



MINERAL RESOURCES TASMANIA

**Archaeological Survey Report
1999/06**

**An archaeological survey
of the historic Mt Lyell
explosives magazine building**

By Parry Kostoglou





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Acknowledgements

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Introduction

Job brief

This archaeological inspection of the historic explosives magazine buildings at the Mount Lyell mine was commissioned by Mineral Resources Tasmania in response to the tendered acquisition and removal of these buildings by a local identity for re-use as tourist accommodation. The verbal brief for this assignment called for a visit to the Mount Lyell mine site in order to survey all of the buildings listed in the tender. Three other magazine buildings and a capping shed were also surveyed in addition to the four relevant magazine buildings earmarked for removal.

Methodology

Field work was undertaken over a half day period on Friday 9 July 1999. The various magazine buildings were measured/drawn in plan form and photographically inventoried. Half a day was also spent at the MRT library and map rooms in order to compile information on the history of these buildings and their parent mine site.

Location of survey area

The structures described in this report occur in the magazine area at the Mount Lyell copper mine, Queenstown, Tasmania. More specifically, the magazine area is situated south of the Prince Lyell number 1 shaft. Plate 1 shows a map of the mine area showing the location of the magazine precinct/area.

Statement of significance

All of the structures described in this report were previously assessed as part of a larger heritage survey undertaken by Godden Mackay Pty Ltd in 1993/94 as a part of the Mount Lyell mine shut down plan. In this survey, commissioned by Mineral Resources Tasmania (MRT) and the Department of Environment and Land Management (DELM), the authors ascribed a moderate (3 out of 5) level of significance to all of the magazine buildings and a low level of significance (2 out of 5) to the capping shed.

Recommendations

In their report, Godden Mackay stated that retention was desirable for all of the magazine buildings, and optional for the capping shed. The consultants did acknowledge the lesser option of retaining one representative structure on site (Magazine No. 1). In commissioning this present survey, Mineral Resources Tasmania has stated that the maintenance bill to keep the magazine buildings *in situ* will be too prohibitive for the current and future Mount Lyell mine operators.

Hence the current proposal to sell off the structures for re-use elsewhere. After re-surveying the relevant structures, this consultant therefore recommends that:

- The four magazines proposed for tender be allowed to be acquired and moved into Queenstown for tourism purposes, provided that the proposed structural alterations are reasonably sympathetic and that ample interpretation is provided for visitors to fully appreciate the origins and purpose of the former magazines.
- At least one of the remaining original style magazine buildings be kept complete and *in situ* per the Godden Mackay recommendations. The smaller detonator shed might prove the most suitable candidate for this activity, given its poorer structural state and attendant difficulties in relocation.

Historical overview

According to one secondary source, the magazine buildings described in this report were erected in association with the development of the nearby West Lyell open-cut mine (Godden Mackay, 1994, Vol. 2). This enterprise owed its origins to exploration work undertaken by the Mount Lyell Company in 1934, which sought to re-assess dormant leases. The new exploration program culminated in the discovery of a substantial low-grade ore body (0.6% copper) on the West Lyell lease, which could be most readily exploited through the employment of open-cut technology. By late 1934, ore was already being trucked from the new open cut, while plans were made to import more heavy excavating and transportation machinery. It is highly likely that the magazine buildings were erected as a part of this infrastructure expansion, although no specific references to their construction are evident from the sources consulted. Only one reference in the Secretary of Mines report

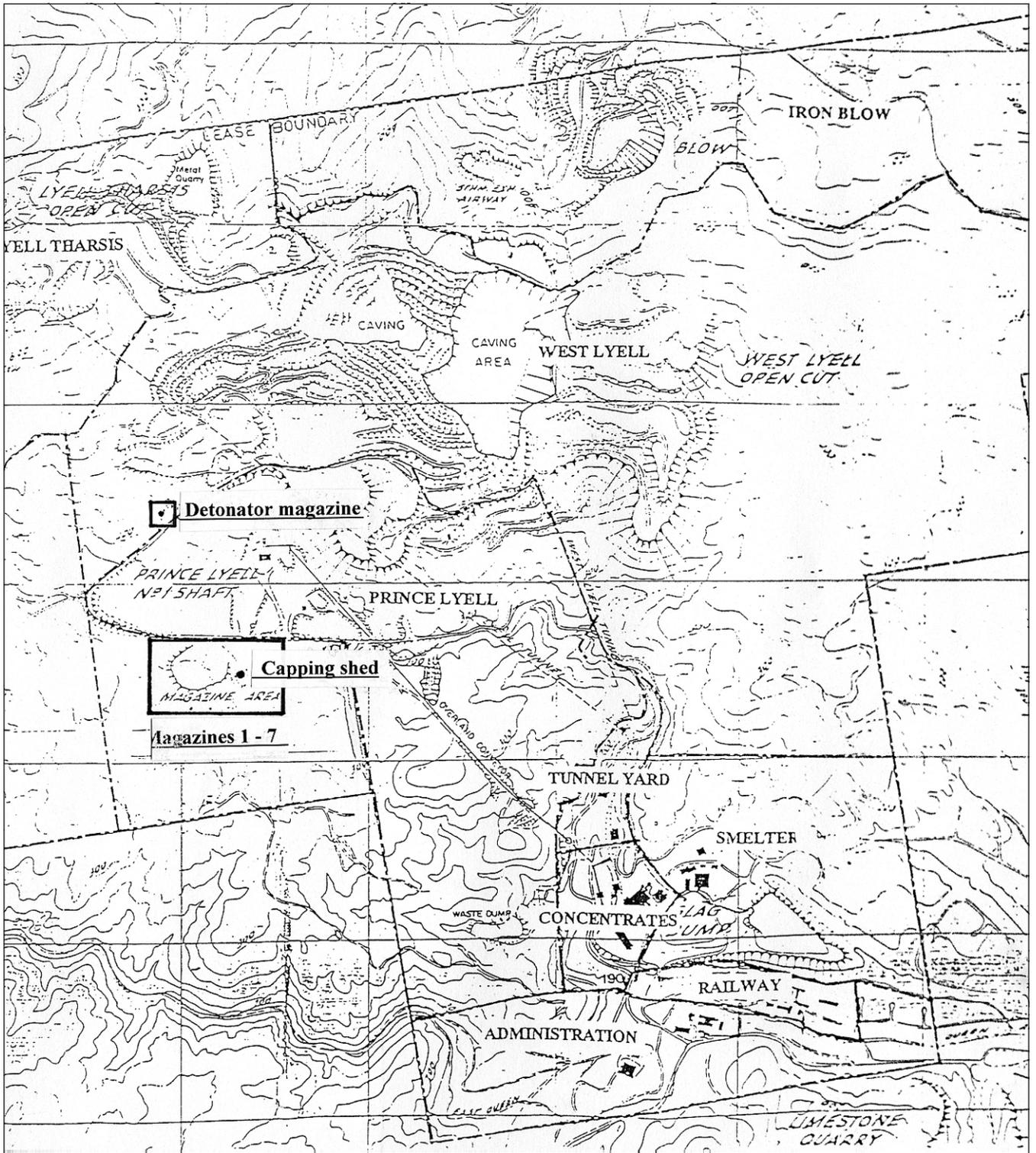


Plate I

Map showing location and extent of Mount Lyell Mining leases and relevant sites.

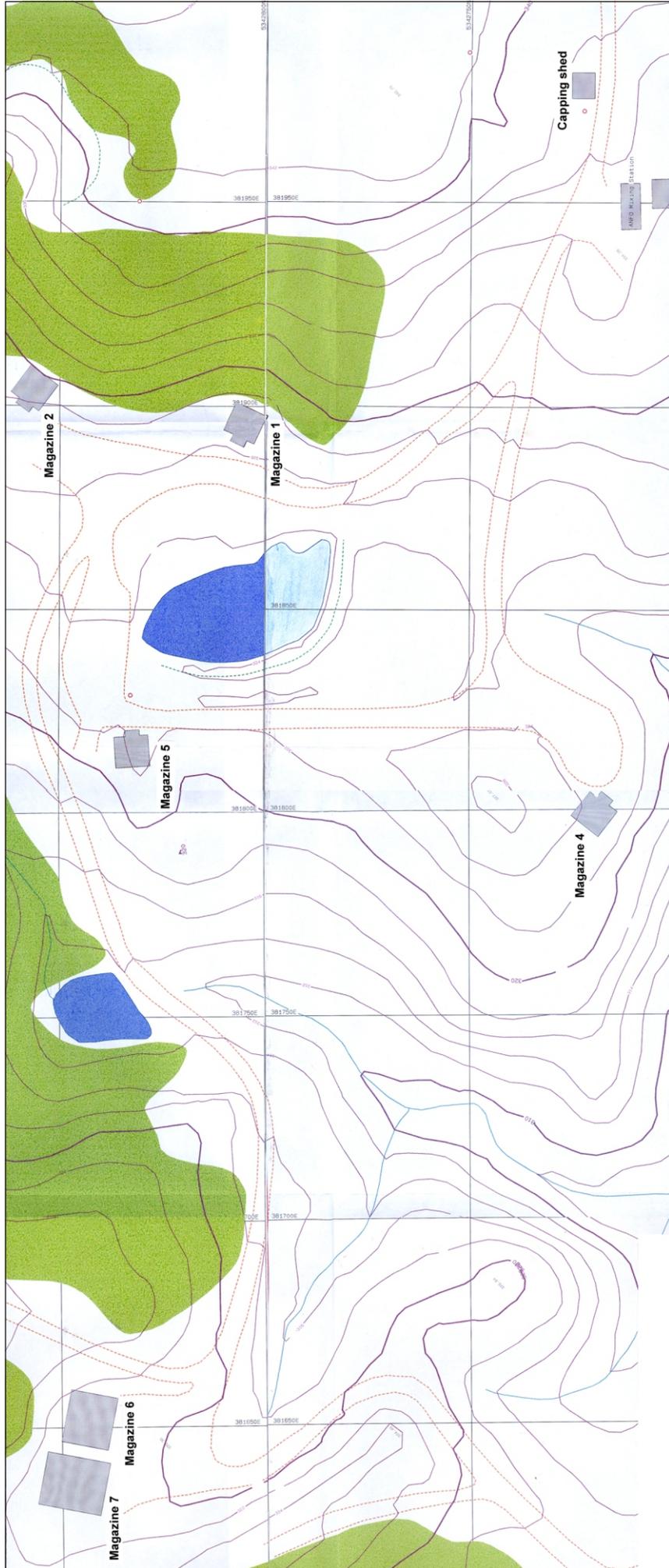


Plate 2

Scaled map showing location/configuration of buildings in main magazine area.

for 1946 appears to make specific reference to these magazine buildings. While discussing the current storage of explosives, the Secretary noted that:

“Provision is afforded in five licensed magazines for the storage of 268,450 lbs of nitro compounds and 122,000 detonators. Satisfactory conditions were noted during inspections of these magazines and other premises licensed under the provisions of the Explosives Act”. (Secretary of Mines Report for 1946, p.29)

Four years later this mine had become the largest ore producer at Mount Lyell. Due in the main to the West Lyell open cut, the Mount Lyell mine reached a peak production of two million tons of ore for the year 1957–58. When the resident ore body became exhausted, the West Lyell open-cut mine was closed in 1978. The magazines have however been periodically used for the storage of explosive materials subsequent to its parent mine's closure. Indeed at least one of the magazines held explosives at the time of this survey, although it is assumed that they have been decommissioned.

Site reports

This section documents the results of the site recording program, which assessed the six magazine buildings in the magazine area, in addition to the nearby capping shed and detonator magazine. Plate 2 shows a detailed map of the survey area including the locations of the various structures examined.

■ Magazine number 1

LOCATION

This building stands 250 m due east of the magazine precinct lake.

DESCRIPTION

The following details were noted about this structure. Reference should also be made to Plate 3 which shows a scaled plan of this building.

Materials

This structure is a timber framed building with a corrugated iron skin. The front door is made of sheet steel while the facade around the doorway is zinc aluminium. The floor is constructed of Tasmanian oak hardwood floorboards, while the interior wall is lined with rough sawn pine boards. The interior of the building has been whitewashed and the exterior cladding has been painted a gloss white.

Dimensions

The main floor plan measures 6.7 x 6.4 x 5.3 m in height. The attached front porch measures 2.2 x 1.62 m in dimension.

Construction details

The structure possesses a gabled roof and a small gable-roofed entry porch at the front. Both roofs have their own independent guttering and down pipe systems. The magazine has only one entrance within the front porch and no windows. There are two conical air vents on each side of the roof ridge capping (total of 4). Interestingly, the structure has a double lined timber wall and floor configuration. The cavities between these are filled with fine black slag from the Mount Lyell smelters, presumably as blast proofing in the event of an accident with any resident explosives. The building is elevated on short concrete piers and the open area beneath these has been enclosed with vermin proof wire to prevent entry by animals.

Related features

A fire extinguisher hangs on a bracket attached to the south side of the front porch. An 8.3 m high lightning rod protector made of celery top pine stands two metres east of the magazine building.

REFERENCES

Godden Mackay, 1994. Volume 2, Site 158.

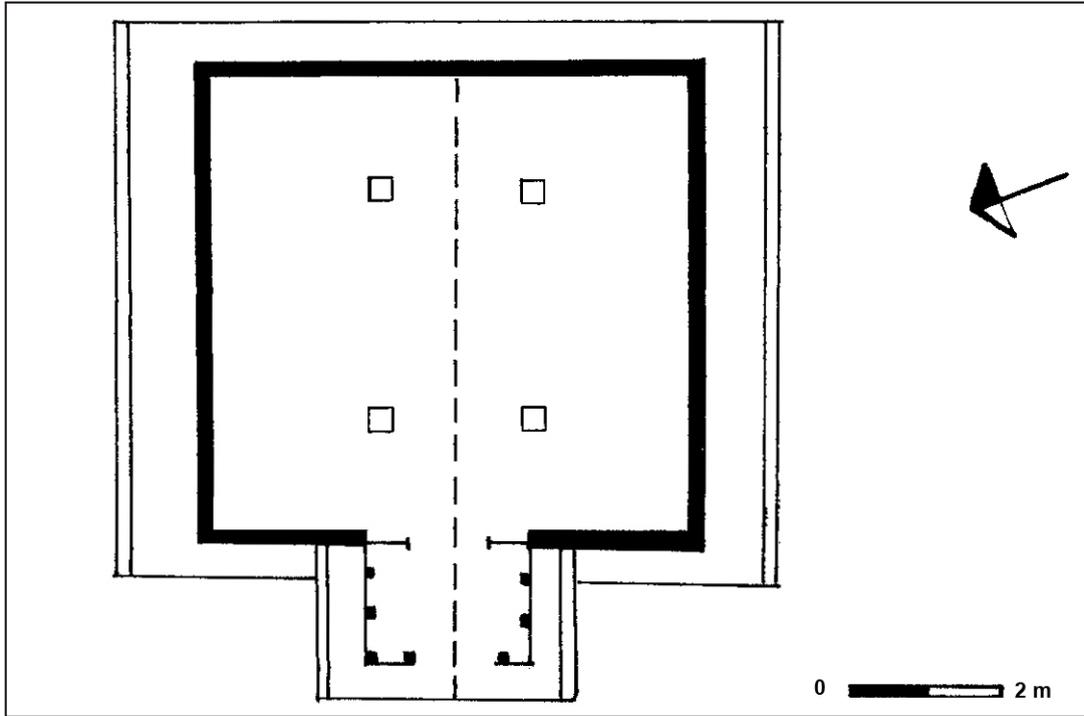


Plate 3

Scaled plan of magazine number 1.

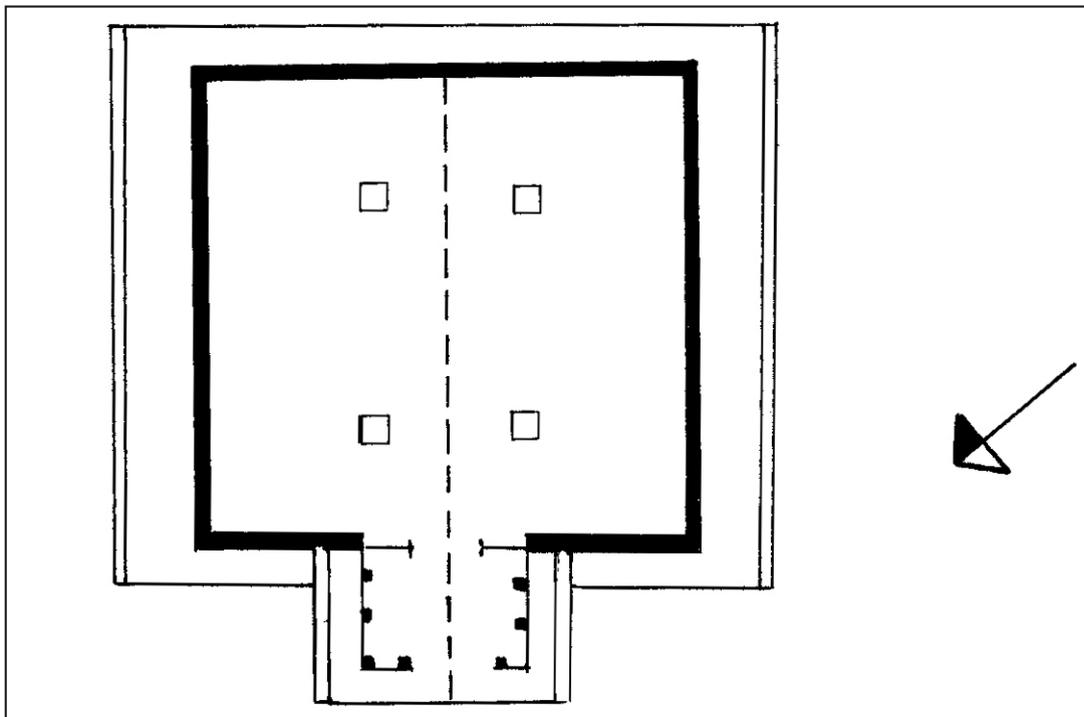


Plate 4

Scaled plan of magazine number 2.

Magazine number 2

LOCATION

This structure stands 50 m due north of Magazine number 1.

DESCRIPTION

The following details were noted about this structure, which is effectively identical to Magazine number 1. Reference should also be made to Plate 4 which shows a scaled plan of this building.

Materials

This structure is a timber framed building with a corrugated iron skin. The front door is sheet steel and the facade around the doorway is zinc aluminium. The floor is constructed of Tasmanian oak hardwood floorboards, while the interior wall is lined with rough sawn pine boards. The interior of the building has been whitewashed, and the exterior cladding has been painted a gloss white.

Dimensions

The main floor plan measures 6.7 x 6.4 x 5.3 m in height. The attached front porch measures 2.2 x 1.62 m in dimension.

Construction details

The structure possesses a gabled roof and a small gable-roofed entry porch at the front. Both roofs have their own independent guttering and down pipe systems. The magazine has only one entrance within the front porch and no windows. There are two conical air vents on each side of the roof ridge capping (total of 4). Interestingly, the structure has a double lined timber wall and floor configuration. The cavities between these are filled with fine black slag from the Mount Lyell smelters, presumably as blast proofing in the event of an accident with any resident explosives. The building is elevated on short concrete piers and the open area beneath these has been enclosed with vermin proof wire to prevent entry by animals.

Related features

An 8.3 m high lightning rod protector made of celery top pine stands two metres east of the magazine building.

REFERENCES

Godden Mackay, 1994. Volume 2, Site 159.

Magazine number 4

LOCATION

This structure stands 80 m southwest of the magazine precinct lake.

DESCRIPTION

The following details were noted about this structure, which is effectively identical to magazines 1 and 2, with some minor exceptions. Reference should also be made to Plate 5 which shows a scaled plan of this building.

Materials

This structure is a timber framed building with a corrugated iron skin. The front door is sheet steel and the facade around the doorway is zinc aluminium. The floor is constructed of Tasmanian oak hardwood floorboards, while the interior wall is lined with rough sawn pine boards. The interior of the building has not been whitewashed and the resident boards remain in excellent condition. The exterior cladding has been painted a gloss white.

Dimensions

The main floor plan measures 6.7 x 6.4 x 5.3 m in height. The attached front porch measures 2.2 x 1.62 m in dimension.

Construction details

The structure possesses a gabled roof and a small gable-roofed entry porch at the front. Both roofs have their own independent guttering and down pipe systems. The magazine has only one entrance within the front porch and no windows. There are two conical air vents on each side of the roof ridge capping (total of 4). This structure also has four square air vents cut into the flooring to aid ventilation, which the other magazines do not possess. Another unique feature noted in this building is the absence of the double wall/floor slag cavity for blast proofing. This building is also elevated on higher concrete piers than its neighbours, due to the steeper slope on which it is situated. The open area beneath has been enclosed with vermin proof wire to prevent entry by animals.

Related features

An eight metre high lightning rod protector made of celery top pine stands two metres east of the magazine building.

REFERENCES

Godden Mackay, 1994. Volume 2, Site 160.

Magazine number 5

LOCATION

This structure stands 25 m west of the northern end of the magazine precinct lake.

DESCRIPTION

The following details were noted about this structure, which is effectively identical to magazines 1, 2 and 4. Reference should also be made to Plate 6 which shows a scaled plan of this building.

Materials

This structure is a timber framed building with a corrugated iron skin. The front door is sheet steel and the facade around the doorway is zinc aluminium. This building was locked at the time of this survey and no examination of the interior could therefore be made. The exterior cladding has been painted a gloss white.

Dimensions

The main floor plan measures 6.7 x 6.4 x 5.3 m in height. The attached front porch measures 2.2 x 1.62 m in dimension.

Construction details

The structure possesses a gabled roof and a small gable-roofed entry porch at the front. Both roofs have their own independent guttering and down pipe systems. The magazine has only one entrance which is at the exterior of the front porch and no windows. There are two conical air vents on each side of the roof ridge capping (total of 4), which are closer to the ridge cap than in the other magazines. Like magazines 1 and 2, this structure possesses the characteristic double-lined timber wall and floor cavities filled with fine black slag from the Mount Lyell smelters as blast proofing in the event of an accident with any resident explosives. The building is elevated on short concrete piers and the open area beneath these has been enclosed with vermin proof wire to prevent entry by animals.

Related features

An 8.3 m high lightning rod protector made of celery top pine stands two metres east of the magazine building.

REFERENCES

Godden Mackay, 1994. Volume 2, Site 161.

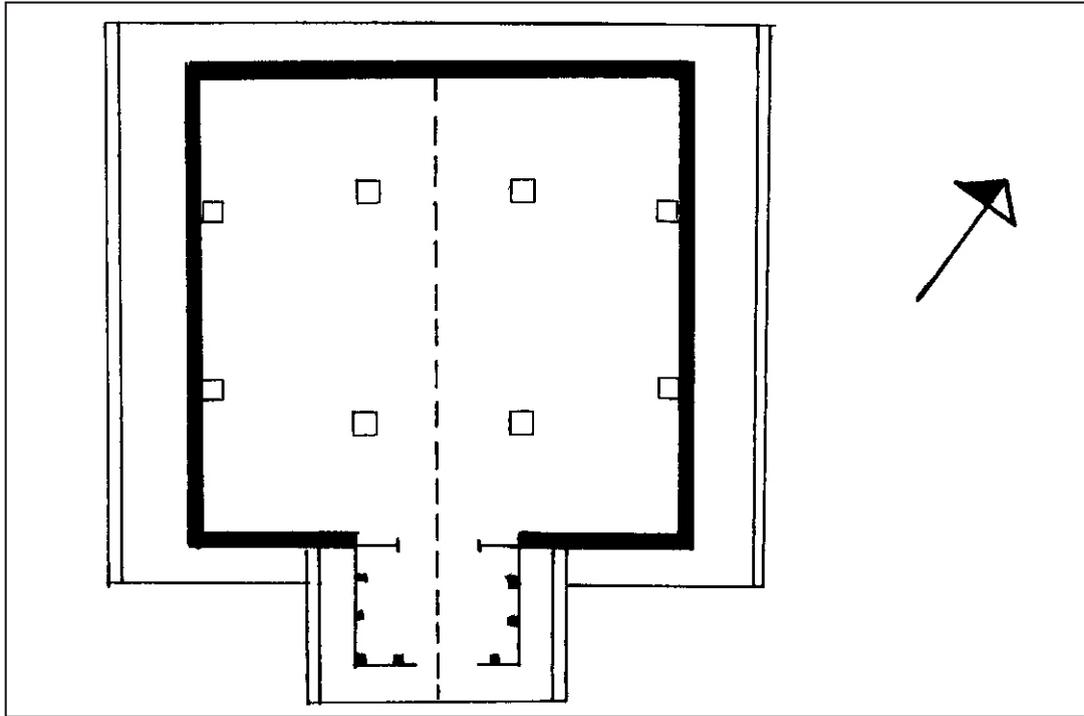


Plate 5

Scaled plan of magazine number 4.

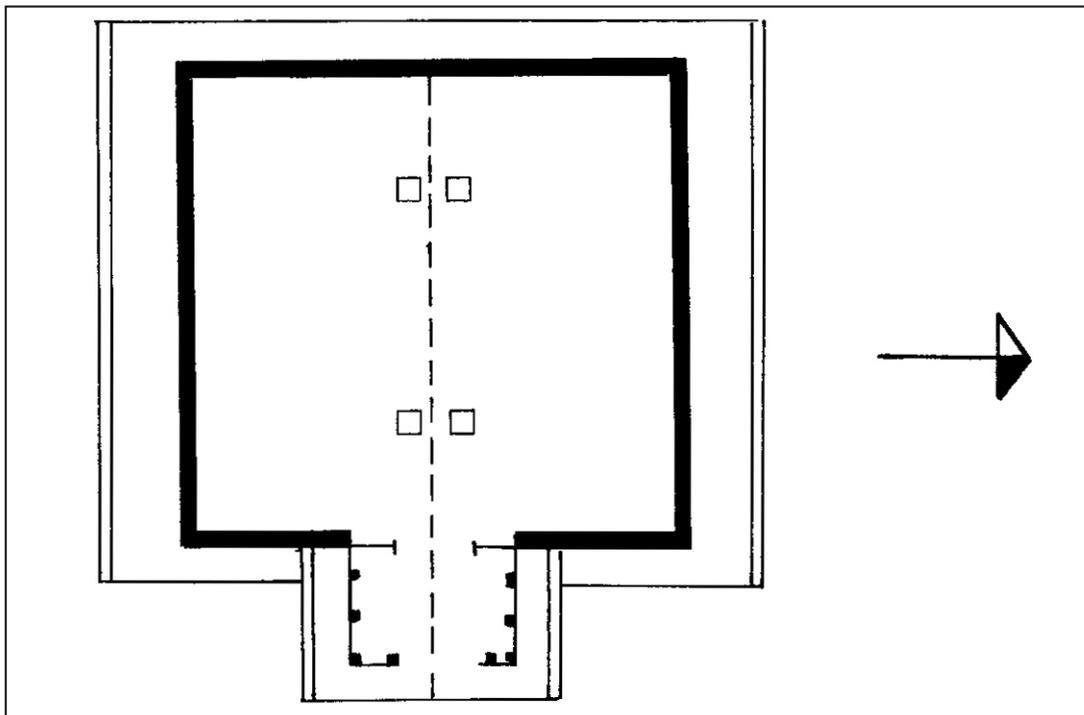


Plate 6

Scaled plan of magazine number 5.

■ **Magazine number 6**

LOCATION

This structure stands 150 m due west of magazine 5.

DESCRIPTION

The following details were noted about this structure, which is substantially larger than the previous magazine buildings. Reference should also be made to Plate 7 which shows a scaled plan of this building.

Materials

This structure is a timber framed building with a corrugated iron skin. The double front doors, which are situated within the front porch, are made of sheet steel. The floor and walls are composed of Tasmanian oak hardwood boards. The exterior cladding has been painted a gloss white. There is a concrete podium at the front of the porch.

Dimensions

The main floor plan measures 10.4 x 11.5 m in dimension. The attached front porch measures 2 x 3.5 m in dimension. There is also a 3.5 x 1.2 m concrete podium at the front of the porch.

Construction details

The structure possesses a gabled roof and a small gable-roofed entry porch at the front. Both roofs have their own independent guttering and down pipe systems. The magazine has only one entrance within the front porch and no windows. There are two conical air vents on each side of the roof ridge capping (total of 4), which are closer to the ridge cap than in the other magazines. There are also four rectangular air vents cut into the floor alongside the western wall. Like magazines 1, 2 and 5, this structure possesses the characteristic double-lined timber wall and floor cavities filled with fine black slag from the Mount Lyell smelters as blast proofing in the event of an accident with any resident explosives. The building is elevated on short concrete piers and the open area beneath has been enclosed with vermin proof wire to prevent entry by animals.

REFERENCES

Godden Mackay, 1994. Volume 2, Site 162.

■ **Magazine number 7**

LOCATION

This structure stands immediately west of magazine number 6.

DESCRIPTION

The following details were noted about this structure, which is the largest of the magazine buildings. This building is also considerably younger than the other magazine buildings, although it has been built using the same characteristic gabled roof and matching gabled porch design. Reference should also be made to Plate 8 which shows a scaled plan of this building.

Materials

This structure is a timber framed building with a corrugated iron skin, and rests on a massive concrete slab. The interior is accessed through a pair of sheet steel double front doors which are situated within the front porch. This building was locked at the time of this survey and its interior could not therefore be assessed. The exterior corrugated iron cladding has not been painted. There is a concrete slab podium at the front of the porch.

Dimensions

The main floor plan measures 14.4 x 11.5 m in dimension. The attached front porch measures 2.5 x 1.6 m in dimension. There is a 2 x 2.6 m concrete podium at the front of the porch.

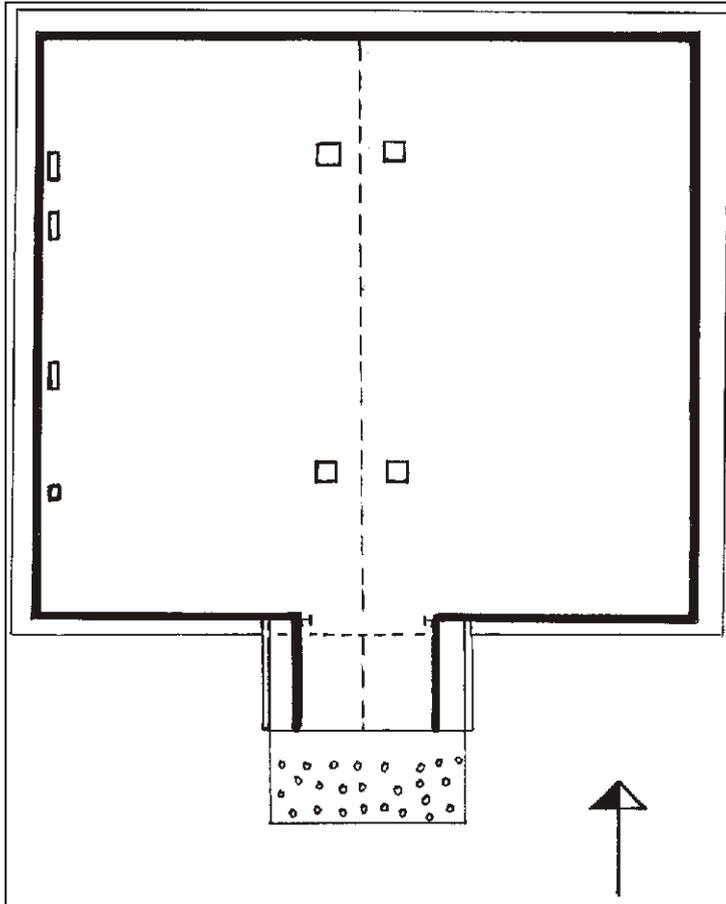
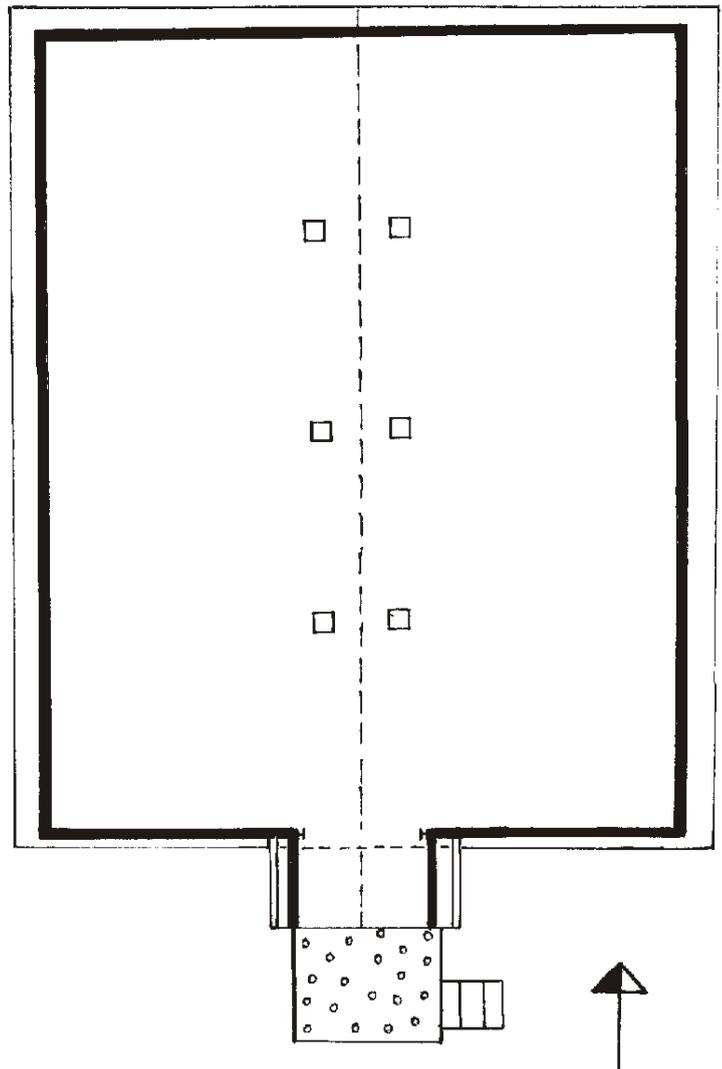


Plate 7

Scaled plan of magazine number 6.

Plate 8
Scaled plan of magazine number 7.



Construction details

The structure possesses a gabled roof and a small gable-roofed entry porch at the front. Both roofs have their own independent guttering and down pipe systems. The magazine has only one entrance within the front porch and no windows. There are three conical air vents on each side of the roof ridge capping (total of 6). Like magazines 1, 2 and 5, this structure possesses the characteristic double-lined timber wall and floor cavities filled with fine black slag from the Mount Lyell smelters as blast proofing in the event of an accident with any resident explosives. The building rests on a massive concrete slab.

REFERENCES

Godden Mackay, 1994. Volume 2, Site 163.

Detonator magazine

LOCATION

This structure is situated within the Prince Lyell mining lease. The building stands adjacent to a dam site one kilometre north of the cluster of magazines described previously.

DESCRIPTION

The following details were noted about this structure, which is the smallest of the magazine buildings. Reference should also be made to Plate 9 which shows a scaled plan of this building.

Materials

This structure is a timber framed building with a corrugated iron skin, and rests directly on the ground. This is unfortunate given the periodic overflow from the adjacent dam site. The interior is accessed through a single sheet steel double door which is situated at the exterior of the front porch. The interior walls and floors are made of hardwood, and the walls have been white washed. The exterior corrugated iron cladding has not been painted.

Dimensions

The main floor plan measures 3.2 metres squared. The attached front porch measures 2 x 1.7 m in dimension.

Construction details

The structure possesses a gabled roof and a small gable-roofed entry porch at the front. Both roofs have their own independent guttering and down pipe systems. The magazine has only one entrance on the exterior the front porch and no windows. There is a single conical air vent on each side of the roof ridge capping (total of 2). Like magazines 1, 2, 5, 6 and 7, this structure possesses the characteristic double-lined timber wall and floor cavities filled with fine black slag from the Mount Lyell smelters as blast proofing in the event of an accident with any resident explosives. The numbers 1 through to 33 are painted at regular intervals along the interior walls. These would have been used as a guide for the proper staggered storage of detonator cases.

REFERENCES

Godden Mackay, 1994. Volume 2, Site 030.

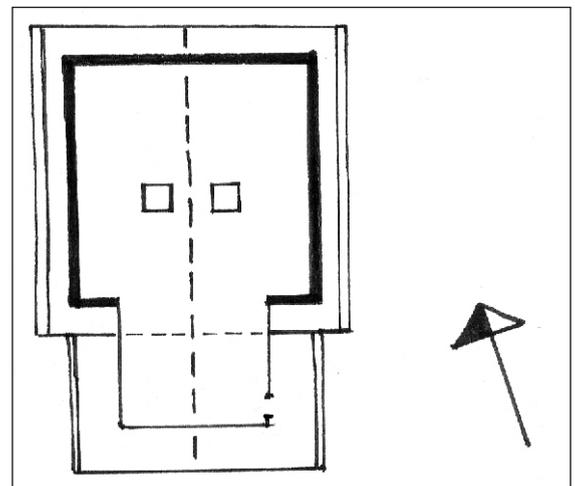


Plate 9

Scaled plan of detonator magazine.

Capping shed

LOCATION

This structure stands adjacent to the Anfo mixing station, approximately 110 m southeast of magazine number 1.

DESCRIPTION

This structure has been built in two phases, which is evidenced by the anomalous roof and foundations. Reference should also be made to Plate 10 which shows a scaled plan of this building.

Materials

This structure is a timber framed building with a corrugated iron skin and roof. The interior is accessed through a single timber door which is situated on the eastern side of the building. The interior walls and floors are made of hardwood. The exterior corrugated iron cladding has been painted.

Dimensions

The main floor plan measures 5.85 x 4.5 m in dimension.

Construction details

This is a three-roomed building containing two internal doors and two windows along the northern wall. The roof is split level and guttering along the northern and southern roof line carries water into a circular corrugated iron water tank standing beside the doorway at the southeastern corner of the building. The building rests on two separate supports. The older northern half of the building lies on a concrete slab, whereas the newer southern addition is elevated on short concrete piers.

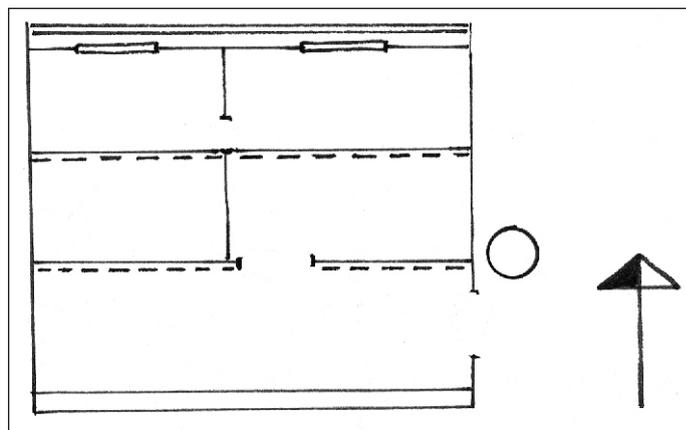


Plate 10

Scaled plan of capping shed.

REFERENCES

Godden Mackay, 1994. Volume 2, Site 156.

References

GODDEN MACKAY PTY LTD 1994. *Mount Lyell Mining Lease Cultural Heritage Assessment Study. Volume 1 — Main Report.* Godden Mackay Pty Ltd.

GODDEN MACKAY PTY LTD 1994. *Mount Lyell Mining Lease Cultural Heritage Assessment Study. Volume 2 — Inventory.* Godden Mackay Pty Ltd.

Reports of the Tasmanian Secretary of Mines and Director of Mines between the years 1920 and 1960.

APPENDIX

Contemporary survey photographs



Plate 11

Photo showing western entrance to magazine number 1.



Plate 12

View of northern side of magazine number 1.



Plate 13

View of eastern side of magazine 1. Note lightning pole at rear.



Plate 14

Detail of doorway/gabled porch on magazine number 1.



Plate 15

Detail of internal air venting in ceiling, magazine number 1.



Plate 16

View of southern side of magazine number 2.



Plate 17

View of northern wall of magazine number 2.



Plate 18

View of northern wall of magazine number 4.



Plate 19

View of southern wall of magazine number 4.



Plate 20

View of eastern porch entrance to magazine number 4.



Plate 21

View of interior floor venting in magazine number 4.



Plate 22

Frontal porch view of magazine number 5.



Plate 23

View of northern wall of magazine number 5.



Plate 24

Frontal view of magazine number 6.



Plate 25

View showing air vents and elevated piers supporting magazine No. 6.



Plate 26

Frontal view of magazine number 7.



Plate 27

View showing concrete slab supporting magazine number 7.



Plate 28

Rearward/eastern view of detonator magazine.



Plate 29

Frontal/western view of detonator magazine.



Plate 30

View of northern side of capping shed.



Plate 31

View of capping shed showing water tank and adjacent doorway.



Plate 32

View of western wall of capping shed showing discontinuity in roof line and sheet iron.