Historic Heritage Survey:

Horseshoe Bend

Gold Mining Area

THOMSON RIVER
VICTORIA

5 OCTOBER 2010
Historic Heritage Survey: Horseshoe Bend Gold Mining Area, Thomson River, Vic

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TABLE OF CONTENTS

Preface:
HI-RES AERIAL PHOTOGRAPHY ................................................................. p4
LOCALITY PLAN .................................................................................. 6

1. INTRODUCTION ...................................................................................... 7
2. SUMMARY HISTORY ............................................................................. 11
3. DESCRIPTION & SITE DETAILS .......................................................... 15
4. ANALYSIS OF FEATURES .................................................................... 35
5. CULTURAL HERITAGE SIGNIFICANCE ............................................ 41
6. SOURCES & BIBLIOGRAPHY .............................................................. 43

APPENDIX 1 – TENEMENT DETAILS...................................................... 45
APPENDIX 2 – PROPERTY DETAILS........................................................ 49

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1. INTRODUCTION

1.1 BACKGROUND

Horseshoe Bend is located on the Thomson River 4 km southwest of Walhalla. The area became a focus for alluvial gold mining after rich quartz gold was discovered at Walhalla in 1863. Alluvial mining was largely confined to sluicing slopes and banks of Thomson River and its tributaries. In 1886, the mining surveyor wrote: 'nearly all the beds in this division (which, by-the-bye, were never rich) have at some time or other been passed through the sluice-box'.

At the turn of the twentieth century the Thomson River Alluvial Gold & Tailings Recovery Company undertook works to divert the river by driving a tunnel through Stockriders Spur, at Horseshoe Bend. The work commenced in 1911 and once complete the river flowed through the tunnel, leaving the dry river bed to be sluiced for alluvial gold.

In 2002, the Horseshoe Bend diversion tunnel was added to the Victorian Heritage Register (H1990). At this time West Gippsland Catchment Management Authority (WGCMA) was exploring options to return the river to its original course in order to facilitate the migration of fish upstream. In 2005, the Heritage Council refused a permit application for WGCMA’s preferred option - the construction of a coffer dam across the tunnel’s entrance. WGCMA is again exploring options to facilitate the migration of additional fish species upstream of the tunnel which may include returning water to the original water course at Horseshoe Bend, and this has the potential to impact on the cultural heritage of the area.

1.2 PURPOSE & SCOPE

This archaeological survey was undertaken to assist WGCMA in:

- Undertaking a comprehensive risk assessment for any proposed river restoration options, and

The project involved gathering all available information on archaeological sites within the Horseshoe Bend corridor, identifying and recording existing and new sites, and making recommendations on the cultural heritage significance of sites.

1.3 KEY STAKEHOLDERS

Key stakeholders included but are not limited to:

- West Gippsland Catchment Management Authority (WGCMA) (the Authority) — the agency responsible for waterway and catchment management across the southeast corner of Victoria
- Heritage Victoria (HV) — the agency that administrates the Heritage Act 1995 that
provides for the listing, protection, and conservation of significant places, objects, and archaeological sites.

- Department of Sustainability and Environment (DSE) — the land manager who have constructed a walking track to the site and installed picnic tables.
- Baw Baw Shire Council — local government authority that controls the local heritage overlay
- The Friends of the Horseshoe Bend Tunnel — the key community champion group for the history and heritage of the tunnel.

1.4 STUDY AREA

The Study Area is defined in the Brief as the valley of Horseshoe Bend, especially the areas that may be impacted upon by all works related to access, storage and river restorations.

1.5 METHODOLOGY

The methodology for this project was relatively simple:

- The first stage was a meeting with West Gippsland CMA to discuss issues relating to scope of the project and definition of the study area, and to obtain contact details of local people and organisations that might be able to contribute useful site information to the study.

- A desk top search was then carried out, yielding information about the study area and its history, sufficient to provide an understanding of human activities in the Study Area in historic (post-contact) times. Comparative information was also gathered.

- Because the Study Area was large, a targeted plan of field work was prepared, and further
informed by input from stakeholders, particularly Terry Lowater of the Friends of the Horseshoe Bend Tunnel group. This group has spent considerable time combing the bushland around Horseshoe Bend for cultural heritage features and their freely-given advice and assistance was invaluable.

- The next stage involved undertaking field work. This began with a general reconnoitre of the Study Area to check that the targeted plan would adequately address the anticipated locations, followed by systematic recording of the sites using GPS, compass & tape (limited), photography, sketch plans, field notes and preliminary assessments. Co-ordinates derived from a hand-held GPS were the only practicable way of generating an overall site plan within the project budget and time constraints, but of course errors were compounded because of the deep, tight valley and thick vegetation.

- Site plans were then drafted, sufficient to create polygons on a dedicated cultural heritage layer on West Gippsland CMA’s GIS mapping system.

- All field work results were reviewed, and additional comparative and site history was obtained as necessary. A small amount of additional field work was carried out afterwards to address a few shortfalls in recording, and further investigate several areas.

- This report was then prepared, amalgamating all the available information and final significance assessments. The latter were done against the criteria adopted by the Heritage Council of Victoria. The thresholds applied in the assessment of places were „State Significance“ and „Local Significance“.

- The project finished with an upload of site information to Heritage Victoria’s Hermes database, under “HV Projects” > “Historic Heritage Survey: Horseshoe Bend Gold Mining Area”.

1.6 ACKNOWLEDGEMENTS

The following people and organisations are gratefully acknowledged for their valuable assistance to this project:

- Andy Gilham, Parks Victoria, Traralgon
- David Bannear, Regional Archaeology Advisor, Heritage Victoria
- David Stork, Environmental Water Resource Officer, West Gippsland CMA
- Friends of the Horseshoe Bend Tunnel group
- Greg Hollis, Baw Baw Shire
- Noel Lees, DSE, Erica
- Peter West, DSE, Traralgon
- Terry Lowater, Friends of the Horseshoe Bend Tunnel
- The Horseshoe Bend Consultative Committee

Acknowledgement of Country: In their rich culture, Indigenous Australians are intrinsically connected to the continent – including the area now known as Victoria. Through their cultural traditions, the Gunai - Kurnai identify the Walhalla area as their Traditional Country, and West Gippsland CMA recognises that the Horseshoe Bend area is part of Country of the Traditional Owners.
2. SUMMARY HISTORY

2.1 BACKGROUND HISTORY

The California gold rushes of 1849 provided the first demonstration at a global level of the liberating power of golden wealth on the ordinary working man, and it was not long before the colonial governments in Australia offered a reward for discoveries here. The first gold discovery in Australia was announced in New South Wales, but Edward Hargraves” find was quickly eclipsed by discoveries in the new colony of Victoria, triggering rushes that were the greatest the world had ever seen. The world came to the Victorian bush, transforming the struggling rural backwater into the most powerful and populous colony on the continent. Migration increased the population sevenfold between 1851 and 1861, and changed the face of regional Victoria, creating townships and overlaying infrastructure on what had previously been the lonely preserve of the squatters and the dwindling numbers of Aboriginal people whose culture was being inexorably destroyed. The gold rushes of Victoria rolled through all parts of the colony, giving the impression that the land was carpeted in gold, and that wealth could be picked up from the surface. This was far from the truth, although individual success did occur regularly as rich diggings were successively opened, and the world saw lumps of gold plucked from the Victorian earth in sizes that had no precedent in human experience.

The best of the shallow alluvial gold was worked out relatively quickly, and it was principally the opening of the quartz reefs that created a solid, capitalised industrial base that converted the tent settlements of the gold rushes into substantial, permanent townships. Walhalla was one of a succession of gold discoveries in the late 1850s and early 1860s as prospectors worked further into the vast mountain ranges of eastern Victoria. The alluvial gold found in the bottom of the tight valley by Ned Stringer in January 1863 had derived from the erosion of gold-bearing quartz reefs on the hillsides above, and with the example offered by so many earlier goldfields in Victoria, these reefs were opened rapidly.

The best of the many reefs discovered, Cohen’s Reef, achieved astonishing levels of production in the Long Tunnel and Long Tunnel Extended ground, the Long Tunnel going on to become the State’s highest gold producer historically with 815,569 ounces of gold and paying £1,283,400 in dividends. The combined production from the Long Tunnel and Long Tunnel Extended was 1,255,881 ounces, with over £2 million paid in dividends1. This level of success ensured on-going interest in gold in the area, and the Thomson River diggings continued to be worked from the first rush of early 1864, well into the twentieth century.

2.2 THE THOMSON RIVER IN THE 1800s (SUMMARY)

The history of the Horseshoe Bend diggings is unknown, but their story is wrapped in the general accounts of gold mining on the Thomson River. The diggings were mentioned in the Mining Surveyors”Reports of March 1864, following the first rush to the river in early 1864.2 The report was a good one, with numbers of miners increasing and good wages being made. In October of that year, Constable Michael Feely reported that the Thomson River miners were doing better than their Stringers Creek counterparts. He said they were a -

“…fine, respectable and agreeable lot of men and won’t allow strong drink among them.

2 Referred to in Gold in the Walhalla Region, Lloyd & Combes, 2010, p53.
They have nice gardens well cropped with vegetables on the bank of the river and their huts are quite comfortable.”

In 1870 the diggers struck a lead on the river, near the Thomson River Bridge. Payable results were obtained. In 1871 the Mining Surveyor reported that “At Cooper's Creek a party are engaged in tunnelling in the bed-rock, to form a tail-race for the purpose of draining the flat, which is supposed to be the old bed of the Thomson River”. By mid-1872 alluvial mining in the district was said to be confined to scattered miners, getting fair returns. In 1877, the bed and banks of the Thomson River were reported to be providing a fairly good living for the miners. The following year creek and river sluicing in the district increased and several parties on the Thomson River were making better than wages. The number of miners on the river increased again in 1879, some parties earning £4 per week per man.

The Mining Surveyor reported in 1880 that “alluvial mining consists wholly of creek and river mining”. In 1885 the Surveyor reported an increase in alluvial gold production in the district owing to systematic sluicing of the bed of the Thomson River by several parties. Between 1885 and 1887, three companies were sluicing the Thomson River.

The information above presents only a sketchy outline of alluvial mining in the Thomson, but sufficient to see that re-working of the river bed provided consistently good if intermittent returns for decades. However the lead workings are poorly chronicled – only two mentions of leads have been found, in 1870 and 1871, but it is likely that some may be included in the generic „bank workings”. More information may possibly be hidden in the pages of local newspapers of the time.

The mention in 1879 of a „deep lead” under a basalt sheet extending away from the Thomson River is unrelated to the leads at Horseshoe Bend.

2.3 THE DIVERSION TUNNEL (SUMMARY)

The diversion tunnel seems to have had its origins in 1898, when George Weeks took up a narrow strip of the riverbed around Horseshoe Bend under GML3190 (Gippsland). The Friends of the Horseshoe Bend Tunnel have in their possession a water race survey relating to GML 3190. This race was actually surveyed because it has the surveyor’s field notes reference numbers along its course. The race was to be nearly four and a half miles long by eleven yards in width, and included at least two flumes to transport the flow across the Thomson River and a long tunnel through Horseshoe Bend. The quantity of water to be diverted was a staggering 90 million gallons per diem of 24 hours.

It is clear that this was a „grand scheme” to divert the entire flow of the Thomson River into a large race, and drain the river bed from around its junction with Stringers Creek, downstream to Coopers Creek. The details of the scheme and what happened with it are not known, but the Walhalla Chronicle newspaper may yield some further information.

Suffice to say, the scheme did not go ahead, and Weeks” lease was declared void in 1904. However

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2 From various sources, in Gold in the Walhalla Region, Lloyd & Combes, 2010, pp72-73; Mining Surveyors' Reports (Stringer's Creek subdivision), December 1871, quoted in Walhalla Goldfield Notes, D Bannear, 1998, p.2.
3 From Mining Surveyors' Reports March 1880, quoted in Walhalla Goldfield Notes, D Bannear, 1998, p.3.
4 From Mining Surveyors' Reports March 1880, quoted in Gold in the Walhalla Region, Lloyd & Combes, 2010, p112.
6 Lease details obtained from Geo Vic's Exploring Victoria MapShare online facility.
the lease continued to be held in various forms in the ensuing years – Charles Dunn from 1905 to 1906, Peter Vilhelm Tuxen from 1908 to August 1911, and on 30 October 1911 it was granted to William Myers as GML 4616 (Gippsland).  

At the time of the granting of the lease to Myers, works were already progressing on a scaled-down version of the original scheme, involving a tunnel through Horseshoe Bend to drain the river bed around the bend. A company had been formed for this purpose, the Thomson River Alluvial Gold & Tailings Recovery Company No Liability. Labour problems after the first 215 feet had been driven forced the company to tender out the completion of the tunnel, and the contract was awarded to William John (Jack) Hannaford. Jack pushed on, opening two faces, and leaving a small strip of rock at the inlet end. By 18 September 1912 the tunnel was 533 feet long and nearing completion, and in October the tunnel was finally opened with a gala day. The last charges were set on a thin wall of rock, but rather than wait for a signal from Jack, the miner who was to set the explosives off got impatient and lit the fuses. The wall was breached and water flooded through the tunnel. Unbeknown to him, Jack had let his wife and three oldest children have one last ride in the trolley.

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10 Lease details obtained from GeoVic’s Exploring Victoria MapShare online facility.
11 The Argus (Melbourne), 23 September 1912.
and they were swept from the tunnel in a torrent of water. Fortunately his wife Clara was a good swimmer and rescued all the children.\textsuperscript{12}

The results of the mining that followed are not known, and it has been assumed that because no reports followed, the operation was not very successful. While the lease was declared void on 10 March 1914\textsuperscript{13}, less than 18 months later, it may be that that was sufficient time to completely strip the river bed around the bend, after which time the company would have had no further interest in that section of creek. More research may ascertain the success or otherwise of the company. As a postscript, the Thomson River Alluvial Gold & Tailings Recovery Company No Liability was struck off the companies” register in 1943, one of a large number of defunct companies which had remained on the register till that time.\textsuperscript{14}

\subsection*{2.4 HISTORIC THEMES}

The following historic themes for the Study Area are identified, using Heritage Victoria’s \textit{Victoria’s Framework of Historical Themes} (February 2010):

\begin{quote}
4. Transforming the land
4.5 Gold mining
- Mining for gold, alluvial deep lead and quartz
- Living on the diggings and in mining towns
- Dealing with uncertainty, failure and poverty
\end{quote}

\textsuperscript{12} Story told on interpretation panel at Horseshoe Bend – source not known.
\textsuperscript{13} Lease details obtained from GeoVic’s \textit{Exploring Victoria MapShare} online facility.
\textsuperscript{14} \textit{Victoria Government Gazette}, 21 July 1943, p1782.
3. DESCRIPTION

3.1 DETAILS & GENERAL DESCRIPTION

Location: Horseshoe Bend, Thomson River (refer to “Defined Areas” below for detailed positions). A locality Plan prefaces this report.

LGA: Baw Baw Shire.

Land Status: Crown.

Property Details: The study area comprises portions of Crown parcels Allotments 7 & 7A, Sec C, Parish of Numbuk; Allotments 3C, 3D & 10D, Sec B, Parish of Moondarra. Full details are given in Appendix 2.

Land Managers: DSE (hillsides); Parks Victoria (river, under the Heritage Rivers Act 1992, Vic).

Heritage Status:
The Statutory listings within the Study Area are:
• Thomson River Diversion Tunnel, Victorian Heritage Register No H1990;
• Thomson River Diversion Tunnel, Victorian Heritage Inventory No 8122-0042;
• Thomson River Diversion Tunnel, Baw Baw Heritage Overlay No HO261.

Any alterations to the tunnel require Permits under Part 4 of the Heritage Act 1995 (Vic), and Permits under the Baw Baw Planning Scheme (notwithstanding exemptions). All archaeological sites in Victoria over 50 years old (including mining sites) have legislative protection under Part 6 of the Heritage Act 1995 (Vic), and Consents are required for disturbance/destruction.

General description:
The study area lies around a tight bend in the Thomson River, in deeply-dissected mountain country to the south west of Walhalla, Victoria. Water pours into the Thomson River at the downstream end of the bend, from a tunnel. The bend itself shows still ponds between bars of exposed bedrock, while upstream at the start of the bend water rushes into a tunnel – this is the Horseshoe Bend diversion tunnel. Spurs of gentler gradient than the remainder of the hillsides come down to meet the river, and at the base of each spur around Horseshoe Bend, old mining workings are hidden in the thick scrub. The workings are on the course of narrow leads (or gutters) that left ribbons of gold-bearing wash in former river channels incised into the bedrock as the river inexorably ground its valley deeper. The clusters of lead workings suit dividing into separate zones for the purposes of description and mapping, rather than treating them as a large number of individual but related sites.

These workings are principally ground sluicing, extended by tunnel and shaft workings where the overburden of hill soils was thick. There are medium-sized sluicing pits and sluiced benches, minor surfacing works and trenches, and numerous adits (tunnels) and shafts. In amongst some of the workings are camp sites used by the miners, as well as a scatter of the artefacts of occupation – bottle glass, scrap iron etc. All of these areas of lead workings, as well as the diversion tunnel, an isolated hut site, a water race and prospecting works high on the hillside, are described in detail in the following sections.

The study area was heavily overgrown at the time of inspection, and all of these areas of lead workings have the potential to yield more sites, particularly lightly-emplaced occupation sites. The bases of the spurs are where further features may be found, while the areas of steeper hillsides have very limited potential to yield further historic (post-contact) cultural sites.
**Defined Areas:**
The known and newly-recorded archaeological fabric at Horseshoe Bend has been mapped onto West Gippsland CMA’s GIS mapping system as polygons on a dedicated cultural heritage layer. The following gives the coordinates of the points that define the polygons. The grid references are based on WGS84 (GDA94) coordinates, Zone 55.

*Diversion tunnel:* The area is defined in the Victorian Heritage Register as a 5m buffer each side of the actual tunnel. Grid references at the inlet and outlet mouths were unable to be taken during fieldwork because of difficulty of access following heavy rains. Scaled roughly off the overall site plan prepared for the area, the tunnel mouths are located as follows. There may be significant errors in these coordinates.
Inlet: [449460E, 5797225N]; Outlet: [449510E, 5797040N]

*Lead workings:* The lead workings have been defined by the following points, which create polygons that have been added to a dedicated cultural heritage layer on West Gippsland CMA’s GIS mapping system:

<table>
<thead>
<tr>
<th>NORTH ZONE</th>
<th>NORTH WEST ZONE</th>
<th>SOUTH* ZONE</th>
<th>SOUTH WEST ZONE</th>
<th>SOUTH EAST ZONE</th>
</tr>
</thead>
</table>

*South Zone is represented as “Centre Zone” on the GIS map layer

*Hut & stone fireplace site:* Defined as a square of 20m sides formed by the following points –

*Water race:* The water race follows a long path along the river, and required a more complex polygon than the other features. It is a strip about 20m wide, as defined by the polygon on the cultural heritage layer on West Gippsland CMA’s GIS mapping system.

*Prospecting works:* Defined by the following points, forming a polygon around the workings –
Condition & threats: The archaeological features at Horseshoe Bend are principally deeply-incised mining features, and in fair archaeological condition. The main threats are environmental decay through natural processes such as erosion (including flooding in the lower areas) and gradual structural weakening occasioning collapse. The hut and camp sites may be at some risk of disturbance through illegal artefact disturbance and removal.

The overall Site Plan follows....
3.2 DIVERSION TUNNEL

Property Details: The tunnel straddles two Crown parcels, allotments 7 & 7A, Sec C, Parish of Numbuk. The inlet and outlet mouths appear to be within allotment 7A.

Location: Refer tabulated points, section 3.1.

Description: (Refer also photography, below)
The diversion tunnel cuts through Stockriders Spur, diverting water from a pondage at the inlet end and discharging it back into the river bed at the outlet end. For the purposes of this study, the tunnel exists as two points on the map, the inlet mouth and the outlet mouth, with the prescribed 5m buffer – these openings provide the visual evidence the works undertaken at this site. But the tunnel is interesting underground and provides significant evidence of the methods used in its construction. However it was not inspected during the course of this survey. The tunnel is 220m long with an average height of 4m. It does not strike directly through the hillside, but is kinked. Both the inlet and outlet mouths are cut into rock faces, in the tight turn in the river at each end of the bend, and the tunnel forms the shortest route through the bend. The tunnel takes the whole of the Thompson River flow at normal times, but shares the flow with the old course around the bend in flood times or other periods of very high water.

Site plan: Refer Overall Site Plan at the end of section 3.1 of this report.

Photography (all photographs taken between 30 July & 3 August 2010)
Tunnel outlet

Outlet viewed from picnic table area (top-right of centre)

Tunnel outlet

Steel pipe on rock bank opposite tunnel outlet
3.3 LEAD WORKINGS, NORTH ZONE

Property Details: The north zone workings straddle two Crown parcels, allotments 3D & 10D, Sec B, Parish of Moondarra.

Location: Refer tabulated points, section 3.1. Nominal position in west end of main sluicing pit -

Description: (Refer also Site Plan & photography, below) These workings are situated around the base of a low spur, on the north side of the Thomson River opposite the inlet of the diversion tunnel. The workings consist of shafts, tunnels and sluiced areas, accessing stranded leads cutting around the low base of a spur. The major visual feature is a medium-sized, deep pit perhaps 30m long, on the crown of the spur. This has been sluiced, with a head-race faintly visible and tail races extending out from the eastern and western ends. Two partly collapsed adits (tunnels) are visible in the high uphill face, accessing wash further into the hill. Twelve adits in all were recorded in the workings, and more may exist where high earth faces have collapsed. Numerous shafts also exist within and around the main workings. The area was heavily vegetated at the time of inspection, and more workings may exist. The flatter areas above the workings are prospective for finding the camp sites of the miners – none were logged in this zone during site recording.
Photography (all photographs taken between 30 July & 3 August 2010)

Face of large pit on crown of spur, opposite diversion tunnel inlet

Stacked rocks on sluiced bench above river, eastern end of workings

Adit (tunnel entrance)

Shaft with small ring of mullock covered in sphagnum moss
3.4 LEAD WORKINGS, NORTH WEST ZONE

Property Details: The north west zone workings straddle two Crown parcels, allotments 7 & 7A, Sec C, Parish of Numbuk.

Location: Refer tabulated points, section 3.1. Nominal position stone forge -

Description: (Refer also Site Plan & photography, below) These workings are at the base of Stockriders Spur. There appear two have been two main leads worked one slightly above river level and one cutting across a large flat at the base of the spur.

Working of the former has left an earth face well over a hundred metres long, with a height of around 4m in the central area. The latter lead appears to branch to the NNE from this, and it has been worked for a short distance by sluicing. It is probable that a tunnel follows the lead beyond
the end face, but has been covered by collapse. On the flat itself, several small shafts have been sunk in the vicinity of the lead, and from the north three adits also follow or access the lead. The flat is an ideal spot for a camp, and immediately west of the assumed course of the lead is a camp site comprising a small rectangular stone forge, ruins of a stone fireplace, a small, low stone enclosure of unknown purpose, and a scatter of bottle glass and other artefacts including a pick-head. The forge shows lumps of slag, confirming its identification. There may be more subtle signs of further occupation in the vicinity, but the vegetation was thick on the flat at the time of inspection. North east of the camp site, beside the former bank of the river, is a short section of low rock retaining wall. It appears to retain a poorly-preserved bench or pathway, but it could also be part of the water race that is visible in sections to the south of this zone.

Photography (all photographs taken between 30 July & 3 August 2010)
Bedrock rubble thrown out of trench/tunnel

Small section of rock retaining wall, south end of main sluicing face
3.5 LEAD WORKINGS, SOUTH ZONE

Property Details: The south zone workings straddle two Crown parcels, allotments 7 & 7A, Sec C, Parish of Numbuk.

Location: Refer tabulated points, section 3.1. Nominal position near west end of rock-lined tail race.

Description: (Refer also Site Plan & photography, below) The flatter ground above the sheer face of the outlet of the diversion tunnel has a abundance of mining features relating to lead mining. The largest feature is a medium-sized sluicing pit which has a well-preserved rock-lined tail race in its floor. This race is turned into the high uphill face at around midpoint of the pit, and there may be an adit entrance there, now hidden by a collapse of earth.

On the hillside above this pit there are shallow surface scratchings on wash, probably the last traces of an eroding gutter. On a steep face immediately above the river and south-west of the outlet mouth is a long bench, where a gutter or lead has been mined. Heavily overgrown and criss-crossed
with fallen debris, it nonetheless shows pebble heaps, a small rock retaining wall, and at least two adits penetrating into the hillside above. Between this bench and the pit are two lines of surface workings on wash. Between the bench and the outlet mouth are five adits driven into the steeper part of the hillside. Just above the bench, on flatter ground, are the traces of three hut benched hut sites, representing a small camp. One site has the ruins of a stone fireplace, and several fragments of bottle glass were noted. North east of the main pit are two adits. There are a number of shafts and trenches dotted around this zone of workings. One unusual feature is a small, roughly-round, vertical hole about 300mm in diameter (see site plan). This may go down into workings below, perhaps to ventilate the workings.

**Photography** (all photographs taken between 30 July & 3 August 2010)
3.6 LEAD WORKINGS, SOUTH WEST ZONE

Property Details: The south west zone workings straddle two Crown parcels, 3D & 3D, Sec B, Parish of Moondarra.

Location: Refer tabulated points, section 3.1. Nominal position in north end of sluiced bench -

Description: (Refer also Site Plan & photography, below) This is a small patch of sluice workings, just uphill of the waking track to the diversion tunnel inlet, not far from the picnic area. The main workings are sluicing on what appears to be an incised gutter. The length of the shallow trench formed is some 30-35m, and an exit race has been cut at about the midpoint. Immediately below the north east end of these workings are what appears to be small cuttings into the hillside. Below the south west end of the main workings is some shallow workings. A hut site was tentatively identified in this area by Terry Lowater (FOHBT), but the scrub was thick over the area at the time of inspection and the feature was not seen. Close by is an old poplar tree, now ring-barked and dead.
**Photography** (all photographs taken between 30 July & 3 August 2010)

Exit race from sluiced bench

Sluiced trench following incised gutter (lead)

Sluiced area, accessing deep crevices

Looking across small gully to sluiced bench
3.7 SLUICE WORKINGS, SOUTH EAST ZONE

Property Details: The south east zone workings straddle two Crown parcels, 3D & 3C, Sec B, Parish of Moondarra.

Location: Refer tabulated points, section 3.1. Nominal position above south end of northern sluiced bench -

Description: (Refer also Site Plan & photography, below) This zone is downstream and around the bend from the outlet of the diversion tunnel. The main features are two long benches on the presumed line of an incised gutter, parallel to the existing river and at an elevation of perhaps 10m above river level. The benches which extend for about 100m have high rear earth walls, and mullock from the benches spills down a steep slope to the river bank below. There are some pebble heaps and short sections of rock retaining walls within the workings. Between the two benches and on the hillside above are several small shafts. Two on the hillside show was on the mullock dumps and it is not known whether additional leads were worked here. No hut sites were located in a cursory search. The southern extent of the benches marked on the site plan below represented the southerly extent of the survey. More workings may exist beyond this.