



APPENDIX N HISTORIC CULTURAL HERITAGE ASSESSMENT REPORT



N.2 STATEMENT OF HERITAGE IMPACT



Wind Energy Partners Pty LTD



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Partners Pty Limited

Development Management by:



Hills of Gold Wind Farm

Statement of Heritage Impact

12 November 2020

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12 November 2020

Hills of Gold Wind Farm

Statement of Heritage Impact



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Acronyms and Abbreviations

Name	Description
The Burra Charter	The Australia ICOMOS Burra Charter for Places of Cultural Significance
CHL	Commonwealth Heritage List
EIS	Environmental Impact Statement
EP&A Act	NSW Environmental Planning & Assessment Act 1979
EPBC Act	Environmental Protection and Biodiversity Conservation Act
ERM	Environmental Resources Management
IHO	Interim Heritage Order
LEP	Local Environmental Plan
LGA	Local Government Area
MW	Megawatts
NHL	National Heritage List
RNE	Register of the National Estate
SEARs	Secretary's Environmental Assessment Requirements
SoHI	Statement of Heritage Impact
SHI	State Heritage Inventory
SHR	State Heritage Register
SSD	State Significant Development
WEP	Wind Energy Partners

EXECUTIVE SUMMARY

Wind Energy Partners Pty Ltd ('WEP' or 'the Proponent') is seeking approval to construct and operate the Hills of Gold Wind Farm (the Project), located on the ridgeline between Hanging Rock and Crawney Pass in the Northern Tablelands region of New South Wales (NSW). The Project will supply renewable energy directly into the national electricity grid, through a proposed connection into the existing TransGrid Liddell to Tamworth 330 kV transmission line.

The proposed development involves the construction and operation of:

- 70 turbines, of approximately 420 megawatts (MW) total installed capacity, and maximum height of 230 metres (to blade tip); and
- ancillary infrastructure including internal access tracks, road upgrades, battery storage, concrete batching facility, underground and overhead electricity cabling, substation and a switching station and grid connection to the 330 kV Liddell to Tamworth transmission line.

To facilitate the construction of the turbines at the Project Area, components will need to be transported from the Port of Newcastle. It is proposed that the majority of equipment and components will be transported along the New England Highway. Oversized components requiring special shipment will be transported along an alternate route utilising the Golden Highway and secondary roads to minimise interruption to traffic flows. As the oversized components will require additional space to be manoeuvred to site, several road upgrades and amendments are proposed along this route.

One such road amendment is situated on Barry Road, Hanging Rock, at the set of bends known as 'Devil's Elbow'. The grade and curvature of 'Devil's Elbow' are too steep and tight to facilitate the transportation of large turbine components. As such, WEP is proposing to construct a private road which bypasses 'Devil's Elbow' and allows for the transportation of larger components, without disrupting public traffic.

The proposed bypass at 'Devil's Elbow' (the Assessment Area) is within the Local Environmental Plan (LEP) listed curtilage of one heritage item – identified as 'Black Snake Gold Mine'. This Statement of Heritage Impact (SoHI) assessed the potential impact of the proposed works upon this locally listed heritage item.

This SoHI has determined that the proposed road construction will have a negligible impact on the setting of the LEP listed Black Snake Gold Mine, however the works have potential to impact potential archaeological remains associated with historical mining operations, such as mine shaft entries and tunnels. The risk of impact can be mitigated during initial investigation and throughout construction, through careful planning and management, in line with the recommendations of this report.

It is recommended that:

- Early geophysical survey and/or geotechnical investigation of the Assessment Area be undertaken to determine if there are any subsurface voids beneath the 'Devil's Elbow' proposed upgrade, or other anomalies that may be indicators of archaeological features. The aim of this investigation is to identify and where possible prevent inadvertent impact to potential archaeological remains. It is anticipated that geophysical assessment will be undertaken as part of the detailed design process.

The geophysical assessment during the detailed design phase should be utilised to determine:

- if tunnels are present beneath the proposed road alignment;
- if impacts to any identified tunnels can be avoided through mitigation or alternative construction methodologies; and
- whether any identified tunnels will be impacted by the proposed construction.

Where tunnels are identified and avoidance is possible, this should be documented in a letter report to the approval authority. The letter report would detail the location of the identified tunnel and the proposed avoidance measure. No further assessment of the archaeological item would be required at this stage.

Where suspected tunnels cannot be avoided, archaeological inspection and archival recording should be undertaken prior to the commencement of construction works. The archival recording should be lodged with Tamworth Regional Council and potentially utilised to develop interpretive signage at an appropriate location at Black Snake Gold Mine, Nundle and/or Hanging Rock. This signage can contribute to existing historical and interpretive signage.

If backfilling is required, the methodology for this should be developed in consultation with the proponent, construction contractors, and heritage specialists. Decisions around appropriate methodology would be made based on the type and condition of any findings.

- An Environmental Management Strategy be prepared to integrate the recommendations set out in this report, including a cultural heritage induction for all personnel working onsite.
- An Unexpected Finds Procedure should be enacted for the duration of ground disturbing works.

1. INTRODUCTION

1.1 Project Overview

Wind Energy Partners Pty Ltd (WEP or the Proponent) is seeking approval to construct and operate the Hills of Gold Wind Farm (the Project), located on the ridgeline between Hanging Rock and Crawney Pass in the Northern Tablelands region of New South Wales (NSW). The Project will supply renewable energy directly into the national electricity grid, through a proposed connection into the existing TransGrid Liddell to Tamworth 330 kV transmission line.

The proposed development involves the construction and operation of:

- 70 turbines, of approximately 420 megawatts (MW) total installed capacity and maximum height of 230 metres (to blade tip); and
- Ancillary infrastructure including internal access tracks, road upgrades, battery storage, concrete batching facility, underground and overhead electricity cabling, substation and a switching station and grid connection to the 330 kV Liddell to Tamworth transmission line.

With an expected power output of approximately 420MW, the Project will provide regional jobs and economic benefits for communities in and around Nundle, Hanging Rock and Crawney while producing enough electricity for approximately 185,000 average Australian homes. A Project overview is provided in **Error! Reference source not found.**

1.2 Locality Description and Context

The Project includes the proposed Wind Farm and transmission line (the Project Area) and proposed transport routes between the Port of Newcastle and the Project Area. Due to the size of components required to construct the wind farm, several road modifications will be required along the proposed route. This transport route has been assessed as part of the Project Historic Heritage Assessment (HHA), which can be found as Appendix N to the EIS (ERM, 2020). The HHA identified a potential direct impact to a local heritage item, resulting in the requirement for this SoHI. The following provides a description of the location of the Project Area, and proposed transport routes between Newcastle and Nundle.

1.2.1 The Project Area

1.2.1.1 Description of General Setting

The Project Area is located approximately 5 km south of Hanging Rock, 8 km south-east of Nundle and 60 km south east of Tamworth. The proposed Project is located within the Tamworth Regional, Upper Hunter and Liverpool Plains local government areas (LGAs). The general locality includes Ben Halls Gap National Park, Crawney Pass National Park, Ben Halls Gap State Forest, Hanging Rock State Forest and Nundle State Forest. The locality is a former gold mining area, with the small village of Nundle containing historic buildings, including the Nundle Woollen Mill and Mount Misery Gold Mine Museum.

1.2.1.2 Description of Project Site Landscape

Land on which the Project is proposed to be located is owned by 14 freehold landholdings and includes Crown land paper roads and one Crown land allotment under perpetual lease, forming Ben Halls Gap State Forest. The proposed Development Footprint within the Project Area is predominately agricultural land with a high percentage of overstorey native vegetation adjacent to the Development Footprint and within steeper terrain. The Project Area has a history of agricultural use (grazing cattle). Native understorey has been converted to exotic pastures in many locations.

1.2.2 The Transport Route

As part of the construction process, components will be need to be transported from the Port of Newcastle through to the Project Area. It is proposed that the majority of equipment and components required for construction will be transported along the New England Highway. Oversized components requiring special shipment will be transported along an alternate route utilising the Golden Highway and secondary roads to minimise interruption to traffic flows. As the oversized components will require additional space to be manoeuvred to site, several road upgrades and amendments are proposed along this alternate route. At the majority of the proposed upgrade locations, works will be confined to replacing fixed signage with removable signage and installation of gravel/asphalt hardstands to allow for the additional swing radius required for the blades. At one location, identified as 'Devil's Elbow' on Barry Road, Hanging Rock, the road conditions are entirely unsuitable for transportation of the blades and a new road will need to be installed to bypass the small radii bends.

The proposed upgrade that bypasses 'Devil's Elbow' is within the Tamworth Local Environmental Plan (LEP) listed curtilage of one heritage item – identified as 'Black Snake Gold Mine' (I134). The proposed impact area within LEP Item I134 has been identified as the 'Assessment Area' throughout this report for ease of reference, and is shown in Figure 1.2.

1.2.3 Black Snake Gold Mine

Black Snake Gold Mine is situated in the hills and gullies north east of Hanging Rock. The terrain is generally steep and rugged, with rocky outcrops occurring regularly throughout the area. The hills are well vegetated with dense undergrowth and mature trees, except where existing tracks have been cut into the landscape. To the north of Barry Road, the LEP listed curtilage of Black Snake Gold Mine is within land controlled by Forestry NSW and has been heavily disturbed by pine planting and logging activities. To the south of Barry Road, the area has remained relatively undisturbed since abandonment of mining, and has been subject to no logging activity.

The former Black Snake Gold Mine surrounds the area known as 'Devil's Elbow' (see Figure 1.2). Refer to Sections 2.1.1.1, 2.1.1.2 and Section 4 for further description of the historical gold mining operations.

Further description of the Assessment Area can be found in Section 4 of this report.

1.3 Assessment Aims and Objectives

In accordance with the former NSW Heritage Office guideline for the preparation of Statements of Heritage Impact¹, this SoHI aims to:

- identify the statutory requirements in relation to this project;
- identify the heritage values of Black Snake Gold Mine;
- assess the potential impacts of the proposed road amendment on listed heritage values; and
- provide recommendations and mitigation measures, as required.

1.4 Report Structure

Following this Introduction (Section 1), the remainder of this report is structured as follows:

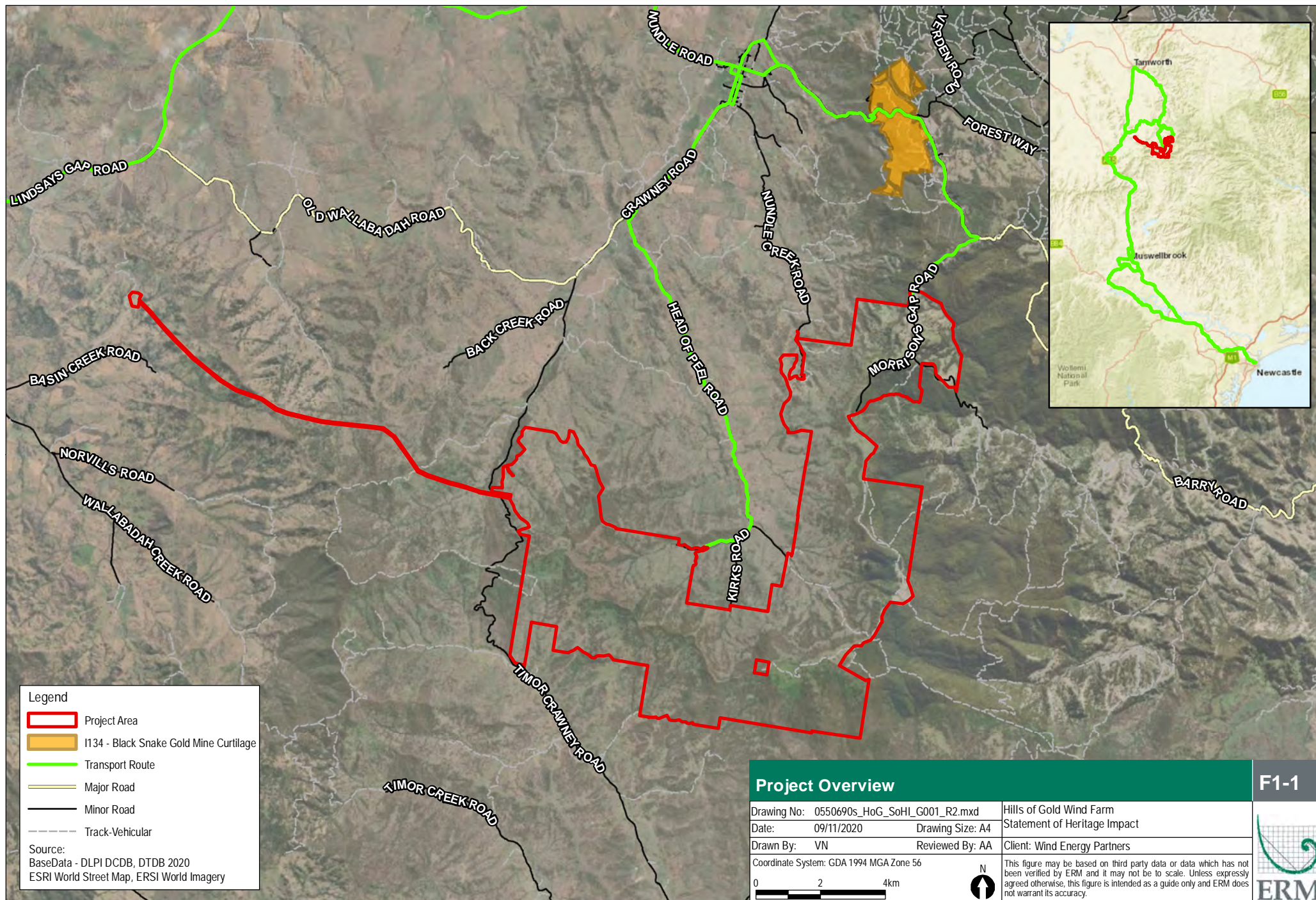
- Section 2 reviews the legislative and regulatory regime under which this investigation was carried out;
- Section 3 presents the historical context pertinent to understanding the significance of the Assessment Area;

¹ Heritage Office and Department of Urban Affairs & Planning 1996, revised 2002

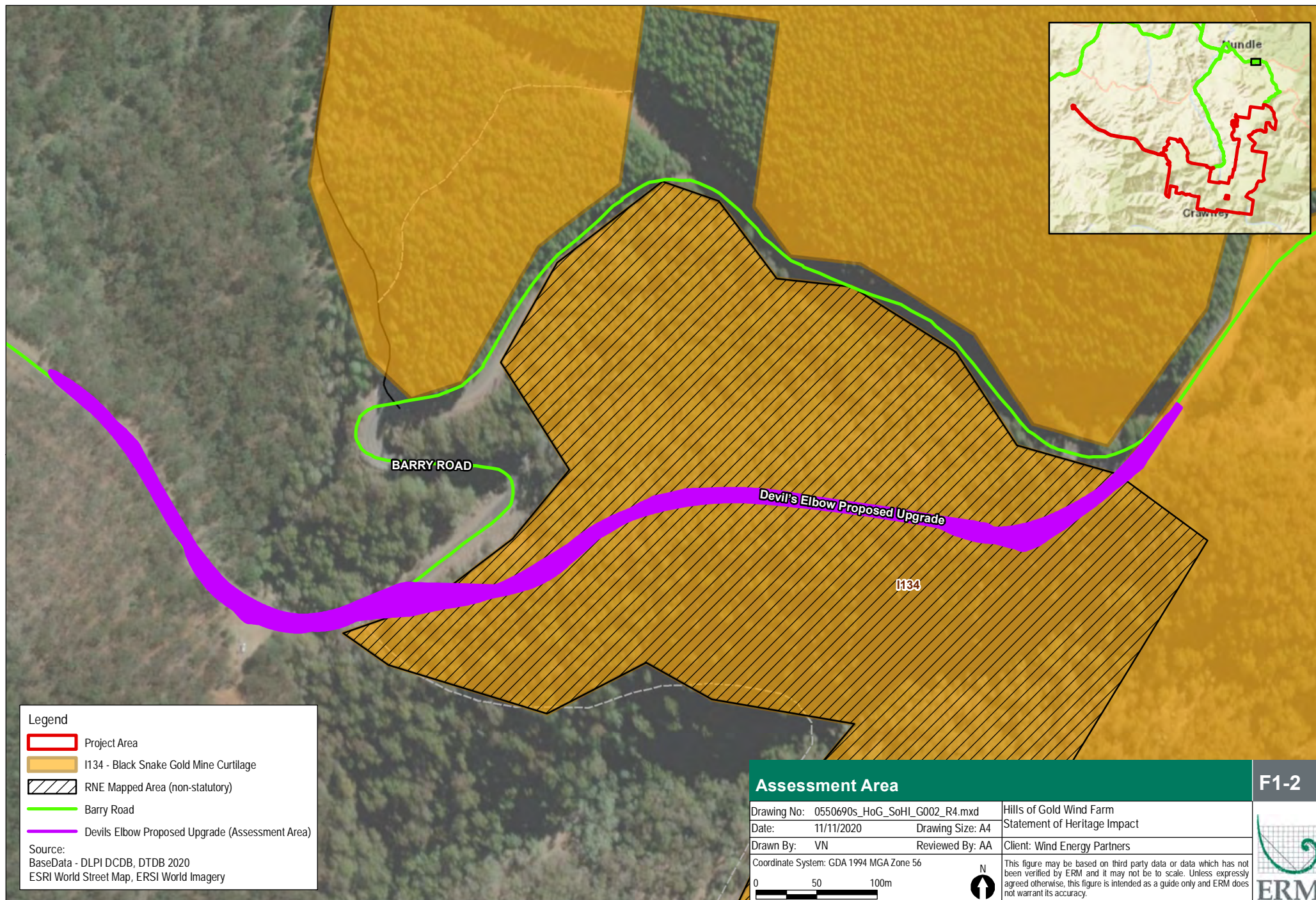
- Section 4 presents a description of the physical evidence (results of a survey undertaken October 2020);
- Section 5 investigates the potential heritage impacts of the proposed infrastructure removal, decontamination and remediation works; and
- Section 6 draws conclusions, provides measures to mitigate any heritage impacts and offers recommended management responses.

1.5 Authorship

This report has been prepared by ERM Heritage Consultants Stephanie Moore and Toyah Morath. Technical review was undertaken by ERM Principal Heritage Consultant, Erin Finnegan. Quality Assurance review was undertaken by ERM Partner, Murray Curtis.



F1-1



F1-2

2. STATUTORY FRAMEWORK AND HERITAGE CONTEXT

2.1 NSW State Legislation

The New South Wales (NSW) *Heritage Act 1977* establishes the NSW Heritage Council and the State Heritage Register (SHR). The aim of the Act is to conserve the heritage of NSW. The aim of heritage management is not to prevent change and development, but to ensure that the heritage significance of recognised heritage items is not harmed by changes and developments.

The SHR is a separate listing to the State Heritage Inventory (SHI) and includes items which are accorded SHR listing through gazettal in the NSW Government Gazette. Nominated items are considered by the NSW Heritage Council, which then makes a recommendation to the Minister for Environment and Heritage. The Heritage Council is empowered to place Interim Heritage Orders (IHO) on an item of potential state significance. The assessment of significance is made against the criteria shown in Table 2.1.

Table 2.1 NSW State Heritage Significance Criteria

NSW Criterion
(a) Historical An item is important in the course, or pattern, of NSW's cultural or natural history.
(b) Association An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history.
(c) Aesthetic An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW.
(d) Social An item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons.
(e) Scientific An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history.
(f) Rarity An item possesses uncommon, rare or endangered, aspects of NSW's cultural or natural history.
(g) Representativeness An item is important in demonstrating the principal characteristics of a class of NSW's a) cultural or natural places: or b) cultural or natural environments.

2.1.1 Environmental Planning and Assessment Act 1979 (NSW)

The Environmental Planning and Assessment Act 1979 (EP&A Act) regulates a system of environmental planning and assessment for NSW. Land use planning requires that environmental impacts, including those on cultural heritage, must be considered when making decisions about the future of a place.

The EP&A Act allows for the preparation of planning instruments to direct development within NSW. This includes Local Environment Plans (LEP), which are administered by local government, and principally determine land use and the process for development applications. LEPs usually include a schedule of identified heritage items.

The Project Area and associated transport routes cross seven local government areas, and is therefore subject to seven LEPs, as identified below.

- City of Newcastle Council (Newcastle LEP 2012);
- Cessnock City Council (Cessnock LEP 2011);
- Singleton Shire Council (Singleton LEP 2013);

- Muswellbrook Shire Council (Muswellbrook LEP 2009);
- Liverpool Plains Shire Council (Liverpool Plains Shire LEP 2011);
- Upper Hunter Shire Council (Upper Hunter LEP 2013); and
- Tamworth Regional Council (Tamworth Regional LEP 2010).

The Assessment Area sits only within Tamworth Regional Council.

The Project is being assessed as State Significant Development (SDD), and has thus been prepared in accordance with:

- the requirements of Section 4.12 of the (EP&A Act);
- Schedule 2 of the Environmental Planning and Assessment Regulations 2000 (EP&A Regulation); and
- the Secretary's Environmental Assessment Requirements (SEARs) issued for the proposed development, dated 22 November 2018, which included assessment requirements for historic heritage.

2.1.1.1 LEP Listing

The Heritage Council require the summation of the significance assessment into a succinct paragraph, known as a Statement of Significance. The Statement of Significance is the foundation for future management and impact assessment, and is provided below for the Black Snake Gold Mine (LEP I134), followed by the existing assessment against NSW heritage criteria.

The place has both historical and geological significance to Nundle, the Tamworth district and to local and national mining development beginning in this instance from the mid 1800s.

The heritage significance assessment, as presented in the SHI listing sheet, is provided in Table 2.2 below. No additional heritage assessment has been undertaken, as the field inspection provided no evidence that this assessment should be revised.

Table 2.2 Existing Heritage Assessment against NSW SHR Criteria

Significance Criteria	Existing LEP Assessment	Significance Level
Criterion (a) Historical	This mine has local historical significance to Nundle, the Tamworth district and to local and national mining development beginning in this instance from the mid-1800s.	Local
Criterion (b) Associative	Not significant under this criterion.	N/A
Criterion (c) Aesthetic	Not significant under this criterion.	N/A
Criterion (d) Social	Not significant under this criterion.	N/A
Criterion (e) Technical/Scientific (Research Value)	Not significant under this criterion.	N/A
Criterion (f) Rarity	Not significant under this criterion.	N/A
Criterion (g) Representativeness	Not significant under this criterion.	N/A
Integrity/Intactness	Good	Local

2.1.1.2 State Heritage Inventory

The SHI contains over 25,000 heritage items on statutory lists in NSW. This information is provided by local councils and State government agencies. The level of information for each heritage item can range from basic identification information such as name, address and listing to full information such as detailed descriptions, histories, significance and images. While Heritage NSW (former Heritage Division) seeks to keep the SHI up to date, the most recent statutory listings may not yet be included.

The SHI contains a database listing for Black Snake Gold Mine (Database ID 2471886), which records the Tamworth LEP listing. The SHI listing contains the Register of the National Estate (RNE) indicative location, as well as photographs of a mine shaft entry located within the listing area. The photographs shown in the SHI database entry do not correlate with the mine shaft entry identified by ERM during the field inspection for this Project (see *Section 4*).

2.2 Non-Statutory Considerations

2.2.1 National Trust of NSW

The National Trust is a community-based, non-government organisation. The National Trust (NSW) has a database of important heritage sites across the State; however, this register is no longer publically accessible. It is unclear whether Black Snake Gold Mine has been recognised by the National Trust (NSW), although the database is noted here for completeness.

2.2.2 The Burra Charter

The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (Adopted 31 October 2013) (The Burra Charter) sets a standard of practice for those who provide advice, make decisions about, or undertake works to places of cultural significance including owners, managers and custodians. The Charter provides specific guidance for physical and procedural actions that should occur in relation to significant places. A copy of the 2013 charter can also be accessed at: <http://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf>.

This historic heritage assessment report has been prepared in accordance with this Charter and to the standards and principles it describes.

2.2.3 Register of the National Estate

The Register of the National Estate (RNE) is now an archive of information about more than 13,000 places throughout Australia including many places of local or state significance. The RNE was closed in 2007 and is no longer a statutory list. The closure of the RNE does not diminish protection of Commonwealth heritage places.

The RNE is maintained on a non-statutory basis as a publicly available archive and educational resource. RNE places can be protected under the EPBC Act if they are also included in another Commonwealth statutory heritage list or are owned or leased by the Commonwealth. In addition, places in the RNE may be protected under appropriate state, territory or local government heritage legislation.

Black Snake Gold Mine is listed on the RNE as an 'Indicative Place' (ID 101052), recognised for its historical and geological significance. Mapping of the RNE Indicative Place, identified in the SHI, deviates from the LEP listed curtilage, placing Black Snake Gold Mine exclusively south of Barry Road and east of 'Devil's Elbow' (see Figure 1.2). It is noted that this mapping provides no statutory protections.

2.3 Summary of Heritage Register Search Results

The following historic heritage databases were searched in September 2020, to identify any known non-Aboriginal heritage sites within the Assessment Area:

- Australian Heritage Database, which includes:
 - Commonwealth Heritage List (CHL);
 - Register of the National Estate (RNE); and
 - National Heritage List (NHL);
- NSW SHR and SHI;
- Tamworth Regional LEP 2010; and
- The National Trust of Australia (NSW).

The following search results (*Table 2.2*) indicate sites identified within the Assessment Area.

Table 2.3 Tamworth Regional Council Area

Site Name	Register / Item #	Location	Impact from Proposed Works
Black Snake Gold Mine	LEP - I134 RNE (Ind) - 101052	Barry Road, Hanging Rock	Direct Impact – Road upgrades proposed at this location.

3. UNDERSTANDING THE PLACE

In order to appreciate the heritage significance of an item, it is important to understand the historical context in which it developed. Provided below is a history of the Nundle Area, contextualised within the growth of the gold mining occupation of the area.

3.1 Introduction

This chapter considers the potential non-Aboriginal heritage values for the Assessment Area. It includes a review of primary and secondary resources including available heritage assessments, reports, publications, historical maps and aerial imagery for the local area. This material will be used to help determine the Assessment Area's history and development over time.

3.2 NSW Historic Themes

The NSW Historical Themes have been used to assist in the identification, assessment and management of heritage values within the Assessment Area. Table 3.1 presents the historic themes and sub-themes relevant to each locally significant place within the Assessment Area (listed Heritage Items). The NSW Historical Themes are presented in Appendix B.

Table 3.1 Historic Themes Applicable to listed Heritage Items within Assessment Area

Place	NSW Historic Theme	Sub-Theme
Hanging Rock	Tracing the natural evolution of Australia	■ Environment – naturally evolved
	Peopling Australia	■ Migration
	4. Building settlements, towns and cities	■ Towns, suburbs and Villages ■ Land tenure
	Working	■ Labour
Black Snake Gold Mine	3. Developing local, regional and national economies	■ Mining

3.3 Historical Overview

The following provides a brief historical overview relevant to the Assessment Area. A more comprehensive history was prepared for the Project Historic Heritage Assessment, and can be found as Appendix N to the EIS (ERM, 2020).

3.3.1 Aboriginal History of the New England Region

NSW Historic Theme 2 – Peopling Australia – Aboriginal cultures and interactions with other cultures

The Assessment Area and transport route are within the traditional lands of the Kamilaroi (Gamilaroi/Gamilaraay) and Geawegal (Kayawaykal) people, with the former being situated to the north and west, and the latter to the south and east (Tindale 1974). Within these broader language groups, there would have been various dialects throughout the region, representing different familial or residential groups. It is likely that these groups moved fluidly throughout the landscape to utilise seasonal resources.

Decline of the Aboriginal population in the region was a direct result of European exploration and settlement, through several avenues including direct violence, rapid decline of traditional resources, and the introduction of alcohol and disease (Wood 1972). Despite this, Aboriginal people maintain a strong connection to the region, through intergenerational sharing of knowledge.

3.3.2 Exploration of Inland NSW

NSW Historic Theme 2 – Peopling Australia – Aboriginal cultures and interactions with other cultures

NSW Historic Theme 3 – Developing local, regional and national economies – Exploration

Initial European exploration into the Kamilaroi lands surrounding Tamworth and Nundle was undertaken by a party lead by Surveyor General John Oxley in 1818. Oxley had been tasked with exploring inland to find the inland sea that was thought to be the source of the rivers in NSW. His earlier expedition, which travelled east from Bathurst, had ended in the discovery of a series of muddy waterholes at the end of the Lachlan River. In May 1818, Oxley and his party again left Bathurst, only this time travelling north along the Macquarie River. After reaching yet marshier ground at the end of the Macquarie River, Oxley headed east through the Warrumbungle ranges, and eventually discovered the Liverpool Plains (Figure 3.1). By September, Oxley had reached the site of present day Tamworth, from which his party headed east, discovering and following the Cockburn and MacDonald Rivers. Although the inland sea was not identified on this exploratory journey, Oxley reported the fertility of the Liverpool Plains and the harbour and estuaries of Port Macquarie. J Cross' Chart of '*Part of New South Wales*' in 1827 included Oxley's discoveries, leaving the upper Peel blank, but marking the area as two counties – 'Cambridge' to the west and 'Ayr' to the east of Peel River (Bayley 1953:16).



Figure 3.1 Liverpool Plains, west Prospect from View Hill [picture] / drawn by Major Taylor from a sketch by Mr. Evans (National Library of Australia (NLA) PIC Volume 99 #U8094 NK68

Although the lands around Tamworth had been identified by the early 1800s, there was not yet a safe a reliable way to access the Liverpool Plains, a factor that significantly hindered plans for settlement. Under instructions from Oxley, Henry Dangar made two expeditions into the Liverpool Plains in 1824 and 1825. The first was cut short by violent encounters with the Gamilaroi people; however, the second expedition lead to the discovery of an accessible pass over the Liverpool Range (the route now followed by the New England Highway). Dangar traversed the foothills of the Great Dividing Range heading east until he reached the Peel River, near Nundle. Dangar then crossed the mountains near Hanging Rock and returned along the Barnard River.

Major Thomas Mitchell also explored the Liverpool Plains area in 1831, following up Dark Brook and Kingdon Ponds to Murulla, passing over the range to Liverpool Plains to the Peel River (Bayley 1953:16). On Mitchell's *Map of the Colony* published in 1834, the ranges are shown south of the Peel River, though no names or signs of habitation are marked on its upper reaches (Figure 3.2). The course of Peel River was first traced by Assistant Surveyor G.B. White in late 1832, the report of this survey does not record any settlement along the banks of the Peel River at that time (Bayley 1953:17).



Figure 3.2 Detail of the *Map of the Colony of NSW 1834*, showing Liverpool Ranges and Peel River, by T.L. Mitchell, Surveyor General (approximate location of Project Site in red) (Hunter Living Histories)

3.3.2.1 The Limits of Settlement

From the late 1820s, the Colonial Government attempted to restrict settlement to the nineteen counties established within a roughly 320 km radius of Sydney. Officially, no settlement beyond these limits was permitted; though many settlers moved beyond these limits, making claims to tracks of country, squatting illegally with their sheep and cattle. The valley of Peel River was well beyond the official limits of settlement; however, the reports of rich grazing land made by explorers such as Oxley and Mitchell drew many squatters to the district. Governor Gipps introduced a regulation requiring squatters to pay a licence fee of £10 a year to squat on Crown land, though it was not until 1837 that pasturage licences became compulsory. While the Government made attempts to stop squatters settling outside the nineteen counties, it welcomed all attempts to develop the region within the bounds of these approved settlement areas.

In November 1824, a group in England formed the Australian Agricultural Company, incorporated by Royal Charter, for the purpose of sheep raising. The Government granted the new Australian Agricultural Company with one million acres of land in the colony, free of all restriction and reservation (Bayley 1953:17). The Company's agent, Robert Dawson, selected a million acres of land extending north of Port Stephens. Dawson was later replaced by Sir Edward Parry, a famous explorer, as the Company's new commissioner.

Towards the end of 1831, Henry Dangar was again sent to the Liverpool Plains to inspect a suitable property for the Australian Agricultural Company, finding the Peel River was suitable for grazing. Parry with his party then travelled overland south east up the Peel River, through the site of Nundle, crossing the Crawney Pass to examine the region on 5 March 1832 (Bayley 1953:17). As a result of this journey, the company selected Warrah and the Peel River grant, the latter containing 313,298 acres extending westward from Peel between the sites of Attunga and Nundle, incorporating the Forest Creek Catchment. By August 1833, the Company secured a grant for the land, despite it being beyond the limits set for the location of settlement in the colony. The new Peel River station became known as Goonoo Goonoo (pronounced Gunny Gunnoo) and received 1,400 convicts as labour (Bayley 1953:18). The Goonoo Goonoo Station became known for its fine wool and stock and the company's Peel River asset increased over time, from 6,000 head of sheep in 1834 to 130,000 sheep and 6,000 cattle by 1934 (Bayley 1953:18).

Return journeys to the district throughout the 1820s and 1830s frequently utilised either Crawney Pass or Hanging Rock to traverse the Range, further background on these early transport routes is provided in Section 3.3.2.2 below.

3.3.2.2 Early Transport Routes

NSW Historic Theme 4 – Building settlements, towns and cities – Transport

The following section has been largely summarised from the *Thematic History of Nundle, Manilla and Barraba* (J. Boileau 2007:21-22).

For most of the nineteenth century, the two main transport routes through NSW originated from the major ports: Sydney and Newcastle. From these ports the wool, beef and materials that constituted the wealth of the colony were shipped to England. The overland track from the Hunter Valley leading across the Liverpool Ranges and through the Peel River Valley was a major route for supplying the stations and scattered settlements of north west NSW. Baker's Australian Atlas of 1848 shows a track following the eastern bank of the Peel River passing the site of the present town of Nundle, and meeting the Port Stephens track near the junction with the Peel and Ogunbil Creek. From that point the track evidently crossed the Liverpool Range over the Crawney Pass to the Hunter Valley, following the route of the early explorers.

During the early days of settlement all supplies for the Peel River Valley and further north were carried by horse or bullock teams from the Hunter Valley over the steep road across the Liverpool Ranges at Nowlands Gap. Goods were shipped from Sydney to Newcastle then up river to Morpeth in the lower Hunter Valley. This was the terminus for shipping, and from there goods were transported overland to Tamworth. Located at the strategic crossing of the Peel River, Tamworth developed as an important transport hub.

Following the discovery of gold at Hanging Rock in 1852, Rocky River near Armidale in 1856, and Bingara and Bundarra in the 1860s, road traffic in the area greatly increased. This prompted the Government to extend the Great North Road from the Hunter Valley to the New England Tablelands. One of the major challenges of this project was cutting a route up the notorious Moonbi Range, the mountain barrier between Tamworth and the New England Tablelands. It was a daunting climb for heavily laden bullock teams and coaches. As bullock drays had no brakes, on steep hills logs were dragged behind the vehicle to slow their progress. The route from Maitland to Hanging Rock was said to be completed in four days on horseback, though the long steep pinches over the Crawney Pass were known to be dangerous. Travellers were advised that out of the two routes over the Pass, travellers should take the easier ascent which began furthest up the Isis River.

In the early 1850s, William Telfer Junior described the experience of travelling the steep and dangerous route from Nundle to Hanging Rock:

At that time there was a sheep station on the Company's side of the river also one on the other side which was the property of Dr. Jenkins. Crossing the Peel River here saw the Hanging Rock mountain some two miles away proceeding along a very steep track almost perpendicular in appearance [...] the only traffic on this road was Nathan Burrows' bullock team which used to go to Tamworth about twice a year [...] some place you could scarcely discern any road and the mountain was very steep if you went a little off the track the cart would capsize and go down the mountain [...]. (Telfer, W. in R. Milliss 1980 via J. Boileau 2007:22).

Improvements were made to some of the major roads in the Nundle district during the 1870s. In 1879, a new road was surveyed along the eastern side of the Peel River from Nundle to Bowling Alley Point, cutting into the hills that rise steeply from the river. In December 1874, a new road was completed to Hanging Rock, climbing over 500 m from Nundle to Hanging Rock village in just over 8 km and 900 m to the highest part of Hanging Rock (*Photograph 3.1*). This road is still in use today, and has one of the steepest grades of any road in NSW.



Photograph 3.1 The steep road from Nundle to Hanging Rock (now Devil's Elbow) c.1880s (Bayley 1953:30)

3.3.3 Early Settlement at Hanging Rock

NSW Historic Theme 2 – Peopling Australia – Migration

NSW Historic Theme 4 – Building settlements, towns and cities – Towns, suburbs and villages

Settlement at Hanging Rock started soon after the discovery of gold in 1851. With the heavy influx of prospectors and miners from across the country and internationally, crude shanty villages were established around Hanging Rock. In February 1853, the Hanging Rock community was substantial enough that it was to be formed into a township:

It is reported that the Hanging Rock is to be formed into a township, and allotments to be sold, a thing much desired by many of the diggers (The Sydney Morning Herald 7 Feb 1853: 2).

By April 1853, the residents of Hanging Rock erected a building to serve the dual purpose of a Church of England and school, and asked the Bishop of Newcastle to appoint a school master as there were at least 30 children living in the area. The residents of Hanging Rock contributed to the erection of the building, and the clergyman's stipend. Though it was recognised at the time that the population of Hanging Rock was largely migratory and a permanent building would be unnecessary. It was therefore suggested that 'a large tent, with bark or slab sides to make it commodious, would answer admirably, and that it could be easily moved on any occasion without great expense' (The Sydney Morning Herald 13 Dec 1853:3).

On 14 May 1853, the Maitland Mercury reported that a 'strong bark building' had been erected at Hanging Rock to serve as a church and a school. This original school served the community of Hanging Rock for over twenty years.

It will be perhaps of some satisfaction to those who have families who are about to try the Hanging Rock that a school has recently been erected and that Mr. Richards, a gentleman recently from England, has been appointed schoolmaster (J. Webster n.d: 10).

Transport in and out of the new Hanging Rock settlement was difficult in the early days of settlement, despite the frequent visitors to the new township. At the time it was noted '*nothing is more badly wanted than a passenger conveyance from Maitland to the Hanging Rock*' (The Sydney Morning Herald 8 Sep 1853:5). At the time, there was no other vehicle than the mail coach, and it was difficult for any person to catch a ride, as the seats were often always taken by miners. It was reported by the Sydney Morning Herald in 1853 that:

We often see man and wife separated; the fare is paid for two persons, and when the mail starts they find there is only room for one of them, the husband is compelled to get upon a horse, an animal quite unable to perform the journey (The Sydney Morning Herald 8 Sep 1853:5).

It was not until later years that a passenger service was established between Nundle and Tamworth (Photograph 3.2).

In September 1878, a new public school was erected after the residence petitioned the Council of Education to open a permanent public school. Two years later the Department of Public Instruction took over and erected a new weatherboard school with teacher's residence on a two acre site. During the 1890s a second classroom and two small rooms were added. This early school was again replaced in 1952 and officially closed in 1970. A public cemetery at Hanging Rock was dedicated in 1873, though there were apparently burials here before this date. The dedication of the cemetery was subsequently revoked, but it was officially rededicated in 1896 (Figure 3.3).



Photograph 3.2 The horse and cart that carried passengers between Nundle and Tamworth, c.1890s (Bayley 1953: 44)

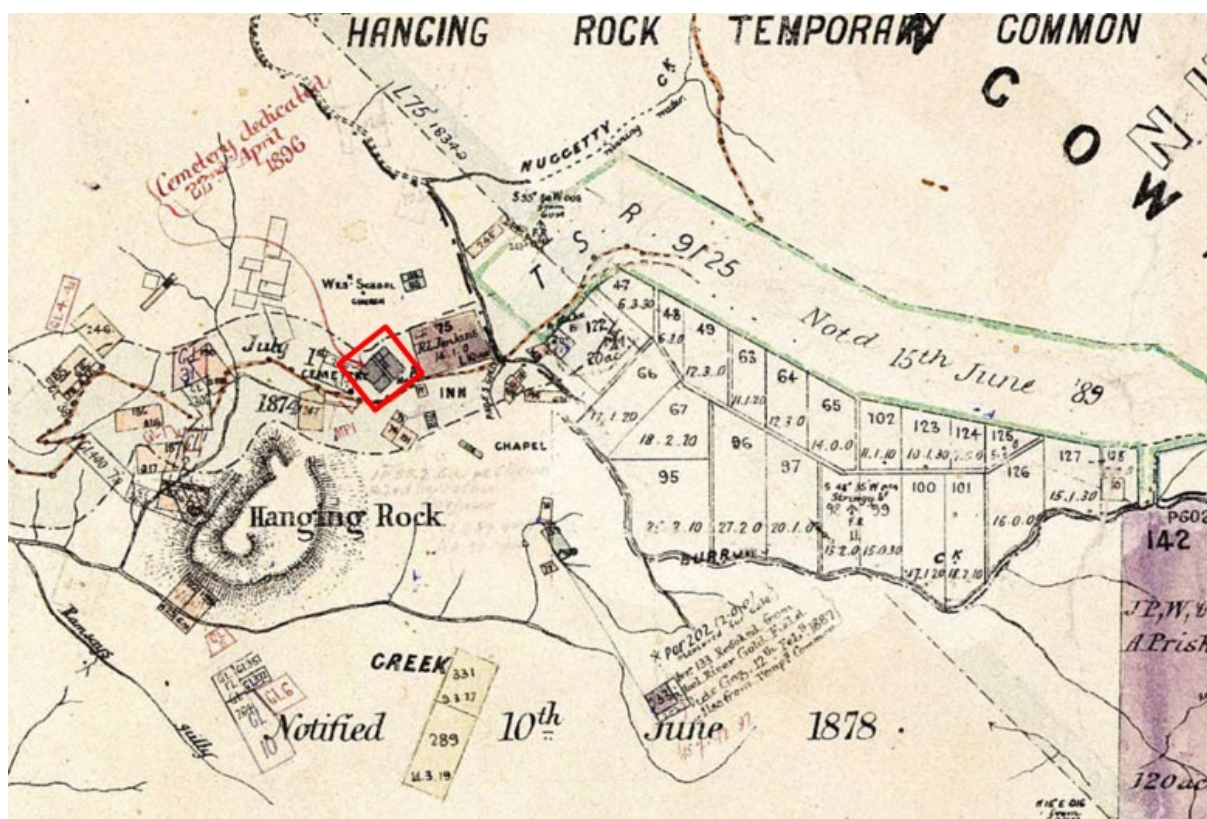


Figure 3.3 Map of the early town of Hanging Rock, notified June 1878, rededicated Cemetery indicated in red (NSW Land Registry Services - Historical Land Record Viewer)

3.3.3.1 Discovery of Gold at Hanging Rock

NSW Historic Theme 2 – Peopling Australia – Migration

NSW Historic Theme 3 – Developing local, regional and national economies – Mining

NSW Historic Theme 5 – Working – Labour

The following section has been largely summarised from the *Thematic History of Nundle, Manilla and Barraba* (Boileau 2007: Section 5.3) with additional archival research by ERM.

The first discovery of gold at Hanging Rock is attributed to Nathan Burrows in August 1851. Burrows was supposedly riding near Swamp Oak Creek on his run at Hanging Rock when he came across one of his stockmen washing for gold with a pint pot. The stockman found small flecks of gold while washing his pannikin after a meal. Burrows reported the discovery of gold to William Cohen, the storekeeper at Tamworth and the news quickly spread. By 24 January 1852, the *Maitland Mercury* announced that gold had been found at the Hanging Rock, bringing waves of prospectors to the district. Before the end of February 1852, gold from Swamp Creek and Hanging Rock was reaching Maitland. Twenty seven cradles were operating at Hanging Rock and the number of diggers were increasing daily.

The first strikes at Hanging Rock were followed by an even richer find at Bowling Alley Point on the Peel River (*Photograph 3.3* and *3.4*). By the end of March 1852, the main body of miners had moved their operations there, setting up shanty towns of tents and crude bark shelters (*Photograph 3.5*). At first gold was found in creeks, in riverbanks and on ridges throughout the Nundle district. In May 1852, 223 gold miners' licences were issued, with miners paying very reluctantly until the Government reduced fees from one pound ten shillings per month to ten shillings per year.



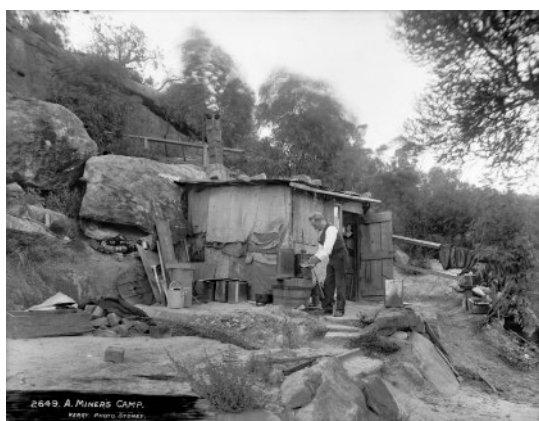
Photograph 3.3 Bowling Alley Point, centre of the early 'Peel River Diggings' 1952 (Bayley 1953:29)



Photograph 3.4 Alluvial flats in distant valley opposite Bowling Alley Point 1952 (Bayley 1953:29)

Tiny settlements quickly sprang up to provide for the needs of prospectors who flocked to the Nundle district. Along Oakenville Creek, west of the foot of Hanging Rock, stores and public houses appeared quickly, and by June 1852 there were 300 diggers and their families camped along the valley in tents and bark huts. In Happy Valley, north of Oakenville Creek, two stores and a public house were operating by 1855. Happy Valley became the principal diggings in winter when miners did not have to contend with rainfall '*...already diggers are going there, and securing their favourite spots*' (The Sydney Morning Herald, 5 Feb 1855: 5).

Miners were able to make a fine living at Hanging Rock, being employed in mining, cradling, sluicing and cutting timber for more sluices. Sawyers were also badly needed at the time, as diggers were constantly needing new timber boards and cradles for panning. Once the gold was brought to the surface, it would be sieved to remove larger material and placed in a box-like cradle adjacent to the windlass (a hand-powered winch used to haul ore up the shaft) (*Photograph 3.6*).



Photograph 3.5 Example of mining camp, made of bark shelter in NSW (Museum of Applied Arts & Sciences Object No: 85/1284-1383)



Photograph 3.6 Miners panning for gold NSW (Museum of Applied Arts & Sciences Object No: 85/1286-528)

By December 1853, the miners were experiencing hardship and unemployment at the diggings due to heavy and continued rains. The sluicing water was also stopped at this time due to disagreements between sluicing parties. At this time, one-half of the miners had left the diggings, with a correspondent for the Sydney Morning Herald reporting:

[...] I should not have been surprised if such a vicissitude² had not seized the gold field, and my only astonishment is that so many diggers have remained so long a time unemployed, waiting for the dry season to set in. (The Sydney Morning Herald 23 Dec 1853:3).

The heavy rains and flooding caused water to rush down the main creek and over the falls, washing away nearly every claim. The sluicing parties came together in 1853 to address grievances and gathering signatures in order to turn the sluicing water from Swamp Creek back on (The Sydney Morning Herald 23 Dec 1853:30).

By 1854, miners started to arrive from as far as China, Europe, California and Jamaica to try their luck on the goldfields. With the arrival of international prospectors, further shanty settlements sprang up along the Peel River and the creeks that flowed into it, including Happy Valley, Golden Point, Diamond Creek and Nuggety Creek. Visitors commented that Nundle district was like being in 'Yankee land', with veterans (known as the Californian Party) of the Californian gold rushes of 1849 dominating the community that gathered on the diggings in the Nundle district. The California Party starting on sluicing 'Nuggety Gully' with apparent great success (The Peoples Advocate and NSW Vindicator 5 Nov 1853:6).

In January 1854, there was some controversy over large area of diggings owned by the Australian Agricultural Company, when Captain Price, a representative of the Company, promised the diggings would be opened to the public. The Secretary of the Company and other officers issued a protest against Captain Price, and cautioned the public from digging on the Company's ground (The Sydney Morning Herald 9 Jan 1854:8). The proposed licences for the public to dig on Company land was the high price of £3 per month, a cost too high for most miners. It was argued that:

[...] persons sluicing would have to pay an ounce of gold per month for water, £3 to the Company, and £5 to the Government. Those diggings should be rich to admit the payment of such expenses (The Sydney Morning Herald 9 Jan 1854:8).

The early locality known as Black Creek was situated on the Government side of the Peel River, 6 miles from Hanging Rock, opposite what was then the Cordillera Company's Diggings. These diggings were also successfully sluiced by the Californian Party (from the American Water Company). On the opposite side of the River was the American Water Company's diggings. In 1854, the American Water Company proposed to bring water to their diggings with water races, in order to employ more miners in the district. However, Dr Jenkins was the owner of the locality, and refused the Company his water:

Who is he Dr Jenkins, that he should obstruct the successful working of the gold fields? [...] he pays £2 per annum for each square mile; the digger pays £6 per annum for twenty square feet! Shall one man, [...] be allowed to dictate to the miners and to the Government, and stem the tide of wealth [...] (The Sydney Morning Herald, 9 Jan 1854: 8).

Dr Jenkins refusal was also met with great local disappointment, with miners hoping the government would not support his opposition to the American Water Company (The Sydney Morning Herald 3 Feb 1854:2). Many of the miners were waiting in anticipation of the water brought by the American Water Company, as the sluicing would decrease the manual labour required to extract the gold from the carts and sacks that had to be brought down to the river by hand (The People Advocate and NSW Vindicator, 4 Feb 1854: 5).

² A change of circumstances or fortune, typically one that is unwelcome or unpleasant.

The rush in Happy Valley began in 1854, though by 1859 most of the best alluvial gold had been taken out. In 1857 there were still high hopes for the Peel River diggings, a correspondent for the Empire publication in Sydney noting:

I am still of the opinion that the Hanging Rock will prove the richest gold field yet discovered in the colony, and the successive discoveries of the past month bear me out in that opinion (Empire, 15 Jul 1857: 5)

However, the Peel River diggings never rivalled the finds at Turon or Burraborang, let alone the major Victorian strikes at Bendigo and Ballarat. The diggings were lucrative enough to support hundreds of miners until the mid-1860s when the easily won alluvial gold began to run out. As early as 1861, Happy Valley, which had been populated by hundreds of prospectors from all corners of the globe, was almost deserted, as miners moved onto richer fields. Chinese miners stayed on and made a small living of abandoned European claims for a few more years, though by 1872 there was very little gold mining activity at Hanging Rock:

The Hanging Rock is now a mere relic of its departed greatness, and views from the height where I stood, where all the old workings could be seen, it seemed like a monster basin [...] surrounded by hills from top to base, turned over, where rich patches were first worked, and in after years 're-turned' again, and still gold procured. Two public houses stand in the valley, their signs 'golden ones' now only to serve to remind one of what was when diggers were plentiful and cash abounding. But little business is done there now – a few old hands remain. (Bayley 1988: 66, cited in J. Boileau 2007: 44).

3.3.3.2 Black Snake Gold Mine

NSW Historic Theme 3 – Developing local, regional and national economies – Mining

The Black Snake Mine is one of 10 mines which form the major gold reefs within the Nundle Goldfield, which covers an area of about 15 km north-south by 5 km east-west and about 45 km south-south-east of Tamworth. Most of these mines are situated near the hamlet of Bowling Alley Point or between Nundle and Hanging Rock village. Joseph Clark, a miner born in 1832 in England, came to Australia in 1851. Clark established the Black Snake mine in 1876, over a decade after he arrived in the Nundle area.

Clarke worked the mine with another miner, George Cairns until 1926. Using primitive equipment limited to hammers, picks and gunpowder, the two miners constructed 112 metres of tunnels by hand. The main tunnel, winding 80 m into the hillside, was built in the 1880s. They named the mine Black Snake because of the way the main reef of gold twisted and turned, although it generally trended north-south. In June 1890, a Tamworth correspondent for Table Talk (Melbourne) reported that important discoveries had recently been made on the Hanging Rock Mountain, on the Black Snake line of reef.

'In the Broomfield Claim the reef has been cut at a low level, and is surprisingly good, the stone going quite 10oz. to the ton, thus bearing out the opinion expressed by the late Rev. B.W. Clarke that the lower levels in this ground would prove richer than nearer the surface' (Table Talk 27 June 1890:6).

The Black Snake Gold Mine occupies 17.5 hectares, encompassing both the Black Snake and Brown Snake mines and surrounding land. 'Brown Snake' was a previously used informal name for the mine. Mining took place intermittently from 1877/8 to 1908, with a total production of 63.4 kg gold at grades of 20-100gm/tonne Au.

3.3.4 A New Era of Mining

NSW Historic Theme 3 – Developing local, regional and national economies – Technology

During the early 1860s a new era of mining began in the Nundle district, focusing on quartz reefs. It was found that steam quartz crushing machines could largely replace the laborious work of panning for gold by hand, and the hills and valleys around Nundle were honeycombed with shafts and tunnels. Miners gave their claims and reefs names that expressed their hopes and aspirations: Golden Hole, the Golden Chance, The Golden Gate, Hidden Treasure, Golden Point, Diamond Point, or reflected the polyglot community in which they lived and worked, such as Blackfellow's and Kanaka. There was also a single mine that belonged to woman named Sally, called Sally Grey's mine. Soon the landscape at Hanging Rock was greatly altered, with the Tamworth Observer noting in 1885:

These men were the great captains of the days gone by [...] they dug up the valleys, turned the river courses, pierced the great mountains and obtained thousands of ounces of gold for their labour [...] (Tamworth Observer 1885, cited in W. A. Bayley and I. R. Lobsey, 1988: 20).

By 1864 631 miners' licences had been issued at Nundle, and the district produced 8,476 ounces of gold, valued at £32,000. During this time, Chinese miners far outnumbered Europeans and were skilled at constructing waterworks. The Chinese miners continued to work the alluvial gold claims abandoned earlier by European prospectors. Water supplies had become a constant problem on the goldfields, as a large and constant supply of water was needed to wash the crushings. In 1862, the rights to all the water of the western slopes of the Liverpool Range was granted to the American Water Company, and later the Mount Sheba Company subsequently leased the rights from them twenty years later.

In the early 1870s, mining the area was centred on two spots, the Hanging Rock and Foley's Folly, only two miles apart, divided by the Swamp Creek. It was noted at this time that Hanging Rock alluvial had once been rich, though there was 'nothing very lively stirring up on the field' at the time (Evening News 25 Sep 1871:3). Working reefs known at the time were the 'Criterion' (a vein) wrought by 'Wood and Christie' and Stephens tunnelling claim 'in a very peculiar hill, the bottom being still glossy clay capped with a heavy layer of waterworn wash, in which gold was found. Near to this area was a site known as Dangar's Hill, 'locally remarkable for a broad layer of tufa or cinder stone of many colours' (Evening News 25 Sep 1871: 3). The creek which descended from the high ranges of Hanging Rock into the Peel River below was still thought to be rich with gold:

Scattered parties – both British and Chinese – are still searching for treasure hidden in its rocky bed, and I cannot help thinking that a considerable quantity of gold yet remains in this high ground about the creek head. (Evening News, 25 Sep 1871:3).

By 1882 there were a large number of mining claims and known quartz reefs. Joseph Ruzicka discovered 'very rich patches of gold at Hanging Rock' at the beginning of 1882 and on Saturday 18 March he obtained 9 pounds weight of gold from the reef (Adelaide Observer, 18 March 1882:32). This reef became known as Ruzickas Reef or 'Ruzickas Lady of the Mountain'. In November the same year a miner named Lang struck a large reef with payable gold, after he had been tracing some leaders very near to Ruzickas claim (The Sydney Mail and NSW Advertiser, 11 Nov 1882: 845). The innovative crushing technology inspired many other experienced prospectors to the district, with the Sydney Mail noting '...something grand may be expected when science and great experience are brought to bear' (29 Jul 1882: 168). The new Marquis of Lorne and Price's Hill Gold-mining Company, under the management of Mr. John Stanning had started work at Bowling Alley Point. The Company had started driving a main low-level tunnel, and putting down a main shaft through the old mine. They also had a 50-foot tunnel in order to cut into the reef (The Sydney Mail and NSW Advertiser, 11 Nov 1882: 845). A new water power machine was purchased by Mr. J.P Robinson and a Mr. Weeks to build a new water wheel, this new plant was used to crush stone from the Possum and Foley's reefs. The Golden Hole reef was also active at this time, working with a steam pump:

The Golden Hole [...] is pushing ahead [...], they get small prospects, but as yet nothing payable (The Sydney Mail and NSW Advertiser, 11 Nov 1882: 845).

In 1888 the Mount Sheba Company built the two Sheba dams on Swamp Creek at Hanging Rock (Photograph 3.7). The two dams were built by hand in three weeks. From these dams, water was directed to the miners by means of water races, which can still be seen cutting across the landscape around Hanging Rock today. The Mount Sheba Gold Mine was established in the same year (Photograph 3.8).

During the depression of the 1890s, large numbers of alluvial miners returned to the goldfields to try to make a living. During this time, the Peel River goldfields produced the largest quantity of gold in its history with 5,770 ounces produced at a value of £20,224. Though the new Sheba Dams provided miners with a reliable supply of water and inspired new mining companies to the district, this peak only lasted a few years. The Mount Ephraim Mine closed in 1890 and soon mines at Bowling Alley Point, Hanging Rock and Nundle ceased working. The Tamworth Gold Mining Company began operations on the Nundle goldfields in 1897, though when they failed to make a profit the company folded. Between 1905 and 1917 the Nundle Gold Dredging Syndicate undertook dredging operations in the Peel River, though again this was met with little success.



Photograph 3.7 Sheba Dam 1952 (Bayley 1953:42)



Photograph 3.8 Mount Sheba Gold Mine c.1888, lengths of hose used for carrying water to sluicing hydrants shown (Bayley 1953: 43)

4. PHYSICAL EVIDENCE

A pedestrian survey of the Assessment Area was undertaken by Stephanie Moore (ERM Heritage Consultant) and Aref Taleb (Someva Renewables) on Wednesday 28 October 2020. Survey commenced at the south-western end of the 'Devil's Elbow' proposed upgrade and moved north-east towards the tie in with Barry Road. Inspection focused on the proposed road upgrade works alignment, and did not include a comprehensive investigation of the LEP listed curtilage, or the SHI mapped area, of Black Snake Gold Mine.

4.1 Description of Heritage Item & Fabric

4.1.1 Black Snake Gold Mine

4.1.1.1 Overall Significance Assessment

Black Snake Gold Mine is listed on the Tamworth LEP for its historic values. While no longer a statutory listing, Black Snake Gold Mine is also recognised on the Register of the National Estate for its historical and geological significance. Details of these listings is included as Appendix A.

4.1.1.2 Description

The description of Black Snake Gold Mine from the Register of the National Estate (RNE) listing states:

The Black Snake Gold Mine is a 17.5 hectare area of Public Recreation Reserve located approximately 4.5 km east of Nundle, in the shadow of Hanging Rock. Hanging Rock Road runs immediately past the north west boundary of the site, and the old workings can be accessed along old miners trails, and on other old forest tracks. The site is steep rising from about 870m in the gully at Black Snake to about 970m on the spur above Brown Snake.

Access to the mines is variable. At Brown Snake, accessible slopes and drives are small and limited to the vicinity of the adit. At Black Snake, over 100 metres of drive is open and clear, as well as several of the stopes which have been largely back filled.

The timber used in the construction of the mine is deteriorating and has been removed in some areas. The internal timber drainage system is not functioning.

Vegetation on the land is moderately dense primary and secondary growth eucalypt forest; undergrowth can be intense in places, but ground traversing on foot is possible over most of the area.

The RNE also states:

The front of a tunnel has caved in but the tunnel itself is in good condition. The workings are reported to be in good condition. Loose scree, timber, and other elements have been removed from the workings. Landslip material and small roof falls have been secured and accessible tunnels and stopes have been tidied up to improve drainage and access.

The location of the tunnel referenced in the RNE listing is unknown, as no co-ordinates are provided. It is also unclear from the listing whether more than one entrance remains open within the listed area, although the description appears to indicate that there are several ways to access the workings.

4.2 Description of Setting – Assessment Area

Black Snake Gold Mine is situated in the hills and gullies north west of Hanging Rock, NSW. Within the Assessment Area, the terrain is generally steep and rugged, with rocky outcrops occurring regularly throughout the area. The hills south of Barry Road are well vegetated with dense undergrowth and primary and secondary growth eucalypt forest. Vegetation is consistent across the Assessment Area, with minimal variation in species type and vegetation density.

Several vehicle tracks have been cut into the landscape and were previously used as an access to Hanging Rock³. These are now generally still clear of obstructions and remain accessible. The tracks, while remaining cleared, are generally steep and only accessible by 4WD or other appropriate vehicle. Access for the survey was undertaken entirely on foot.

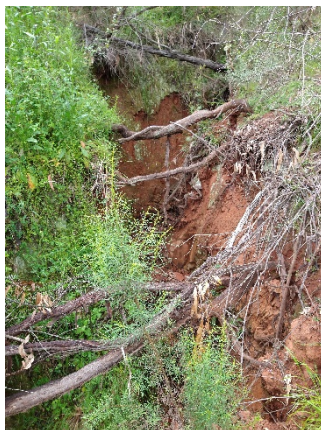
There are several drainage scours on the southern side of the proposed track, often quite deep. Past ground disturbance throughout the Assessment Area was noted to include construction of the access tracks and Barry Road. No other signs of past ground disturbance were noted within the Assessment Area.



Photograph 4.1 Landscape overview, showing hill slope (ERM 2020)



Photograph 4.2 Track exposures (ERM 2020)



Photograph 4.3 Erosion scour (ERM 2020)



Photograph 4.4 Further evidence of steep hillslopes (ERM 2020)

³ Information from anecdotal evidence provided during the Community Consultative Committee Meeting, October 2020

4.3 Survey Results

The proposed road alignment roughly follows an existing track through the Black Snake Gold Mine LEP listed curtilage running roughly east west. There are at least three other well-formed tracks through this section of the curtilage, one that forks north from the main east-west track, one that forks south-east of the main track, and one parallel track to the south. It is likely this network of tracks is more extensive, although comprehensive investigation of the LEP listed curtilage beyond the proposed road upgrade alignment was outside the scope of this assessment.

The ground surface is generally covered with leaf litter and other natural debris, limiting ground surface visibility. Along existing tracks, visibility was generally good. The full length of the Assessment Area was inspected, including existing tracks and vegetated areas. Where landforms were considered too steep to traverse, observations were made from high/low points adjacent to slopes.

No physical remains of Black Snake Gold Mine were identified within the Assessment Area. One mine shaft entry was identified during the field inspection, although this is along a divergent track and not in proximity to the 'Devil's Elbow' proposed upgrade (see Figure 4.1). It is unclear if this mine shaft entry corresponds with that described in the RNE listing, although it is likely that other shaft entries are located in the surrounding hill slopes, outside the Assessment Area. No other shaft entrances were recorded during this investigation, and no ephemeral evidence (such as machinery, historical rubbish dumps etc.) have been noted within the Assessment Area.

The south edge of the 'Devil's Elbow' proposed upgrade was too steep to safely access, and observations were made from the crest where possible. No evidence of mine shaft entries or workings was identified along this slope.



Photograph 4.5 Mine shaft entry



Photograph 4.6 Detail of mine shaft entry

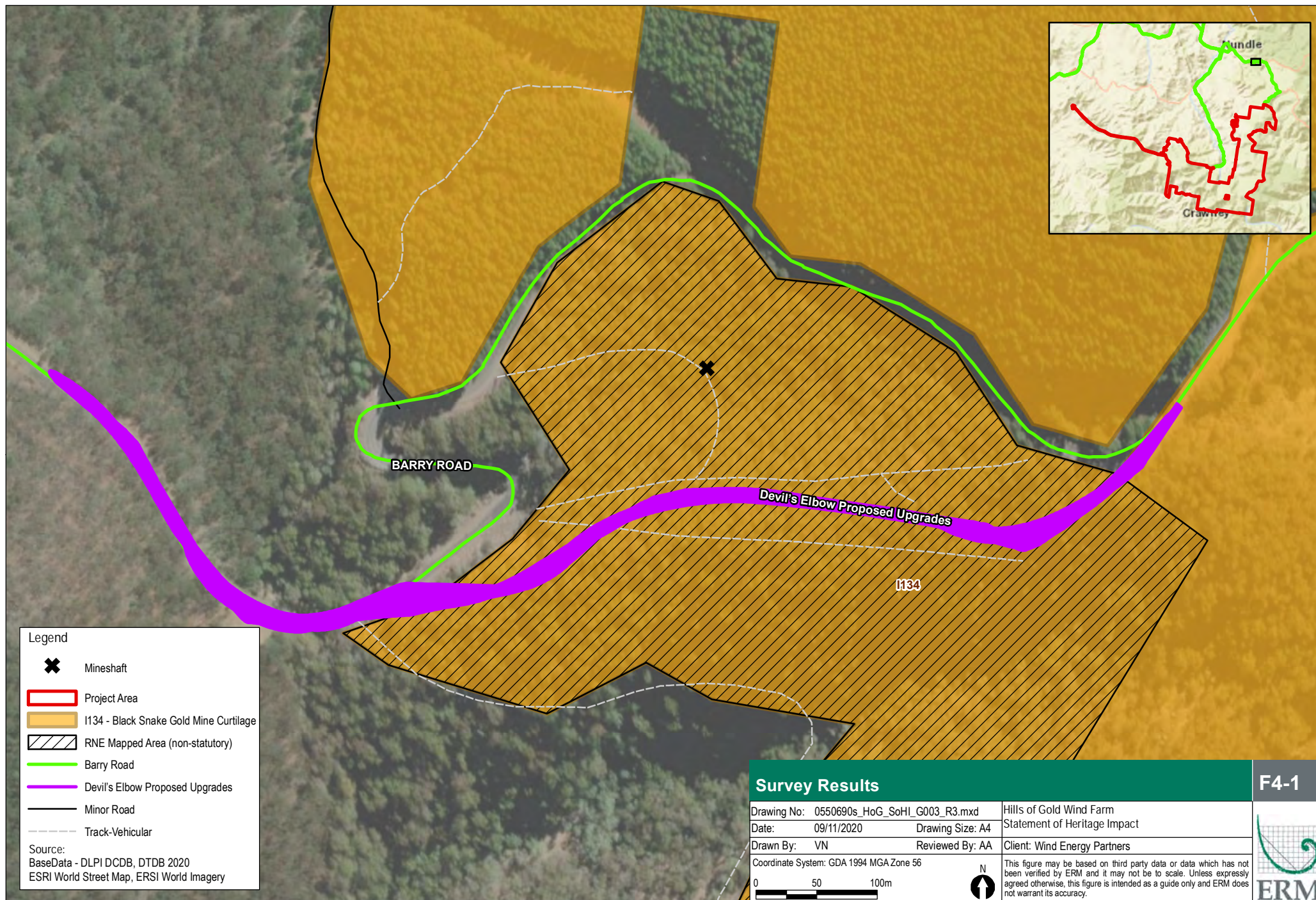
4.4 Summary Assessment of Archaeological Potential

The Black Snake Gold Mine retains subsurface evidence of mid-late nineteenth century, including mine shafts and intact workings. One mine shaft entry has been identified as surface evidence of the historic mine, leading into a subsurface tunnel of unknown length or depth. The tunnel leading from this mine shaft entry trends to the north/north-west away from the Assessment Area.

It is important to note that the identified mine shaft was located along an existing access track. It is highly likely that any other extant features relating to the mine would be identified along access tracks throughout the LEP listed curtilage. Reliable tracks would have provided a means by which to remove gold from the mine and transport it to nearby Nundle or Hanging Rock. Additionally, mine shaft entries are more likely to be identified on hill slopes, which provide horizontal, or near horizontal, entry into tunnels. It is expected that any other extant shaft entries within the listed area would be identified along access tracks cut into the hill slopes. As the Assessment Area is located along the ridge, it is unlikely that further surface evidence of the gold mine will be identified in this area. The hill slope to the south of the Assessment Area also did not contain evidence of tracks that would accommodate removal of material related to consistent mining.

There is very little information available indicating the approximate depth of the workings, although it is likely that any extant tunnels are at least 2-3 m underground. As previously noted, there is no available mapping of the tunnel system. There is potential that mining tunnels may run beneath the Assessment Area. There is low potential for shaft entries to be located on the steep slope to the south edge of the Assessment Area.

The Assessment Area retains moderate archaeological potential to contain tunnels and shafts associated with former gold mining activities in the area. Any archaeological remains identified within the Assessment Area, being situated within the LEP listed curtilage of the Black Snake Gold Mine, are provided statutory protection in accordance with relevant legislation.



5. ASSESSMENT OF HERITAGE IMPACTS

The following section provides a detailed assessment of potential impacts arising from the proposed works to the heritage significance of the Black Snake Gold Mine (Tamworth LEP Item I134).

5.1 Description of Proposed Works

The proposed works will involve installation of a private road at Hanging Rock, NSW in order to bypass 'Devil's Elbow' at Barry Road. Road works will include cut and fill, grading, installation of road base, and asphalt sealing. No detailed design or construction methodology has been finalised.

5.2 Response to SOHI Guideline Process Questions

The objective of a SoHI is to evaluate and explain how the proposed development, rehabilitation or land use change will affect the heritage value of the site and/or place. A SoHI should also address how the heritage value of the site/place can be conserved or maintained, or preferably enhanced by the proposed works.

This report has been prepared in accordance with the NSW Heritage Office & Department of Urban Affairs and Planning *NSW Heritage Manual* (1996) and NSW Heritage Office *Statements of Heritage Impact* (NSW Heritage Office, 2002). The guidelines pose a series of questions as prompts to aid in the consideration of impacts due to the Project. The questions vary in the guideline, depending on the nature of the impact to the heritage site.

The questions outlined in the *Statements of Heritage Impacts* guidelines that are relevant to the proposed works are described as 'Minor/Major Partial Demolition', and 'New Landscape works and features'. These questions are discussed in relation to the proposed actions below in Table 5.1.

Table 5.1 Responses to SOHI Guideline Questions Relevant to the Proposed Action

Activity	Proposed Change to Heritage Item	Question ¹	Discussion
Minor/Major partial demolition	Removal of potential mine infrastructure during construction	<ul style="list-style-type: none"> ■ Is the demolition essential for the heritage item to function? ■ Are important features of the item affected by the demolition (e.g. fireplaces in buildings)? ■ Is the resolution to partially demolish sympathetic to the heritage significance of the item? ■ If the partial demolition is a result of the condition of the fabric, is it certain that the fabric cannot be repaired? 	<p>There is potential for minor or major partial demolition of archaeological evidence associated with the historic underground mining operations during road construction. This rating can be reduced through appropriate mitigation. Although no surface evidence of mine shafts within the Assessment Area were noted during the inspection, the extent of the underground tunnel network is unknown. It is possible that there are extant tunnels within the Assessment Area.</p> <p>It is recommended that geophysical survey or geotechnical assessment be undertaken early in the detailed design process to determine if there are voids (as indicators of mineshafts/tunnels) or other subsurface features are present within the proposed road corridor.</p>
New landscape works and features	Construction of new road	<ul style="list-style-type: none"> ■ How has the impact of the new work on the heritage significance of the existing landscape been minimised? ■ Has evidence (archival and physical) of previous landscape work been investigated? ■ Has the advice of a consultant skilled in the conservation of heritage landscapes been sought? ■ Are there known or potential archaeological deposits affected by the landscape works? If so, what alternatives have been considered? ■ How does the work impact on views to, and from, adjacent heritage items? 	<p>Construction of the 'Devil's Elbow' proposed upgrade will have a direct impact on the existing landscape, through removal of primary and secondary growth vegetation and cut and fill activities. Road construction activities are anticipated to have a direct, but negligible impact on the landscape setting of the heritage item.</p> <p>Additionally, there may be subsurface archaeological remains of the Black Snake Gold Mine, including intact tunnels and workings, which may be impacted by the 'Devil's Elbow' proposed upgrade. Although there is no surface evidence of archaeological remains within the Assessment Area, there remains moderate potential for subsurface features.</p>

1. Questions taken from NSW Heritage SOHI guidelines.

5.3 Statement of Heritage Impact

In summary, the proposal will have negligible adverse impacts to the historic setting of Black Snake Gold Mine. Construction of the 'Devil's Elbow' proposed upgrade would result in negligible visual impacts to the heritage item, through modification of the existing landscape, which would be most visible from the access points at Barry Road.

The 'Devil's Elbow' proposed upgrade has potential to impact upon a historical archaeological resource associated with its late 19th century gold mining use - most likely mine shafts and tunnels. No surface expression of these was identified during the field inspection, although this does not rule out the potential for tunnels to exist beneath the ground within the Assessment Area. No historical or contemporary mapping of the network of tunnels beneath the LEP listed curtilage has been sourced to date, and thus there is no archival evidence of where shafts and tunnels may be located. As a component of the detailed design phase, it is suggested that geophysical survey and/or geotechnical investigation may be prudent, to identify any voids or other indicators of these tunnels.

The identified mine shaft entry (see Figure 4.1) won't be impacted by the 'Devil's Elbow' proposed upgrade. As noted in Section 4, there is low potential for additional shaft entries to be identified within the Assessment Area, due to the landform on which the 'Devil's Elbow' proposed upgrade is situated.

Overall, the proposed works will have a negligible impact upon the setting of the LEP listed Black Snake Gold Mine. There is low potential for impact to mine shaft entries during the proposed works. There is moderate potential for direct impact to the potential archaeological resource (eg tunnels). With careful management during construction, this risk can be mitigated. Recommended mitigation and management measures are outlined in Section 6.

6. CONCLUSION AND RECOMMENDATIONS

6.1 Conclusions

This Statement of Heritage Impact (SoHI) has been prepared in support of the environmental impact studies being undertaken to seek approval for the Hills of Gold Wind Farm, in Hanging Rock, NSW. Part of the Project will include the construction of a new road, in order to bypass 'Devil's Elbow', on Barry Road, Hanging Rock. The 'Devil's Elbow' proposed upgrades is situated within the LEP listed curtilage of the historic Black Snake Gold Mine.

This SoHI has determined that the 'Devil's Elbow' proposed upgrades will have a negligible impact on the setting of the LEP listed Black Snake Gold Mine. The 'Devil's Elbow' proposed upgrades have potential to impact potential archaeological features, such as mine shaft entries and tunnels. Potential to impact mine shaft entries has been assessed as low, due to the landform on which the 'Devil's Elbow' proposed upgrades are situated. Potential to impact tunnels has been assessed as moderate.

The risk for potential impact to archaeological features can be mitigated during initial investigation for detailed design and throughout construction, through careful planning and management, in line with the recommendations in Section 6.2.

6.2 Recommendations

The following recommendations are provided to mitigate potential impacts to the heritage values of the Black Snake Gold Mine.

6.2.1 Recommendation 1: Geophysical/Geotechnical Assessment

Early geophysical survey and/or geotechnical investigation of the Assessment Area should be undertaken to determine if there are any subsurface voids beneath the 'Devil's Elbow' proposed upgrade, or other anomalies that may be indicators of archaeological features. The aim of this investigation is to identify and where possible prevent inadvertent impact to potential archaeological remains. It is anticipated that geophysical assessment will be undertaken as part of the detailed design process.

Geophysical assessment during the detailed design phase should be utilised to determine:

- if tunnels are present beneath the proposed road alignment;
- if impacts to any identified tunnels can be avoided through mitigation or alternative construction methodologies; and
- whether any identified tunnels will be impacted by the proposed construction.

Where tunnels are identified and avoidance is possible, this should be documented in a letter report to the approval authority. The letter report would detail the location of the identified tunnel and the proposed avoidance measure. No further assessment of the archaeological item would be required at this stage.

Where suspected tunnels cannot be avoided, archaeological inspection and archival recording should be undertaken prior to the commencement of construction works. The archival recording should be lodged with Tamworth Regional Council and potentially utilised to develop interpretive signage at an appropriate location at Black Snake Gold Mine, Nundle and/or Hanging Rock. This signage can be installed to contribute to existing historical and interpretive signage.

If backfilling is required, the methodology for this should be developed in consultation with the proponent, construction contractors, and heritage specialists. Decisions around appropriate methodology would be made based on the type and condition of any findings.

Upon completion of the above recommended mitigation measures (if required), construction may continue under the Unexpected Finds Protocol detailed in Section 6.2.3.

6.2.2 Recommendation 2: Heritage Induction and Protocols

Contractors engaged by WEP to complete the works should prepare an Environmental Management Strategy and/or an Environmental Work Method Statement that ensures that all onsite personnel are aware of their obligations and requirements in relation to the archaeological provisions of the *Heritage Act 1977* through the attendance of a site-specific heritage induction.

6.2.3 Recommendation 3: Unexpected Finds Protocol

Historic heritage items could include relics (defined by the Heritage Act 1977 as ‘any deposit, artefact, object or material evidence that relates to the settlement of the area that comprises NSW, not being Aboriginal settlement; and is of State or local heritage significance’) or archaeological features (works). Archaeological remains that may be uncovered during construction are most likely to include mine shafts or tunnels, evidence of timber supports, or intact mine workings. The following steps are provided below in the event that archaeological remains are identified during construction:

- where a potential historic heritage item is found during works, all works within the vicinity of the item, or with the potential to impact the item should cease and a temporary exclusion zone established;
- an appropriately qualified heritage consultant should examine the item to assess its significance and further archaeological potential;
- where a relic is found, the NSW Heritage Council should be notified and approval will likely be required prior to the continuation of works. Other archaeological deposits should be recorded and assessed for significance and potential salvage by an appropriately qualified heritage consultant; and
- works only recommence when relevant permits and an appropriate and approved management strategy instigated.

The Unexpected Finds Procedure should be included in the Environmental Management Strategy .

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APPENDIX A NSW HISTORICAL THEMES

New South Wales Historical Themes

**Table showing correlation of national, state and local themes,
with annotations and examples**

Dated 4 October 2001

Australian Theme	NSW Theme		Notes	Examples
1 Tracing the natural evolution of Australia,	Environment - naturally evolved	Local themes	There are two aspects to this theme: (1) Features occurring naturally in the physical environment which have significance independent of human intervention (2) Features occurring naturally in the physical environment which have shaped or influenced human life and cultures.	A geological formation, fossil site, ecological community, island, soil site, river flats, estuary, mountain range, reef, lake, woodland, seagrass bed, wetland, desert, alps, plain, valley, headland, evidence of flooding, earthquake, bushfire and other natural occurrences.
2 Peopling Australia	Aboriginal cultures and interactions with other cultures	Local themes	Activities associated with maintaining, developing, experiencing and remembering Aboriginal cultural identities and practises, past and present; with demonstrating distinctive ways of life; and with interactions demonstrating race relations.	Place name, camp site, midden, fish trap, trade route, massacre site, shipwreck contact site, missions and institutions, whaling station, pastoral workers camp, timber mill settlement, removed children's home, town reserve, protest site, places relating to self-determination, keeping place, resistance & protest sites, places of segregation, places of indentured labour, places of reconciliation

2 Peopling Australia	Convict	Local themes	Activities relating to incarceration, transport, reform, accommodation and working during the convict period in NSW (1788-1850) – does not include activities associated with the conviction of persons in NSW that are unrelated to the imperial ‘convict system’: use the theme of Law & Order for such activities	Prison, convict shipwreck, convict system document, ticket-of-leave and probationary living quarters, guards uniform, landscapes-of-control, lumber yard, quarry, gallows site, convict-built structure, convict ship arrival site, convict barracks, convict hospital, estate based on convict labour, place of secondary punishment.
2 Peopling Australia	Ethnic influences	Local themes	Activities associated with common cultural traditions and peoples of shared descent, and with exchanges between such traditions and peoples.	Blessing-of-the-fleet site, ethnic community hall, Chinese store, place or object that exhibits an identifiable ethnic background, marriage register, Coat of Arms, olive grove, date palm plantation, citizenship ceremony site, POW camp, register of ship crews, folk festival site, ethnic quarter in a town.
2 Peopling Australia	Migration	Local themes	Activities and processes associated with the resettling of people from one place to another (international, interstate, intrastate) and the impacts of such movements	Migrant hostel, customs hall, border crossing, immigration papers, bus depot, emigrant shipwreck, Aboriginal mission, quarantine station, works based on migrant labour, detention centre.
3 Developing local, regional and national economies	Agriculture	Local themes	Activities relating to the cultivation and rearing of plant and animal species, usually for commercial purposes, can include aquaculture	Hay barn, wheat harvester, silo, dairy, rural landscape, plantation, vineyard, farmstead, shelterbelt, silage pit, fencing, plough markings, shed, fish farm, orchard, market garden, piggery, common, irrigation ditch, Aboriginal seasonal picking camp.

3 Developing local, regional and national economies	Commerce	Local themes	Activities relating to buying, selling and exchanging goods and services	Bank, shop, inn, stock exchange, market place, mall, coin collection, consumer wares, bond store, customs house, trade routes, mint, Aboriginal trading places, Aboriginal ration/blanket distribution points, Aboriginal tourism ventures
3 Developing local, regional and national economies	Communication	Local themes	Activities relating to the creation and conveyance of information	Post office, telephone exchange, printery, radio studio, newspaper office, telegraph equipment, network of telegraph poles, mail boat shipwreck, track, airstrip, lighthouse, stamp collection.
3 Developing local, regional and national economies	Environment - cultural landscape	Local themes	Activities associated with the interactions between humans, human societies and the shaping of their physical surroundings	A landscape type, bushfire fighting equipment, soil conservation structures, national park, nature reserve, market garden, land clearing tools, evidence of Aboriginal land management, avenue of trees, surf beach, fishing spot, plantation, place important in arguments for nature or cultural heritage conservation.
3 Developing local, regional and national economies	Events	Local themes	Activities and processes that mark the consequences of natural and cultural occurrences	Monument, photographs, flood marks, memorial, ceremonial costume, honour board, blazed tree, obelisk, camp site, boundary, legislation, place of pilgrimage, places of protest, demonstration, congregation, celebration.
3 Developing local, regional and national economies	Exploration	Local themes	Activities associated with making places previously unknown to a cultural group known to them.	Explorers route, marked tree, camp site, explorer's journal, artefacts collected on an expedition, captain's log, surveyor's notebook, mountain pass, water source, Aboriginal trade route, landing site, map.

3 Developing local, regional and national economies	Fishing	Local themes	Activities associated with gathering, producing, distributing, and consuming resources from aquatic environments useful to humans.	Fishing boat, whaling station, marine reserve, fisher camp, seafood factory, fish shop, oyster lease, artificial reef, fishing boat wreck, mooring, dock, marina, wharf, fish farm, fish trap
3 Developing local, regional and national economies	Forestry	Local themes	Activities associated with identifying and managing land covered in trees for commercial timber purposes.	Forested area, forest reserve, timber plantation, forestry equipment, saw mill, mill settlement, arboretum, charcoal kiln, coppiced trees, forest regrowth, timber tracks, whim.
3 Developing local, regional and national economies	Health	Local themes	Activities associated with preparing and providing medical assistance and/or promoting or maintaining the well being of humans	Hospital, sanatorium, asylum, surgical equipment, ambulance, nurses quarters, medical school, baby clinic, hospital therapy garden, landscaped grounds, herbalist shop, pharmacy, medical consulting rooms.
3 Developing local, regional and national economies	Industry	Local themes	Activities associated with the manufacture, production and distribution of goods	Factory, workshop, depot, industrial machinery, timber mill, quarry, private railway or wharf, shipbuilding yard, slipway, blacksmithy, cannery, foundry, kiln, smelter, tannery, brewery, factory office, company records.
3 Developing local, regional and national economies	Mining	Local themes	Activities associated with the identification, extraction, processing and distribution of mineral ores, precious stones and other such inorganic substances.	Mine, quarry, race, mining field or landscape, processing plant, manager's office, mineral specimen, mining equipment, mining license, ore laden shipwreck, collier, mine shaft, sluice gate, mineral deposit, slag heap, assay office, water race.

3 Developing local, regional and national economies	Pastoralism	Local themes	Activities associated with the breeding, raising, processing and distribution of livestock for human use	Pastoral station, shearing shed, slaughter yard, stud book, photos of prize-winning stock, homestead, pastoral landscape, common, fencing, grassland, well, water trough, freezer boat shipwreck, wool store.
3 Developing local, regional and national economies	Science	Local themes	Activities associated with systematic observations, experiments and processes for the explanation of observable phenomena	Laboratory, experimental equipment, text book, observatory, botanical garden, arboretum, research station, university research reserve, weather station, soil conservation area, fossil site, archaeological research site.
3 Developing local, regional and national economies	Technology	Local themes	Activities and processes associated with the knowledge or use of mechanical arts and applied sciences	Computer, telegraph equipment, electric domestic appliances, underwater concrete footings, museum collection, office equipment, Aboriginal places evidencing changes in tool types.
3 Developing local, regional and national economies	Transport	Local themes	Activities associated with the moving of people and goods from one place to another, and systems for the provision of such movements	Railway station, highway, lane, train, ferry, wharf, tickets, carriage, dray, stock route, canal, bridge, footpath, aerodrome, barge, harbour, lighthouse, shipwreck, canal, radar station, toll gate, horse yard, coach stop.
4 Building settlements, towns and cities	Towns, suburbs and villages	Local themes	Activities associated with creating, planning and managing urban functions, landscapes and lifestyles in towns, suburbs and villages	Town plan, streetscape, village reserve, concentrations of urban functions, civic centre, subdivision pattern, abandoned town site, urban square, fire hydrant, market place, abandoned wharf, relocated civic centre, boundary feature, municipal Coat of Arms

4 Building settlements, towns and cities	Land tenure	Local themes	Activities and processes for identifying forms of ownership and occupancy of land and water, both Aboriginal and non-Aboriginal	Fence, survey mark, subdivision pattern, land title document, boundary hedge, , stone wall, shelterbelt, cliff, river, seawall, rock engravings, shelters & habitation sites, cairn, survey mark, trig station, colonial/state border markers.
4 Building settlements, towns and cities	Utilities	Local themes	Activities associated with the provision of services, especially on a communal basis	Water pipeline, sewage tunnel, gas retort, powerhouse, County Council office, garbage dump, windmill, radio tower, bridge, culvert, weir, well, cess pit, reservoir, dam, places demonstrating absence of utilities at Aboriginal fringe camps
4 Building settlements, towns and cities	Accommodation	Local themes	Activities associated with the provision of accommodation, and particular types of accommodation – does not include architectural styles – use the theme of Creative Endeavour for such activities.	Terrace, apartment, semi-detached house, holiday house, hostel, bungalow, mansion, shack, house boat, caravan, cave, humpy, migrant hostel, homestead, cottage, house site (archaeological).
5 Working	Labour	Local themes	Activities associated with work practises and organised and unorganised labour	Trade union office, bundy clock, time-and-motion study (document), union banner, union membership card, strike site, staff change rooms, servants quarters, shearing shed, green ban site, brothel, kitchen, nurses station, hotel with an occupational patronage.
6 Educating	Education	Local themes	Activities associated with teaching and learning by children and adults, formally and informally.	School, kindergarten, university campus, mechanics institute, playground, hall of residence, text book, teachers college, sail training boat wreck, sportsfield, seminary, field studies centre, library, physical evidence of academic achievement (e.g. a medal or certificate).

7 Governing	Defence	Local themes	Activities associated with defending places from hostile takeover and occupation	Battle ground, fortification, RAAF base, barracks, uniforms, military maps and documents, war memorials, shipwreck lost to mines, scuttled naval vessel, POW camp, bomb practice ground, parade ground, massacre site, air raid shelter, drill hall,
7 Governing	Government and administration	Local themes	Activities associated with the governance of local areas, regions, the State and the nation, and the administration of public programs – includes both principled and corrupt activities.	Municipal chamber, County Council offices, departmental office, legislative document, symbols of the Crown, State and municipal flags, official heraldry, ballot box, mayoral regalia, places acquired/disposed of by the state, customs boat, pilot boat, site of key event (eg federation, royal visit), protest site, physical evidence of corrupt practises.
7 Governing	Law and order	Local themes	Activities associated with maintaining, promoting and implementing criminal and civil law and legal processes	Courthouse, police station, lock-up, protest site, law chambers, handcuffs, legal document, gaol complex, water police boat, police vehicle, jail, prison complex (archaeological), detention centre, judicial symbols
7 Governing	Welfare	Local themes	Activities and process associated with the provision of social services by the state or philanthropic organisations	Orphanage, retirement home, public housing, special school, trades training institution, employment agency,
8 Developing Australia's cultural life	Domestic life	Local themes	Activities associated with creating, maintaining, living in and working around houses and institutions.	Domestic artefact scatter, kitchen furnishings, bed, clothing, garden tools, shed, arrangement of interior rooms, kitchen garden, pet grave, chicken coop, home office, road camp, barrack, asylum.

8 Developing Australia's cultural life	Creative endeavour	Local themes	Activities associated with the production and performance of literary, artistic, architectural and other imaginative, interpretive or inventive works; and/or associated with the production and expression of cultural phenomena; and/or environments that have inspired such creative activities.	Opera house, theatre costume, film studio, writer's studio, parade tableau, manuscripts, sound recording, cinema, exemplar of an architectural style, work of art, craftwork, and/or public garden, bandstand, concert hall, rock art site, rotunda, library, public hall; and/or a, particular place to which there has been a particular creative, stylistic or design response.
8 Developing Australia's cultural life	Leisure	Local themes	Activities associated with recreation and relaxation	Resort, ski lodge, chalet, cruise ship, passenger rail carriage, swimming pool, dance hall, hotel, caravan park, tourist brochures, park, beach, clubhouse, lookout, common, bush walking track, Aboriginal Christmas camp site, fishing spot, picnic place, swimming hole.
8 Developing Australia's cultural life	Religion	Local themes	Activities associated with particular systems of faith and worship	Church, monastery, convent, rectory, presbytery, manse, parsonage, hall, chapter house, graveyard, monument, church organ, synagogue, temple, mosque, madrasa, carved tree, burial ground
8 Developing Australia's cultural life	Social institutions	Local themes	Activities and organisational arrangements for the provision of social activities	CWA Room, Masonic hall, School of Arts, Mechanic's Institute, museum, art gallery, RSL Club, public hall, historical society collection, public library, community centre, Aboriginal mission hall or school room.
8 Developing Australia's cultural life	Sport	Local themes	Activities associated with organised recreational and health promotional activities	Oval, race course, swimming pool, bowling club, bowling green, trophies, calendar of fixtures, cricket set, yacht pens, tennis court, rugby field, speedway, sporting equipment, bocce court.

9 Marking the phases of life	Birth and Death	Local themes	Activities associated with the initial stages of human life and the bearing of children, and with the final stages of human life and disposal of the dead.	Birth control clinic, maternity hospital, nursery, baby clinic, baptism register, circumcision equipment, and Hospice, nursing home, funeral parlour, grave furnishings, cremation site, cemetery, burial register, disaster site, memorial plantings, shipwreck with loss of life,
9 Marking the phases of life	Persons	Local themes	Activities of, and associations with, identifiable individuals, families and communal groups	A monument to an individual, a family home, a dynastic estate, private chapel, a birthplace, a place of residence, a gendered site, statue, Coat of Arms, commemorative place name, place dedicated to memory of a person (e.g. hospital wing).

Notes:

Editorial

- The table is arranged numerically in the order of the national themes, and then within each national theme alphabetically in order of the state themes – no other particular order is intended.

Thematic usages

- The inclusion of an example against one theme does not exclude its consideration against one or more of the other themes (e.g Asylum) to indicate that the physical development of an item can be shaped by more than one historical process of theme during its existence.
- Aboriginal histories can be analysed using any theme(s) relevant to the place or object being considered – it is not necessary to restrict analysis to the theme of 'Aboriginal cultures and interactions with other cultures' only
- The theme of 'Domestic Life' can be used to explore the historical contexts for interior or private, domestic spaces and objects.
- The theme of 'Forestry' can be used for the active management of natural and regrowth trees for timber production while the theme of 'Agriculture' can be used for the intensive cultivation of exotic trees for purposes other than timber production.

Correlations

- The placement of the 36 State themes against the National themes was informed by the arrangement of the 84 national sub-themes and 116 national sub-sub-themes developed by the AHC for each of its National themes – the placements are not random.
- The development of local themes is accommodated within this framework with each local theme regarded as a correlation to a State theme in a similar manner to the relationship between the State and National themes
- Generally, local = local government area, but can also be used in other ways, such as a particular ethnic or social community, or a locality that is smaller than an LGA or straddles an LGA boundary, or a locality larger than an LGA such as a SHR historical region or an ecclesiastical diocese or an area smaller than the whole state but larger than an LGA, such as the area within an Aboriginal nation or Land Council.

APPENDIX B HERITAGE REGISTER LISTINGS

Place Details

[Send Feedback](#)

Black Snake Gold Mine, Nundle Rd, Hanging Rock via Nundle, NSW, Australia

Photographs	None
List	Register of the National Estate (Non-statutory archive)
Class	Historic
Legal Status	Indicative Place
Place ID	101052
Place File No	1/02/178/0007

Nominator's Statement of Significance

The place has both historical and geological significance to Nundle, the Tamworth district and to local and national mining development beginning in this instance from the mid 1800s.

Official Values Not Available

Description

HISTORY

In 1833 the Australian Agricultural Company selected Warrah and the Peel River grant, the latter containing 313, 29 acres extending westward from the Peel between the sites of Attunga and Nundle, to which they secured a grant. Stock was moved to Warrah and the Peel. Other pastoralist also began to settle in the area.

Reef Gold was discovered at Nundle in 1852; alluvial gold may have been discovered as early as 1849. Gold mining in the area stimulated the settlement of towns in the area. Nundle was officially gazetted in 1854.

The Black Snake Mine is one of a number of mines which forms the Nundle Goldfield. The Nundle Goldfield covers an area of some 15 km North-South by 5km East West, about 45 km south south-east of Tamworth in north-eastern NSW. Most of the old mines are situated near the hamlet of Bowling Alley Point or between Nundle town and Hanging Rock village. The Hanging Rock area of the field lies in the headwaters of Happy Valley Creek, a tributary of the Peel River south east of Nundle Township.

The Nundle Goldfield has yielded some 8 tonnes of alluvial gold and 2 tonnes of reef gold. There has been virtually no production since 1939. The Nundle Goldfield was one of the more productive goldfields in the New England district.

The Black Snake Gold Mine lies in the Hanging Rock area and occupies 17.5 hectares, encompassing the Black Snake and Brown Snake mines (an informal name) and surrounding land. The two mines are referred to as Black Snake Mine.

Joseph Clark, a miner, born 1832 in Meridan near Birmingham, England, came to Australia in 1851, and established the Black Snake Mine about a decade after arriving in the Nundle area. Nundle remained his home until his death in 1926. Clark working the mine in association with another miner, George Cairns. Clark gave the mine its unusual name because of the manner in which the associated reef twists and turns along its north-south trend. There is reported to be 112m of tunnels with the main tunnel, approximately 80m, being constructed in the 1880s.

Mining from Black and Brown Snake Mine took place intermittently from 1877/8 to 1908, with a total recorded production of 63.4 kg gold at grades of 20 - 100 gms/tonne Au. The Black Snake Mine is noted as one of 10 mines with major gold reefs in the Nundle Goldfield.

A syndicate is reported to have driven along the structure in 1924-25, but no further production is recorded.

An exploration licence is held over the Black Snake Gold Mine and the mines are being accessed for exploration. In the 1990s the entrances to the old workings were altered and cleaned out, and forest access tracks were tidied up.

DESCRIPTION

The Black Snake Gold Mine is a 17.5 hectare area of Public Recreation Reserve located approximately 4.5 km east of Nundle, in the shadow of Hanging Rock. Hanging Rock Road runs immediately past the north west boundary of the site, and the old workings can be accessed along old miners trails, and on other old forest tracks. The site is steep rising from about 870m in the gully at Black Snake to about 970m on the spur above Brown Snake.

Access to the mines is variable. At Brown Snake, accessible slopes and drives are small and limited to the vicinity of the adit. At Black Snake, over 100 metres of drive is open and clear, as well as several of the stopes which have been largely back filled.

The timber used in the construction of the mine is deteriorating and has been removed in some areas. The internal timber drainage system is not functioning.

Vegetation on the land is moderately dense primary and secondary growth eucalypt forest; undergrowth can be intense in places, but ground traversing on foot is possible over most of the area.

An exploration licence is held over the Black Snake Gold Mine and the mines are being accessed for exploration.

There is currently insufficient information to undertaken an assessment of the Black Snake Mine. An assessment of the significance of the Mine would need to be undertaken within the context of the Nundle Goldfield. There is however, currently insufficient information on the history of the Goldfield, and a comprehensive identification survey of the elements which remain from the Goldfields history would need to be undertaken, to enable further assessment for the Register of the National Estate 20.6.00.

History Not Available

Condition and Integrity

The front of a tunnel has caved in but the tunnel itself is in good condition.The workings are reported to be in good condition. Loose scree, timber, and other elements have been removed from the workings. Landslip material and small roof falls have been secured and accessible tunnels and stopes have been tidied up to improve drainage and access.

Location

17.5ha, Nundle Road, Hanging Rock, including Nundle Public Recreation Area (Reserve No R85916, Part Portion 364, Parish of Nundle) adjoining Main Road 105, 4.25km east-south-east of Nundle.

Bibliography

Bayley W.A. & Lobsey I.R. 1988. "Hills of Gold" Halstead Press Pty. Ltd. Sydney.

Weber C.R. "The Nundle Gold Field, New South Wales".

Report Produced Wed Nov 4 10:59:20 2020



Black Snake Gold Mine

Item details

Name of item:

Black Snake Gold Mine

Type of item:

Archaeological-Terrestrial

Group/Collection:

Mining and Mineral Processing

Category:

Mine Shaft

Primary address:

Nundle Road, Hanging Rock, NSW 2340

Local govt. area:

Tamworth Regional

Property description

Lot/Volume Code	Lot/Volume Number	Section Number	Plan/Folio Code	Plan/Folio Number
LOT	440		DP	822503

Boundary:

17.5ha, Nundle Road, Hanging Rock, including Nundle Public Recreation Area (Reserve No R85916, Part Portion 364, Parish of Nundle) adjoining Main Road 105, 4.25km east-south-east of Nundle.

All addresses

Street Address	Suburb/town	LGA	Parish	County	Type
Nundle Road	Hanging Rock	Tamworth Regional			Primary Address

Statement of significance:

The place has both historical and geological significance to Nundle, the Tamworth district and to local and national mining development beginning in this instance from the mid 1800s.

Date significance updated: 16 Mar 07

Note: The State Heritage Inventory provides information about heritage items listed by local and State government agencies. The State Heritage Inventory is continually being updated by local and State agencies as new information becomes available. Read the Department of Premier and Cabinet [copyright](#) and [disclaimer](#).

Description

Physical description:

The Black Snake Gold Mine is a 17.5 hectare area of Public Recreation Reserve located approximately 4.5 km east of Nundle, in the shadow of Hanging Rock. Hanging Rock Road runs immediately past the north west boundary of the site, and the old workings can be accessed along old miners trails, and on other old forest tracks. The site is steep rising from about 870m in the gully at Black Snake to about 970m on the spur above Brown Snake.

Physical condition and/or

Archaeological potential:

The front of a tunnel has caved in but the tunnel itself is in good condition. The workings are reported to be in good condition. Loose scree, timber, and other elements have been removed from the workings. Landslip material and small roof falls have been secured and accessible tunnels and stopes have been tidied up to improve drainage and access. An exploration licence is held over the Black Snake Gold Mine and the mines are being accessed for exploration.

Date condition updated:02 May 08

Further information:

Access to the mines is variable. At Brown Snake, accessible slopes and drives are small and limited to the vicinity of the adit. At Black Snake, over 100 metres of drive is open and clear, as well as several of the stopes which have been largely back filled. The timber used in the construction of the mine is deteriorating and has been removed in some areas. The internal timber drainage system is not functioning.

History

Historical notes:

In 1833 the Australian Agricultural Company selected Warrah and the Peel River grant, the latter containing 313, 29 acres extending westward from the Peel between the sites of Attunga and Nundle, to which they secured a grant. Stock was moved to Warrah and the Peel. Other pastoralist also began to settle in the area.

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A syndicate is reported to have driven along the structure in 1924-25, but no further production is recorded.

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Historic themes

Australian theme (abbrev)	New South Wales theme	Local theme
3. Economy-Developing local, regional and national economies	Mining-Activities associated with the identification, extraction, processing and distribution of mineral ores, precious stones and other such inorganic substances.	Gold and copper mining, more recently as bestos and diatomite mining.-

Assessment of significance

SHR Criteria a)

[Historical significance]

This mine has local historical significance to Nundle, the Tamworth district and to local and national mining development beginning in this instance from the mid 1800s.

SHR Criteria b)

[Associative significance]

N/A

SHR Criteria c)

[Aesthetic significance]

N/A

SHR Criteria d)

[Social significance]

N/A

SHR Criteria e)

[Research potential]

N/A

SHR Criteria f)

[Rarity]

N/A

SHR Criteria g)

[Representativeness]

N/A

Integrity/Intactness:

Good

Assessment criteria:

Items are assessed against the  [State Heritage Register \(SHR\) Criteria](#) to determine the level of significance. Refer to the Listings below for the level of statutory protection.

Listings

Heritage Listing	Listing Title	Listing Number	Gazette Date	Gazette Number	Gazette Page
Local Environmental Plan	Tamworth Regional Local Environmental Plan 2010	1134	21 Jan 11		

Heritage study					
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References, internet links & images

Type	Author	Year	Title	Internet Links
Written	Register of the National Estate		Black Snake Gold Mine	

Note: internet links may be to web pages, documents or images.



(Click on thumbnail for full size image and image details)

Data source

The information for this entry comes from the following source:

Name:
Local Government
Database number:
2471886

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