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During 1843 the Wheal Watkins opened on the southern side of Wheal Gawler on silver lodes and the main shaft was sunk to a depth of 480 ft.

Osmond Gilles opened his mine, the Glen Osmond, in 1846.

It was not until 1872 when lodes containing silver, lead, zinc, copper, gold and bismuth were found on the hillside near the Devils Elbow that a large payable mine, the Eagle, was established which reached its peak between 1888 and 1894.

The Glen Osmond mines were worked up to 1851 when the exodus of miners to the Victorian goldfields led to their closure. Various short lived attempts to rework them were made after the gold rush.

In 1888 seventeen men were employed by the Glen Osmond Silver and Lead Mining Co. in the Wheal Augusta near the Toll Gate Motel which was worked on three levels. A tramway tunnel was driven which is now preserved as a historic relic. The Company spent 2293 pounds 9 shillings and 11 pence on developing its mines in less than two years but the sales of ore did not bring in enough capital to keep them going and the Company went out of operation in December, 1890.

The Wheal Watkins was reworked in a small way in 1916 and the Wheal Gawler in 1957.

The total recorded production from the Glen Osmond Mines excluding the Big Eagle Mine (near the Devil's Elbow) amounts to a little less than 3 000 tons of ore.

The first local smelting of Glen Osmond ore was done at a furnace erected in Rundle Street, Adelaide in 1845. The following year a mill and smelter was erected at East Terrace, Adelaide close to the Botanic Gardens.

Osmond Gilles was one of a group who established a smelter at the foot of Mt. Osmond in 1849. The smelter was built on the floor of the valley and a long flue was carried up the hill to a chimney.

The Glen Osmond Smelting works operated for less than 2 years and it closed down in 1851.

A short distance down the road from the Augusta tramway adit stood "Smith's Bakery and Store" which has now been converted to the Colonial Restaurant. Built just after the Victorian gold rush, it remained open for nearly 116 years as a store and for about three quarters of that time as a bakery. The original ovens with their heavy doors can still be seen, preserved in the walls.



HISTORICAL RESEARCH: WHEAL GAWLER MINE, GLEN OSMOND

Wheal Gawler is the focal historical point of an area in the Adelaide Hills that witnessed the birth of the Australian mining industry. The area of Glen Osmond saw the discovery and operation of the first metal mine in Australia (if not the first true mine as the only other mining operations in the country were shallow 'open-cut' coal mines in the eastern states) in 1841.

In August, 1838, rock containing copper was accidentally discovered on land selected by the Colonial Treasurer, Osmond Gilles, who chose to ignore the discovery as he wished to retain the value of his property for future residential subdivision. However, two Cornish miners prospecting near the boundaries of Gilles' land happened to discover a rich silver-lead lode in February, 1841, and after inspection by Governor Gawler (after whom the mine was named) the mine commenced operation in April of that year. Being in a year of extreme financial distress, the colony would have been more than grateful for this important mineral discovery. The first shipment of ore to London for processing was on 19 April, 1841, and consisted of 40 boxes valued at £390. This was evidently the very first export of metal ore from Australia.

The mine continued operation until, "the exodus of miners to the Victorian gold rush in 1851 forced the closure of every mine in the State". Wheal Gawler had been sold to a German mining company in 1846 and was worked by German miners until its closure in 1851, having produced 107 slabs of silver bullion worth \$33,000 in 10 years of operation. Thus, apart from the economic significance of the workings, the mine is also strongly linked with two of the main cultural groups of immigrants to South Australia in the nineteenth century; the Cornish and the German.

At present the old mine consists of three main shafts, the deepest being 240 ft, and part of an adit or horizontal tunnel leading into the hillside. The 240 ft. shaft is filled in with rubbish above the tunnel level which is being added to every weekend and could collapse on top of any person venturing too far inside the tunnel. Apart from the rubbish, the main shaft is intact. Another of the shafts is in bad condition with rubbish filled in to within 15 ft. of the surface, and the remaining shaft is in a reasonable state of repair but is only 20 ft. deep. The main adit has been destroyed by approximately 90% by an excavation for the site of a house (as yet unbuilt but the land is for sale) but the entrance is relatively untouched.

"Wheal Gawler is a national heritage". Apart from its significance as being the first metallic mine worked in Australia, the mine (and the others in Glen Osmond) was responsible for bringing out "Cornish miners, captains and machinery", "These miners and those that followed out after them went on to work all the early mines of the State ... Many of these men migrated to other States taking their technology with them so that the whole mining industry really began with Wheal Gawler". In addition, Wheal Gawler led to the opening up of the Glen Osmond area, and the Adelaide Hills as a whole, to prospecting and mining on quite a large scale.

#### OTHER MINES

In 1843, two years after Wheal Gawler's operations had commenced, the Wheal Watkins mine opened on the south side of Wheal Gawler. This mine was also worked up to 1851 but on a much larger scale with a bigger workforce. The main shaft was sunk to 480 ft. and is intact today, however, it is covered by a cement "plug" which prevents the recirculation of air and will eventually cause the shaft to collapse. Wheal Watkins is important as it proved to be a substantially 'richer' mine than Wheal Gawler, being reopened in 1888 with the addition of two new boilers, an engine and winding plant, a pumping plant and a new poppet head on site. Only a slump in mineral prices in the following year (1889) forced the closure of the mine which retained its rich ore deposits. These deposits can still be seen at Wheal Watkins today while Wheal Gawler's resources have been completely exhausted.

The other two major mines in the area are the Glen Osmond Mine and Wheal Augusta. A mining company called The Glen Osmond Union Mining Company was formed in London to exploit a silver-lead lode found on Osmond Gilles' property, and it started mining operations in December, 1846, with ten men and a mining captain (Pascoe) sent out from England. The mine "quickly eclipsed the size of all the other mines in the area and was worked on an extensive scale up to 1850 turning out 300 tons of ore per year. The royalty demanded by Osmond Gilles was very high and did not allow the company to make any profit and after an unsuccessful demand for a reduction of the royalty the mine was abandoned in 1850". However, a Melbourne company reopened the mine and worked it from 1869 until 1871, followed by the Gilles Glen Osmond Silver Mining Company from 1888 to 1898, little work being done after 1892 due to low prices on the metal market.

The entrance to the main shaft (Victoria) of 310 ft. is blocked by a house built over it but the main adit leads to the cellar of Woodley's Winery where it can be entered and has generally been kept in very good condition. One of the lesser shafts covered by a grating still has the original wooden ladder used by the Cornish miners. Nine shafts were sunk in all. Wheal Augusta was a much smaller concern being operated by the Glen Osmond Union Mining Company "in a small way" between 1847 and 1850.



## SUMMARY

It should be noted that in addition to these mines there is also the oldest mine chimney in Australia which remains near the old Toll House. The chimney is all that is left of the original smelting works erected by Messrs. Penny in 1849 for treating ore from the Glen Osmond and other (Kanmantoo) mines. The rest of the complex including another mine chimney was demolished during the 1960s as a result of land subdivision. The remaining chimney plus a few feet around its circumference is now owned by the Burnside Council but there is no public access to it at the moment. The whole Glen Osmond area is under threat by land subdivision although the council has published a report on this historic site which recognises its importance.

The nature of the area is that it is equally of national, state, and local importance. Wheal Gawler is part of a large site of considerable heritage significance which unfortunately has already lost much of its integrity during the last 20 years. Nevertheless, enough remains that Mr. Royce Wells, historical research officer at the Department of Mines and Energy, is able to regularly conduct public tours through the area. It is imperative that action be taken to preserve an area to which the threat is increasing monthly.

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Discussion with Royce Wells, Historical Research Officer, Department of Mines and Energy, 29 June, 1981.

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30/6/81

# A HISTORY OF MINING & SMELTING NEAR THE TOLL GATE

## MOTEL, GLEN OSMOND

### General History of Mining at Glen Osmond

In August, 1838 copper was discovered on section 295 at Glen Osmond on land that had been recently selected by the Colonial Treasurer, Osmond Gilles. He was slow to act, and it was not until 1846 that he formed a company to mine it. It was then found that the many lodes on the property contained only small traces of copper but were rich in silver and lead.

In the meantime, two Cornish miners in February 1841 discovered a lode on a nearby hillside which assayed 10% silver and 75% lead. A mine at once started operating on the spot and Governor Gawler made an inspection of it. The mine was named Wheal <sup>(1)</sup> Gawler in his honour. This was the first mine in Australia and on April 19th, 1841, 40 boxes of ore were exported from it to England. A few years later the mine was taken over by German miners and developed on German mining techniques.

During 1843 the Wheal Watkins opened on the southern side of Wheal Gawler on rich silver lodes and the main shaft was sunk to a depth of 480 ft and the workings of the mine were very extensive.

Osmond Gilles opened his mine, the Glen Osmond, in 1846 while the Enterprise Mine opened on the northern side of Wheal Gawler in 1847.

Various smaller ventures followed. The Wheal Hardy was a small mine near the tollhouse where the present quarries now are. Duncan MacFarlane opened a mine in the valley of Glen

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(1) Wheal; from the Cornish work huel meaning mine.



Osmond Creek a mile above the tollhouse but the lodes were poor. This did not deter various people reworking it over and over during coming years.

In 1863 gold was found in a road metal quarry near the mine. Shallow drives and shafts put into the hill failed to find a payable deposit.

It was not until 1872 that rich lodes containing silver, lead, zinc, copper, gold and bismuth were found on the hillside near the old quarry, that a large payable mine, the Eagle, was established. Reaching its peak between 1888 and 1894 the Eagle was one of the largest of all the Glen Osmond mines and produced a considerable amount of rich ore.

The Glen Osmond mines were extensively worked by a large labour force up to 1851 when the exodus of miners to the Victorian goldfields led to their closure. Various short lived attempts to rework them were made after the gold rush and again in 1867-1873 and 1888-1894. The Wheal Watkins was reworked in a small way in 1916 and the Wheal Gawler in 1957.

The total recorded production from the Glen Osmond Mines excluding the big Eagle Mine (near the Devil's Elbow) amounts to a little less than 3 000 tons of ore.

## THE GLEN OSMOND SMELTING WORKS

The first ore from the Glen Osmond mines was shipped overseas for treatment.

The first local smelting of Glen Osmond ore was done at a smelting furnace erected by Mr. Carleton in Rundle Street, Adelaide in 1845. The following year a mill and smelter was erected at East Terrace, Adelaide close to the Botanic Gardens, for the treatment of ore from these mines. 107 slabs of bullion was produced from the Wheal Gawler ore.

Realizing the need for a smelter close to the mines themselves, Osmond Gilles was part of a movement for the establishment of such at the foot of Mt. Osmond, adjacent to where Gill Terrace now is. In 1849 Messrs. Penny erected a smelting works on land owned by Peter Peachey. The latest smelting principles were used in the construction. The smelter was built on the floor of the valley and a long flue was carried up the hill to a chimney constructed at such a distance so as to allow an adequate dispersion of fumes and so create a smog free atmosphere in the area where the men were working. The Union Mining Company advertised at the completion of the works that it not only intended to treat the ore from the Glen Osmond mines but also that from the Wheal Maria and Paringa mines (near Kanmantoo) and the Wheal Grainger at Brownhill Creek (near Mitcham).

The Glen Osmond Smelting works operated for a few years. Arguments between the company and Osmond Gilles together with the exodus of miners to Victoria in 1851 brought an end to its activities and after operating for less than 2 years it closed down never to reopen.



6628- 10528  
Smelting Works  
Chimney -  
Glen Osmond.

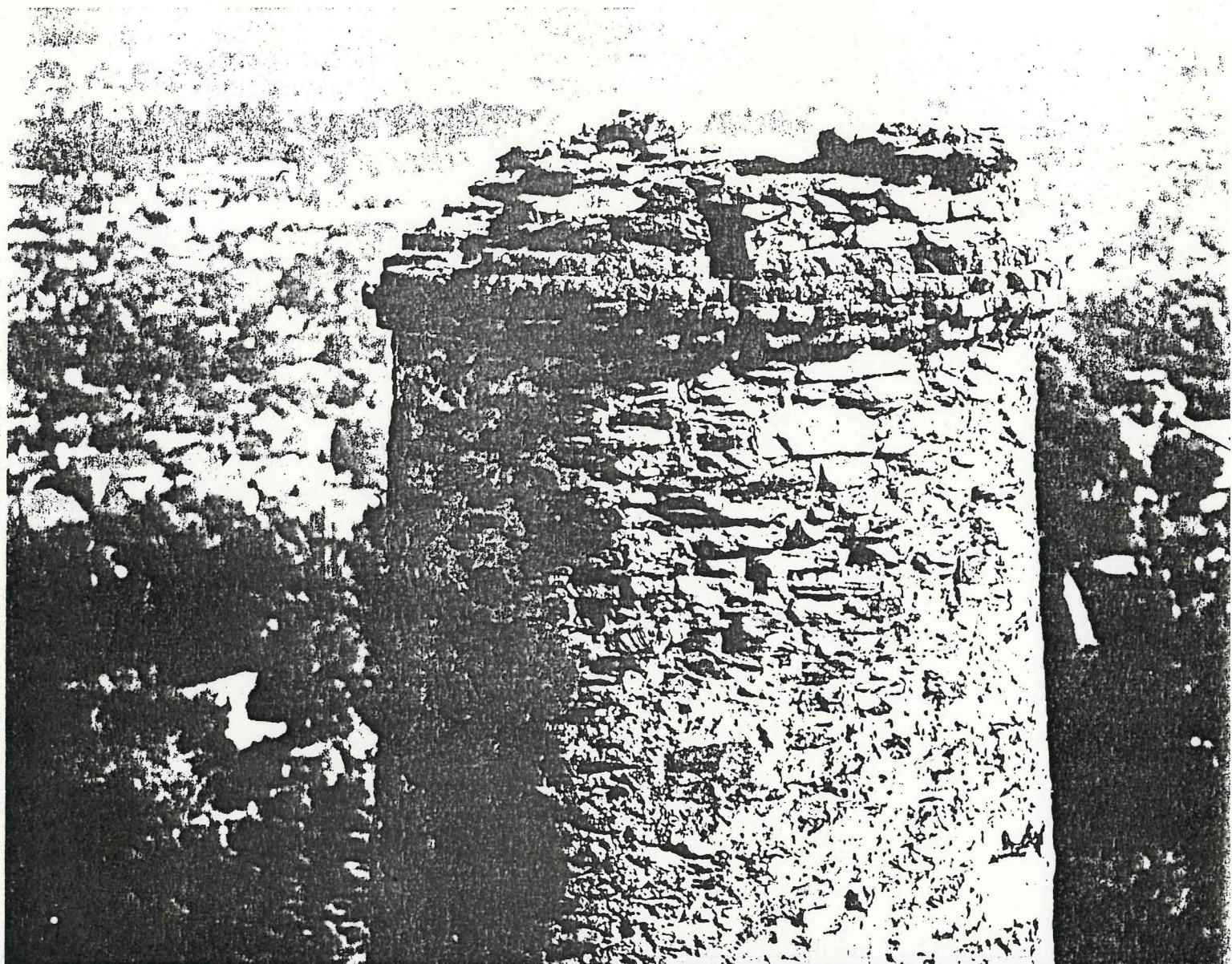
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#### SMELTING WORKS CHIMNEY, Glen Osmond

During the 1840s, before the discovery of gold in the eastern states, the Glen Osmond Union Mining Company with a capital of £30,000 began mining silver-lead at Glen Osmond in the foothills of the Mount Lofty Ranges.

Apart from this chimney, which was built to carry off fumes during smelting, the company built a smelting works and miners' cottages in the valley running up from Gill Terrace to Mount Osmond.

The chimney, which was connected to the smelting works by an underground flue, is the only remaining structure in the old mining area which is now being developed as a housing estate.





South Australian Heritage Act 1978-80	Register of State Heritage Items ITEM EVALUATION SHEET Buildings and Structures						
	Item SMELTER CHIMNEY AND FLUE GLEN OSMOND.						
Age 1849	Theme		Office 6628-10528				
Period 1837-1851	Subject PRIMARY EXTRACTIVE/EARLY SETTLEMENT		Region 2 Adelaide Metropolitan				
Building Type Chimney	Style COLONIAL VERNACULAR		Status N.Tr.(CL) N.E.R.				
<u>Qualitative Data</u>			<u>Grading</u>				
Component		Comment	E	VG	AG	FP	NA
<u>History</u>							
1. Context:	The Smelter, built by Messrs. Penny, was associated with the Glen Osmond silver lead mines, the first metalliferous mines in Australia which were worked between 1841-1851. Two earlier smelters in the City of Adelaide were discontinued after the Glen Osmond Smelters commenced operation. All that remains of the works are the chimney and portion of the slate covered flue which are a visual reminder of Glen Osmond's role in the history of Australian mining.		*				
2. Person/Group:	Associated with the Glen Osmond Union Mining Company which was formed in London in 1846. Built by Messrs. Penny.			*			
3. Event:	1849 Built and became operational. 1851 Closed as a result of the gold rush.			*			
<u>Architecture</u>							
4. Architect:	Not readily available						
Builder:	Messrs. Penny						
Engineer:	Not readily available.						*
5. Design:	Somewhat squat circular stone chimney set on a square base, slight taper towards top, brick band near top.				*		
6. Construction:	Rubble stonework with a stepped brick band at the top.				*		
7. Interior:	Not applicable.						*
8. Representation:	Earliest remaining above-ground artefact of the Cornish mining efforts in the Adelaide hills.		*				

I.E.S./D3/211081

South Australian Heritage Act 1978-80	Register of State Heritage Items ITEM EVALUATION SHEET Buildings and Structures								
Item		SMELTER CHIMNEY AND FLUE GLEN OSMOND							
Component		Comment			Grading E VG AG FP NA				
<u>Environment</u>									
9. Continuity:	Exposed steep hillside location, somewhat isolated.					*			
10. Local Character:	Close to Burnside Council's Park/Interpretative exercise on mining and a new residential area; some older features, like the Toll House, are adjacent.					*			
11. Landmark:	Visually dominant in its exposed setting on Adelaide's main eastern traffic artery, tall linear form contrasts natural topography.			*					
<u>Integrity</u>									
12. Alterations:	Some maintenance work, ground level flue has collapsed in portions, related smelter has been destroyed within the past 20 years.				*				
13. Condition:	No obvious structural defects.					*			
14. Compatibility:	No longer functioning.						*		
<u>Supplementary Information</u>									
Adaptation:	The Chimney should be allowed to remain a visual landmark by retaining an open setting in which it stands out. The Chimney itself has no real 'practical' usage and should be maintained as a free-standing monument.								
Interpretation:	The interpretative potention of the Chimney and Flue are very high but any active on-site measures should consider the chimney's important landmark qualities. Low keyed measures should be preferred and possibly co-ordinated with Burnside Council's interpretation efforts and car park at the base of the hill.								
Current Situation:	There is no known threat to the Chimney itself. The area around it though is in private ownership and its development is possible. The actual ground upon which the Chimney stands is owned by the Burnside City Council.								
Evaluated By	Ivar Nelsen Register Architect	Iris Iwanicki Register Historian	Jack Connell Register Engineer	Date					
Reviewed By	Mark A. Butcher Register Supervisor			Date					
South Australian Heritage Committee Categorization				Date					

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HISTORICAL RESEARCH REPORT: THE SMELTER CHIMNEY AND CONDUIT,  
GLEN OSMOND

The smelter chimney and traces of a stone-lined conduit on Section 1062, a hillside above the freeway and the Tollgate house, are all that remain of one of the earliest smelting works in Australia.

Built by the Glen Osmond Union Mining Company, formed in London in 1846,<sup>1</sup> it is located near a number of silver-lead mines at Glen Osmond. The first of these was the Wheal Gawler Mine, opened in 1841 and hailed as the first metalliferous mine in Australia.<sup>2</sup> This was followed by the Wheal Watkins (1843), the Glen Osmond Mine (1842), the Gilles Mine (1847), the Eagle (1848), MacFarlanes (1844) and the Enterprise. A total of thirteen lodes were discovered at Glen Osmond by the Glen Osmond Union Mining Company but operations were confined to three parallel lodes occupying north and south extremities of Section 1062. These were Gore's lode (northern side), the O.G. (south) and the Victoria in the centre.<sup>3</sup> In 1847 the Company sent a Cornish captain, 10 miners and a "score of chubby children"<sup>4</sup> to work the mines, which at that stage employed 40-50 men. The children were employed in sorting the ore into graded sizes; and the Company built a double row of cottages to accommodate miners and families on a triangular portion of Section 270, Kensington Road. These were demolished in about 1857.

Significantly, the area attracted Cornish miners and ushered in a period of "coppermania" which prevailed during the 1840's, saving the infant colony from continuing economic recession. While the discoveries at Kapunda, Burra, Moonta and Wallaroo eclipsed the importance of the Glen Osmond mines, the first metal mines south-east of the city nevertheless acted as a catalyst for further discoveries and attracted Cornish miners to settle in South Australia. It also established what Blainey observes to be "a consistent link between drought or depression and the opening of new mining fields".<sup>5</sup> Confidence caused by the discoveries is reflected in the increase in South Australia's population from 15,000 in the early days of discovery to 64,000 by 1851. Cornish miners, initially attracted to South Australia by the discoveries at Glen Osmond, went on to the copper fields at Kapunda, Burra, Wallaroo and Moonta to apply their traditional expertise in copper mining to the rich ore fields. German miners also were associated with the Glen Osmond mines.<sup>6</sup>

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1. T. Gill: The History and Topography of Glen Osmond. Vardon & Pritchard, Adel. 1905, p.72.
  2. H.Y.L. Brown: Record of the Mines of S.A.; 4th Ed. Adel. 1908, p.13.
  3. T. Gill, op cit, p.72.
  4. G. Blainey: The Rush that never ended, M.U.P. 1963, p.105
  5. G. Blainey: The Rush that never ended, M.U.P. 1963, p.105
  6. SAPP 147/1872: List of Aliens naturalized to June 1872 indicates 14 German miners living at Glen Osmond.

In June, 1848, it was announced that the Glen Osmond Union Mining Company was contemplating "works" at the Glen.<sup>7</sup> According to Gill, the company

"expended a large sum at Glen Osmond in erecting dwelling houses and smelting works in the first gully east of the quarry. From the smelting house an underground flue led to a larger circular chimney built in a conspicuous place on the north-western face of the hill. This was constructed to carry off the fumes of the lead during the smelting of the ore, but as a very small quantity of ore was treated the English capitalists who had invested in Glen Osmond Union Mining Company had the satisfaction of knowing that their enterprise had resulted in the erection of costly and monumental works and that there was something tangible to show for their money, even if it was not expended on reproductive works".<sup>8</sup>

Built by Messrs. Penny in 1849 on land owned by Peter Peachey, the brick smelter building was intended to process ore from the Wheal Maria and Paringa Mines (near Kanmantoo) and the Wheal Grainger at Brownhill Creek as well as from the Glen Osmond Mines.<sup>9</sup> Earlier smelting had been carried out at a smelting furnace erected by Mr. Carleton in Rundle Street, Adelaide, in 1845. In 1846 a mill and smelter at East Terrace, Adelaide, close to the Botanic Gardens treated the ore from the mines. A total of 107 slabs of bullion was produced at these smelters from Wheal Gawler ore. The smelter at Glen Osmond only operated for a few years. The factors that contributed to its shut down included arguments between the company and Osmond Gilles together with the exodus of miners to Victoria in 1851.

The technology involved in the lead smelter basically was the extraction of lead, a soft bluish-white metal, occurring chiefly in galena, by roasting the ore in a reverbatory furnace. The reverbatory furnace was and is designed for operations in which it is not advisable to mix the material processed with the fuel. Consequently the roof is heated by the flames, and the heat radiated down onto the material off the roof. As the compounds produced were poisonous, the long conduit up the hill to the stone stack allowed the compounds in the flued gas to cool and settle out while providing up-draft ventilation to the furnace.

Today, housing development stands where the smelting works briefly operated. Remains of the stone lined conduit can be traced up the hill to the chimney, which stands as a reminder of the first metalliferous mining venture in Australia and its associated early smelter.

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7. The S.A. Gazette & Mining Journal, 17 June, 1848, p.201.
  8. T. Gill: The History & Topography of Glen Osmond, 1905, p.72.
  9. See Private Ordinance, 1847, No. 17; "to secure to Charles Mounsey Penny .... the exclusive right to use a certain new and improved process of smelting copper and lead ores" and also Bull, op cit,, p.218.

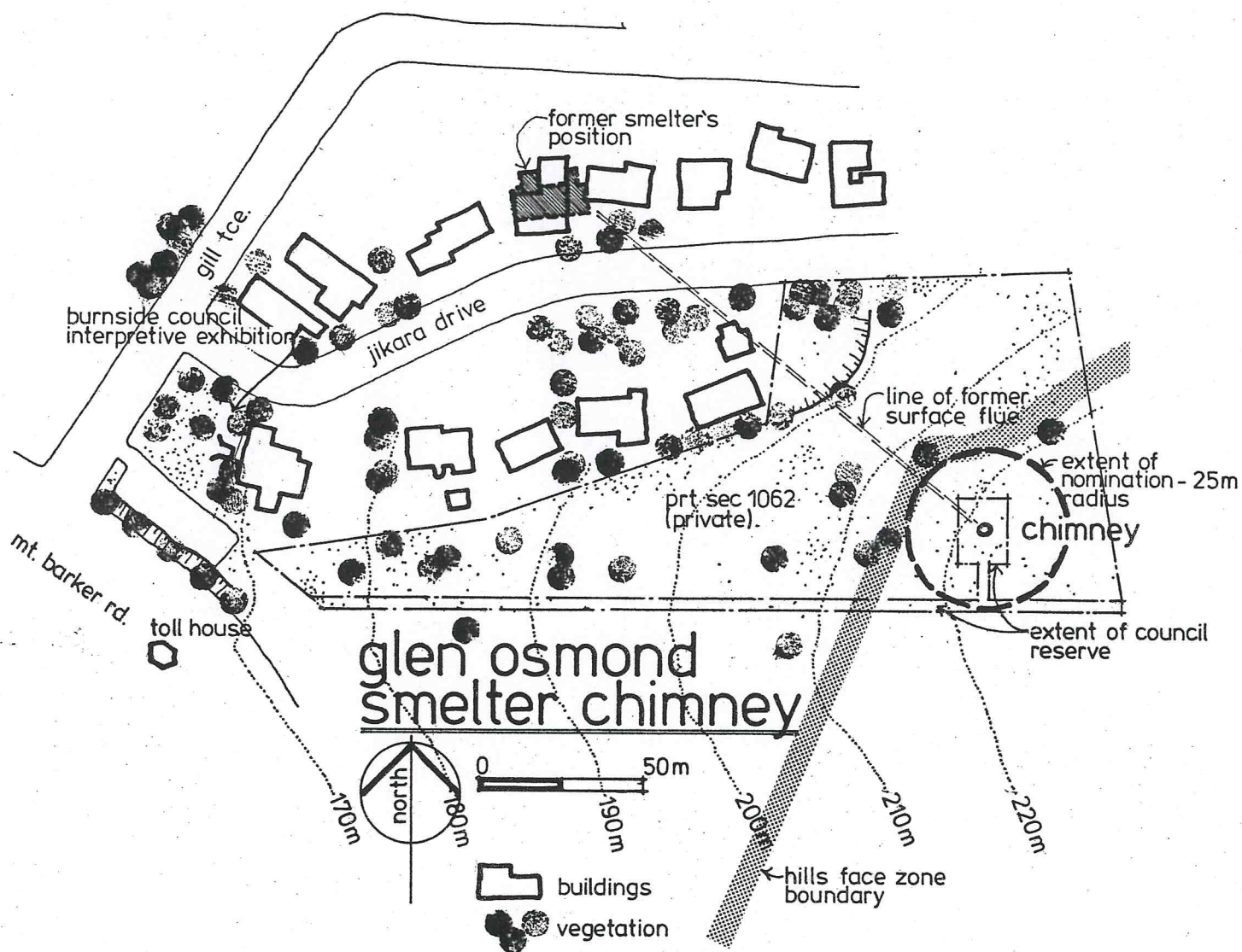


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Register Historian

12/8/82







FILM NO.

GLEN OSMAHO SMELTER CHIMNEY  
6628-10528

JUL 82



FILM N°.

GUSK OSMOND SHELTER CHIMNEY  
6628-10528

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