division shows a considerable decrease from the previous quarter's return. The cause of the falling off is easily explained...the manager of the Holmes Nuggetty Gully machine, Rushworth, reports, 'In consequence of an accident to the boiler, I have done no work during the quarter'. The result of the stoppage of this machine, the only one on Rushworth, has been that miners have been unwilling to risk carting poor stone to the nearest machine at work, a distance in most cases of 7 miles, and are waiting for the completion of repairs. The manager of the Balaclava Tribute Co. reports, 'Prospecting during most of the quarter'; crushing mill only occasionally at work. The mines at present at work in this Division are all above water-level; there is, however, a probability of some of the deep claims being shortly in work; a company is already being formed to work Frenchman's Reef, Rushworth.¹⁰²
- June 1875:** Activity in working at the quartz mines within the division, spoken of in my last report, still continues: crushing machine still broken. Frenchman's Reef Co., Mongolian Co., White Hills, Balaclava Tribute Co: alluvial mining still depressed - a large number of miners have sought more certain employment on the road contracts within the shire of Waranga. At White Hills a small rush - 20 miners.¹⁰³
- September 1875:** Prospects of mines have, during the past quarter, been of the most encouraging character, the chief notable feature being the reaction that has taken place in alluvial working. Primary cause of the activity displayed was the finding, at the old workings at Waranga, of a run of coarse gold. The first piece found was 7 dwts; since then a large number of nuggets have been unearthed, the largest being 25-1/2 oz. The quartz miners at Rushworth still labour under the disadvantage of having to cart their stuff to Whroo.¹⁰⁴
- December 1875:** The rush at Sellar's Flat, Whroo, continues... About 150 miners are now employed. Quartz mines are still yielding good returns.¹⁰⁵
- March 1876:** Alluvial mining through the subdivision is dull. The ground being worked since my last report has ceased to be remunerative. The long drought has dried up all the water holes, and rendered prospecting almost impossible. Many of the miners have, in consequence, left for the rush at McIntyre. A falling off in the yield of gold from quartz mines.¹⁰⁶
- June 1876:** Alluvial mining - little work, nothing special to report. The present prospects of the quartz mines are of a very encouraging character: Whistlers Reef at Coy's; Forlorn Hope and Hope of Denmark at Rushworth; Mongolian Co. sinking shaft again. Cameron Brothers, adjoining Welsh Company, White Hills, ...now erecting pumping machinery. Balaclava Hill...after much prospecting, a gold-bearing vein has appeared ... There are no Reservoirs for water in this subdivision.¹⁰⁷

101 Mining Surveyors' Reports, December 1874
 102 Mining Surveyors' Reports, March 1875
 103 Mining Surveyors' Reports, June 1875
 104 Mining Surveyors' Reports, September 1875
 105 Mining Surveyors' Reports, December 1875
 106 Mining Surveyors' Reports, March 1876
 107 Mining Surveyors' Reports, June 1876

- September 1876:** Beyond the fact that a few of the old puddling sites have been taken up, the alluvial mines are exactly in the state of my last report. Returns from quartz mines are very satisfactory, the yields therefrom being much in excess of last quarter; some, particularly those worked by the owners under miner's rights, have proved highly remunerative.¹⁰⁸
- December 1876:** Little change in alluvial matters...harvest time...and a falling off from the previous quarter of quartz crushed by 163 tons...¹⁰⁹
- March 1877:** No change in alluvial mining. The long drought having had the effect of drying up all the waterholes, it has been impossible for the alluvial miners to pursue their usual employment. The yield of gold from the quartz mines is unusually small; a fact easily accounted for by the want of water... At Rushworth, Holmes' machine, so long idle, has been repaired, and started crushing this week.¹¹⁰
- June 1877:** Alluvial mining. The number of miners resident is about the same; but this description of mining, especially at Rushworth, is now regarded as supplementary to their other labours. A party of seven men, subsidised by the Government, has been employed prospecting the Old Lead, Rushworth. Gold was obtained, but not in payable quantities. Hope is expressed that their efforts may continue; and local contributions are being raised for that purpose. The appearance of the quartz mines is most encouraging. Mining for metals other than gold in the Waranga North subdivision during the quarter has been confined to the U & F Antimony Company (Old Albert Reef, Whroo). The work is carried on at the 200-ft level... But for the excessive cost of carriage to Melbourne, two other antimony reefs of proved value, viz., Stockyard Reef, Whroo and Black Cloud Reef, Coy's Diggings, would be worked.¹¹¹
- September 1877:** Alluvial mining has attracted much attention. A rush has set in at the Old Lead, Rushworth, where there are about 400 miners present, and the number is still increasing. Quartz mining is very satisfactory - the stamping machine at R.U.G.M. Company, Frenchman's Reef, is now complete. Antimony - U & F Co., Old Albert Reef - reef increasing in thickness. Black Cloud Reef - a small engine on the ground.¹¹²
- December 1877:** Rush at Old Lead - has now subsided; at one period of the quarter about 700 men were on the ground, but, although much work was done, they failed to follow the gold beyond a few claims. At present a rush is setting into ground situated at the north end of Nuggetty Gully, Rushworth. The gold is nuggetty. Puddling machines are, in consequence of want of water, idle. Throughout the subdivision a great scarcity of water prevails... Water for domestic purposes is almost exhausted. The returns of yields of gold from the reefs show a very large increase on the corresponding quarter in 1876, although two crushing machines - Holmes', Rushworth, and Victoria's, Coy's Diggings, have been idle for the past 3 months for want of water.¹¹³
- 1877:** As late as 1877, William Nicholas, Mining Surveyor for North Waranga, reported that the division may be 'truly termed a poor man's diggings, for the alluvial sinking is rarely deeper than 40 feet, the greater part of it less than 20 feet in depth, and a living can be made almost anywhere in and near the old workings'.¹¹⁴

108 Mining Surveyors' Reports, September 1876
 109 Mining Surveyors' Reports, December 1876
 110 Mining Surveyors' Reports, March 1877
 111 Mining Surveyors' Reports, June 1877
 112 Mining Surveyors' Reports, September 1877
 113 Mining Surveyors' Reports, December 1877
 114 Forster, 1965, p. 20

1878: By this time, nearly all the gullies are wrought, and some, worked over and over again, still yield a livelihood to a considerable number of miners ... The most northern and most important gold workings are at and in the vicinity of Rushworth, where, at the close of the September quarter of this year, 513 alluvial miners were employed in mining. The principal alluvial workings are, or have been, on the Old Lead. The head of the lead is in Growler's Gully, at the back and to the west of the township. This lead trends easterly, and probably terminates in the Waranga Swamp. Many rich tributaries flow into it, but those joining it on the southern side are the most considerable. This lead has yielded more gold than any other in the district; it is but shallow, as the deepest shafts sunk on it are only from 35 feet to 55 feet in depth ... The scarcity of nuggets exceeding 5 oz in weight is a remarkable feature in connection with the history of these goldfields and the want of permanent water is the one great difficulty which retards the development of the undoubtedly payable auriferous deposits at the Buffalo Ranges. Near Mount Black a little gold has been obtained by alluvial prospectors. Immense deposits of cement cover considerable areas about Rushworth, Whroo, Nine-mile, and Fontainbleau. The cement lies exposed on the surface in places, and has never been found at other than what may be considered shallow depths. It has been extensively worked at the undermentioned places, yielding remunerative quantities of gold and frequently rich patches - Chinaman's Hill, Gravel Pits, Old Lead, Nuggetty, Cockatoo, Rushworth township, Butcher's Gully, &c. Crushings of several hundreds of tons have been recorded which produced from 6 to 10 dwt of gold to the ton, and there can be little doubt that rich cement remains to be crushed ... The quartz reefs near Rushworth, with only three exceptions, have an east and west direction in conformity with the strike of the strata in which they occur ... There are about forty reefs which, by reason of their east and west strike, may be called cross reefs, as they run at right angles to the prevailing strike of the auriferous reefs in Victoria. They are characterised by very rich patches of golden stone ... There has been one deep shaft sunk on a quartz reef, and that reached to a depth of 573 feet. It is situated on the Nuggetty Reef. This shaft was sunk by the Perseverance Company ... Scarcely a shaft has been sunk below the water level on any of the other reefs, although many of them have proved very rich above that level...¹¹⁵

c. 1878: The largest nugget I know as having been found was at Old Ned's Gully, Rushworth, weighing 30 oz. 4 dwt. 18 gr. At Waranga Diggings, near Gunn's Swamp, one was found weighing 25 oz 18 dwt. Storekeeper's Gully, Rushworth, yielded one of 21 oz.¹¹⁶

March 1878: Alluvial mining has made no progress during the quarter. Only about 60 miners now remain at Nuggetty Gully Rush. Water now being abundant, some of the old puddling claims are being worked again. Quartz mining being pursued actively but yields down because of the inactivity of machines during part of the quarter due to want of water. Two new reefs discovered - Rambler's Reef and Christians, Rushworth. Mining for antimony - confined to Black Cloud Co.'s diggings and U & F Company. The former employs 9 men, the latter 2 men.¹¹⁷

June 1878: Since my last report many of the miners have left for other fields... Quartz is making steady progress... Some of the mines have given unusually large yields; this remark particularly applies to Coy's Diggings. Mining for antimony - still confined to Black Cloud Co., and U & F Company... The former has 17 men now employed. Water - In consequence of the long-continued drought of the past season, the Waranga Shire Council have constructed a reservoir about 1/2 mil from township of Rushworth, capable of holding 1,000,000 gallons, and one of smaller dimensions at Chinaman's Flat. These cannot fail to be an advantage to the miners, securing to them an unlimited supply for domestic purposes.¹¹⁸

September 1878: Little or no change in alluvial mining. Prospects of the quartz mines are the most encouraging. The yield and average of stone crushed are in excess of the last quarter, despite two machines not working (Balaclava Co., Whroo and Victoria's, Coy's Diggings). Black Cloud Antimony and U & F Company both stopped work - not from want of success, but for the purpose of reorganisation of the companies.¹¹⁹

115 Geological Survey of Victoria, Report of Progress, 1878, pp. 155-6, 158, 160

116 'Mr Benbow', quoted in Geological Survey of Victoria, Report of Progress, 1878, p. 159

117 Mining Surveyors' Reports, March 1878

118 Mining Surveyors' Reports, June 1878

119 Mining Surveyors' Reports, September 1878

- December 1878:** Alluvial mining dull. Yield from quartz mines satisfactory. No work done in antimony mining.¹²⁰
- March 1879:** The long drought has a very marked effect on the returns of gold obtained at the various crushing machines; the dams being quite dry, scarcely any work done.¹²¹
- June 1879:** Alluvial mining throughout the subdivision has been very dull, the work being chiefly confined to old ground. With the exception of Coy's Diggings, the crushing from quartz mines have been very unremunerative, although much labour has been expended. Antimony mining - confined to Black Cloud Company.¹²²
- September 1879:** Alluvial mining - no great success. Quartz mining - with the exception of one or two crushings during the quarter, yields have been very poor. Antimony - no work during the quarter.¹²³
- December 1879:** Alluvial mining pursued with vigour, but without much success. Returns from quartz crushing increasing; the best result obtained from Coy's Diggings. Antimony mining - The Black Cloud Co. still idle; it is stated that they have purchased the Mongolian machinery, and that they will soon resume work.¹²⁴
- c. 1880s:** The Cockatoo and Nuggetty Hill had been held under the mining by-laws, when it required four men to work a 48 ft claim on the line of lode, and as the surface miners merely adopted the windlass, whip and whim, and the shafts, being mostly worked on the underlay. They could not get much below water level, and of course were compelled to relinquish their claims.¹²⁵
- 1880s:** Furphys had a saw-mill near Whroo ... the eighties saw a boom of gold-mining in Rushworth.¹²⁶
- March 1880:** Water for mining purposes, both in alluvial and quartz, has been severely felt, and the return of yields shows a marked decrease. Black Cloud Co. - now engaged removing and refixing machinery, recently purchased from Mongolian Reef Co. at Rushworth.¹²⁷
- June 1880:** Little change in alluvial mining. The yield of gold from the quartz mines shows no decided increase, but the prospects from the coming quarter are good - mentions tributers on Balaclava Hill and Coy's Diggings.¹²⁸
- September 1880:** Alluvial mining in a depressed state.¹²⁹
- December 1880:** Alluvial mining - no new ground opened, and many of the resident miners have been partially engaged in other pursuits. Quartz mining - much activity prevailed... the returns from the various crushing machines showed a decided increase. Antimony mining - Black Cloud Co. - still sinking their shaft - 20 men employed.¹³⁰
- c. 1880s:** Crown Cross Reef - The Crown Cross was considered to be one of the richest of all the Rushworth claims and one of the richest in the State.¹³¹

120 Mining Surveyors' Reports, December 1878
 121 Mining Surveyors' Reports, March 1879
 122 Mining Surveyors' Reports, June 1879
 123 Mining Surveyors' Reports, September 1879
 124 Mining Surveyors' Reports, December 1879
 125 'The Rushworth Gold Mines', 1918
 126 Forster, 1965, pp. 71-2
 127 Mining Surveyors' Reports, March 1880
 128 Mining Surveyors' Reports, June 1880
 129 Mining Surveyors' Reports, September 1880
 130 Mining Surveyors' Reports, December 1880
 131 Hammond, 1978, p. 15

- March 1881:** In consequence of the want of water, alluvial mining has been almost at a standstill. At Coy's Diggings and Rushworth the machines have been idle, having no water. Black Cloud completed the sinking of their shaft.¹³²
- June 1881:** Nothing of interest in alluvial mining. Quartz mining - more than usual activity prevails throughout this subdivision. Two companies have been formed at Coy's Diggings and are now in active work ... 2 or 3 other companies are said to be forming.¹³³
- September 1881:** Little has taken place in alluvial mining. Also falling off of tons crushed... In all cases ... the gold has been obtained by men working their own claims. The richness of some of the claims worked has given an impetus to co-operative mining.¹³⁴
- March 1882:** Mining inconvenienced, both in alluvial and quartz, from the lack of water. The prospects of many of the reefs are good, but prospecting for new ground is at a standstill.¹³⁵
- June 1882:** Much activity prevails in quartz mining...the results obtained from several crushings, have been large, and the present appearances of the reefs are good. Black Cloud - reports are favourable - 60 tons raised, large quantity of quartz showing gold - 25 men are employed.¹³⁶
- September 1882:** Nothing of importance in alluvial mining. During the quarter some excellent yields of gold have been obtained. Also prepared a brief statement of the present state of the principal claims now at work:
 Phoenix Co., Chinaman's Flat, Rushworth
 Good Luck Co., Charcoal Gully, Rushworth
 Never-can-Tell Co., Old Lead, Rushworth
 Crown Cross Company, Rushworth
 No. 4 and No. 5 Hope of Denmark mines, Old Ned's Gully, Rushworth
 Camp Reef, Police Camp Reserve, Rushworth
 The Menzies Tribute Co., Balaclava Hill, Whroo
 Black Cloud Gold and Antimony Co.
 Various companies at Coy's Diggings
 Mary Jane Co., Bailliestown.
- Alluvial mining - This description of mining may be stated as to be almost extinct; the miners employed are chiefly old men, who have spent the best days of their life on the gold fields, and prefer eking out a very precarious living to seeking employment as labourers; they have no opportunity of trying new ground, particularly about Rushworth where the land has been taken up either under the 49th or other sections of the Land Act; the selectors occupy all available space, the hill tops only being left.¹³⁷
- December 1882:** Alluvial mining in the ordinary way is still dull but much interest is felt in the prospecting of new ground in a paddock at Mavia, owned by Mr Bruce, of Rushworth - being bored and gold of a payable character has been struck at a depth from 25 to 27 feet. Quartz mining - Great activity prevailed...the returns show a very large increase in the quantities of quartz crushed, and the returns of gold obtained are unprecedentedly large. Reports on Phoenix Mine, Rushworth and Menzies Tribute Company.¹³⁸
- March 1883:** No important news on alluvial mining. Throughout the Division a great prosperity in quartz mining. Three or four leases have been applied for, and it is stated that as many companies are being floated. [One of the keys to the Division is relativeness - an increase of 3 or 4 things is seen as a boom this would not be the case in a place like Bendigo.]¹³⁹
- June 1883:** Alluvial mining - no improvement in matters... There is a falling off in the number of puddling machines employed. Returns from various crushing machines satisfactory. Black Cloud is now in full work. Around Rushworth a large area of ground has been marked out; 7

132 Mining Surveyors Reports, March 1881
 133 Mining Surveyors' Reports, June 1881
 134 Mining Surveyors' Reports, September 1881
 135 Mining Surveyors' Reports, March 1882
 136 Mining Surveyors' Reports, June 1882
 137 Mining Surveyors' Reports, September 1882
 138 Mining Surveyors' Reports, December 1882
 139 Mining Surveyors' Reports, March 1883

applications for leases are set down for hearing before the warden; it may therefore be expected that the deep ground of many of the old reefs will soon be tested, provided the covenants of the leases be complied with.¹⁴⁰

September 1883: Alluvial mining is very dull. The general appearance of quartz mines show hope of a bright future... The great success that has attended the efforts of many of the individual miners has enabled them to work their claims in a more systematic manner; already there are more wage men and working managers employed, and more stone is being raised than at any previous time.¹⁴¹

December 1883: Alluvial mining very unremunerative. Much activity prevailed in quartz mining - present appearances indicate that the time is not far distant when many of the best claims will have to be worked on a very different principle to that now prevailing, as without the aid of machinery they cannot be further developed.¹⁴²

June 1884: Quartz mining - This quarter was one of increased success throughout the division... The most noteworthy feature is the great success of the New Byron Co. The company has, after the expenditure of a large sum, struck the reef at 200 ft. In fact, a new era appears to have dawned upon the division by the advent of the capitalist. The Phoenix Co., Rushworth, is now putting through about 500 tons. The Crown Cross and Never Can Tell claims, at Rushworth, and White Elephant claim, at Coy's Diggings, have, during the quarter, crushed stone of unwonted richness. [eg. Phoenix Co. crushed 190 tons for a yield of 279 oz.] Alluvial mining - no improvement. Antimony mining - Black Cloud Co. still idle.¹⁴³

September 1884: The prospects of the quartz mines throughout the Waranga North Division are still very encouraging and additional machinery is now being placed at Siberia, White Hills and Gobarup. Alluvial mining was very languid.¹⁴⁴

December 1884: Alluvial mining continues unremunerative. In quartz mining the quantity being crushed and average yield obtained shows no sign of falling off.¹⁴⁵

1884: In 1884, about fifty reef workings were still crushing in the Rushworth area...¹⁴⁶

1884: Over fifty mining leases were issued in 1884, though work on many was of the minimum required under the Act.¹⁴⁷

1885: The oldest Water Trust in the Colony - the United Echuca and Waranga Trust - was beset by problems as soon as it began to provide irrigation in 1885, carrying water from the Goulburn River across the parched Waranga Plains to Echuca on the Murray River.¹⁴⁸

March 1885: Scarcity of water has had the effect of materially diminishing the yield of gold... From this cause the Union machine at Coy's Diggings, has been idle through the quarter; and the Harrison's machine and Phoenix Company, at Rushworth, have had only a very limited supply.¹⁴⁹

June 1885: Generally the prospects of the quartz miners within the division are very encouraging, but alluvial mining is still dull. Mentions Growlers Hill Co., New Byron Co., Phoenix Co.¹⁵⁰

September 1885: Alluvial mining is still unremunerative but quartz mining prosperous. Mentions New Byron Co., Siberia/White Hills, and Phoenix Co.¹⁵¹

140 Mining Surveyors' Reports, June 1883

141 Mining Surveyors' Reports, September 1883

142 Mining Surveyors' Reports, December 1883

143 Mining Surveyors' Reports, June 1884

144 Mining Surveyors' Reports, September 1884

145 Mining Surveyors' Reports, December 1884

146 Forster, 1965, p. 28

147 Forster, 1965, p. 72

148 Hammond, 1978, p. 76

149 Mining Surveyors' Reports, March 1885

150 Mining Surveyors' Reports, June 1885

- December 1885:** Returns from the various machines throughout the Division show a larger quantity of quartz crushed, but a decided falling off in the average yield of gold. The new year, however, opens with brighter prospects, many of the best claims having worked to water level, steps now being taken for their further development. Mentions Growlers Hill Co.; Hard Hill mine, Rushworth; Bound to Win.¹⁵²
- March 1886:** Apart from the neighbourhood of Rushworth, a transitory gloom pervades the quartz workings throughout the Waranga North Division. Union Machine, Coy's Diggings, Sebastian machine, Sebria - no crushing. Menzies Tribute Co. - have only crushed 116 tons for 67 oz. New Byron Co. - collapsed, the pumps have been withdrawn, and property advertised for sale. At Rushworth, the prospects of the reef were never brighter during the quarter. Mentions Bound to Win Co. and numerous mines at Hard Hills.¹⁵³
- June 1886:** Yields of gold from quartz of great richness have diffused around a spirit of unprecedented enterprise, eg. Sebastian crushing machine at Fontainebleau, about 12 miles from Rushworth crushed during the quarter 120 tons for 154 oz. At Whroo, from a new claim adjoining Menzies Tributaries Co. - 32 tons yielded 82 oz. At Coy's diggings, a claim on Welcome Reef line looks promising. At Hard Hill mines, Crown Cross Co. crushed 172 tons for a yield of 1,629oz; Try Again Co. crushed 44 tons for 252 oz.¹⁵⁴
- September 1886:** The same spirit still prevails throughout the Rushworth Division, and with marked success, the most noteworthy feature being the extension of the gold workings. Mentions: Buffalo Diggings, 7 miles SE of Rushworth. New claims at Coy's Diggings. Waranga, 6 miles N of Rushworth. At the selection of Mr Armstrong, 3 miles E of Rushworth - first application under the Mining on Private Property Act. In connection with the residence byelaws, and as showing the rising importance of the division, I may mention that in the past year 65 residence areas have been registered and substantial dwellings erected thereon, chiefly by working miners. Crown Cross Co. completed the erection of efficient machinery - also crushed 218 tons for 1355 oz. Try Again Co., on adjoining claim, crushed 184 tons for 1,422 oz.¹⁵⁵
- December 1886:** In the early part of the quarter much excitement prevailed throughout the division in reference to the quartz washings. Every available space around Rushworth and Whroo was marked off. Several new companies were formed and a good deal of work of a preparatory character commenced. The returns of gold for the quarter show a falling off, which is accounted for by the fact that the Crown Cross Co., having been in litigation, suspended work; while at the Try Again work has been confined to cutting down the shaft and completing machinery.¹⁵⁶
- March 1887:** The great excitement that prevailed throughout the Rushworth Division during the half year ended 31st December has now subsided, and, although much of the ground then taken up will be abandoned, still several of the companies then formed are working in a bona fide manner and in some cases with good prospects of success. Mentions: Crown Cross Co. and Try Again Co. Sebastian machines at Fontainebleau idle due to lack of water.¹⁵⁷
- June 1887:** Work done at several of the claims at Rushworth has been...altogether of a prospecting character.¹⁵⁸
- September 1887:** Unusual activity has prevailed in alluvial mining, many of the quartz miners, who have temporarily been thrown out of employment by the partial stoppage of several mines, having turned their attention to this class of mining. Crown Cross Co. - good crushing. Rushworth - several companies are prospecting - Phoenix, Bound-To-Win, Hope of Denmark,

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- 151 Mining Surveyors' Reports, September 1885
 152 Mining Surveyors' Reports, December 1885
 153 Mining Surveyors' Reports, March 1886
 154 Mining Surveyors' Reports, June 1886
 155 Mining Surveyors' Reports, September 1886
 156 Mining Surveyors' Reports, December 1886
 157 Mining Surveyors' Reports, March 1887
 158 Mining Surveyors' Reports, June 1887

and several claims. Coy's Diggings - Goe-Carr Co. erected 35-hp engine and 8 head of stamps. Cherry Tree Co. purchased Union machine.¹⁵⁹

December 1887: Large increase of quartz crushed, but a marked decrease in average yield per ton... Nothing new has transpired worthy of record. Mines crushing during quarter included: Victoria and Albert, Whroo - 53 tons for 25 oz. Never-Can-Tell, Rushworth - 70 hours for 167 oz. South Devon, Rushworth - 101 tons for 101 oz. Scrubby Reef, Gobarup - 118 tons for 183 oz. Bound to Win, Rushworth - 364 tons for 76 oz. Goe-Carr, Baillieston - 505 tons for 87 oz.¹⁶⁰

March 1888: Returns of quartz crushed for last quarter show a marked decrease. The necessity of more efficient machinery for drainage is being forced upon the mine owners, eg. Victoria and Albert Mining Co., Whroo - struck heavy water; horse power of no use; must erect machinery.¹⁶¹

June 1888: Returns show a marked increase in the quantity crushed and yield of gold. Mentions Never-Can-Tell; Hard Hills; Rushworth; No. 5 East Hope of Denmark; South Devon Co.; 'At Last' Reef, Black Ranges. Scrubby Reef Co. - battery of 10 stamp heads erected. Alluvial mining still unremunerative.¹⁶²

September 1888: During the past quarter many of the principal mines in this division have been partially or entirely non-productive. Crown Cross Co. and Try Again Co's have been stopped by litigation with reference to drainage dispute. Menzies Tributers Co. are under exemption. Doctor's Reef still cutting down and timbering shaft. Phoenix Co.'s machinery crushing only for public. Machinery at Scrubby Reef completed. Alluvial - work confined to fossicking.¹⁶³

December 1888: During the past quarter, the quartz mines throughout the division have been chiefly prospecting. The dams of the crushing works have been dried up since October, the consequence being that many of the miners, having been thrown out of employ, have sought and obtained work as sleeper cutters and other work on the railway now in the course of formation. [Arrival of railway boost for forestry in two ways: (1) immediate requirements of construction; (2) transport available to take sleepers to rest of the state = continuation of the industry.]¹⁶⁴

March 1889: Work at several of the principal mines has been of a progressive nature: Crown Cross Co., Balaclava, Phoenix Co., Victoria and Albert and Goe-Carr Company. New reef, Fontainbleau - erection of a crushing plant there. A small alluvial rush to the Old Lead, Rushworth.¹⁶⁵

June 1889: Gold shows an increase over previous quarter, chiefly attributable to the splendid return from the Never Can Tell, Rushworth and the Australian Natives, Rushworth. Apart from those, returns are poor. Alluvial mining is still unremunerative.¹⁶⁶

September 1889: Heavy rain experienced the greater part of the quarter interfered greatly with the labour of the miners. Throughout the Division signs of increasing activity prevail.¹⁶⁷

December 1889: Quartz mining during the quarter throughout the Division has been in a very languid state, many of the old companies have ceased work, notably the Phoenix, Rushworth, Balaclava Hill, Whroo, Goe-Carr, Coy's Diggings. Crown Cross Co. has nearly completed the erection of powerful crushing plant.¹⁶⁸

159 Mining Surveyors' Reports, September 1887
160 Mining Surveyors' Reports, December 1887
161 Mining Surveyors' Reports, March 1888
162 Mining Surveyors' Reports, June 1888
163 Mining Surveyors' Reports, September 1888
164 Mining Surveyors' Reports, December 1888
165 Mining Surveyors' Reports, March 1889
166 Mining Surveyors' Reports, June 1889
167 Mining Surveyors' Reports, September 1889
168 Mining Surveyors' Reports, December 1889

- 1889:** In 1889, Rushworth had a population of nearly 700. In the same year, Whroo...had a population approaching 300 and Baillieston...a population of 165.¹⁶⁹
- 1853-90:** Miners' Rights numbered 9,048 up to the year of 1890 in the Rushworth Division.¹⁷⁰
- 1853-90:** During these years over 26 mines, plus many more smaller mining ventures, were worked in Rushworth, geographically roughly in the shape of a large circle from Nuggetty Hill in the east to Growlers Hill - the hill south of the township, slightly westward where the first reservoir was situated. Gold was found further west on Chinaman's Flat, on the track to Moora. Dunlop Hill in the north was a big mining venture and the site of the present town reservoir. The Hard Hills and Crown Cross Mines in the north-east and the Old Lead - an ancient creek bed which ran into Waranga Swamp (now Waranga Basin) in the east - were all rich in both alluvial and reef gold.¹⁷¹
- 1890: In 1890:** Surveys were made of the Waranga Lagoon, but work was not begun on this major storage basin until 1902, a year of record drought, because of the depression of the 1890s. The 4-1/2 mile long Waranga embankment, which provided a storage capacity of 201, 300-acre feet, was completed in 1909. It was enlarged in 1926 to a capacity of 333,400 acre feet ... The coincidence of the opening of the Murchison-Rushworth railway in 1890 enabled the Waranga area to further cushion the effects of the depression. This year saw the opening up of a large timber trade in sleepers, poles and firewood, including fuel for steam engines and locomotives. E.E. Hammond and Sons at Waranga Railways Station had nineteen men cutting in 1890... Taylor Bros had a big business at the Rushworth railway station, and contracts for sleepers and firewood. Cameron Bros and Darrochs continued to mill at Baillieston and Whroo... Brisbane Bros had a mill at the Whroo road siding.¹⁷²
- 1890:** It has been an unfortunate circumstance for this [Rushworth] district that its richest goldbearing reefs have been exceptionally wet below water-level, because the immense expense to be entailed by the erection of the necessary machinery has invariably caused a stoppage of operations. There has not been a flush of foreign capital so far here, and in several instances even the drippings secured have been injudiciously and indiscreetly expended - unfortunately, to the detriment of Rushworth.¹⁷³
- 1890-93:** In 1890, there had been something of a rush of poor farmers and labourers to Waranga for work on the Waranga Embankment, cancelled by the government in that year ... In 1893, the government agreed to clear the Waranga Swamp of timber to find work for the unemployed. Unfortunately, the swamp filled after heavy rain. However, nearly 100 married men were put under canvas in other areas, and 40 teams were constantly engaged under contract in 1893 carting the firewood they cut to Rushworth station.¹⁷⁴
- 1892:** Firewood from the Baillieston area was sent out by barge to Nagambie in 1892, as the roads were so bad, and there was little grass for the bullocks ... The wattle tanning-bark industry now also had an outlet, and provided a good deal of employment. The mallee eucalypts were stripped by W. Begg for his eucalyptus distillery, begun in 1892 at Rushworth.¹⁷⁵
- 1893:** The discovery by Patrick Hannan of the Western Australian fields in 1893 took many miners to that colony. Almost the entire male population of Whroo 'went west', and many Rushworth men...were lured to the west.¹⁷⁶
- March 1893:** New Industry at Rushworth. A license for a Eucalyptus oil manufacturing still at Paramatta Gully, was granted to Mr. William Begg.¹⁷⁷

169 Forster, 1965, p. 28

170 Hammond, 1978, p. 9

171 Hammond, 1978, p. 10

172 Forster, 1965, pp. 76, 83-5

173 'The Rushworth Gold Mines', 1918

174 Forster, 1965, p. 86

175 Forster, 1965, p. 85

176 Forster, 1965, pp. 88-9

177 Mclvor News, 13 April 1893

1896: There was a rush to the Murchison road in 1896, with about 200 diggers on the field, but finds were few.¹⁷⁸

178 Forster, 1965, p. 89

- 1896:** History of Rushworth Goldfield - The main features of the field are that there are two belts of reefs, one to the north, the other to the south of the township, and those have a generally easterly and westerly course ... but in one or two cases certain reefs deflect from that bearing to a northerly and southerly direction. The history of mining operations on these reefs shows that they were very rich, yields up to 50 ounces per ton being recorded, and large sums paid in dividends, but, with few exceptions, it does not appear that they were worked to a greater depth than 300 ft, and in most cases not more than 200 ft, the reasons being lack of reserve funds for deeper exploration, insufficient machinery to cope with the water, and lack of confidence in early days to provide the necessary plants ... The southern belt embraces the North and South Devon, Church Hill, Nuggetty, Specimen Hill, Cockatoo, Perseverance, Scrub, Growlers, Star of the West, Clausen's, and other lines or makes of quartz on the same lines ... The northern belt of reefs includes the Phoenix, Frenchman's Crown Cross, and several other reefs.¹⁷⁹
- 1898:** Cyanide works at Nuggetty handled 150,000 tons of 'tailings' from crushing batteries in three to four years, operated by Duncan and Noyes and Co., who employed 20 men. The assayer was Mr Coyne. The Tailings were from most of the mines in Rushworth. Later Bradfords operated a cyanide works.¹⁸⁰
- 1900: In 1900** Members of the Rushworth Mining Board, Messrs Lever, Morrissey, Mason, Spence and Potter, and Mr Crothers attended a mining deputation to ask the Minister of Mines to assist with finance to put down a shaft on Growlers Hill, to prospect a reef at the head of Biggin's Flat, to pick up the Old Lead towards the Waranga Basin, and to prospect the 'Last Chance' in Main Gully... The old Minister of Mines, Mr Outtrim had promised a Diamond Drill to Rushworth in 1894 to use in deep mining up to 1000 ft to 1500 ft. Rushworth had never been given government aid to help mining as that given to Dunolly and Stawell.¹⁸¹
- 1900:** There is a well designed and efficient cyanide works at Rushworth, treating the old tailings from the 'Perseverance' line of reef. Those works belong to Messrs Duncan Brothers and Noyes, and Mr Duncan very courteously showed me his plant, consisting of three 40-ft vats for leaching with store vats, sumps, charcoal filters and furnaces.¹⁸²
- January 1903:** Rushworth Gold Rush - at present 20 claims are being worked, 16 of which are now on gold. Gold ranges from 3 to 9 dwts per load, most being 4 or 5 dwts.¹⁸³
- 1903:** Baillieston -The Baillieston Co. obtained 325-1/2 oz from 1001 tons. The Welcome Stranger obtained 7 oz from 10 tons.¹⁸⁴
- 1904:** Baillieston Co. - fair amount of progressive work done during the year ... Baillieston - There are a few parties of working men engaged prospecting in this locality, but as they have not sufficient capital to prospect the deeper ground, no permanent results can be expected. Rushworth - Only five co-operative parties have been continuously at work during the past year in this portion of the district... It is to be regretted that not more attention is paid to this portion of the district by capitalists, as I think the probability of gold being obtained in the deeper ground are very great, as past records show that the shallow workings have been fairly rich. 1904: Whroo - Mining here has also been confined to small co-operative parties consisting of working men, and as a natural result, it is of a very intermittent character.¹⁸⁵
- 1905:** Only one registered company at work in this division, viz. the Nine-Mile Hydraulic Sluicing Company, whose operations as yet are only in the experimental stage. Apart from this company, the mining in the entire division is in the hands of a few small parties.¹⁸⁶
- 1906:** Locality is entirely in the hands of small parties, some make good wages, and others earn only a bare subsistence.¹⁸⁷

179 Murray, 1896
 180 Hammond, 1978, p.
 181 Hammond, 1978, p. 21
 182 Jenkins, 1900, p. 6
 183 Mclvor Times, 22 January 1903
 184 Mining Surveyors' Annual Reports, 1903
 185 Mining Surveyors' Annual Reports, 1904
 186 Mining Surveyors' Annual Reports, 1905

- 1910:** This goldfield is in the hands of small co-operative parties, of whom only one has succeeded in averaging more than wages. At Whroo only prospecting is going on, which has been confined to shallow quartz workings above water level, with indifferent success.¹⁸⁸
- 1911:** Goldfield in the hands of a few prospectors working co-operatively.¹⁸⁹
- 1913:** Mining confined to small parties who are at work in shallow ground.¹⁹⁰
- 1935:** Rushworth - Mayron and party are operating on flat makes of quartz close to Rushworth, and get out occasional crushings which return them almost wages. The Lucky Penny Syndicate has unearthed a new slide formation one mile east of Rushworth. The quartz is about 12 in. thick and the first crushing of 16 tons returned 71 oz. The Regular Bachelor Syndicate is working on a very small reef from an 80-ft shaft on the Frenchman's line. Operations to date have not been payable. Two parties of two men each are prospecting in the Whroo district, with no payable results to date. Small cyanide plants are operating at Rutherglen, Chiltern, Harrietville, and Whroo with fair results.¹⁹¹
- 1941:** Owing to the war-time conditions and the shortage of labour and materials, the outlook for the future is not bright and present indications point to several more mines closing at an early date.¹⁹²
- 1942:** Bendigo District - All cyanide plants have ceased operations.¹⁹³
- 1978:** Whroo - Nothing remains but the deep open-cut mine, 80 feet deep and nearly as wide...the sad cemetery, the aboriginal water hole...fruit trees...remains of house fences, water wells, and trees obviously planted by man.¹⁹⁴

187 Mining Surveyors' Annual Reports, 1906
 188 Mining Surveyors' Annual Reports, 1910
 189 Mining Surveyors' Annual Reports, 1911
 190 Mining Surveyors' Annual Reports, 1913
 191 Mining Surveyors' Annual Reports, 1935
 192 Department of Mines Annual Report, 1941
 193 Department of Mines Annual Report, 1940
 194 Hammond, 1978, p. 120