Regulation 27

Instructions to complete form

Who should complete this form?

A person who discovers a site that should be recorded on the Heritage Inventory. This form must be completed in accordance with Heritage Victoria's *Guidelines for Conducting Historical Archaeological Surveys* available at <u>www.heritage.vic.gov.au</u>.

Enquiries and more information

Web: <u>www.heritage.vic.gov.au</u> Telephone: (03) 9938 6891 Email: <u>archaeology.admin@delwp.vic.gov.au</u>

Please lodge your form in one of the following ways:

By email to: archaeology.admin@delwp.vic.gov.au (Word is the preferred document format) OR

By post to: The Executive Director, Heritage Victoria, PO Box 500, MELBOURNE VIC 8002

Please note: all sections must be completed. Incomplete forms will be returned to the applicant which may result in delays.

fice use only		
Heritage Inventory number and name		
ROCKY POINT HERITAGE AREA H7721-0552		
Date received	Date accepted	Hermes Number
31/01/2024	13/03/2021	209517





1. Place details

Place name:	Rocky Point Cave site
Heritage Inventory Number (if any):	
Other or former names:	
Municipal Council:	Greater Geelong City
Address:	49-53 Riversdale Rd Newtown, Rocky Point Heritage Area
Geographical coordinates (GDA94 or WGS84) expressed in degrees and decimals of a degree:	
Mapsheet name and number (1:100,000 only):	7721

2. Cadastral location

County: Grant	
Parish: Moorpanyul	
Township:	
Section: 5	
Allotment: Lot 1 Volume 10313 Folio 607 to Volume 10313 Folio 608	
Standard Parcel Identifier (SPI):	

3. Details of site owner or land manager (where known)

itle:
irst Name:
urname:
usiness or organisation name: orangamite Catchment Management uthority
osition title:
.ddress:

Email address:

Telephone:

4. Details of site occupier (where known)

le:	
st Name:	
rname:	
siness or organisation name:	
sition title:	
dress:	
ail address:	
ephone:	

5. Aboriginal cultural values

Site has known Aboriginal values	No
Site is recorded on the Victorian Aboriginal Heritage Register	No

6. Current description of site

Please provide description:

The site is a shallow cave on an escarpment above which sits a modern warehouse/industrial building near the banks of the Barwon River. A sign notes the site as the location of James Harrison's icemaking machine. The site of the cave has now collapsed, and a rock tumble is visible.

Historical archaeological site card



https://www.abc.net.au/news/2022-04-01/james-harrison-the-inventor-of-the-ice-making-machine/100951092

Date recorded:

On Victorian Heritage Register: No

On Heritage Overlay: Yes HO1617

Associated sites:

7. Place history

Please provide a brief history of the place (at least 1 to 2 paragraphs):

Dates of events vary between sources, but it seems the most significant activity related to the use of a cave on the site occurred in the mid 1850s. The seems to be little no historical activity on site prior to or post these events. The area is within an area of cultural heritage sensitivity as it is approximately 50m north of the Barwon River.

According to Lang (2003, p57) the title deed for the site originally belonged to Reverend Andrew Love in 1854. It was then taken over by Ebenezer Davies who leased the site to James Harrison.

It is unclear if the cave was pre-existing or if it was purpose built. There are claims that a hut was partially built into the cave (Geelong Advertiser ca1970), and an advertisement for excavating and building rubble stone walls at Rocky Point was placed by Harrison in 1855 (Geelong Advertiser Saturday, November 3, 1855), so it is likely that some construction was undertaken around this time. A second shed some distance away may been associated with extracting water from the river (ABC 2022; Lang, 2003, 57).

The cave is believed to be the site of James Harrison's early experiments with icemaking, where he constructed a "closed cycle of operations in the Perkins model, but possibly without knowledge of that" (Roy Lang, p57, 2003). This involved attaching a pump to a coil from a heating device, pouring ether into the coil, closing the other end and operating the pump. This would apparently create ice on a wet surface (Lang, 57, 2003). Water was sourced from the Barwon River.



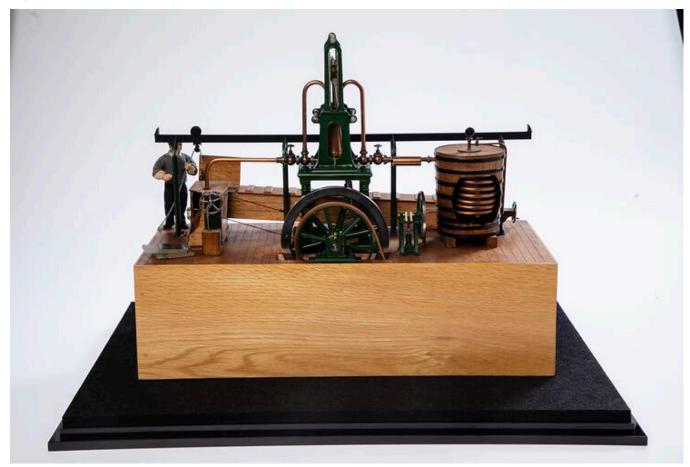
Harrison submitted a patent in 1855 for a refridgerating machine, using ammonia and other gaseous substances. This was ultimately successful and Harrison commercially developed the invention, selling them internationally until at least 1878 (Churchward, M. (2006)

8. Analysis of site (interpretation)

Include phases in the development of the site, functions and activities represented, as well as current place use:

1854-55 – site leased by Harrison and some construction of rubble walls and possibly a hut or shed took place. A second shed up to 50 metres away was built which for the drawing of water from the Barwon River. This water converted to ice using the condensor (ABC 2022)

The site was the location of Harrison's chemical experiments and development of an ice-making system. Activities include drawing water from the river, using a compressor to force gas through a condenser, and experiments with chemicals such as ammonia and ether.



Model of Harrison's vapour compression refrigeration machine (Museum Victoria)

Harrison was injured in accidents during these experiments, so at some point the cave was deemed unsafe and "filled in" (ABC 2022), potentially in the C20th and possibly with concrete. It is unclear how deep the infill extends into the cave

9. Statement of Significance

Please provide a brief description of why the site is significant (at least 1 to 2 paragraphs):

What is significant?

The site is recognized for its industrial heritage significance, association with James Harrison and early ice making activities in Geelong. The Rocky Point Cave site is believed to be the site of experiments with icemaking in 1854-55, cited as the earliest attempts to create commercially viable ice in the world. These attempts were ultimately successful, and the world's first vapour-compression refrigeration system was invented. Harrison refrigeration machines were used internationally by 1861 (Churchward, 2006). The cave was likely capped in the 20th century and has potential to contain historical archaeological deposits associated with the experimentation events.

How is it significant?

The site is of historical and archaeological significance.

Why is it significant?

The site is of historical significance for its association with James Harrison, a journalist and citizen scientist associated with the development of refrigeration, having developed the "first successful large-scale commercial ice-making machines..." (Lang, 2003). The site is of archaeological significance due to its potential to contain artefacts, deposits and features that relate to construction and use of the cave as a laboratory including metal fragments and other artefacts associated with the vapour compression machine.

10. Suggested Protection

- Heritage Inventory
- Victorian Heritage Register
- □ Heritage Overlay

11. Threat

Is the place under any threat? If so, what is the threat?

Proposed subdivision for business park.

12. References / Informants

Please list books or other sources that may provide historical information about this place.

<u>Books</u>

Lang, W.R. (1982). James Harrison - Pioneering Genius, Neptune Press Pty Ltd, Newtown, Victoria.

Newspaper Articles

The Age (Melbourne, Vic. : 1854 - 1954), 'MR, JAMES HARRISON.', 6 November, 1857, p. 5., viewed 24 Jan 2024, http://nla.gov.au/nla.news-article154831963

Geelong Advertiser (Vic. : 1859 - 1929), 'THE STORY OF REFRIGERATION', 1 August, 1903, p. 4., viewed 24 Jan 2024, http://nla.gov.au/nla.news-article148995950

Geelong Advertiser (Vic. : 1859 - 1929), 'PIONEER REFRIGERATION.', 5 January, 1911, p. 2., viewed 24 Jan 2024, http://nla.gov.au/nla.news-article149028819

Other Sources

ABC, 1/4/2022 "James Harrison invented Australia's first ice-making machine, but is now forgotten", accessed 18/1/2024; <u>https://www.abc.net.au/news/2022-04-01/james-harrison-the-inventor-of-the-ice-making-</u>

machine/100951092?utm campaign=abc news web&utm content=link&utm medium=content shar ed&utm source=abc news web

Australian Food Timeline website. *1855 James Harrison patents refrigeration system*, accessed 18/1/2024; <u>https://australianfoodtimeline.com.au/james-harrisons-refrigeration-system/</u>



Churchward, M. (2006) James Harrison, Inventor, Newspaper Proprietor & Mayor of Geelong, Victoria (1816-1893) in Museums Victoria Collections. Accessed 18 January 2024 https://collections.museumsvictoria.com.au/articles/2101;

Museums Victoria Collections https://collections.museumsvictoria.com.au/items/1380847 Accessed 18 January 2024

13. Attachments

Please attach the following to this form:

A map showing the location of the site. Map must clearly identify recorded area and include any street addresses (eg excerpt from Melway and its reference numbers)	
A plan showing all archaeological features, and any built cultural heritage. (The plan must be labelled and scale noted – eg 1:100,000)	
Photographs of the site (you may include historical photogaphs, historical plans, and historic maps)	
Any other documents or notes produced as a result of the survey.	

14. Recording archaeologist's details

Title:	
First Name:	
Surname:	
Business or organisation name:	
Position title:	

Business or company address:

Email address:

Telephone:

15. Statement

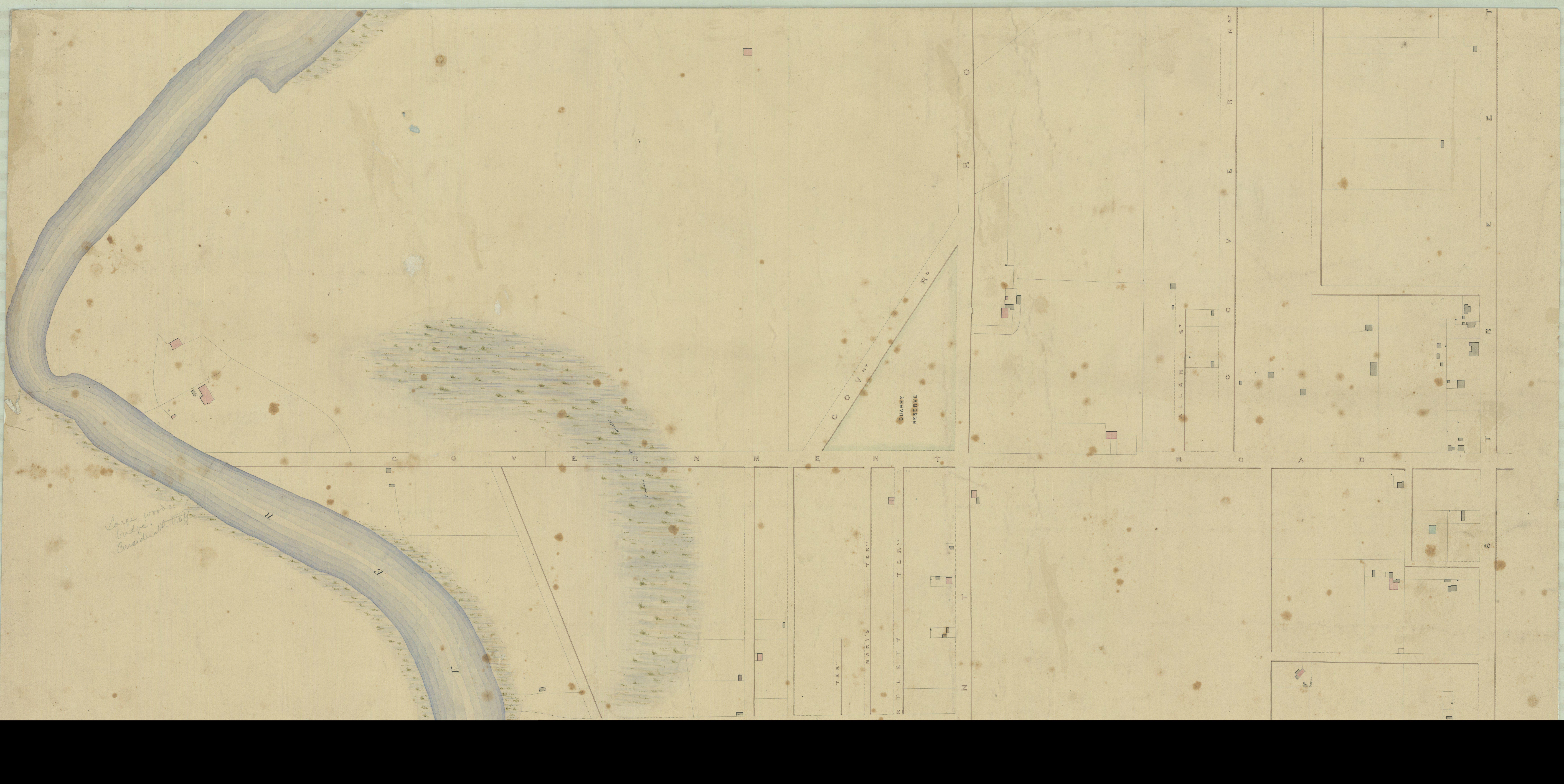
I state that the information I have given on this form is correct to the best of my knowledge.

Name:

Signature:

Date:

*Delete if not applicable



Undated c1970 Geelong Advertiser



Transcription of undated c1970 Geelong Advertiser story

Cave Scene of Ice Experiments

PHOTO CAPTION

The picture above shows Mr. R. H. Holden (left) with two companions who helped him to hack his way to the long-lost cave where James Harrison produced the first man-made ice, and (right) one of Harrison's early refrigeration units, manufactured in Geelong by "Vulcan" foundry.

STORY TEXT

For many years Mr R H Holden, of the Geelong Historical Society, has been searching for the exact site on which the first man-made ice in history was produced. It was known to have been in a hut, partly set in a cave, somewhere on the banks of the Barwon, by James Harrison, first editor of the Geelong Advertiser. But Mr Holden believed that the cave had disappeared, and that nothing remained to indicate its former whereabouts. However Mr C S Walker who is well versed in the early history of Geelong, recently told Mr Holden that he believed he could direct him to the site and a visit has disclosed that it remains little altered from the days of Harrison's discovery – more than a century ago. It is at Rocky Point, on the North bank of the river, just above the starting line of the Head-of-the-River races.

Mr Holden said yesterday it was ... certainly ... in this cave that Harrison ... nearby is persevering ... invention.

In those days sulphuric ether was used instead of ammonia as the element of compression. It was a dangerous gas, and Harrison was once found covered with dust and ... after an explosion.

Mr Holden said that Geelong was very rich in interesting relics, and it seemed time that some of them were marked to enable visitors to appreciate the story of our beginnings and achievements.

He suggested that a sign should be erected in Riversdale Road, pointing the way to the track which leads to the old ice-house on the Barwon, and another tp mark the cottage where Harrison died near the beach at Point Henry, still engaged in his scientific experiments.

22.23 HO1617: ROCKY POINT HERITAGE AREA

19/01/2006 VC37

This policy applies to all land included in the shaded areas on the Rocky Point Heritage Area Map.

Policy Basis

The Barwon river frontage has been used for industry and stone quarrying since the early settlement of Newtown. Rocky Point Heritage Area is important as an early landmark along the river and as the site of early Geelong industries including tanning, icemaking, quarrying for stone, stone crushing works, soap and candle works. The importance of this area relates to the extant structures namely the significant heritage places of "Austral Paper Mill", Redpath's Woollen Mills together with "Barwon Bank" that is prominent on the site and the site of the former Harrison's ice-making reflecting it's industrial heritage.

The area has important historical associations in terms of pioneering individuals and families in the locality. The area demonstrates the important evolution of industry (in some cases world wide) and provides opportunities for interpretation. The area may also contain some sub-surface remains of earlier industries. A notable feature of this area is the lack of uniformity within the precinct with ad-hoc placement of buildings. There are significant views towards Barwon River on the Highton/Belmont side cliff face.

Objectives

- To retain early industrial fabric (including sub-surface) remains including several quarries and the Rocky Point area where many of Newtown's (and Geelong's) early industries were established.
- To retain the individually significant intact examples including Barwon Bank, the former Austral Paper Mill and the adjoining Redpath's Woollen Mill (located off Gregory's Road).
- To determine whether any sub-surface evidence of Aboriginal occupation or early industrial uses remain.
- To protect the northern escarpment of the Barwon River from visual intrusion that will impact on the Barwon River and its environs.
- To encourage contemporary interpretation of traditional building design.
- To encourage the use of traditional construction materials.
- To encourage the retention of larger allotment holdings.

Policy

Where a permit is required for a proposal, it is policy for the responsible authority to consider, as appropriate:

- The need, in the case of any activities involving major ground disturbance, for an archaeological survey to determine the impact on any Aboriginal site and whether any sub-surface evidence of early industrial fabric remains.
- Whether the proposal incorporates the following design characteristics:
 - Pressed evenly coloured bricks.
 - Smooth rendered masonry (incorporating traditional external muted tones) or contemporary lightweight construction (including the use of colourbond steel).
 - Non-zincalume corrugated sheet metal or slate roofing.

Where a permit is required for a proposal, it is policy to:

- Promote the retaining of larger allotments.
- Discourage the subdivision of existing parcels of land into smaller allotments.
- Promote the separation of buildings from adjacent buildings.
- Retain intact culturally significant places.
- Discourage buildings and works that impede significant views to and from the Barwon River.
- Ensure that building heights are no higher than those of adjacent buildings.
- Retain the traditional form of streetworks by:
 - reducing concrete kerbing to spoon drains; and
 - retaining gravel verges or alternatively provide sand colouring on the side of asphalt carriageways.

References

City of Newtown Urban Conservation Study, Volumes 1-4, prepared by Context Pty Ltd for the City of Newtwon, (1991)

Geelong Region Historic Buildings and Objects Study Volume 2, prepared by Allan Willingham for the Geelong Regional Commission, (1986)

City of Greater Geelong Heritage and Design Guidelines, prepared by Helen Lardner for the City of Greater Geelong, (1997)

Rocky Point Heritage Area Map

