

REPORT ON
SITE SURVEY OF
ARCHAEOLOGICAL REMAINS
AT THE SITE OF
THE EAST CADIA VILLAGE,
CADIA, N.S.W.



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For
Newcrest Mining Limited,
Cadia Project.

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1. INTRODUCTION.

1.1. Background.

This report was commissioned by Newcrest Mining Limited on 14 November 1997.

1.2. Brief.

As part of the development of the Cadia Mining Project, Newcrest Mining Limited propose to construct a Mine Site Access Road in 1997. The access road passes through part of the Cadia Permanent Conservation Order (PCO) Area and also through the site of East Cadia Village. The road also passes beside a historical culvert, which is to be retained in situ, without disturbance.

Within the PCO area, the route does not impact upon any of the known relics, according to the documentation of the Conservation Plan.¹ Similarly for most of its route through the East Cadia Village Site, the access road does not depart from the course of the existing Road. Near to the crossing of the Cadiangullong Creek, the proposed road veers to the west of the existing road and out of the Village Site (Figure 1.3).²

Other than these sites, the access road does not disturb any other known historical archaeology site.

Most of the proposed route is subject to an archaeological monitoring programme, in accordance with an excavation permit approved by the Heritage Office on 29 October 1996. The application for the excavation permit foreshadowed the preparation of a research design to conserve and manage the archaeological remains of the East Cadia Village, prior to and during road construction. In summary, this research design proposed:

1. Undertake a survey the Village Site, or at least a corridor of 50 metres on either side of the proposed road, to determine the extent, location and distribution of archaeological remains.

¹ Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volumes 1-6, but particularly Volume 1, p. 98, and Volume 6, plan and inventory of Cadia Engine House Precinct.

² Known sites in the East Cadia Village Site are recorded in Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volumes 5 and 6.

2. The survey information should then be compared with the surviving historical documentation and photographs, as provided in the Conservation Plan.³
3. Advise the client (Newcrest Mining Limited) on the best route to avoid the disturbance of the Village Site, or at least to minimise that disturbance.
4. Once the final route is chosen, it is envisaged that a small number of test-trenches will be required to determine the nature of the archaeological remains in those areas to be disturbed.
5. This may be followed up by selective excavation or by a monitoring programme, as necessary.

During an initial site inspection on 4 October 1996, two additional sites were located, which were not described in the Conservation Plan. These include a house platform and short section of roadway in the PCO area, beside Cadiangullong Creek, and the site of a crusher or mill, again beside the creek, but just outside the PCO area. The location of these sites will also be considered in any recommendation for altering the route of the access roadway through the Village Site.

The site survey was carried out in accordance with the conditions of the excavation permit, approved by the Heritage Office on 4 October 1996 and updated on 29 October 1996.

1.3. Location of site.

The Cadia Mining Project is located in the Cadia Valley in the District of Orange and straddles the boundary between Blayney and Cabonne Shire Councils (Figure 1.1). The site of the East Cadia Village is located at the north and east of the junction of Hoares Creek with Cadiangullong Creek. The existing public road passes through the Village Site (Figure 1.3).

1.4. Study methodology and limitations.

³ Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volumes 1, 5.

During initial inspection on 15 October 1996, the site of East Cadia Village was covered only by short grass, with many artifacts and archaeological features clearly visible on the surface. Many of the photographs in this report were taken on this day and show the good conditions then available for recording. Unfortunately the site planning of the corridor through the Village Site was not able to proceed until the week commencing 26 November 1996, when the existing vegetation was lush with spring growth. During the planning of the Village Site, the grass was generally waist high.

Archaeological features and artifacts were located and planned on the existing Cadia Mine Survey Grid. Survey pegs had been placed at 50 metre intervals by Carpenter, Collins & Associates, Consulting Surveyors (Figure 1.4). This grid was used by the archaeologist to plan the archaeological features by tape measurements. The part of the Village Site to be planned was surveyed at an original scale of 1:200, with field walking on survey transects at 2 metre intervals. By this methodical approach, the difficulties of visibility caused by long grass were overcome. The survey plan is estimated to be accurate to the nearest 0.25 metres (or a line width of 1.25 millimetres at 1:200).

1.5. Author identification.

This report was prepared by Edward Higginbotham, with assistance provided by Kylie Seritis, Edward Higginbotham & Associates Pty Ltd.

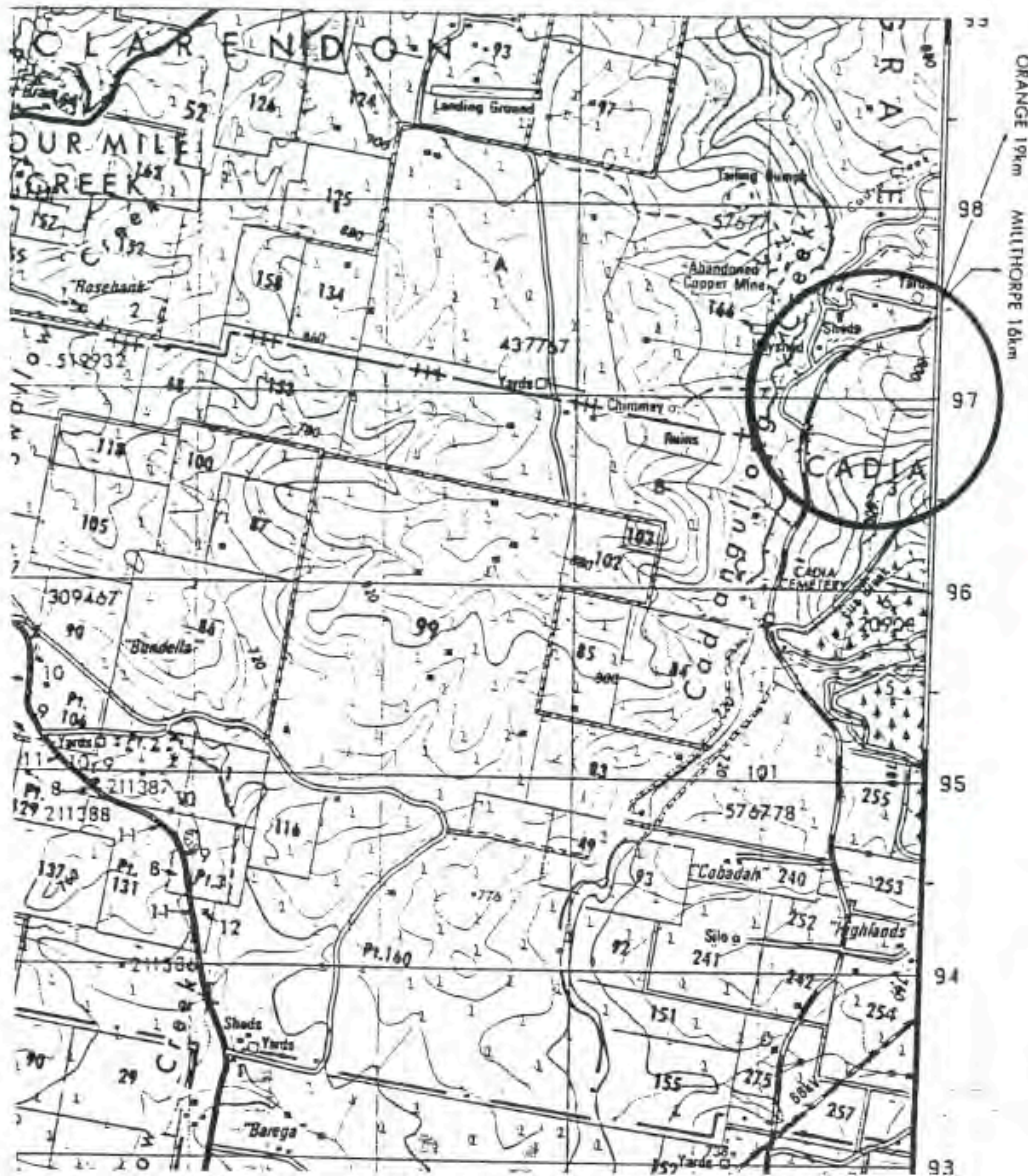


Figure 1.1. Location plan of East Cadia Village, Cadia (Detail of CMA. Cudal. 8631-II and III. 1:50,000.

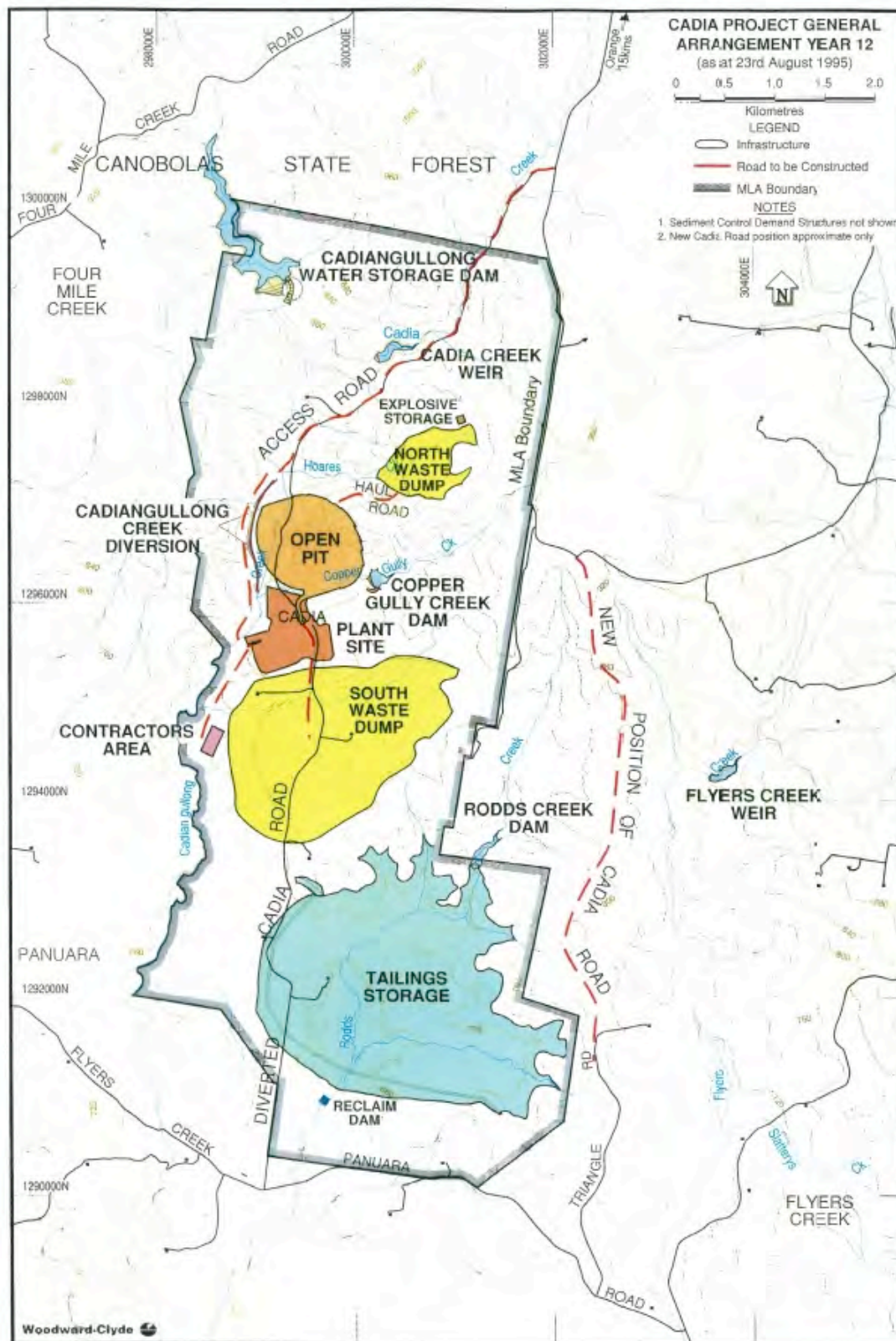


Figure 1.2. Cadia Project General Arrangement, showing site of East Cadia Village (Newcrest Mining Limited).

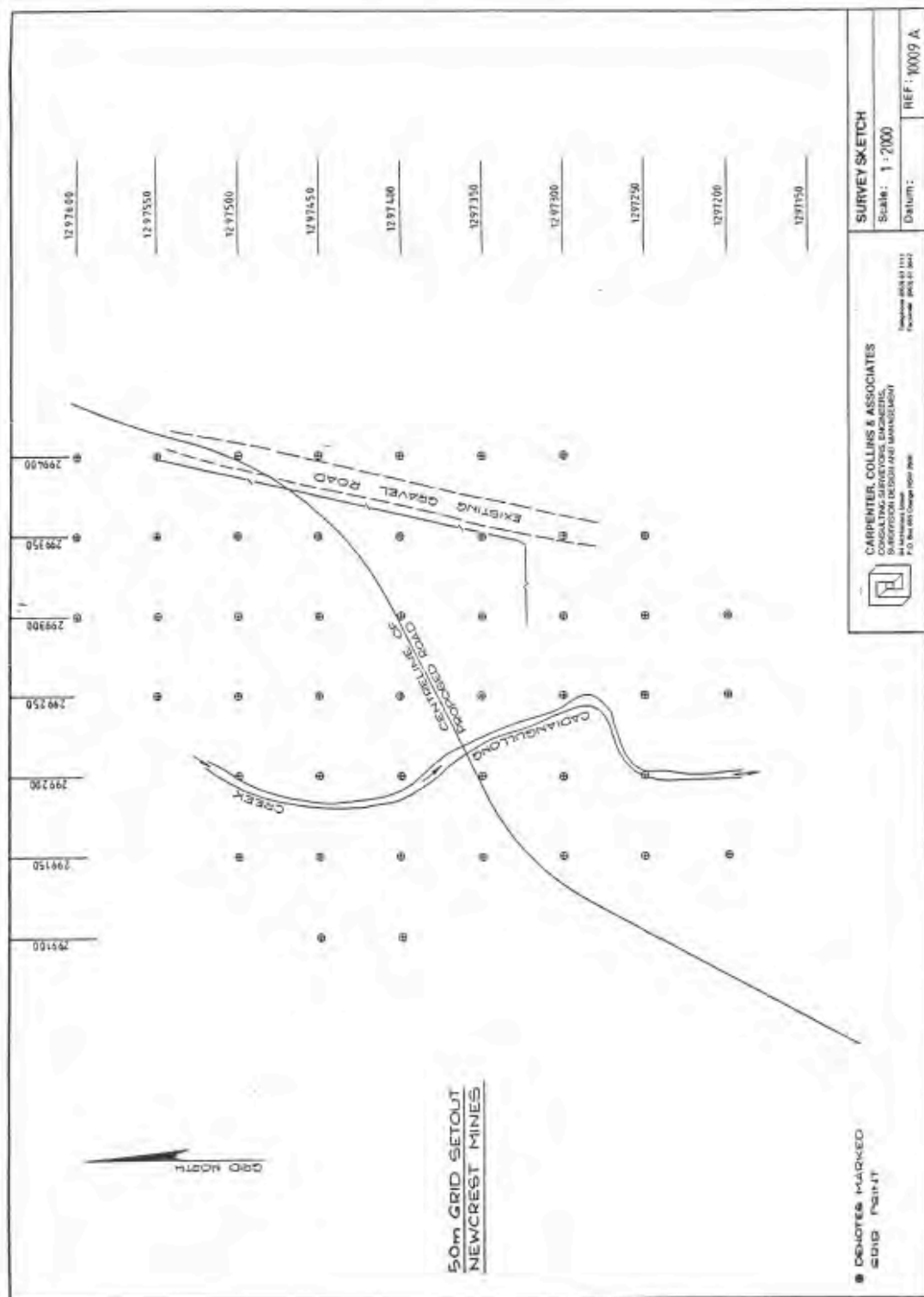


Figure 1.4. Plan showing the line of the proposed Mine Access Road in relation to the Cadia Mine Survey Grid.

2. HISTORICAL BACKGROUND.

The history of European settlement at Cadia is bound up in the search for, and extraction of, minerals. Alongside this quest, was the ongoing use of the land for pastoralism and, more recently, plantation forestry.

Samuel Stutchbury, the first Geological Surveyor of New South Wales, is often credited with the discovery of copper in the Cadia District in 1851. However in his diaries, Stutchbury alludes to earlier discoveries of minerals in this area by John Nicholson.

The Village Reserve is indicated on Baker's 1843 Map of the County of Bathurst, although the reason for setting aside this reserve, in such a remote and isolated district, is unknown. By 1859, landholdings on both the east and west sides of Cadiangullong Creek had been taken up by a mixture of mineral speculators and pastoralists.⁴

The first mining activity at Cadia was located on the eastern bank of the Cadiangullong Creek, with subsequent mining taking place on the western side of the creek and at Iron Duke. The first smelters were also located on the eastern side of the creek.⁵ A tramway ran from smelters along the eastern side of the creek, opposite the Iron Duke towards the East Cadia adit, and possibly also crossing the creek to the iron mines and adit.⁶

Cadia was exploited for copper, gold and iron ore. The main period of copper mining lasted from 1861 to 1880, while the first indication of gold was confirmed in 1868. Unlike other areas, the mining for gold at Cadia was sporadic and relatively small scale. A resurgence of copper mining and gold mining occurred in the early 1900s.

The iron resource at Cadia was recognised during the initial mining phase, but this resource was not exploited until a steelworks capable of iron ore processing was commenced in 1874.⁷ Mining had ceased again by the Great Depression, but it is

⁴ Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volumes 1. p. 12.

⁵ Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volumes 1. p. 19.

⁶ Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volumes 1. p. 29.

⁷ Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volumes 1. pp. 71 - 78.

noted that the post office, the school, one boarding house and even a hairdresser continued in operation through the 1930s to at least 1940.⁸ The Second World War meant renewal of mining activities at the Iron Duke for gold, iron and copper.⁹

A more complete history is provided in Volume 1 of the Conservation Plan.¹⁰

⁸ Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volumes 1. p. 46.

⁹ Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volumes 1. pp. 48

¹⁰ Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volumes 1.

2.1. Selection of historical photographs of East Cadia Village.

Historical photographs of East Cadia Village have been researched in order to give some graphic indication of the development of the village settlement from the 1860s to abandonment in the 1940s. Unfortunately, panoramic photographs of the village are restricted to a short time bracket, namely 1905-6 and 1911-12. The gap of five to seven years nonetheless gives some indication of the nature and extent of development and growth in the village during this period.

The following photographs should be compared with those included in the Conservation Plan.¹¹

Buildings range from simple tent like structures, huts or ‘humpies’ to well constructed timber framed and weatherboarded or even masonry buildings. The village itself developed something of a street pattern, with a main street running approximately north to south, and a cross street, running down towards Smelter No. 2 on the east side of Cadiangullong Creek.

The study area, or course of the proposed road, as it departs from the existing gravel road, is located on the south western edge of the village and appears to have been less densely occupied. The centre of the village was located on the uphill or east side of the present gravel road, but with another concentration of buildings descending the hill slope towards Smelter No. 2.

¹¹ Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volumes 1 and 5.

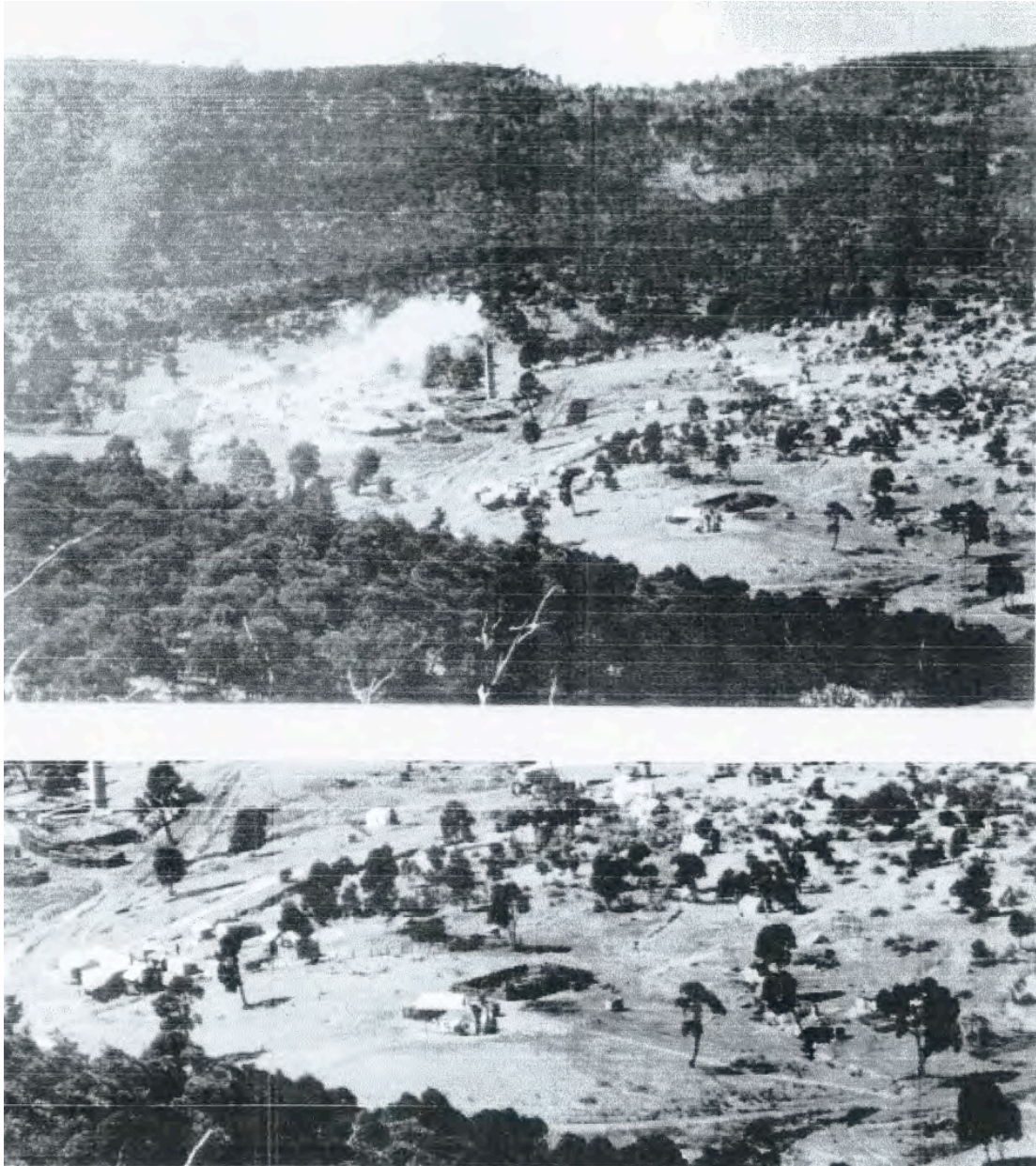


Figure 2.1. East Cadia Village from the south west, dated to 1905-6 by the operation of Smelter No. 2. Structures on the course of the proposed access road are shown on the right or in the detail below(Photograph courtesy of Brian French).

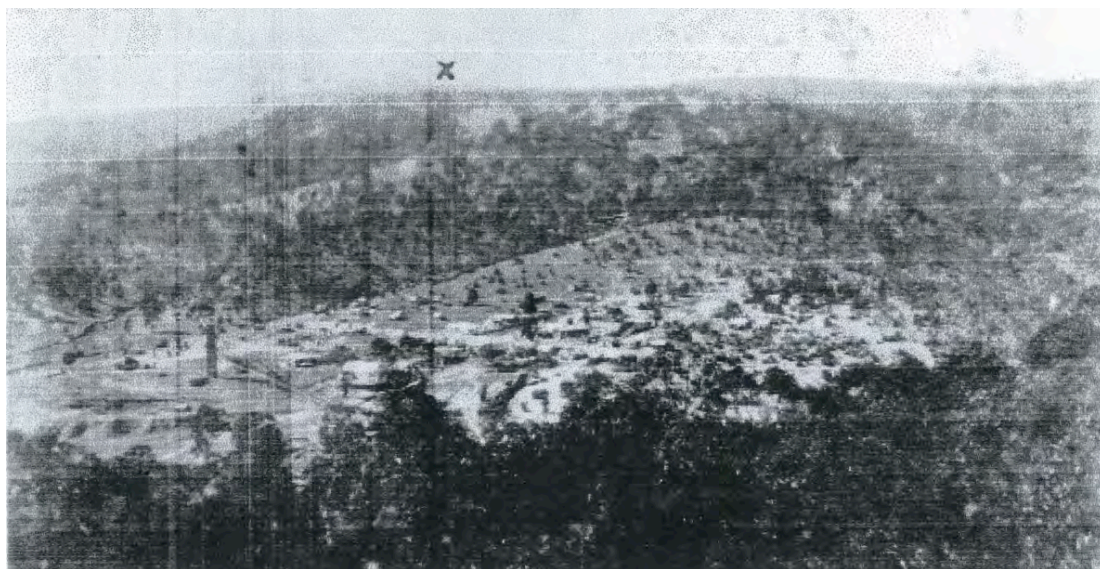


Figure 2.2. East Cadia Village from the south west, dated to 1911-12 by the abandonment of Smelter No. 2. The alignment of the main street is clearly visible, but the study area itself is obscured by trees in the foreground (Photograph courtesy of Brian French).

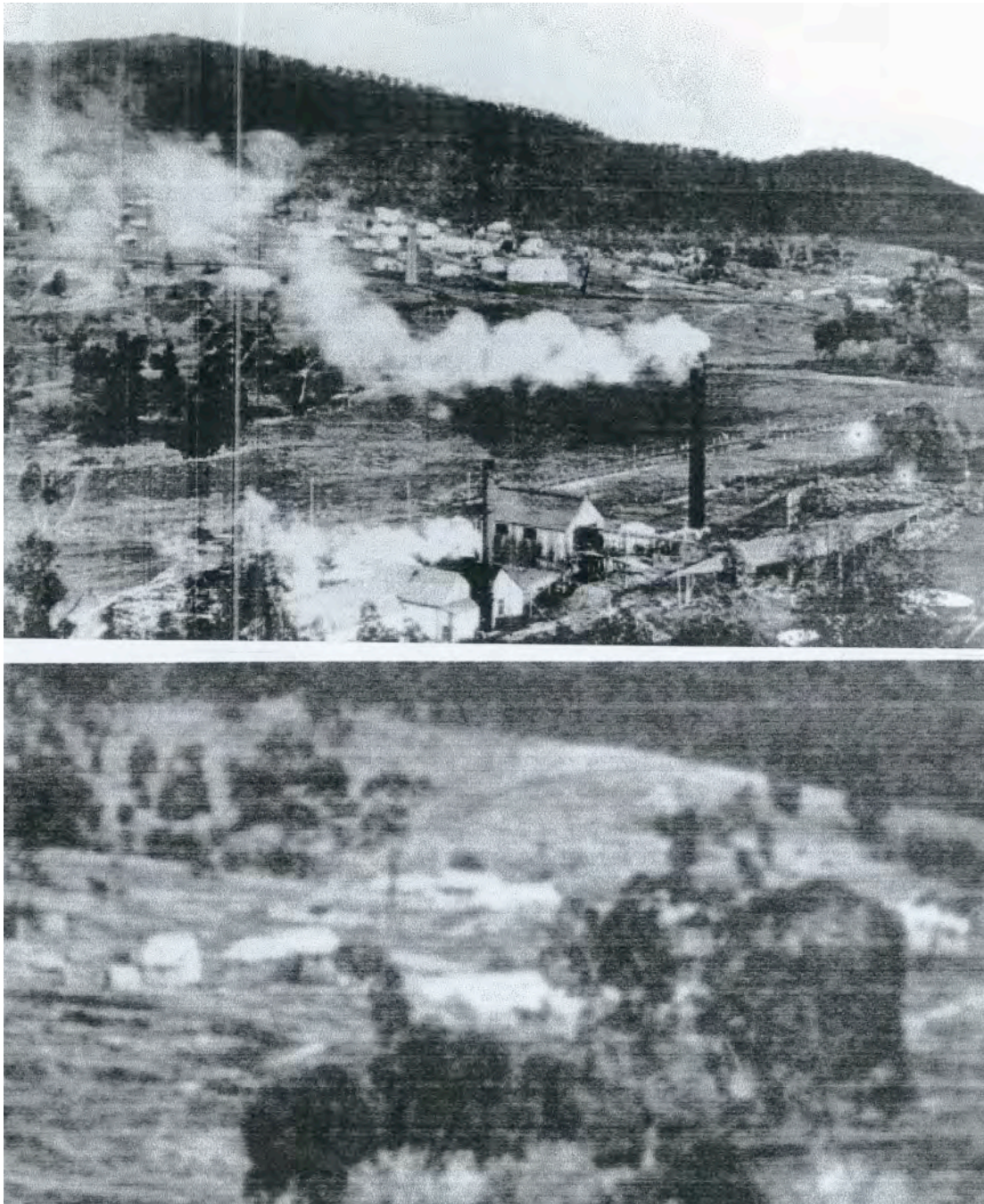


Figure 2.3. East Cadia Village from the north west, dated to 1911-12 by the abandonment of Smelter No. 2 and the operation of Smelter No. 3. The study area itself is located on the far right of the photograph with some buildings visible, as in the detail below (Photograph courtesy of Brian French).

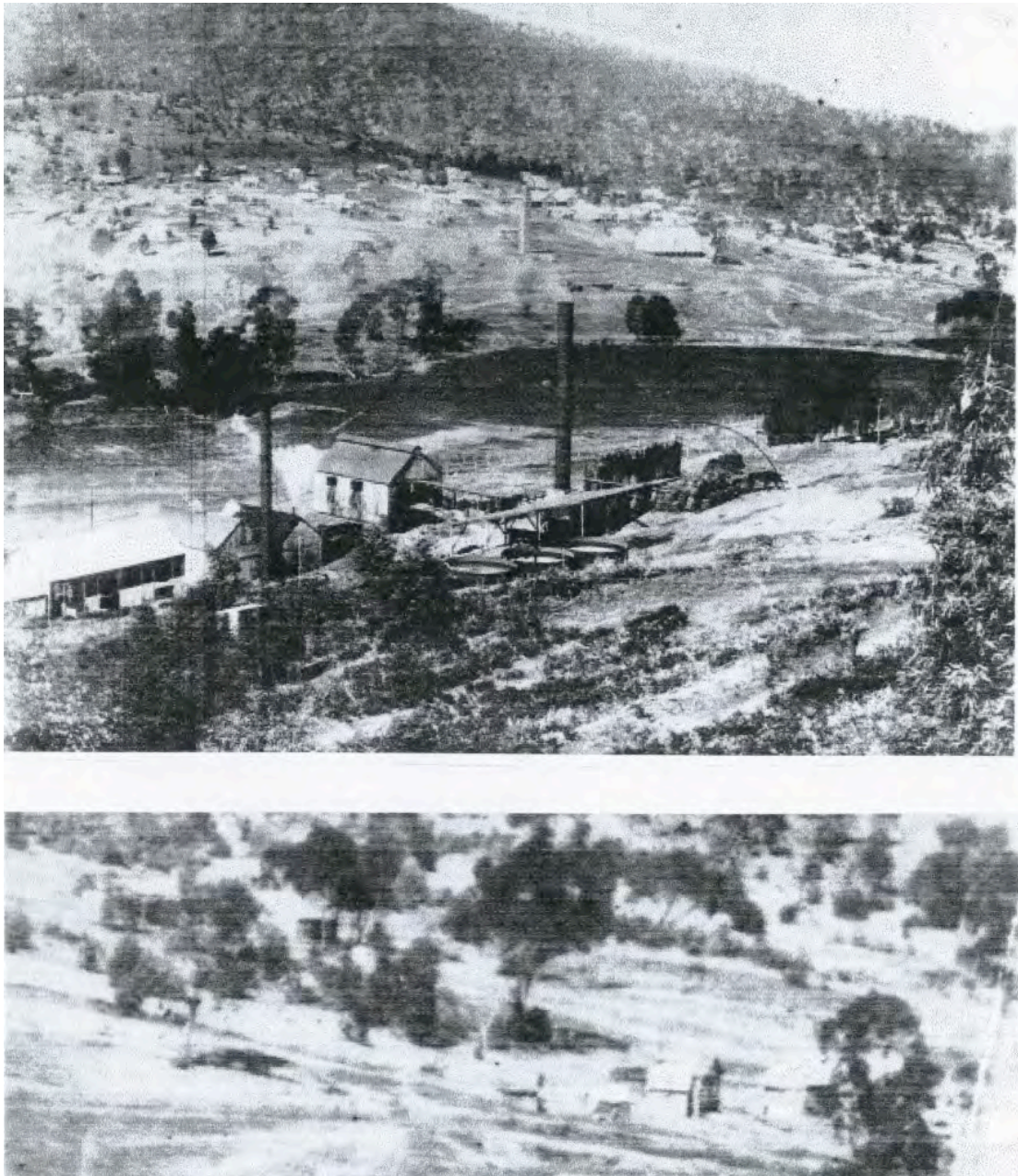


Figure 2.4. East Cadia Village from the north west, dated to 1911-12 by the abandonment of Smelter No. 2 and the operation of Smelter No. 3 in the foreground. The study area is largely outside the view of the photograph on the extreme right, as in the detail below (Photograph courtesy of Brian French).

3. DESCRIPTION OF ARCHAEOLOGICAL REMAINS OF THE EAST CADIA VILLAGE SITE.

3.1. Survey methodology.

Site planning of the East Cadia Village Site was completed in the week , commencing 26 November 1996.

Archaeological features and artifacts were located and planned on the existing Cadia Mine Survey Grid. Survey pegs had been placed at 50 metre intervals by Carpenter, Collins & Associates, Consulting Surveyors (Figure 1.4). This grid was used by the archaeologist to plan the archaeological features by tape measurements. The part of the Village Site to be planned was surveyed at an original scale of 1:200, with field walking on survey transects at 2 metre intervals. By this methodical approach, the difficulties of visibility caused by long grass were overcome. The survey plan is estimated to be accurate to the nearest 0.25 metres (or a line width of 1.25 millimetres at 1:200).¹²

3.2. Description of archaeological evidence.

Archaeological features within the survey area fall into a number of categories, comprising:

1. Scatter of sandstock brick, with frog.
2. Scatter of (building) stone.
3. Scatters of artifacts, or individual artifacts, predominantly metals.
4. Earthworks, comprising a wide range of mounds, depressions, linear features, platforms, etc.

Comparison of the archaeological features and artifacts with historical documentation enabled a number of sites to be identified (Figures 3.1 and 3.2). The archaeological evidence was compared with the historical photographs in the previous chapter, together with others in the Conservation Plan (Figures 2.1 to 2.4).¹³

¹² Details and limitations of site survey are described in Chapter 1.4.

¹³ Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volume 5, particularly Figure 4.1, which appears to be incorrectly dated to 1905, when it may actually be c.1910 (personal communication: Brian French).

Site 1.

Site 1 is the house platform, located on the west side of the Cadiangullong Creek. It is identified by two levelled terraces, cut into the slope above the flood plain of the creek. The platforms have a number of stone and brick scatters on them, but the site has been disturbed by the excavation of a trench on the side of the creek and the construction of a track on its north side.

The roof of the house is visible in an historical photograph, possibly dating from 1910.¹⁴

Site 2.

Site 2 comprises the course of a gravel or dirt road across a minor gully or watercourse (Figure 2.1). The road is revetted with a stone batter to allow water flow without erosion of the road surface. The feature compares with other examples in the Cadia area. The road itself is visible on the 1905 and later photographs.

Site 3.

Sites 3 and 4 are conjoined, but may in fact represent two structures, as visible in the c.1910 photograph.¹⁵

Site 3 is characterised today by exotic plantings or fruit trees and a scatter of stones. In c.1910, it appeared as a rectangular structure with hipped or pitched roof with gable ends.

¹⁴ Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volume 5, particularly Figure 4.1, which appears to be incorrectly dated to 1905, when it may actually be c.1910 (personal communication: Brian French).

¹⁵ Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volume 5, particularly Figure 4.1, which appears to be incorrectly dated to 1905, when it may actually be c.1910 (personal communication: Brian French).

Site 4.

Site 4 is visible in the c.1910 photograph, as a rectangular structure, with gable roof and an annexe on its south end. It is characterised today by a scatter of stone and brick, together with some sheet iron fragments and chicken wire.

Site 5.

Site 5 is visible in historical photographs, dated from 1905 onwards (Figure 2.1). It comprised a complex of buildings and other structures, probably also including Site 6. The principle structure is a hut with a hipped roof, central door and flanking windows. It has one or perhaps two chimneys on its south wall, suggesting that there may have been a skillion at the rear. Adjoining the hut is a larger gable roofed structure or building. A small fenced stockyard, or similar feature is located on the east side of the buildings, together with another smaller structure (Site 6?). (Figure 3.1).

Site 5 may have been substantially disturbed by geotechnical and mineral survey, since there is a large levelled platform adjacent to the southern part of the site. The site is characterised by scatters of stone and brick, but also fragments of sheet iron and an iron bar. A group of three exotic fruit trees stands to the east of the site, possibly near the stockyard, identified in the historical photographs. A scatter of stones to the east fills the gap between Sites 5 and 6.

The track leading down slope from Site 5 to Site 2 is visible on the historical photographs and survives as a linear feature today.

Site 6.

Site 6 is visible in historical photographs, dated from 1905 onwards (Figure 2.1). It may represent the stockyard of Site 5, as described above, or the small structure to the south of the stockyard in the historical photographs.

Site 6 is characterised by a scatter of stones.

Site 7.

Site 7 represents the remains of a structure, identified in the c.1910 historical photograph. It is a small hut or shed, with a small outbuilding nearby.¹⁶ Site 7 may be recognised by a change of slope in the ground.

Site 8.

Site 8 comprises a number of closely spaced structures on the c.1910 historical photograph, adjacent to a drainage gully, which is still present today.¹⁷ There is no above ground trace of these structures, although below ground remains are likely to survive.

Site 9.

A number of larger structures are present in historical photographs from 1905 onwards, probably including Sites 9 and 10 (Figure 2.1). Site 9 comprised a small hut, with a pitched roof and a chimney at its south end

Site 9 is characterised today by a scatter of stone and slight terracing or erosion of the slope.

Site 10.

Site 10 is visible on historical photographs from c.1905 onwards (Figure 2.1). It was a hut with a pitched roof and chimney on its south wall.

It is characterised today by a scatter of brick and stone, together with some iron sheeting.

¹⁶ Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volume 5, particularly Figure 4.1, which appears to be incorrectly dated to 1905, when it may actually be c.1910 (personal communication: Brian French).

¹⁷ Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volume 5, particularly Figure 4.1, which appears to be incorrectly dated to 1905, when it may actually be c.1910 (personal communication: Brian French).

Site 11.

Site 11 is difficult to identify on historical photographs, and it may possibly be associated with Site 5 and 6, as indicated on historical photographs from c.1905 onwards (Figure 2.1).

The site is characterised by a scatter of brick, stone and iron objects.

Site 12.

Site 12 is indicated by the presence of a number of artifacts, including a heavy iron door and other fragments of sheet iron. It is not possible to identify any structure with certainty in the historical photographs, although it appears to be in a similar location to a tent like structure (Figure 2.1). The historical and archaeological evidence appear to be incompatible, and it may be suggested that the door has been left behind during the collection of scrap or other items from the site. The iron door may have had an industrial usage.

Site 13.

Site 13 is characterized by a terrace dug into the hill slope, together with a small number of stones.

It may possibly be identified as the timber frame in the c.1905 historical photograph, with its roof placed beside it (Figure 2.1). The structure is no longer present by c.1910.¹⁸

Site 14.

Sit 14 may be a remnant of a cottage and other outbuildings, visible in the c.1905 historical photograph (Figure 2.1). The building appeared to be a small cottage with

¹⁸ Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volume 5, particularly Figure 4.1, which appears to be incorrectly dated to 1905, when it may actually be c.1910 (personal communication: Brian French).

pitched roof and an annexe or chimney at its south end. Another small structure is located on its west side. The building is not clearly visible on later photographs.¹⁹

This site is characterised by a change of slope or remnant of a terrace, beside the existing gravel road. A number of scattered stones are also present.

Site 15.

Site 15 in general comprises two possible tracks or linear depressions, probably providing access to Sites 9 and 10. They are characterised by sparse vegetation, and scatters of brick and stone.

3.3. Conclusions.

One of the most important characteristics of archaeological sites associated with Cadia is their ephemeral and insubstantial nature. While there may be few above ground archaeological remains, nonetheless there may be ample and more substantial below ground archaeological evidence.

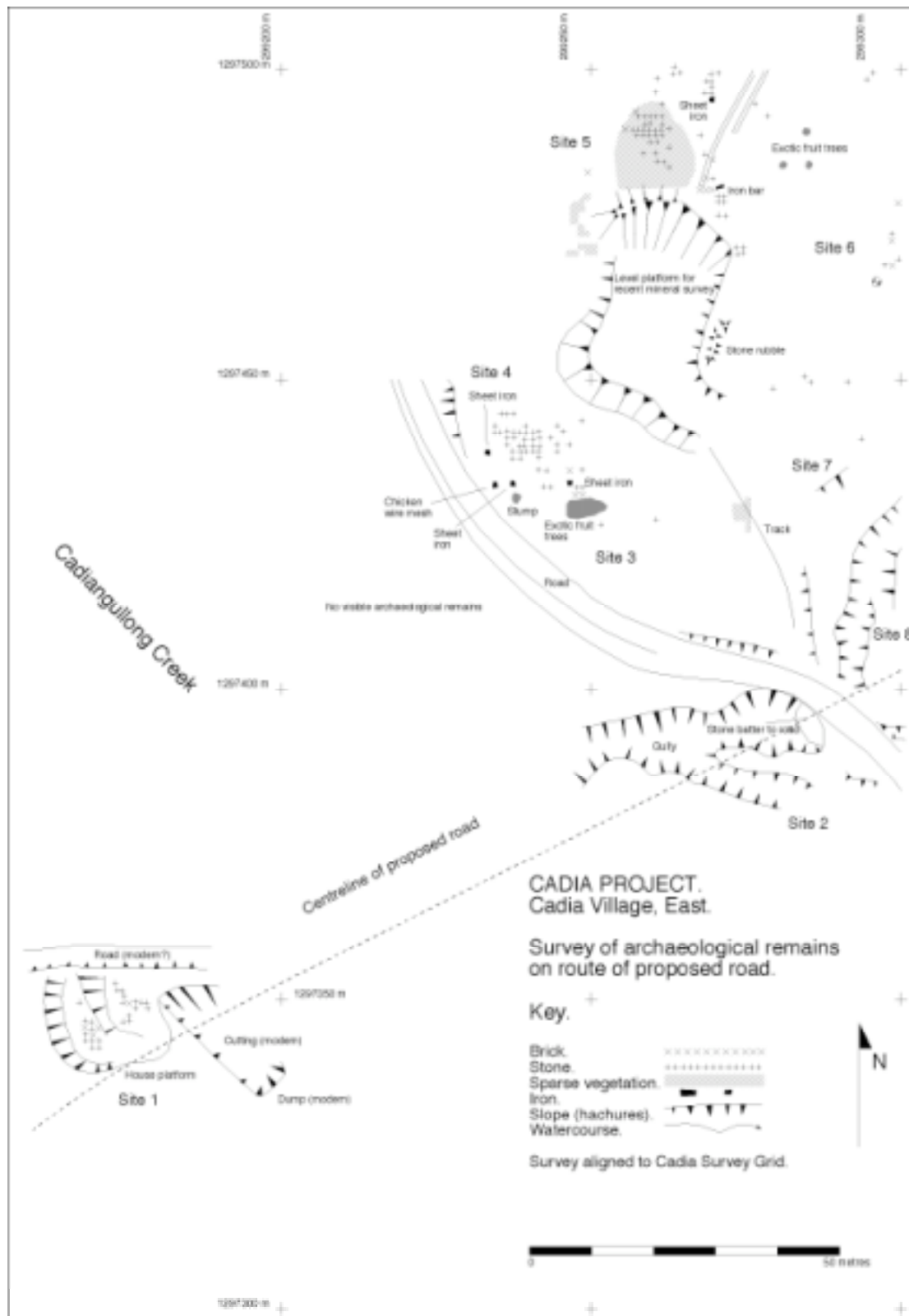
The density of historical settlement and mineral exploitation can only be appreciated by comparing the historical and archaeological resources, as has been successfully achieved in the case of this report on East Cadia Village. While the centre of village development was located further up the slope along the intersecting main streets of the settlement, nonetheless the combination of historical photographs and site survey has revealed that the subject site had a large number of structures erected upon it.

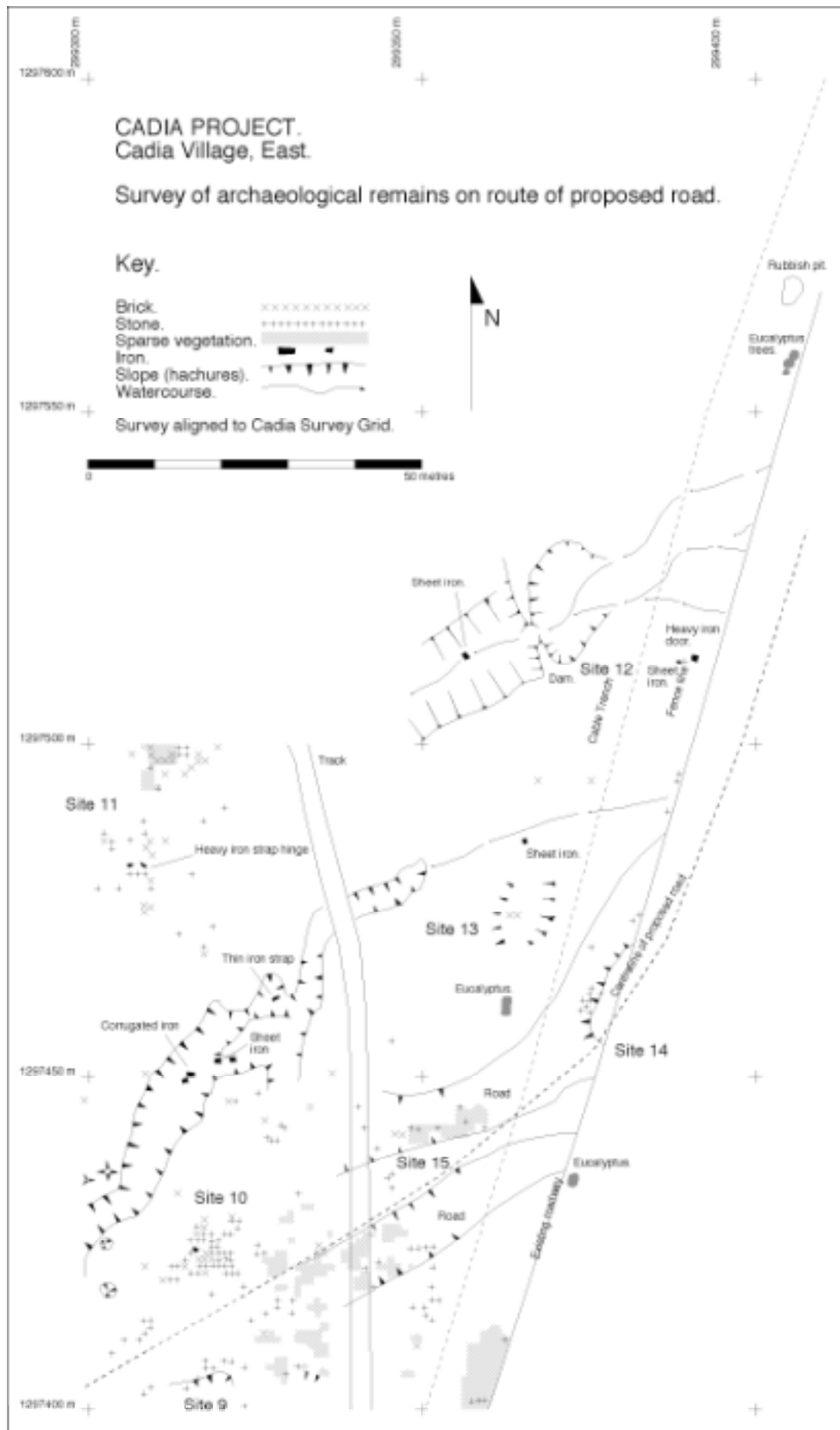
It is the ephemeral nature of the archaeological evidence which will provide a valuable resource for the investigation of mining settlement on a wider and comparative scale. For this reason, the archaeological remains should not be disturbed without further investigation, first by test-trenching, but then by more appropriate area excavation, if sufficient archaeological remains are located.

¹⁹ Godden Mackay, Cadia Mining Project, Final Conservation Plan. Newcrest Mining Limited. 1995. Volume 5, particularly Figure 4.1, which appears to be incorrectly dated to 1905, when it may actually be c.1910 (personal communication: Brian French).

3.4. Plans.

Figures 3.1 and 3.2, overleaf. East Cadia Village, detail showing course of proposed road and archaeological remains on or adjacent to the route.





3.5. Photographic recording.



Figure 3.3. East Cadia Village Site, general view from north, with Cadiangullong Creek on right.
Figure 3.4. East Cadia Village Site, general view from west, showing existing access road and other tracks. The study area is in the vicinity of the junction of the three gravel roads or tracks on the east side of Cadiangullong Creek.



Figure 3.5. East Cadia Village Site, general view from north, with the remains of Smelter No. 2 in the right middle of the photograph.

Figure 3.6. East Cadia Village Site, general view along course of proposed access road within the study area, from north east, with Cadiangullong Creek in the background. A brick scatter indicates the location of a former structure (Site 10).



Figure 3.7. East Cadia Village Site, house platform (Site 1) on west side of Cadiangullong Creek, on course of proposed road. The house platform is largely in shadow, with a modern access road in the foreground.

Figure 3.8. East Cadia Village Site, stone batter on line of gravel road across a minor gully (Site 2).



Figure 3.9. East Cadia Village Site, general view along course of proposed access road within the study area, from the south west, with Cadiangullong Creek in the middle of the photograph. The house platform (Site 1) in Figure 3.7 is located to the left of the tree in the foreground.

Figure 3.10. East Cadia Village Site, general view along course of proposed access road within the study area, from the south west, but on the east side of Cadiangullong Creek.

4. RECOMMENDATIONS.

The comparison of archaeological and historical documentation indicates that the study area was covered by a scatter of huts, cottages and other structures. While the above ground archaeological evidence is ephemeral and insubstantial, the true extent of settlement can be gauged by comparison with the series of historical photographs.

In spite of the fact that little survives above ground, it is suggested that the below ground archaeological evidence may be more substantial and may reveal evidence relating to mining settlement on a broad and comparative scale.

The construction of an access road through this part or indeed any part of the East Cadia Village would be highly destructive of the important archaeological resource and should be avoided where possible.

The preferred option, from the point of view of conserving the archaeological sites, would be to divert the access road around the East Cadia Village Site. This could be readily achieved by constructing the new gravel road along the course of the historical haulage route from Smelter No. 2. The construction of the new access road along the historical alignment would not disturb significant remains of the Cadia Village Site, providing the new works kept within the original road formation. The road could then pass along the western side of the village site, adjacent to the Cadiangullong Creek, without disturbance of the Village Site, the full extent of which is revealed in the sequence of historical photographs, included in this report. The route across Cadiangullong Creek could also avoid Site 1, although this site has already been disturbed by recent activities. The route of the access road in this preferred option is shown in Figure 4.1. The road construction works for the preferred option would only require archaeological monitoring, in accordance with the existing excavation permit.

If it is not possible to divert the proposed access road around the East Cadia Village Site, then the construction of the road should be preceded by the excavation of a number of test-trenches to explore the archaeological remains of the site in the course of the road. Some of these test-trenches may result in a requirement for larger scale area trenches, in order that the archaeological evidence may be recovered prior to disturbance and destruction by road works. The precise location of test-trenches can be determined once the final design and plans for the route are known.

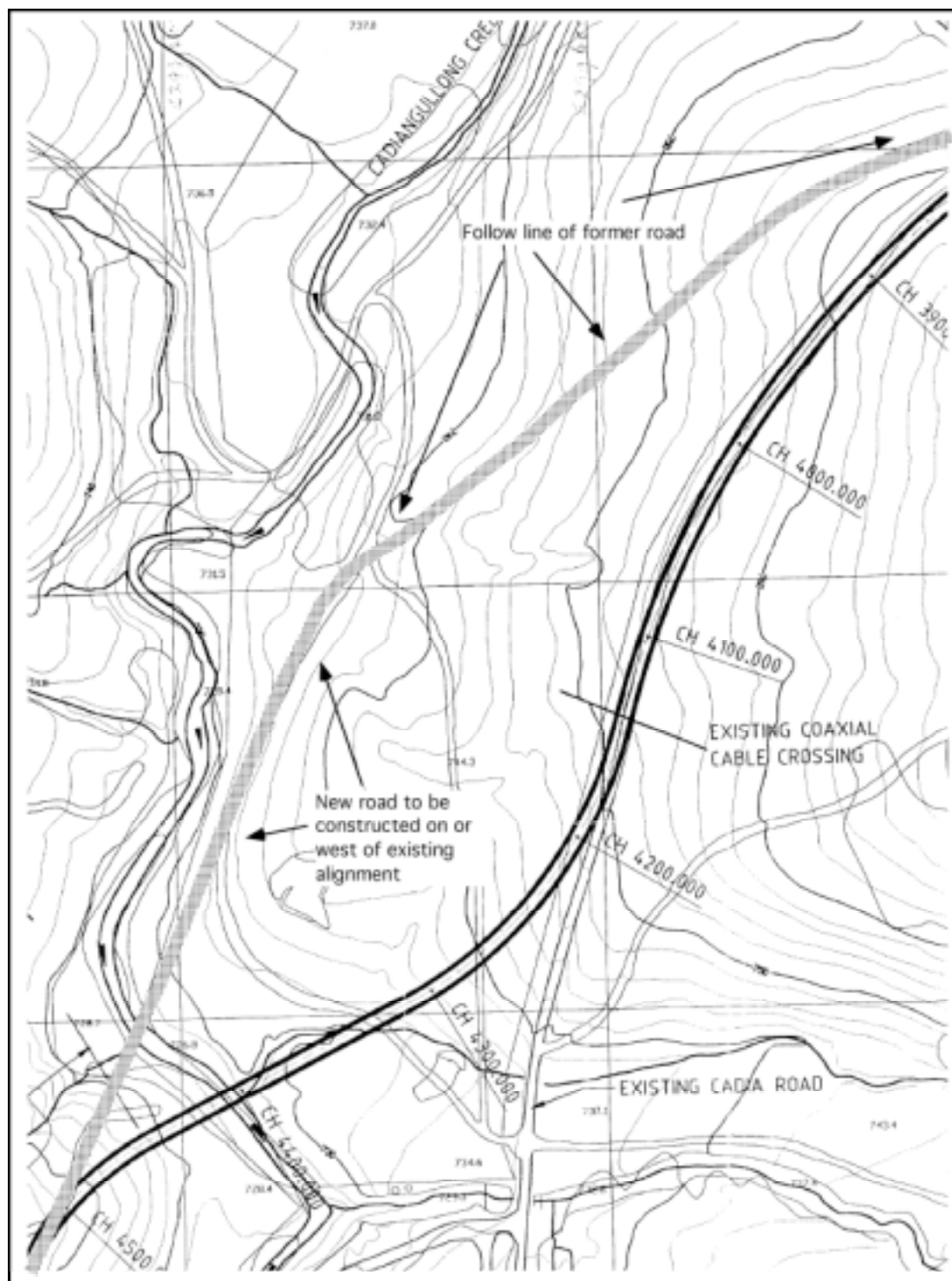


Figure 4.1. Plan showing the preferred option for the realignment of the proposed Mine Access Road around the East Cadia Village Site (Detail of Figure 1.3).