SITE NO. & NAME:	RED HILL SITES530Dump of Sluicing Pipes53.1Sluice Head and Dump of Sluicing Pipe53.2Sluiced Hill53.3Stone Structure53.4Stone Cairns and House Sites53.5House Site53.6Sluiced Hill53.7Sluice Head53.8Sluice Head53.9Sluicing Paddock53.10Sluice Head53.11Dump of Sluicing Pipe53.12House Site53.13Stone Cairn53.14House Site53.15Red Knob (Sluiced Hill)
LOCATION:	Red Hill
DIRECTIONS:	Fryerstown to Campbells Creek main road. Take the dirt track that heads south from the main road to Murdering Flat.
<i>MAP/GRID REFERENCE:</i>	Site 53.0 to 53.2: Guildford 1:25,000 - 532.853 Site 53.3 and 53.4: Guildford 1:25,000 - 534.852 Site 53.5: Guildford 1:25,000 - 537.853 Site 53.6: Guildford 1:25,000 - 539.851 Site 53.7 and 53.8: Guildford 1:25,000 - 535.849 Site 53.9: Guildford 1:25,000 - 537.848 Site 53.10: Guildford 1:25,000 - 539.848 Site 53.11: Guildford 1:25,000 - 539.849 53.12: Guildford 1:25,000 - 540.848 53.13: Guildford 1:25,000 - 540.848 53.14; Guildford 1:25,000 - 538.851 53.15: Guildford 1:25,000 - 530.840
PARCEL NUMBER:	P124013
MUNICIPALITY	Newstead
LAND STATUS:	Unreserved Crown Land/proposed Castlemaine Historic Reserve
EXISTING HERITAGE CLAS	SSIFICATION: None

22 June 1855: Since...last week, there has been a slight rush to the old Red Hill, opposite Sullivan's Welcome Inn. A number of diggers are at work, and are reported to be doing well. Although the hill was partially worked out some two or three years ago, it appears there is still plenty of gold left. i

30 Nov 1855: The new rush at New Year's Flat is turning out well, the old ground from the flat to the junction being very remunerative. ⁱⁱ

22 Feb 1856: New Year's Flat continues to bear well. iii

21 March 1856: The diggings in New Year's Flat and Spring Flat and Gully still maintain a large population. iv

June 1859: 10 puddling machines in New Year's Flat & Vaughan; 70 non-Chinese puddlers working Chok'em & New Year's Flats; 28 Chinese puddlers working New Year's Flat; 50 non-Chinese engaged in ordinary mining on Chok'em & New Year's Flats; and 282 Chinese engaged in ordinary mining on New Year's Flat, ^v

June 1859: 20 puddling machines in Red Hill & neighbourhood, operated by 90 non-Chinese; 110 non-Chinese engaged in ordinary mining in Red Hill and neighbourhood. ^{vi}

March 1865: Mining population of New Year's Flat and Bald Hill: 218. vii

Dec 1865: Although there are hundreds of acres of auriferous hills in this locality that will pay for being sluiced, no attempt has been made to bring water to bear on the ground referred to. A scheme is now on the *topis* propounded by Messrs. Wardle and Amos, which is in my opinion practicable, if the money can be obtained to carry on the works. The persons referred to contemplate taking their supply from the river Loddon, in the vicinity of Holcombe, and bringing it by a contour race to the heads of the various gullies at Fryer's Creek. They do not propose to dam the river, but to divert as much water as the race will carry while the river is running. As this stream runs, on the average, only for seven or eight months in the year, it will be for that period only that the sluicers will be enabled to work. While the water lasts, they contemplate both night and day work, ^{viii}

1865-70: the story of the water race began in 1865. Trial surveys from either end set the pattern, and it was intended that the race should cross the saddle at ground level, but Mr Mark Amos, who surveyed the race, did not allow for human frailty. In the cutting of the race a lot of level was lost so that the tunnel [Rocky Gully, near Ridge Road] had to be tunnelled through at this depth to reach the main sphere of usage for the water on the north side of the range.

The race is 12 miles 26.8 chains long and cut with a fall of eight feet to the mile. It would have an elevation of about 250 feet above the Loddon Valley at Vaughan. At its upper end it takes water from the river just below the Kangaroo Creek junction, not so very far north of the township of Glenlyon. There are eleven flumings over valleys, including two over the river in the first mile. The total length of the flumings is about half a mile...

The flumings have 18 inch diameter pipes at the top half, and 16 this end. On this side of the range there is a smaller race cut through to Vaughan, about three miles in length, and also a small shorter race cut below the main race, to Glenluce. It is interesting to see how the race builders...used rock walling here and searched out every barrow-load of adjacent clay for the banks of the race. There was a small bank thrown across Rocky Gully to divert water into the Vaughan race. Formerly it held six or seven feet of water...

In 1865-70 these valleys [heading south to Glenluce Springs], eleven in number, were crossed by pinewood boxing, or fluming, supported by trestle bridging... Some of the bridging at the far end of the race was eighty or ninety feet high in places. ^{ix}

March 1866: In quartz mining there has been considerable briskness; quite a new feature has presented itself in this branch of industry; Chinese are, for the first time in this locality, engaged in quartz mining. A Chinaman at New Year's Flat, named Ti Pang, uncovered a strong lode while working the alluvial soil; gold being visible in small quantities, the Chinaman immediately secured a quartz claim, and a trial crushing has yielded 1 oz. 16 dwts. to four tons of stone. There are ten Chinese working in this and the adjoining claims on the reef. I fear, however that their efforts will be useless, from their want of experience in working quartz rock. x

Dec 1866: The race which was being constructed by Messrs. Wardle and Amos, to bring water from the Upper Loddon to a portion of the Fryers Creek gold field, is at a stand still. It appears that there is a want of funds to carry on the enterprise. If this work had been vigorously carried out, the company would undoubtedly have received a dividend by this. ^{xi}

1866: Parties reporting yields from quartz crushings in 1866: Ti Pang. xii

June 1869: The Red Hill Company hold about 1,200 feet along supposed line of reef, south of the No Surrender Company [Windlass Flat]. This company consists at present of thirty shareholders, who...contribute weekly to the prospecting of the ground held by them. A shaft of dimensions above the ordinary prospecting was commenced sinking a fortnight back upon the Red Hill, and is now down 22 feet, being well timbered ...It may be worthy remark, that of the No Surrender and Red Hill Companies, the greater number of shares are held by tradesmen and working men in the immediate locality, many of whom were not known previously to evince an interest and faith in the quartz mines of the neighborhood. ^{xiii}

Dec 1970: The Diver Ledden and Tributaries Water Sumply Company have completed their main and come bron

Dec 1870: The River Loddon and Tributaries Water Supply Company have completed their main and some branch races, and the entire scheme is nearly carried out. The supply of water at the present time (December 31st) from the Loddon source is from 10 to 12 heads, allowing 3 to 4 sluice heads to run free at the point of divergence, viz., the head of the main race, Rae's Hill. The whole work has been completed in a very satisfactory manner, the fluming being especially well constructed.

It is now five years since the scheme was first projected, and at that time under discouraging circumstances, owing to insufficient capital and lack of proper engineering supervision.

The present company have succeeded in initiating a system very much needed in this district, and which will in the end prove a great boon to the miners who have still to depend upon the old alluvial workings for the means of subsistence.

With the commencement of the new year it is expected that many parties will be fully in work, so in the next quarter's report I may be enabled to give results: at present it would be premature to hazard any opinion, as in a few months experiment will have

been tried as to whether ground sluicing can be made remunerative in workings long abandoned. xiv

March 1871: The introduction of water to many of our old rich hills in the neighborhood of Nuggety Gully and Sullivan's Hill has led to sluicing being adopted generally, in lieu of puddling ordinarily; but I do not think the ground has proved so remunerative as expected... The company are now about cutting a branch race to the Bald Hill, [10]

June 1871: Puddling, -...Very little is now being done in this branch of mining, many of our oldest puddlers have adopted sluicing, and others directed their attention and labors to quartz mining... ere long this system of mining will cease to exist. Sluicing. - Sluicing operations...have been carried on to a considerable extent, but returns therefrom have not generally been considered sufficiently remunerative...

It must not, however, be inferred that our ground for sluicing purposes is of inferior quality, but that the price of water is too much to leave a fair rate of current wages for the miner...

Quartz Mining. - The returns from our quartz workings are far greater than hitherto...

The different rates charged for one sluice-head of water (20 square inches) per week are as follows:-

Heron's Hill, &c., near Glenluce	£4 10 0	
Bald Hill, &c., near Vaughan	£ 600	
Irishtown, Turk's Hill, Red Hill, &c., in the		
neighborhood of Nuggety Gully and the		
Welsh Mount	£ 500	
Supplied by the River Loddon Water Supply Company . xv		

Sept 1871: Of sluicing operations I am glad to say ... the River Loddon and Tributaries Company have, at this time, a demand for more water or sluice-heads than they can supply; hence proving that water for sluicing-purposes is valuable.

The company are now letting 14 heads of water, at prices ranging from £4 to £6 per week - in the aggregate returning £68 10s. Seventy men are employed. Seven more sluice-heads are applied for.

During the past quarter the race has been extended to the Bald Hill, near Vaughan, and as the majority offhose employed seem satisfied with their returns, it is anticipated that an extension of the race would afford profitable employment to miners and an equal benefit to the company...

Charges for one sluice-head of water	Loddon Company		
Heron's Hill, and near Glenluce	£400		
Bald Hill, near Vaughan	600		
Belle Vue Hotel locality		500	[10]

Dec 1871: The Loddon Water Supply Company have been very fortunate in the number of sluice-heads they have been enabled to supply, and a great portion of the Bald Hill, Vaughan, and other hills in the vicinity, have been reduced under this system of mining. The returns are considered remunerative.

This mining property will eventually prove highly valuable to the mining community, and equally satisfactory to the proprietary, when operations are still further extended...

Bald Hill. - Ten heads used, at £6 per head per 24 hours

Belle Vue and neighborhood of Welsh Mount. - Ten heads used, at £5 per head per 24 hours

There is a demand for more heads. xvi

March 1872: Loddon Sluicing and Water Supply Company charges for sluice-heads of water £1 and £5 per head. From three to five heads have been available since Christmas. xvii

June 1872: Sluice-heads Loddon Company, Vaughan and Glenluce:-1 Head, per week £3 10s £6 10s 2 Heads, per week £9 xviii 3 Heads, per week

Sept 1872: Water Supply - Charges for sluice-heads:- 1. River Loddon Water Supply Company, 14 heads supplied, 24 hours per day; one head, £3 10s; two heads, £6 10s.; three heads, £9. xix

March 1874: A company are erecting a water-wheel at the foot of the Red Hill, Chokem Flat, to drive a small battery to reduce the cement upon that hill and the Welsh Mount; they contemplate obtaining water from Fryers Creek in the winter months generally, and from the River Loddon and Tributaries Company when the creek fails them. ^{xx}

June 1874: Water Power for Crushing Cement. - Messrs. Broad and Company have recently erected a 20-foot overshot waterwheel. They are using four heads of water from the Loddon Company, and driving 10 heads of stamps, thus re-working a block of ground which would otherwise be considered useless. They are crushing cement taken from the Old Red Hill, Chokem Flat

(famed in the early days for its rich alluvial deposits). xxi

Sept 1875: The Loddon Water Supply Co. at the present time are supplying a good number of men engaged in sluicing, but their charges have always been considered exorbitant, and not regulated according to the quality of the ground or the means of the miners; a reduction in the charges would be instrumental in causing a larger area of ground being taken up, and worked to advantage, by a class of miners who would be satisfied with reasonable wages. ^{xxii}

Sept 1876: The Loddon Sluicing Company continue to supply a limited number of European miners, but the supply of water for sluicing purposes has not been sufficient to pay the company for some time past; it is considered that too high a price has been charged for sluice-heads, considering the comparative poverty of the soil operated on. ^{xxiii}

late 1870s: Unfortunately for the first Loddon River Co., the Coliban water came into the head of the Fryer's Creek at about the same time as their water reached here, thereby depriving them of many potential customers. ^{xxiv}

Sept 1878: Sale and Cost of Water, &c. - The Loddon Sluicing and W.S. Company. - NOTE. - the Company have sublet the race and water rights to R.P. Addley at a rental of £100 per annum, the works to be kept in a reasonable state of repair...

Sale of water for the quarter ended 30th June, 1878:-

	460 heads at 4s. 2d. per head	£95 16s.
	Sundry odd heads, &c., say	£4 4s.
Expenses during of	quarter:-	
	Rent	£25
	Wages, including lessee	£78
	Repairs	£6

The water is used day and night (24 hours) and a head is reckoned - 100,000 gallons. [10]

Sept 1878: Sale and Cost of Water, &c. - The Loddon Sluicing and W.S. Company. - NOTE. - the Company have sublet the race and water rights to R.P. Addley at a rental of $\pounds 100$ per annum, the works to be kept in a reasonable state of repair. ^{xxv}

Dec 1876: Parties puddling or sluicing: Riddle and Co., New Year's Flat; Brewer and Co., New Year's Flat; Stephens and Co., New Year's Flat; Williams and Co., New Year's Flat; and Trethewey and Co., New Year's Flat. ^{xxvi}

Sept 1878: Sale and Cost of Water, &c. - The Loddon Sluicing and W.S. Company. - NOTE. - the Company have sublet the race and water rights to R.P. Addley at a rental of $\pounds 100$ per annum, the works to be kept in a reasonable state of repair. [10]

March 1879: The Loddon Company's race has ceased running for some time, and the dry weather has seriously affected the fluming, which stands much in need of repair, but the company have no particular reason to incur extra expenses, as the dividends have been very small and far between... No water sold during the quarter. ^{xxvii}

Dec 1879: there is now some likelihood of Middleton's Reef, Vaughan, being taken up and re-worked, also an old line of reef intersecting New Year's Flat... Mr Edhouse, lately a resident of the Bald Hill, Vaughan, is about introducing capital into the district, having great faith in the auriferous character of certain special localities. ^{xxviii}

Dec 1880: Chokem and New Year's Flats continue to give fair returns to the various puddling machines engaged. xxix

n.d.: Tretheway and party, New Year's Flat, 10 feet from surface, had a crushing of 16 tons for 6oz. xxx

Sept 1889: a party of seven or eight Chinamen [are] working the old ground at the head of Spring Flat... There are two or three other parties doing moderately well in the neighbourhood of Church's Flat and New Year's Flat. ^{xxxi}

1906-7: The race was...re-opened in 1906-7, again lapsed... At one time, during the second lifetime of the race, both Loddon and Coliban waters were delivered here, to be measured out from either end of the tunnel, as though it were a mixing dam. ^{xxxii}

1937: The race was...re-opened in 1937. On this occasion it was a co-operative venture by several groups of alluvial miners, eleven altogether, my father, brother and myself [Ray Bradfield] among them. We had government assistance after a long campaign of pressurisation...

Bushfires had burnt out nearly all [the fluming] before 1937, when we put in these pipelines for the first time (my father and I relaid these lines again after the last war). Here at Salters one lone leg still stood on that far side, and we cut off the top half of that to make a supporting set from them both. Here and there are still some bits of the old timbers, mostly old bed plates used in the old sets. ^{xxxiii}

September 1953: Bradfield Sluicing, Vaughan. This plant was mostly idle owing to lack of water. Sludge dams have been built up and sluicing has recommenced, fair results being expected whilst water is available.^{xxxiv}

March 1954: Bradfield's Sluicing, Vaughan. Intermittent sluicing, whilst water was available, yielded a total of 57 fine oz. XXXV

c. 1980s One can easily make out the ends of the fluming across Sailors Gully, for Peter Moyles race. What is not now apparent, is that at one time, a pipeline was swung across the river from the Bald Hill opposite, to this side, Water was then being delivered to the sluicers on Bald Hill from the Loddon-Fryers water race...

If we cross the dam [in Oven Gully} and take the little gully on the other side, which also has a dam bank across it, and ascend, we will find a well-defined road just below the ridge. We have to turn right (south)... as we pass through the low saddle, the water race on the left of the road was one used to bring the dredge feed-water into the Oven gully dam. That was water from the Loddon-Fryers system, and later on, we will see the other end of the channel. It was brought to the crown of an open, basalt-crowned hill near Glenluce spring, and crossed the Loddon valley in what must have been a long, deep invert syphon of piping.

On this side, the outfall was about a half a mile or so north of this saddle. xxxvi

c. 1980s [Tunnel at Rocky Gully, off Ridge Road, Irishtown] It is 618 feet long and cut in a fairly easily workable green slate. There is a slight bend halfway... the story of the water race began in 1865. Trial surveys from either end set the pattern, and it was intended that the race should cross the saddle at ground level, but Mr Mark Amos, who surveyed the race, did not allow for human frailty. In the cutting of the race a lot of level was lost so that the tunnel had to be tunnelled through at this depth to reach the main sphere of usage for the water on the north side of the range.

The race is 12 miles 26.8 chains long and cut with a fall of eight feet to the mile. It would have an elevation of about 250 feet above the Loddon Valley at Vaughan. At its upper end it takes water from the river just below the Kangaroo Creek junction, not so very far north of the township of Glenlyon. There are eleven flumings over valleys, including two over the river in the first mile. The total length of the flumings is about half a mile...

The flumings have 18 inch diameter pipes at the top half, and 16 this end. On this side of the range there is a smaller race cut through to Vaughan, about three miles in length, and also a small shorter race cut below the main race, to Glenluce. It is interesting to see how the race builders of over a hundred years ago used rock walling here and searched out every barrow-load of adjacent clay for the banks of the race. There was a small bank thrown across Rocky Gully to divert water into the Vaughan race. Formerly it held six or seven feet of water...

...the outfall end of the tunnel. This is the head of Devils Gully, and one can see the Coliban Race on the right, which formerly brought the water from Fryers, and the Irishtown race heading westward...

We take the Ridge Road again, climbing higher... we leave the Ridge Road at the dam by the roadside [Hunter's Road]... We travel down this branch of Salters Creek... After a half mile or so, we leave this track, the turn-off being marked by...blaze marks on our right. We go right down into the gully, or close to it, before turning uphill again, and then southward again. Presently we park the cars and walk down the hill to have a look at Salters Flume. The pipes are still in place, although the supporting timbers are rotting...

In 1865-70 these valleys, eleven in number, were crossed by pinewood boxing, or fluming, supported by trestle bridging. Bushfires had burnt out nearly all of this before 1937, when we put in these pipelines for the first time (my father and I relaid these lines again after the last war). Here at Salters one lone leg still stood on that far side, and we cut off the top half of that to make a supporting set from them both. Here and there are still some bits of the old timbers, mostly old bed plates used in the old sets. Some of the bridging at the far end of the race was eighty or ninety feet high in places.

Retuning up the slope to the cars, we soon come to the point, not far from the open paddocks where we turn eastwards again, down off this ridge. Turn-off is indicated by...blaze marks. Soon we rejoin Hunters Road again... Soon we cross Stony Creek, and then turn right on an old track. This will take us past the Stony Flume on our right, xxxvii

DESCRIPTION

Red Hill and neighbourhood appear to have been worked by alluvial miners from the mid- to late 1850s, and by quartz miners in the 1870s.

The sluicing landscape - massive holes and piles of stacked rocks, numerous dams, and slopes stripped of soil - would date from the mid-1870s, when the River Loddon and Tributaries Water Supply Co. first supplied water to this region, by water race. The gullies were hydraulically sluiced in the early stages of this century, the last work in the area being done by Ray Bradfield in the 1940s. The pipe found in the various dumps probably relates to Ray Bradfield's final sluicing operations. The various stone fireplaces, and stone cairns, appear to pre-date the hydraulic phase of sluicing, so probably represent later 19th-century occupation by miners and sluicers. The stone cairns are probably boundary markers for different claims.

Site 53.0 - Site consists of a dump of sluicing pipe and large earthern dam. The dam's earthen wall is approx. 60m across and about 1.5m high. A by-pass is situated on the southern end. Up the slope, 35m E of the dam is a dump, containing eight sections of iron pipe, all about 7m in length and of the overlapping, rivetted type. The pipes have two different diameters - 37cm (15") and 51cm (20"). The majority of pipes present are of the smaller diameter. All the pipe is in poor condition, very rusty and corroded. The dump of pipe is on a hillside which has been completely stripped of soil by sluicing. In some places, especially on the higher ground, the hill slope still bears the traces of numerous water races and smaller channels.

Site 53.1 - Two hundred metres E of Site 53.0 is a second dump of iron pipe, together with a water race and sluice-head. The remains are located on the SE margin of Red Hill.

A water race comes in from the E to meet a sluice-head, shaped like a big 7. The sluice-head is an earthen embankment, approx 18m long, which is faced on the inside with stone. A tree obscures the actual take-off point. A channel runs W from the take-off point, and 60m along the channel is a large dump of sluicing pipe. This dump covers an area of about 30m x 6m and contains about 12 sections of pipe, in 7m lengths. There are two different types and sizes of pipe present: all of the large sections of pipe are of the rivetted-overlapping type with a diameter of 51cm (20"); several smaller sections (about 3m in length) of a rivetted-panel type have a diameter around 70cm (27").

Site 53.2 - The bulk of this alluvial ridge, part of Red Hill, has been quarried and sluiced away. The large excavation would contain thousands of tons of stacked stones. The slopes on all sides of the ridge have been sluiced, in places down to bedrock, and contain a network of water channels and small dams.

Site 53.3 - 160m NE of Site 53.2, on the W side of a gully that drains W, is a stone structure. The middle of the structure has been either sluiced or eroded away. Its overall dimensions would have been 10.5m long by about 2.6m. A semi-circular fireplace, or perhaps small stack, protrudes 1.2m from the S corner of the building. Walls of the building are stone and clay mortar, well-built with faced stone. They measure 40cm thick and in several places still stand to a height of 1m. No bricks were observable.

Site 53.4 - A small gully to the E of the Site 53.3 drains to the W. This gully has been deeply sluiced, to a depth of more than 10m. The sheer sides are very impressive. On the N side of this gully, on the summit of a ridge, are two stone cairns. Both are triangular at the base (each side measuring 1.5m) and come to a point about 1.1m above the ground. They are difficult to spot because of dense scrubby growth (mainly coffee bush). The cairns are situated in an area which has not been sluiced to bedrock and are surrounded by numeous piles of stone.

One hundred metres W of the stone cairns, on the S side of the next gully, are some more stone structures. The visible remains consist of twin fireplaces, 2m apart, both facing N. They are well-built, of stone faced on both sides, and their external measurements are 1.7m x 1.10m. Walls are 40cm thick. Both structures have small not-so-well-built compartments attached. The northern fireplace stands to a height of 1.7m; the other to a height of 1.3m.

Seven metres NE of the northern fireplace is another stone building. It is U-shaped and has no E wall, and its external measurements are 2.6m x 2.8m. Walls are 50cm thick and still stand to a height of 1m, but they are not as well built as the twin fireplaces.

Site 53.5 - On the opposite of the gully to Site 53.4 are the remains of a small house site. The 30cm-thick walls of the small stone house survive only as an outline (4.5m x 2.5m) and rubble. The fireplace is well-built of stone faced on both sides, and still stands to a height of 70cm. Some red brick fragments are present. All are of handmade bricks. One fragment measures 11cm wide and 7 cm thick, and has a wide rectangular frog on one face, approx. 12cm long, 4cm wide and 1.5cm deep. The gully between this site and Site 53.4 has been sluiced to a depth of about 10m for most of its length.

Site 53.6 - Located on the S side of the Fryerstown-Campbells Creek main road, and N of Red Hill. Like the neighbouring Red Hill, Sullivan's Hill has largely been quarried and sluiced away. The slopes on all sides have been sluiced and contain a network of water channels and dams.

Located on the N side of a large excavation is a sluice head consisting of a small section of stone and earth wall through which pokes a section of galvanized pipe (9" diam).

On the W side of the same large excavation are some very deep, narrow gutters. The longest of these is 80cm wide and has a maximum depth of 2.10m. It runs 30 m W to a gully.

Thirty metres NW of the long gutter is a stone cairn, situated on the line of the reef and surrounded by numerous piles of stone. It has a triangular base (sides 1.5m long) and comes to a point 1.1m above the ground. Difficult to spot, due to dense cover of coffee bush.

Site 53.7 - At the heads of two deeply sluiced gullies are two long earthern embankments linked to a water race. Both embankments curve around a hill slope forming dam-like features. The lower embankment is about 100m long, and its wall stands about 1.5m high. A sluice-head is located at the mid point of the embankment, which directs water to the W. The sluice-head still has its wooden valve, consisting of a set of legs (bush timber) standing 3.8m high.

Site 53.8 - 60m E of Site 53.7 is a sluice head. This building is located at the bottom of a hill on which are located an open-cut and at least one shaft. The 1m-thick earthen walls have both outer and inner facings of stone. The structure is oval in shape, measuring $7.5m \times 4.6m$. The entrance appears to have been at the S end, and the rear end has been washed away. Running past the structure is a water race.

Site 53.9 - 100m E of Site 53.8 is a sluicing paddock, near the head of an large gully. The paddock measures about 100m long, 50m wide and 15 deep. The tailing heap still survives. There is a section of sluicing pipe protruding from the W corner of the tailing heap.

Site 53.10 - 140 m E of the sluicing paddock is a sluice head consisting of a curved earthen embankment and a galvanized iron outlet pipe (10" diam).

Site 53.11 - 200 m N of Site 53.10 is a dump of sluicing pipe, running E-W. The bulk of the sluicing pipe present is of the rivetted-panel type. There are three sections of pipe (ranging from 3m to 6m in length) at the E end of the dump, with two different diameter measurements - 60cm (24") and 70cm (28"). In the middle of the dump are nine sections (about 3m-4m in length). There is also one small section of the rivetted-overlapping type pipe.

Site 53.12 - 150m SE of Site 53.11 are two stone structures. The northern structure consists of a small section of wall standing to a height of 70cm. The southern structure consists of the ground-level outline of a single room, and the partial remains of a fireplace. The room would have measured 3.6m long by 2.50 wide. Walls are 30 cm thick. The fireplace protrudes from the E corner about 70cm., is about 1.3m wide and stands to a height of 70cm.

Site 53.13 - 100m E of Site 53.11 is a stone cairn. This cairn is located on a hillslope which has been sluiced to bedrock. The cairn is roughly 1m square at the base and stands to a height of 90cm. About eight distict mounds of rock surround the cairn. These mounds stand to a height of about 40cm, and range from small circles of stone (e.g. 90cm diameter) to long rectangular mounds (e.g. $2.2\text{m} \times 1.4\text{m}$ wide).

Site 53.14 - 250m NW of cairn, on the E side of a gully, are the remains of a stone building. Only a small section of curving wall and a spread of rubble survive.

Site 53.15 - On north side of Fryerstown-Vaughan road, just before Vaughan, is the sluiced landmark known as Red Knob. This resulted from the sluicing activities of Ray Bradfield, in the 1940s. The poplar trees in the valley near Red Knob were planted by Bradfield after he finished sluicing of the area.

PHOTOS:	Black and White
ARTEFACTS:	Domestic rubbish exposed by treasure hunters and sluicing pipes etc.
INTEGRITY/CONDITION:	Good
THREATS:	
CULTURAL SIGNIFICANCE	
The site has:	
Scientific Significance	- The Red Hill sites hold scientific value in respect that they represent a particular process developed to overcome the persistent problem on these goldfields of periodical water shortages. The sites cover an approximate area of 1.75km x 1.5km
Cumulative Value	- The Red Hill network of sites are associated with the mining of cemented gravels or conglomerates. This type of mining played an important part of the early history of the Central Victorian goldfields, but today physical evidence is rare due to the obliteration

of workings by gravel quarrying operations. The Red Hill landscape (Sites 53.0 to 53.15), unscathed as yet by gravel quarrying, is one of the few places left in Central Victoria where visitors can see the nature and effects of cement mining. The heritage value of Red Hill is enhanced by the survival of the River Loddon water race (site 54) which was constructed in the 1870s to provide water for sluicing the gravel-capped hills and auriferous hillslopes and gullies.

Significance ranking: Nat

National Estate

CONSERVATION POLICY:

Significance of the place comes from its intactness and comprehensiveness. The significance is enhanced by the survival of the water race constructed by the River Loddon and Tributaries Water Supply Company.

RECOMMENDATIONS FOR IMPLEMENTATION:

All sites be protected and the newtork (Sites 53.0 to 53.15, 54 and 119) nominated for the National Estate. Comprehensive archaeological survey conducted to establish the true extent of sites associated with the water race.

Mount Alexander Mail, p2 ii Mount Alexander Mail, p2 iii Mount Alexander Mail, p4 iv Mount Alexander Mail, p5 Mining Surveyors' monthly reports, Castlemaine and Fryer's Creek Divisions Mining Surveyors' monthly reports, Castlemaine and Fryer's Creek Divisions vi vii Mining Surveyors' monthly reports, Castlemaine and Fryer's Creek Divisions Mining Surveyors' guarterly reports, Castlemaine and Fryer's Creek Divisions viii Bradfield, R.A. n.d. (c. early 1980s) Excursion to Salter's Creek' (unpublished notes) ix Mining Surveyors' guarterly reports, Castlemaine and Fryer's Creek Divisions х Mining Surveyors' quarterly reports, Castlemaine and Fryer's Creek Divisions xi xii Mining Surveyors' quarterly reports, Castlemaine and Fryer's Creek Divisions Mining Surveyors' guarterly reports, Castlemaine and Fryer's Creek Divisions xiii Mining Surveyors' quarterly reports, Castlemaine and Fryer's Creek Divisions xiv Mining Surveyors' quarterly reports, Castlemaine and Fryer's Creek Divisions xv Mining Surveyors' quarterly reports, Castlemaine and Fryer's Creek Divisions xvi Mining Surveyors' quarterly reports, Castlemaine and Fryer's Creek Divisions xvii Mining Surveyors' quarterly reports, Castlemaine and Fryer's Creek Divisions xviii Mining Surveyors' quarterly reports, Castlemaine and Fryer's Creek Divisions xix Mining Surveyors' guarterly reports, Castlemaine and Fryer's Creek Divisions xx Mining Surveyors' guarterly reports, Castlemaine and Fryer's Creek Divisions xxi xxii Mining Surveyors' quarterly reports, Castlemaine and Fryer's Creek Divisions Mining Surveyors' quarterly reports, Castlemaine and Fryer's Creek Divisions xxiii Mining Surveyors' quarterly reports, Castlemaine and Fryer's Creek Divisions xxiv Mining Surveyors' quarterly reports, Castlemaine and Fryer's Creek Divisions xxv xxvi Mining Surveyors' quarterly reports, Castlemaine and Fryer's Creek Divisions Mining Surveyors' quarterly reports, Castlemaine and Fryer's Creek Divisions xxvii Mining Surveyors' guarterly reports, Castlemaine and Fryer's Creek Divisions xxviii xxix Mining Surveyors' quarterly reports, Castlemaine and Fryer's Creek Divisions Mining Surveyors' quarterly reports, Castlemaine and Fryer's Creek Divisions, March 1889 XXX Mining Surveyors' guarterly reports, Castlemaine and Fryer's Creek Divisions xxxi xxxii Bradfield, R.A. n.d. (c. early 1980s) Excursion to Salter's Creek' (unpublished notes) Bradfield, R.A. n.d. (c. early 1980s) Excursion to Salter's Creek' (unpublished notes) xxxiii

^{xxxiv} Mining and Geological Journal, September 1953, p43&45

- ^{xxxv} Mining and Geological Journal, March 1954, p50
- ^{xxxvi} Bradfield, R.A. n.d. (c. early 1980s) 'A Bush Walk from Vaughan Springs' (unpublished notes)
- xxxvii Bradfield, R.A. n.d. (c. early 1980s) Excursion to Salter's Creek' (unpublished notes)