Broken Hill, the National Heritage List, and the Management of Heritage Values

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Abstract
Entry of the City of Broken Hill in the National Heritage List was announced in January 2015, a decade after it was nominated by the Broken Hill City Council. This paper is the story of how Broken Hill was assessed for the National Heritage List, and how conservation might be achieved without unnecessary duplication of approval processes.

The Australian Heritage Council (AHC) found that Broken Hill might reach the threshold for satisfying eight of nine National Heritage criteria. Mining activity commenced in Broken Hill over 130 years ago and ongoing mining operations are of primary importance for the economic and social wellbeing of the city. Consequently, the AHC recommended that suitable management arrangements be considered to protect the potential National Heritage values, whilst mining activity continues and change occurs. The principal issue is how to ensure that those elements found to have national heritage and state heritage significance at Broken Hill can be passed on to future generations in a safe, stable and non-polluting condition in their cultural landscape setting so that the massive mining operations over the last 130 years can be recognised and appreciated. It appears however, that an agreed and delegated management system between the Commonwealth, the state and local governments has not yet been finalised.

The paper identifies elements of a management system for Broken Hill that still seem to need resolution and suggests an agreement between all parties with development approvals dealt with through a single government authority—Broken Hill City Council acting as delegate for the other jurisdictions.

Introduction
In 2005, the Broken Hill City Council (City Council) nominated the whole local government municipality to the National Heritage List (NHL). The City Council has for many years been aware of the eventual depletion of economically extracted minerals from the ‘Line of Lode’ ore body and has grappled with the problem of mine closure and the effect this would have on the city. One of the strategies for retaining an economic base and a viable community was to promote tourism and to encourage other major business activities. With this in mind it began a long journey to enhance and advertise the city’s latent heritage credentials and to develop a conservation and tourism package that might be able to support the city into the twenty-first century. Entry on the NHL was announced in January 2015.

Broken Hill is the longest continually mined site in Australia (Department of the Environment 2015, Place ID 105861). Beginning in 1883, ten years before mining commenced in Kalgoorlie, the extraction of silver, lead and zinc deep from the Line of Lode was expected to continue for
up to ten more years from the time of the national heritage assessment, perhaps longer (NSW Department of Industry and Innovation 2009). Two mines are currently operating (2016)—Perilya and CBH Resources. Nevertheless, many of the original shafts have been abandoned and shafts currently in use are planned for closure. Conveniently, like Kalgoorlie, Broken Hill is located on the Indian-Pacific railway line and like Kalgoorlie, it boasts a colourful past.

Early efforts to identify heritage elements, by mining companies; Pasminco Limited and Minerals Mining and Metallurgy Limited, and the inclusion of heritage items in the Broken Hill City Council Local Environmental Plan and in the NSW State Heritage Register, set the scene for the nomination of Broken Hill to the NHL. Other community-based attempts to identify and protect parts of the mining heritage by the National Trust of Australia (NSW) and the Line of Lode Association (now defunct), in addition to the entry of the Line of Lode into the Commonwealth’s Register of the National Estate in 2000, have raised the historic profile of Broken Hill. Notwithstanding these efforts, some loss of heritage assets has occurred, some buildings in the city and headframes have been demolished or moved.

While the efforts of the mining companies and the community groups were important, the national heritage listing process demanded a more holistic assessment of the heritage values of the city and its mining area. For a place to be included on the NHL it must satisfy one or more of the national heritage legislated criteria, in an assessment undertaken for the Minister of the Environment by the Australian Heritage Council (AHC). While the AHC’s role is to focus on the national heritage values, the scale and complexity of the Broken Hill nomination required consideration of the range of management tools that might best assist owners and occupiers of heritage places to provide for the conservation of heritage values. The key was to ensure that these are compatible with the ongoing social and economic life of Broken Hill and its community. This process was not wholly resolved by the time the City of Broken Hill was gazetted and entered onto the NHL, and there appears to be ongoing challenges for the local, state and Commonwealth heritage and planning functions. One of the management objectives was to minimise duplication of state, territory or local government environmental protection processes, while maximising conservation of the NHL, state and local heritage values.

This paper is the story of how Broken Hill was assessed for the NHL, and how conservation might be achieved without unnecessary duplication of approval processes.

**History of Broken Hill**

Charles Rasp, a Mount Gipps pastoral station boundary rider, discovered what he thought was a mountain of tin at Broken Hill in 1883 and pegged out three 40 acre claims. It was in fact a deposit of sulphides formed 1,700 million years ago, having been uplifted 30 million years ago as the Barrier Ranges. It wasn’t until 1885 that the deposit was identified as a rich lode of silver, lead and zinc. The Broken Hill deposit has achieved wide international recognition as one of the world’s great ‘mineralogy rainforests’ with approximately 300 mineral species reliably confirmed from the ore body.
Rasp formed a syndicate with two others, who registered the three leases over Rasp’s original discovery. Taking advice from the Mount Gipps station manager, George McCullough, the syndicate was expanded to seven, and four additional leases were pegged and registered over what was soon recognised as one of the most valuable mineral deposits in the world, to be known as the ‘Line of Lode’ (Department of the Environment 2015, Place ID 105861). The ‘Syndicate of Seven’ controlled the central area of the lode eventually emerging as Broken Hill Pty Ltd (BHP).

Two of the world’s major mining companies BHP Billiton and Rio Tinto Group (as the Zinc Corporation) worked the Line of Lode, and the technological advances developed to treat the various ores had a major influence on improvements in mining technology on every continent. In particular, the invention and development of practical, hard-rock mining methods such as hydraulic filling, the development and application of the froth flotation processes and, much later, the computer controlled on-stream analysis of slurries using radio isotope probes are mining techniques of world renown (Department of the Environment 2015, Place ID 105861).

Between 1885 and 1890, high grade and easy to mine ore was extracted from Broken Hill, mostly by BHP. However in the 1890s, the mines struggled due to declining metal prices, lowering ore grades and increasing sulphide problems. The professional efforts to solve these problems had a lasting impact: the Australasian Institute of Mining and Metallurgy founded in Broken Hill in 1893 is an offshoot of the Australasian Institution of Engineers. Broken Hill was also at the forefront of mining education—two generations of technical staff and experienced miners who were trained at Broken Hill subsequently went on to develop other ore bodies in Australia and overseas.

The Broken Hill town plan is based on a simple grid first laid out in 1886 straddling the Line of Lode. It evolved as a residential, commercial and service centre for mining operations and the surrounding pastoral stations. Broken Hill was declared a municipal council in 1888 and in 1907 it was proclaimed a city. The city supports a unique mixture of architectural styles. Many of the prominent buildings constructed in the late nineteenth and early twentieth century were designed by well-known architects from Melbourne, Sydney and Adelaide, each in a style sufficiently distinct such that the designs identify the city from where the architects came. These buildings are juxtaposed with typical miners’ residences that are scattered across the city and contribute to the understanding and interpretation of mining communities.

As the city developed, poor working and living conditions led to the beginning of trade union activity in Broken Hill in 1889. Issues included worker’s health, safety and wages. The first strike to improve conditions took place in 1892, and culminated in an 18 month long strike in 1919 that eventually brought in an eight hour working day, the first in the world. Some of industrial gains achieved in Broken Hill flowed on to other workers throughout Australia (Department of the Environment 2015, Place ID 105861). The influence and status of union activism to improve both working conditions and community affairs was thence firmly established. One of the surviving symbols of unionism in the city is the Trades Hall, built in stages from 1898 to house the 18 unions of Broken Hill that went on to be affiliated with the Barrier Industrial Council. Formed in 1923, the Barrier Industrial Council grew out of the earlier Broken Hill Trades and Labour Council, and became one of the most influential forces in the politics of Broken Hill and Australia in the twentieth century (Department of the Environment 2015, Place ID 105861).

Mining companies, such as the Sulphide Corporation and the Zinc Corporation (and not the state) were responsible for implementing social welfare programs, including the provision of recreational facilities. Pastoral grazing and mining operations had led to the landscape around Broken Hill being stripped of its vegetation. Measures to improve the landscape and amenity of Broken Hill came from work undertaken by Albert Morris (Department of the Environment 2015, Place ID 105861). As a private individual, and with mining company support, Morris experimented by fencing and planting areas with native species and showed how regeneration of denuded landscape could combat the impact of devastating dust storms. This far-sighted regeneration work in the 1930s led the Zinc Corporation to apply regeneration practices in the area around the city, becoming the first example in Australia where mining site rehabilitation
was undertaken (Department of the Environment 2015, Place ID 105861). This regeneration practice has subsequently been used by mining companies throughout Australia, particularly in arid zones. Regeneration schemes, planted to protect Broken Hill from major dust storms, now partially surround the City.

The provision of an adequate water supply for Broken Hill was a constant concern from the 1880s for both the population and for mining functions, and was dogged by official dilatoriness. Initially, water was provided from soakage sites, then carted to Broken Hill on the Silverton Tramway, as well as being piped from government dams, and provided separately by private enterprise. A government funded 99km pipeline from Menindee was completed in 1952 to provide a water supply which permits an enhanced level of civic amenity and parkland irrigation, as well as providing for ongoing mining operations.

With mining as its focus, the population of Broken Hill peaked at 35 000 in 1915 and again in 1952 when there was a population of 33 000. However, since that time the population has been in steady decline as mines have closed. The 2011 census recorded approximately 19 150 residents (Australian Bureau of Statistics).

Today, the city continues to operate as a mining centre with two mines currently in production. More recently, it has become a destination for tourists who appreciate the unique architectural building styles and its rich mining history. The Broken Hill City Council and the community developed the city into a ‘living museum’ in 1988, the first in Australia with interpretive signs marking walking and driving trails (Department of the Environment 2015, Place ID 105861). Broken Hill has also become popular for artists and filmmakers. With the unique combination of landscape and relict infrastructure, the city has become host for over 50 feature films and television productions including Mission Impossible II, Mad Max II and The Adventures of Priscilla, Queen of the Desert. In 1998, Broken Hill was awarded the United Kingdom’s Institute of Mining and Metallurgy Medal for Excellence for the city’s contribution to the art, science and practice of mining since 1883.

The NHL nomination process

The Broken Hill City Council nominated the whole of the city to the NHL in 2005. The nomination sat without finalisation for some time, perhaps because it was even larger and more controversial than the Adelaide Parklands and City Layout (2008), which similarly involved a large urban area. During this period, the City of Broken Hill was devising development control plans to support a revision of its local environmental plan (LEP). The AHC carried out an assessment against the National Heritage criteria to provide to the Minister for the Environment. This included seeking comment from owners and occupants on the assessment and potential for listing, both directly and through advertisements in the local newspaper, the Barrier Daily Truth. Submissions in response included both support and opposition, the latter focusing, understandably, on the potential management impact on ongoing mining operations (Department of the Environment 2016, Place ID 105861, file no 1/04/370/0044). Finding ways to continue active mining and related development while conserving heritage items was, and remains, a key challenge in Broken Hill and at many other mining and industrial sites in Australia and overseas. Not only does a compatible physical solution need to be found, but a planning decision-making process has to be agreed that does not unnecessarily complicate or delay key decisions taken, given the various levels of government heritage control that would apply.

In light of the response to the extensive program of consultations, the AHC at the behest of mining interests made changes to its assessment to identify and recognise ongoing mining operations to be of outstanding significance to the nation. This brought into focus the question of future management of the place and obliged the consideration of management implications.

To advance knowledge of the nominated area, and to better understand some of the management implications and potential management systems to achieve conservation, funding provided by the Commonwealth under the National Historic Sites Program (2010–2011) included a grant to Perilya Limited to undertake a conservation and heritage asset management plan for
Perilya Mining Facilities. A grant was also made to Broken Hill City Council to prepare a heritage development control plan to address ongoing management issues of mining leases. The City Council also undertook a revision of its LEP, which confirmed and added to the list of protected heritage properties. Based on the AHC’s assessment and the consultation with the various stakeholders, the national heritage listing was gazetted on 22 December 2014 and announced in a press release by the Hon Greg Hunt MP, Minister for Environment and the Hon Sussan Ley MP, Minister for Health, Minister for Sport and Federal Member for Farrer, on 20 January 2015.

National Heritage values

In summary the National Heritage values attributed to the City of Broken Hill are as follows (as abstracted from the NHL citation (Department of the Environment 2015, Place ID 105861). Understanding of these values is critical to the development of appropriate management and conservation actions for their protection. The headings reflect the criteria used in the assessment.

Events and processes

The City of Broken Hill contains one of the world’s largest deposits of silver/lead/zinc ore bodies that is historically unusual in having been mined continuously for over 130 years. The deposit is of geological significance due to the large number of mineral species (approximately 300) confirmed in the geologically complex ore body. The Broken Hill mines have played a decisive role in Australia’s mining history and Australia’s national development, generating great wealth and expertise that helped mark Australia, and the large companies that worked the ore body, as among the world’s major providers of raw materials. This significance is represented by the ongoing mining operations, the barren topographical profile, scale and landform of the mullock heaps along the Line of Lode, the Line of Lode itself, and the extensive mining leases.

The innovative mining and metallurgical practices developed at Broken Hill influenced mining development elsewhere in Australia and internationally. Unionism developed strongly at Broken Hill, and the successful fights for improved underground health and safe working conditions are significant in Australia’s social history. Evidence of the strength of the union movement in Broken Hill is represented by the Barrier Industrial Council, the Trades Hall and the Amalgamated Miners Association Hall, in addition to archives held in the Broken Hill City Library and the Barrier Industrial Council’s collection of movable cultural heritage, together with the records of the Barrier Daily Truth. The Broken Hill community benefited from the cooperative housing schemes supported by the mining companies, and the arid landscape regeneration approaches devised by Albert Morris and applied by the Zinc Corporation, which became a benchmark for similar schemes elsewhere.

As a city in the desert, Broken Hill suffered water supply issues throughout its history, until a government pipeline provided reliable water from the Menindee Lakes in 1952, enabling an expansion of civic amenity in the town. Transport infrastructure was similarly slow in developing connections to this isolated town, the private Silverton Tramway providing access to South Australia in 1886, the NSW government railway extending to Broken Hill in 1927, and the trans-continental line passing through the city in 1970.

Rarity

The Broken Hill mineral deposits are unique amongst Australian geological
deposits for mineral diversity, a characteristic reflected in the deposits themselves and in the records of the mining companies. Broken Hill is also a rare example of a long-established and almost continuously operated mining town with a long industrial history and strong union representation unmatched elsewhere in Australia. Particularly unusual is the way that the Barrier Industrial Council operated almost as a quasi-regulating body which owned the local newspaper and was able to dictate many aspects of daily life (including a ban on working wives). Significant fabric representing the past role and ongoing activities of the union movement includes the Trades Hall, the former Broken Hill Council Chambers and the Amalgamated Miners Association Hall.

Broken Hill is also a rare example of Australia’s complex federal system of government with different aspects of its economy and infrastructure being dominated variously by South Australia, New South Wales and Victoria. This unusual mix is reflected in the city’s architecture where official buildings have recognisable NSW Government Architect characteristics; the residential buildings exhibit design and construction characteristics derived from South Australia and commercial buildings, such as hotels, show Melbourne design influences.

Research potential

Broken Hill has important research potential for further investigation into its innovative mining practices, its mineralogy and geology, its history of unionism and development of safe mining practices, and its social characteristics. A large collection of mining records and physical mining remains is available to provide information on the methods of construction and the economic reasons for developing and mining along the Line of Lode, and to investigate the development of innovative mining operational practices such as froth flotation. Mining and research on the Broken Hill ore body spans over 130 years and research into the diverse and complex geology contributes to an understanding of the formation of the Australian continent and more than 2300 million years of the Earth’s history.

Representative characteristics

Broken Hill demonstrates the principal characteristics of an evolving mining town, waxing and waning with the fortunes of its mines. Laid out in 1886 within three years of the discovery of ore bodies, the juxtaposition of Broken Hill and the Line of Lode allowed then and continues to permit the city and its mining operations to function with relative efficiency with the mining leases easily accessed from residential and commercial areas. Broken Hill reflects its isolation and the dominance of the mining and pastoral industry in its operations over time, and the importance of the extensive road, rail and air transportation links to Sydney, Adelaide and Melbourne.

Aesthetic characteristics

The distinctive aesthetic qualities of Broken Hill include the visual setting and the remaining bulk and scale of the Line of Lode, its dominating relict mining infrastructure in close proximity to the urban area and surrounding townscape, all sitting in an arid landscape. The aesthetic urban qualities contrast with the surrounding belts of regenerated countryside. The brilliance of the light reveals vast horizons of vivid colours stretching well beyond the city and the contrast between the built up area and the extensive arid desert landscape is heightened by the sharp and abrupt urban edge. Broken Hill is a popular centre for artists, poets, film-makers and TV producers and is recognised as a major focus for artistic endeavour. The ‘Brushmen of the Bush’ is a group of Australian artists located in Broken Hill who popularised paintings of outback Australia. Several major Australian artists with works included in Australian and overseas galleries and private collections are associated with depicting the enthrallingly stark Broken Hill environment.

Technical achievement

Broken Hill has been the source of much of the world’s knowledge on the extraction of minerals and the application of scientific method to separate minerals from the base ore. The advancement of mining practices, innovative experimentation in design of industrial plant and buildings, as well as the discovery of new methods of treating difficult ores and the introduction
to Australia of overseas practices include: the use of square set timbering to overcome problems of unstable ground, the introduction of the froth flotation process for separating mineral ores, for the recovery of zinc concentrates from tailings dumps, and many more. This research and development expertise spread into major metalliferous and coal mining, engineering, chemical and manufacturing industries, notably the steel industry, lead smelting and the electrolytic zinc smelting process.

Another achievement was the work of Morris, eventually supported by mine management, in researching, validating and subsequently implementing regeneration measures to protect both the residential and mining areas from devastating dust storms.

**Social value**

Broken Hill exhibits a strong community spirit, is self-reliant and has a resilience characteristic of a remote inland community. For the wider Australian community, Broken Hill symbolises the importance of the extent of the country’s wealth generated from its mining activity. The local community recognises and values the steep, barren, dominating mullock heaps, the tailings, the skips and slagheap along the Line of Lode, and the remnant outcrops of the Line of Lode gossan, as the reason for Broken Hill’s existence. There is a deep, enduring and shared link between the existing community, past residents and the place Broken Hill represents as a ‘city in the desert’, its outback landscape, the design of the town with its ‘oasis’ like character, its residential architecture recalling the harsh living conditions, and the murals, public art, memorials and historic interpretation.

**Significant people**

Important individuals who have played a part in Broken Hill and the Australian mining industry include its discoverer Charles Rasp; engineer and metallurgist GD Delprat; the American mining engineer Herbert Hoover; Australian industrialists WL Baillieu, WS Robinson and MAE Mawby; union organisers Percy Brookfield and Eugene O’Neill; and environmentalist Albert Morris. Important groups include the Barrier Industrial Council and mining companies such as BHP, the Zinc Corporation, the Sulphide Corporation, and the Australasian Institution of Engineers.

**The management context—protecting and recognising Broken Hill’s Heritage**

There has been an interest in heritage matters at Broken Hill for many years. In 1986 the Broken Hill City Council established a heritage advisory service and since that time there has been a marked improvement in the appearance of commercial and residential buildings throughout the city. Free professional advice is provided by a heritage adviser who visits Broken Hill on a monthly basis. Many individual conservation actions have taken place using council, state and private funds, and notably the Commonwealth provided the Line of Lode Association with $4.625m to develop a museum, a miners’ memorial and mining features along the Line of Lode as a major tourist facility. The Line of Lode Association after some years of operation has gone into receivership.

Development and land use planning in Broken Hill is administered through the Broken Hill LEP 1996 (revised 2013). LEPs are statutory planning instruments used to manage land use and development in New South Wales and normally administered by a local government authority. The Broken Hill LEP is implemented through eleven development control plans. These include plans to provide guidance on managing residential development, commercial development, heritage, industrial development, outdoor advertising, rural development and small holdings.

In 2008, the City Council commissioned a review of the heritage items in the 1996 LEP to:

- Locate, research, evaluate and record Broken Hill’s heritage places;
- Visit and review all existing known items and review their listings on the LEP;
- Provide the City Council and owners of heritage properties with directions for the management of heritage and to encourage its place in the future of the City;
• Consider ways in which this history and the accessible heritage places can play a part in the cultural tourism of the City of Broken Hill.

This resulted in a Report on the Community Based Heritage Study of the City of Broken Hill. The report identified a number of places which, on inspection were considered worthy of adding to the City Council’s list of heritage places as a schedule in any new LEP. They included individual items of moveable heritage and places and elements drawn from the Perilya Broken Hill Limited Conservation Management Plan for Perilya North and Southern Leases. The subsequent LEP revision (2013) included 412 heritage items (including 12 State Heritage Register items).

Management under the NHL

To ensure that environmental matters of national significance do not suffer from actions likely to have an adverse effect, the Commonwealth’s Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) requires proponents of actions to refer to the Commonwealth Minister for the Environment, proposals likely to have a significant impact (either adverse or enhancing).

The EPBC Act provides mechanisms to delegate these matters to accredited state or territory environmental assessment and approvals processes. These mechanisms are designed to assist managers of heritage places to conserve and protect the heritage values of places of national heritage significance by:

• entering into conservation agreements with the Commonwealth;
• having in place a bilateral agreement with an owner whereby the Commonwealth delegates its environmental protection management process to a suitable state or territory process, or
• preparing strategic assessments.

These mechanisms are being used to further the objectives of a Council of Australian Governments (COAG) agreement to minimise duplication of environmental approvals processes. They underpin the Commonwealth’s policy of providing a ‘one stop shop’ for proponents of development by achieving state and Commonwealth approvals requirements in one process.

The Commonwealth and the State of NSW signed a bilateral agreement on environmental assessment under the EPBC Act in February 2015. A second agreement, on environmental approvals, has been through public comment in 2014 and has not been finalised (at time of writing, March 2016 (Department of the Environment 2016). These agreements will cover national heritage matters, but are bilateral agreements between the Commonwealth and state, and do not allow the state to delegate those powers to local government level. They accredit state assessment and planning approvals processes that satisfy both state and Commonwealth requirements, but the approval body must be the State of NSW or an agency of the state. Local government approvals are specifically excluded.

While Broken Hill currently (2016) has an effective heritage protection system, there is not an agreed management system for Broken Hill to conserve the national heritage values in combination with the state and local government heritage values. The bilateral agreement between the Commonwealth and state cannot empower the City of Broken Hill to make heritage approvals in relation to national heritage matters, as NSW cannot delegate that power. There does not appear to be a straightforward method for the state to accredit local government decision making that would satisfy its delegated power under the bilateral agreement, not to impose a direct state-level approvals process over the top of the local government one (and in any case, such confused duplication would run counter to the objective of simplifying the process).

One alternative (or supplementary) management approach would be for the Commonwealth to negotiate a conservation agreement with the City Council. Such an agreement would probably have to engage the NSW State Government, as it will have powers the City Council does not have with regards to some national heritage values, particularly those that rely on
environmental protection outside the NHL boundaries, and also has call-in powers on a number of approvals powers currently delegated to the City Council.

In the meantime, management of Broken Hill’s heritage will go on. The Broken Hill LEP (2013) makes no reference to the NHL, as it pre-dates the listing decision by the Commonwealth. As the national heritage listing covers the whole local government area, the application of the LEP as a measure to achieve protection of the NHL property and values would appear to be a valuable tool. The City Council has an experienced heritage advisor, and the NSW Heritage Office had, partly on this basis delegated to the City Council its immediate planning decision-making role in relation to items listed in the NSW Heritage Register. It would appear to be feasible to include planning decisions relating to national heritage values as matters for which the City Council could act as consent authority. This would simplify the approvals process and avoid duplication of development approvals involving Commonwealth government ministers, and parallel the bilateral agreement between the Commonwealth and the state. The state does, and the Commonwealth could, reserve its powers to make its own decisions where the planning matter demanded that level of involvement.

There is a legal precedent which demonstrates that the heritage list in the City Council’s LEP is a strong control measure. In 2011, Perilya Broken Hill Limited submitted a development application to the City Council to demolish the Zinc Corporation Concentration Mill (see Figure 3) in accordance with its draft conservation management plan, where the conservation policy required total demolition to the foundations of the mill. The City Council did not make a decision and Perilya Broken Hill Limited appealed to the NSW Land and Environment Court against the City Council’s deemed refusal. Although the City Council agreed that parts of the building could be demolished while retaining other parts, it sought a decision requiring the submission of an amended application. Perilya Broken Hill Limited claimed that the part demolition retaining some elements could be achieved by way of conditions of consent. The court held that conditional consent was appropriate (NSW Land and Environment Court 2011 (NSWLEC 1376)). The conditional consent involved approval to demolish the structurally unsound elements of the building, and the retention of elements in a sound structural condition. Fabric to be retained would be sufficient to interpret the significance of the place and other fabric would be retained on site for interpretation purposes. In reaching this conclusion the court took into account the LEP, and the fact that the Commonwealth raised no objection to the amended application. Thus the Court strengthened the development control role of the City Council and its planning control instruments.

However, the 2013 LEP and its development control plans do not seem to offer a readily identifiable mechanism for the protection of the entirety of national heritage values. The heritage schedules identify 412 individual items and areas, and a number of environmental protection zoned areas protect some of the values of the immediate landscape of the regeneration areas and parks. However, the NHL official values identify broader values that would be hard to

Figure 3. Former South Mine concentrator. (Source: Authors).
protect under the existing LEP controls. For example, the elements which embody the NHL values identified in the citation include, under Criterion A (Events, processes):

Elements which embody events and processes include the complex geology and mineral deposits, ongoing mining operations and their ever-changing nature, adaptive re-use of mining facilities, relict mining infrastructure, the Line of Lode and remaining gossan outcrops, and mining leases, the city layout within the planned urban grid and tree lined streets, the residential character, mining company housing and the revegetation areas (Department of the Environment 2015, Place ID 105861).

This is a very broad statement of a landscape-based set of values that is partly, but not fully, reflected in the heritage item schedule and the development control plans supporting the LEP.

Similarly, concerning the research values (Criterion C), the citation states: ‘The research values of Broken Hill are represented by mining company and union records.’ These collections are not protected under the LEP (but can be protected under the NSW Heritage Act). The landscape values identified under Criterion E (Aesthetic values) extend into the desert landscape surrounding Broken Hill, which is not within the NHL area managed by the City Council, and aspects such as ‘the distinctive character of existing and relict mining infrastructure; and the unusual visual qualities of ‘tin’ residential and mining architecture’ is much broader than the list of individual buildings and areas listed as heritage items in the LEP. Many of these might be able to be controlled under the various development control plans that implement the LEP, but at the moment the specific NRL values of this wider city area are not identified in those plans as a planning consideration.

The current management arrangement leaves the City Council as the primary control authority for individually significant places and other matters covered by the LEP and development control plans. It is not yet clear if, and how, the bilateral agreement with the state (when finally completed) will relate to this existing position, and to what extent the state can, or will, interpose its approvals processes with those of the City Council.

Our impression is that this is a fluid and by no means clearly defined distribution of responsibilities. If effective overall planning control was to be delegated to the City Council, it would need some overarching agreement, framed within the EPBC Act options listed above, linking existing mechanisms such as the LEP, development control plans, conservation or heritage asset management plans for specific areas, mine closure and rehabilitation planning, and specifically relating them to the protection of national heritage values. The Commonwealth funding of the City Council to prepare a development control plan for mining lease areas, and of Perilya Limited to complete a conservation management and heritage asset management plan for the Perilya mining facilities, suggests that the Commonwealth was contemplating this model, but as yet this has not resulted in an agreed and delegated management system.

In relation to mining operations, closure, and rehabilitation processes, the NSW Department of Resources and Energy has a major role. The overall objective of mine completion is to prevent or minimise adverse long-term environmental, physical, social and economic impacts, and to create a stable landform suitable for some agreed subsequent land use. The principal issue in the case of Broken Hill is how to ensure that those elements found to have national heritage and state heritage significance can be passed on to future generations in a safe, stable and non-polluting condition in their cultural landscape setting so that the massive mining operations over the last 130 years can be recognised and appreciated. In the case of historic heritage sites an agreed subsequent land use may not be immediately obvious or available.

In pursuing its responsibility, the Department of Resources and Energy aims to ensure that land disturbed by mining operations is returned to a sustainable post-mining land use. Mining affected land can be rehabilitated to a variety of land uses including: cropping and agriculture, native ecosystems, forestry, industry, heritage sites, residential developments and mixed land uses (see www.resourcesandenergy.nsw.gov.au/landholders-and-community/minerals-and-coal/mining). Under the Mining Act 1992, the department has a wide range of powers for regulating rehabilitation including:
• environmental management and rehabilitation conditions on mining titles;
• rehabilitation security bonds for all mining and exploration titles, and
• clear enforcement powers to ensure titleholders comply with their obligations.

The department, however, does not appear to have a clearly articulated policy on dealing with heritage properties post-mining. The department has done work on heritage identification and assessment for abandoned mines (those with no current lease-holder) (Pearson and McGowan 2009), but no heritage policy guiding active lease requirements.

The Department of Resources and Energy, through its control over mining leases is a partner in meeting the obligations imposed by the national heritage listing. The use of mine lease requirements to achieve heritage outcomes is shown by the development of a draft mine closure plan by Perilya Limited, which anticipates retaining key historic features for future use, prior to the inclusion of the Broken Hill municipal area in the NHL.

The draft closure plan proposes the following objectives:
• future public health and safety are not compromised, with safety risks eliminated as far as reasonably practical;
• the landforms are stable and not prone to slumping, mass movement or significant erosion;
• the site will not be a source of pollutants;
• post-mining landforms and revegetation are sustainable;
• heritage and recreational values are retained in a condition suitable for ongoing management in accordance with the National Heritage management principles;
• the local community and stakeholders will be kept informed of the closure planning process, and
• Areas are closed in line with an approved plan.

It is not known if this plan has been finalised, nor how it might be used in any management agreement now national listing has been achieved.

The difficult issue of protecting heritage sites where the sites are actively used for mining or industrial use has been addressed in a recent international example. In June 2015, the

Figure 4. Number 2 Mill. (Source: Authors).
UNESCO World Heritage Committee inscribed the *Sites of Japan’s Meiji Industrial Revolution* in the World Heritage List. The serial inscription includes non-operational mines, but also operational industrial sites consisting of elements within the Mitsubishi Nagasaki Shipyard, elements within Nippon Steel and Sumitomo Metal’s Yawata Steel Works, and Mike Port Logistics’ Mike Port. These operational sites cannot be fully protected under Japan’s national cultural heritage law, so are being protected by a mixture of landscape law, port law and contract, within a strategic framework coordinated by Japan’s cabinet secretariat. The active management monitoring is through local conservation committees that include the companies, local government, national government planning agencies and the community, and proposed changes are evaluated by a national conservation committee on the basis of local, national and international heritage advice. The strategic framework was inspired by the management framework developed for the Australian Convict Sites World Heritage Listing in 2010.

**Conclusion**

The management of national heritage values within the Broken Hill local government area has been an issue discussed during the AHC assessment and leading up to the listing between the Commonwealth Department of the Environment, the Broken Hill City Council, various NSW departments and the mining companies, and was raised in the consultation submissions. The then Commonwealth Department of Sustainability, Environment, Water, Population and Communities considered the range of management tools available and the needs of the stakeholders, and sought a solution that would avoid the duplication of management arrangements among the multiple jurisdictions involved. As noted, a bilateral agreement on environmental assessment under the EPBC Act was agreed with NSW soon after the NHL listing, and a parallel agreement on environmental approvals is under consideration, but their relevance to the NHL listing of Broken Hill is far from clear. While the EPBC Act provides a range of measures that enable cooperative management and delegation of approvals processes, none of these measures was agreed with the City Council before the listing occurred. It would therefore appear that either the Commonwealth’s direct powers under the EPBC Act, or the delegated assessment and approvals powers specified in the bilateral agreements, will apply to any planning decision in Broken Hill—where this leaves Broken Hill is less than clear.

The existence of effective local and state heritage protection through the Broken Hill City Council’s planning processes reduces the likelihood of proposals having a significant impact (in terms of the EPBC Act), but the lack of clarity about roles and responsibilities will continue to be an issue until some clearer agreement is reached. The role of the Department of Resources and Energy in controlling actions impacting on national heritage values on mining leases is also an area where dispute over development proposals (including mine closure) could occur.

The Broken Hill City Council is experienced in heritage protection, has a recent LEP that identifies and protects a large range of individual properties that contribute to the national heritage values, and is the appropriate body (with state department cooperation) to oversee compliance with agreed heritage protective measures in the mining leases along the Line of Lode. The missing link at the moment seems to be a clear articulation by the AHC/Department of the Environment as to what elements of the environment of Broken Hill need to be monitored and protected to fully conserve the very broad national heritage values.

The elements of a management system that still seem to need resolution include:

- a clear linking of the objectives of the LEP and development control plans to NHL protection objectives;
- the resolution of how the national heritage values that are not fully represented in the LEP heritage schedule would be defined, protected and managed;
- a clearer understanding of how the NSW Government will use its powers in relation to the bilateral agreement to make approvals relating to national heritage values in Broken Hill;
how the protection of national heritage values in the mining leases is to be managed—perhaps through an accredited conservation and heritage asset management plan, sitting within the context of a development control plan, with monitoring by the mining companies and the City Council;

- the development of a mine closure policy to protect heritage values.

This then needs to be encapsulated in an agreement between the Commonwealth, state and local government in line with the delegation powers specified in the EPBC Act, with the objective of clear and transparent protection measures with development approvals dealt with through a single government process (the City).

On the bright side, Broken Hill seems to be suffering from an excess of layers of heritage planning control, so hopefully the things we love about it will be protected, regardless of the complicated way of getting there.

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**Related Sources**


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