

CopperString 2.0

Non-indigenous cultural heritage

Volume 3 Appendix AA

CopperString 2.0 EIS Project

Non-Indigenous Cultural Heritage Assessment

February 2020



Kuridala Hampden Smelter water jacket blast furnace.1

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¹ Image taken via Author while assessing former Hampden smelter for Queensland Environmental Protection Agency, July 2007.

CONTENTS

1. DISCLAIMER	3		
2. EXECUTIVE SUMMARY 3. HISTORICAL CONTEXT 4. QUENSLAND HERITAGE REGISTER AND LOCAL CRITERIA 5. PRECEDENTS – NORTH AND WESTERN QUEENSLAND EXAMPLES 6. DISCOVERY AND RECORDING OF ARTEFACTS AND ARTEFACT MONITORING 7. DES AND ARTEFACTS 8. SITE CONDITIONS AND ARTEFACT RETRIEVAL 9. SITES AS RUINS - DEFINITION	4		
	7 22 23 25		
		10. ARCHEOLOGICAL MANAGEMENT PLANS - EXPLANATION	27
		1. DES QHR LISTINGS IN VICINITY	28
		12. LOCAL SIGNIFICANCE SITES IN VICINITY	32
		13. BIBLIOGRAPHY	35

Disclaimer

This assessment contains heritage aspects that relate only to European settlement and activities. Assessment for Indigenous aspects should be conducted by a suitably qualified and experienced individual.

The consultant accepts no responsibility or liability for undiscovered artefacts or additional European aspects that may be discovered on sites in the future. Additional archival material may be accessioned or released in the future from State or Commonwealth archives. If this contradicts aspects of this assessment the consultant accepts no responsibility or liability as information contained within was correct at the time of writing.

The consultant has compiled this desktop report in good faith, to the best of their professional ability and has drawn on their own previous work as well as sourced published and archival material to draw conclusions.

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Executive summary

Copperstring 2.0 is a high voltage transmission line that will connect the people and communities of Mount Isa and the North West Minerals Province to the National Electricity grid. It will supply electricity to existing customers in North West Queensland and deliver opportunities for new industrial facilities and large agricultural and renewable energy projects.



The purpose of this report is not to replicate or repeat the previous Copperstring Project Non-Indigenous Cultural Heritage Assessment commissioned in 2010 and authored by Thom Blake which still contains relevant information to Copperstring 2.0 as the mentioned sites surveyed by helicopter would have changed little. Considerable work was achieved in this report by aerial survey on the designated corridor selection, one of which (Kuridala/Hampden Smelter) was visited by the author of this report for the then Queensland Environmental Protection Agency in 2007.

The objective of this assessment is to:

- Recommend actions to facilitate the development of the project in a compliant and socially responsible manner.
- List community groups that are known to have an interest in the site for future stakeholder engagement opportunities.

Works will be undertaken in the vicinity of sites that may have State and/or local significance; however only three sites are listed on the Queensland Heritage Register (QHR) in the vicinity of the corridor location. Groundworks have the potential to reveal buried complete or fragmentary artefacts of local or state significance. In conjunction with the *Queensland Heritage Act 1992*, a Non-Indigenous Cultural Heritage Assessment Report is a guiding document that informs relevant parties of the potential, context and significance within the nominated area of works. Primary material such as maps, archival references and previous precedents are included.

As a walkover of the nominal 1000 kilometre long corridor or isolated individual sites has not been completed, relevant regional examples of what could be discovered and their context have been included in this report. It is important to note that the HV line will not impact on any presently known places of cultural heritage significance.

The consultant has previously been commissioned to conduct heritage surveys and artefact monitoring and is both qualified and experienced in the role internally and externally with the Queensland Department of Environment and Science (DES) and all its previous incarnations. They have gained experience whilst working as both a consultant and contractor over a twenty year period in heritage site compliance as per the Queensland Heritage Act on both former mine and military sites.

This document is best viewed as an electronic desktop report so as to increase detail of maps and images.

Historical context

Mining and pastoral leases both recent and historical dot the landscape along the proposed corridor selection for Copperstring 2.0.

Three significant Queensland Heritage Register (QHR) sites are located near the Copperstring 2.0 corridor selection. Pandanus Battery (QHR 601848) is located 1.2 km north of the corridor selection on the banks of Pandanus Creek within the Renewable Energy Hub portion (corridor section from Woodstock to Hughenden). The Pandanus Creek battery is significant as a rare example of a 10 stamper battery and as evidence of small scale mining operations in the Charters Towers/Ravenswood region in the early 20th century. Additionally Mount Elliott Company Metallurgical Plant (QHR 602256) is situated 2.8 km north of the corridor on the outskirts of Cloncurry within the CopperString Core portion (corridor section from Hughenden to Dajarra Road Substation). This site is significant as evidence of an attempt to use a new form of electrolytic smelting to process low grade ores. The plant was a British design and was the first built using this process. Lastly Kuridala township and Hampden Smelter (QHR 601866) located 5 km east of corridor and 65 km south of Cloncurry within the Southern Connection portion (corridor section from from Dajarra Road Substation to Selwyn Substation). This site is significant as evidence of a copper mine and smelter with associated township which operated in the late 19th and early 20th century.

The mineral district of Cloncurry is situated in far North West Queensland, some eight hundred kilometres due west of Townsville and 1500 km North West of Brisbane.

The lodes of the Cloncurry copper field were first discovered in 1867, however a limited amount of ore was mined before lack of capital, lack of smelting facilities and high transport costs closed this first venture. By the 1890s the increased likelihood of international conflicts pushed the price of copper higher. By the end of the first decade of the 20th Century, increased communication, rail connections and foreign investment along with sizeable copper deposits on the field would create a boom period for copper. The commencement of the First World War would send both the price and demand for copper to new heights. However although rumours of war and war itself would create the boom, war would also contribute to the Cloncurry copper field's downfall.²

The decline of the copper mines post WW1 was due to a number of factors. First and foremost, the price of copper collapsed as munitions both in Australia and for her Allies declined after the Armistice. The cost of freighting ore along with labor disputes also exacerbated the decline coupled with a short sighted placement of smelters near the Mount Elliot operations rather than a more central position such as Cloncurry, which would have benefited all corners of the Cloncurry copper field.³

² Dr Kett Kennedy, *The profits of boom: A short history of the Cloncurry Copper Field,* Lectures on North Queensland History, Third Series, James Cook University, Townsville, 1979, pp.23.

³Ibid, p.23.

Queensland Heritage Register and Local Criteria

The Queensland Heritage Register is a list of places that have cultural heritage significance to the people of Queensland.

Places in the register fall into two categories:

- State Heritage Place—These places are significant as they contribute to our understanding of the wider pattern and evolution of Queensland's history and heritage. Cultural heritage criteria are used to evaluate the significance of heritage places.
- Protected Areas—Have strong heritage values that are vulnerable and under threat. A permit is required to enter or conduct work within a protected area.

Types of places in the register are diverse and include:

- sites of public recreation, parks and gardens
- rural homesteads, suburban houses, flats, caravan parks
- community halls, theatres, picture theatres, showgrounds
- churches, places of worship, sites of public commemoration, burial places
- commercial buildings
- government buildings including schools, police stations, courthouses, post offices
- factories, industrial sites, mining sites
- roads, bridges, railways, railway infrastructure.

The Queensland Heritage Register does not include places of:

- <u>Indigenous cultural heritage</u>, unless the place has an overlap of Indigenous and non-Indigenous significance (such as missions). Places of Indigenous cultural heritage are managed and protected separately.
- Places of local heritage significance. Significant local heritage places may be entered in a Local Heritage Register or identified in a local government planning scheme. For information about local heritage registers contact the relevant local government.

Under the Queensland Heritage Act 1992 (Heritage Act), for a heritage place to be entered as a State Heritage Place in the Queensland Heritage Register (the Register) it must undergo a registration process. A place that is entered as a State Heritage Place in the Register must satisfy one or more of the following criteria:

Criterion (a) – Historical significance - the place is important in demonstrating the evolution or pattern of Queensland's history.

Criterion (b) – Rare, uncommon, endangered - the place demonstrates rare, uncommon or endangered aspects of Queensland's cultural heritage.

Criterion (c) Potential to yield information - the place has potential to yield information that will contribute to an understanding of Queensland's history.

Criterion (d) – Representativeness of a class or place - the place is important in demonstrating the principal characteristics of a particular class of cultural places.

Criterion (e) – Aesthetic significance - the place is important because of its aesthetic significance.

Criterion (f) – Creative or technical achievement - the place is important in demonstrating a high degree of creative or technical achievement at a particular period.

Criterion (g) – Special associations with community or cultural group - the place has a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.

Criterion (h) — Special associations with person, group or organization - the place has a special association with the life or work of a particular person, group or organisation of importance in Queensland's history.

Precedents: North and Western Queensland comparative examples

The following images of artefacts were discovered west of Townsville by the author during artefact monitoring on various Queensland Heritage Register listed sites as both an Environmental Protection Agency officer and as a consultant; these are relevant as typical examples that may be discovered nearby or unearthed during site works on or in the vicinity of former non Indigenous habitation sites during Copper String 2.0. The artefacts shown here are predominantly mining related, however there are also smaller personal items (bottles/ceramics) that were common on any mining or rural field location in North and Western Queensland 1890s-1950s.

Kuridala township/Hampden smelter remains.



Plate 1. Gas hotel lamp circa WW1, enamelled tin, Kuridala 2007.



Plate 2. Hampden Smelter remains, Kuridala 2007.



Plate 3. Boiler near Hampden smelter, Kuridala 2007.



Plate 4. Tobacco tin lid circa WW1 Kuridala 2007.

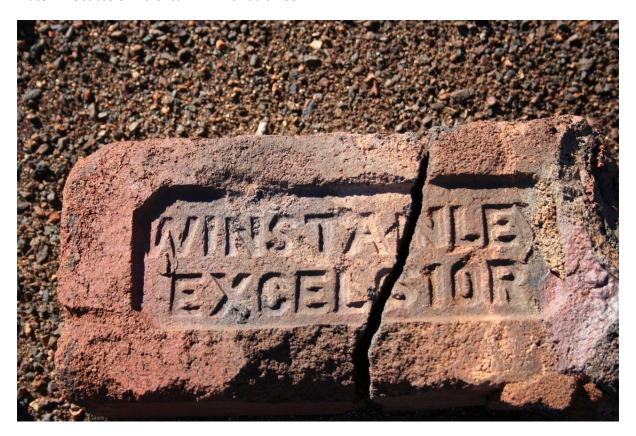


Plate 5. Winstanley Excelsior fire brick at Hampden Smelter, Kuridala 2007.



Plate 6. Glazed earthenware plate fragments, Kuridala 2007.



Plate 7. Worn horseshoe, Kuridala 2007.



Plate 8 . Kuridala cemetery 2007. Iron bedframe used as a grave border fence.

Ravenswood mining field remains Sunset No.2 mine c1869-1940s.



Plate 9. Pelton water wheel - Sunset No.2 mine c1869-1940s.4

⁴ The Brisbane Courier. 20 January 1912, p15. This Pelton water wheel was used for driving mining machinery or generating electricity wherever high pressure water from a bore was available. The wheel was driven by jets of water directed by nozzles at the specially shaped 'Pelton Buckets' or cups placed on the circumference of the wheel. The nozzles could be adjusted to increase or decrease the speed of the wheel. They Pelton water wheel could develop anywhere from ¼ to 1000 horsepower depending on the size of the wheel and pressure of the water. All images taken by author 2018.



Plate 10. Cornish Boilers – Duke of Edinburgh Mine c1869-1940s.5

⁵ The left hand boiler is marked "John Danks & Son Pty Ltd makers Melbourne"; it has an arched doorway to the west, an internal metal rack and is set into an earth-filled brick mount with a flue at the eastern end. The southern boiler/water tank has closed ends and sits directly on the ground. Mining machinery was driven by steam boilers, however these were fuelled by trees cut down and transported by bullock and cart. After the railway was brought to Ravenswood in 1884, wood was supplied by train from timber camps as far away as Mingela.

Lily May/Manxman mine site – near Cloncurry



Plate 11. Longneck beer bottle dump, circa 1950s.⁶

⁶ All images taken by author 2014.



Plate 12. Open timbered shaft, c1950s.



Plate 13. Remains of 1940s Dodge Brothers cab/chassis truck.



Plate 14. Section of Marsden matting adjacent to shaft.⁷

⁷ This site contained a several sections of Marsden matting. These interlocking steel sections were developed in the U.S. in 1941 as a transportable aircraft 'runway' to reduce the need for gravelling in wet or dusty conditions. Although Marsden matting was used widely for airfields in the Pacific Islands it is thought to have been used on only two complete airfields in Australia, the nearest of these being Torrens Creek.⁷ It is plausible that this material was bought as war surplus post-1945 and put to use as a more permanent form of shaft/wall stabilization and for being cheaper/longer lasting than hardwood in this remote area.

Jezzine Barracks - Townsville

Between the years 2012-2014 this site was exxtensively redeveloped to be reopened as a publically accesibale parkland. The consulant was employed as the artefact monitor for the site and examples and context of how artefacts may be uncovered are relevant to the Copperstring 2.0 project.



Plate 15. Circa 1880-1920s bottle dump uncovered at Jezzine Barracks 2013.8

⁸ All images taken by author 2012.



Plate 16. Numerous rubbish pits were discovered at Jezzine Barracks after graders has removed ground cover and approx.300mm level of top soil. Discolouration in the soil were a strong indicator for rubbish pits and these discolorations were found to be cause by corroded iron material in the pit. An array of glass and fired clay bottles c1890 were discovered in this pit.



Plate 17 . An array of glass condiment, vinegar, beer and medicine bottles c1890s discovered in a single pit.



Plate 18. Fragile clay tobacco pipes c1890s discovered at Jezzine Barracks.



Plate 19. Cobalt blue Medicine bottles c1890s.

Discovery and recording of artefacts and artefact monitoring

Artefact monitoring during site works in areas of high potential or if material is discovered in isolation is recommended; previously accepted Department of Environment and Science (DES) monitoring methods will be followed so as;

- To ensure that the cultural heritage values of the place are appropriately recognised and managed.
- To ensure that potentially significant artefact material is not lost during the construction process.
- To ensure that individuals on the site are aware of the significance of the place and exercise care while working on the site.

Should items of potential significance be discovered during excavation then both the site manager/representative must be contacted and work temporarily halted at that location using the process of 'stop, record, retrieve' as requested by DES.

A suitably qualified contact with experience and background knowledge of the site's specifics and significance would be contacted to assess whether the items have merit, on a local or state significance basis. Previous artefact site monitoring reports by the author have been accepted by Qld Government.

The accepted process for recording artefacts and identifying potential artefact clusters whilst monitoring sites involved employed the following methods;

- Marking artefact finds on a site map and aerial images as individual sites (site 1, site two etc.).
- Gps of artefact locations.
- Photographing the artefact/s in-situ if possible (or at least the location it was retrieved from) whilst including a measured rule.
- Identifying and photographing the artefact for an artefact table whilst including historical context.
- Storing artefacts that originate from the same location in containers so as not to mix artefacts discovered in separate locations. A brief note is included in the container so that site specific information can be retrieved for the final report.
- Storing the artefacts at a secure on-site location.
- Returning all items to the identified site owner upon completion of the final report.
- Liaising with local museums to identify the most relevant lodgement.
- If items are not requested by local museums, reburial on site with gps location once recording is complete.

DES & Artefacts

Major changes to the *Queensland Heritage Act 1992* were enacted in September 2014 and Part 9 of the Act (Discovery and protection of archaeological artefacts) details these new requirements for archaeological discoveries of significant artefacts. Previously, all archaeological artefacts that were deemed significant were defined as being the property of the state; however these new changes reveal that this is not automatically the case and that an individual assessment at the time of discovery is determined by DES. As previously stated, the Copperstring 2.0 corridor does not pass through any DES listed sites on the QHR.

To counter the ambiguity around ownership of artefacts, previously accepted formats via the author should be used and best practice followed for recording and identifying artefacts that may be discovered within both the project and study areas.

It is recommended the following course of action be followed should any significant artefacts be discovered. Depending on the type of artefacts, these can be donated to the most relevant Townsville museum.

- Museum of Tropical Queensland. Domestic/Industrial artefacts and primary museum liaison for DES.
- Army History Museum of North Queensland (Jezzine Barracks).
- Townsville RAAF Museum.
- Charters Towers Zara Clark Museum

These museums have been contacted during projects the consultant has been involved with on North Queensland development sites over the past ten years. Where local and State significance artefacts have been discovered, these items have been lodged along with an artefact table which included the location/context/co-ordinates. A written confirmation of lodgement is provided from museums as confirmation of lodgements.

The Queensland Heritage Act 1992 details the protection of archaeological artefacts in, Part 9 Division 1 Discovery and protection of archaeological artefacts. Division 2 about Provisions of ownership of archaeological artefacts answers this ownership question with all items falling under ownership of the State. (if considered significant). However GHD would be the liaising body in conjunction with the consultant via DES who manages and maintains the Act.

While the rating of significance in regards to the archaeological artefact is open to conjecture, previous local precedents of artefacts associated with this period could be used to rate significance. For example, commonly found U.S. and Australian bottles discovered on sites would not be considered of State significance (as they have previously been rejected by both

local museums and the Museum of Tropical Queensland); however items such as 'dog tags' (metal identification plates worn by personnel) would be considered of State significance. It is likely that via discussions with DES and MTQ, significant items could be loaned for public display.

Site conditions and artefact retrieval

Site monitoring during construction contains clear risks associated with working in close proximity to earthmoving equipment, however risks can be greatly minimised and controlled by employing the following preventative measures.

- Staying beside a nominated safety barrier as arranged by the site manager which is well clear of the bucket reach of the excavator.
- Employing clear hand signals to raise the operator's awareness when artefacts are discovered in the scoop.
- Not entering the excavation area or leaving the safety barrier until clear eye contact is made with the excavator operator and the excavator bucket is resting on the ground.
- Surface artefacts are then quickly retrieved and consultant signals they are leaving the excavation area.
- A clear hand signal is then given to the operator by the consultant once the safety barrier has been reached and the operator then recommences work.
- Although it may be doubtful that the above approach would achieve any retrieval results, items as small as 1890s artillery buttons, marbles, clay smoking pipe bowls as well as larger items such as bottles has been retrieved using the above method on other local sites.
- General compliance with all white ticket guidelines, industry standard safety guidelines and particular on-site safety guidelines.

Sites as ruins -definition

The Australian Heritage Council's *Ruins: A guide to conservation and management* was consulted with the view that any historical former mine workings or building foundations in the vicinity of the Copperstring 2.0 corridor selection could no longer function due to abandonment, deterioration and changes in technology.

The definition at 2.1 on page 9 can be used to define and local or state site listed heritage site that may be in the vicinity of Copperstring 2.0;

A ruin is a place that no longer serves its original function or purpose and is unlikely to ever fulfil that role again.⁹.

The seventh edition of James Semplar Kerr's Conservation Plan (CP) was also consulted. This landmark document spells out that a Heritage Impact Statement usually refers to a Conservation Plan for a site. At present a CP has not been undertaken for any non-state listed site that Copperstring 2.0 may impact on which have been included within Section Local Significance;

Kerr states that at its most basic, a heritage impact statement sets out:

- An identification or assessment of those parts or aspects of the place that will be affected, together with any statutory or non-statutory requirements;
- The proposal for change;
- The ways in which heritage values of the place are affected by the proposal;
- Recommendations for acceptance, acceptance conditional on modification, or rejection of the proposal-all with recommendations supported by reasons.¹⁰

Functioning homesteads listed in the Copperstring Project Non-Indigenous Cultural Heritage Assessment commissioned in 2010 are not considered relevant to the above as none will be removed or impacted upon.

⁹ Ruins: A guide to conservation and management. Australian Heritage Council. Commonwealth of Australia 2013, p.9.

¹⁰ James Semplar Kerr, The Seventh Edition, Conservation Plan, A Guide to the Preparation of Conservation Plans for Places of European Cultural Significance, Australia ICOMOS, 2013, p.43.

Archaeological Management Plansexplanation

Should artefacts of state significance be discovered on the Copperstring 2.0 corridor DES may request an Archaeological Management Plan (AMP's) are usually commissioned by state or local government authorities in order to:

- Identify areas of archaeological sensitivity so that planning decisions can take these aspects into account;
- Inform prospective developers, site owners and managers about the archaeological sensitivity of their land at the earliest opportunity;
- Ensure that resources (human, physical and financial) are directed to the most sensitive areas and important sites;
- Allow archaeologists (or suitably qualified artefact monitors) the time for proper assessment and investigation of significant archaeological sites.

WHAT IS AN ARCHAEOLOGICAL MANAGEMENT PLAN (AMP)?

At its most basic, an AMP is a document that identifies the potential for archaeological heritage in a specific location and provides management strategies and recommendations on how to manage that archaeology. In an AMP, identified sites are divided into different areas or zones, which are explained in text and displayed in map format.

AMPs identify the location and significance of potential archaeological sites and provide recommendations for their management. Identified sites are usually divided into different units or zones, which are explained in text and indicated in map format.

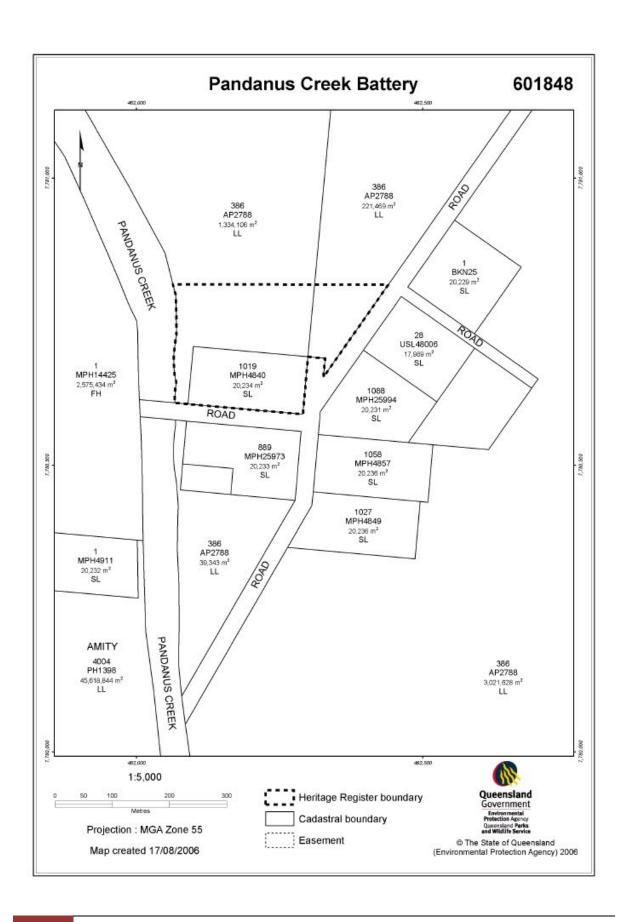
Additionally they can;

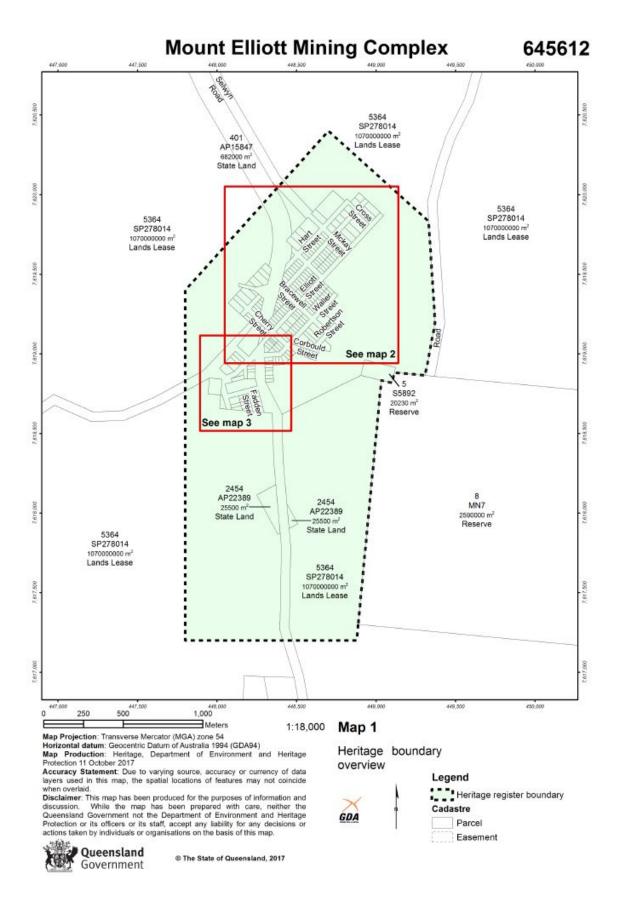
- determine the likely significance of archaeological sites and relics whether local, state, national, international or none;
- define the appropriate management for sites and relics, having regard to significance and statutory requirements;
- identify where previous archaeological investigations have occurred and their results;
- provide a research framework to guide and refine the research basis of site—specific projects and locate them within a broader and more meaningful context;
- recommend archaeological actions to manage the sites and items they identify;
- Provide graphics and diagrams to illustrate these different findings.

State significant

The following three sites list the heritage boundaries of Pandanus Creek Battery (QHR 601848), Mount Elliott Mining Complex (QHR 645612) and Kuridala Township, Hampden Smelter and Mining Complex (QHR645604). The Copperstring 2.0 corridor will not impact on the listed sites however there remains the potential that local or state material of significance may be discovered or unearthed during clearing or construction.

The full citations for these three QHR sites can be found at https://apps.des.qld.gov.au/heritage-register/





Kuridala Township, Hampden Smelter and Mining Complex 645604 SW42 71700000 m² 224 USL769 USL767 **USL769** 42300 m² USI 769 11700 m State Land 18900 m State Land State Land State Land USL769 28200 m 7,646,500 USL767 State Land AP15843 79 190000 m USL769 State Land State Land -23200 m² State Land MPH21884 38000 2732 m State Land See map 3 07 SW42 USL769 81700 m² 7,845,500 Lands Lease * 40 USL769 5 MP26471 State Land State Land .* State Land SW42 71700000 m² 7,645,000 Reserve 322 AP15844 208000 m State Land 7,644,560 447.000 500 1,000 1,500 250 Meters 1:25,000 Map 1

Map Projection: Transverse Mecator (MGA) zone 54
Horizontal datum: Geodedic Datum of Australia 1994 (GDA94)
Map Production: Heritage, Department of Environment and Heritage
Protection 22 December 2015
Accuracy Statement: Due to varying source, accuracy or currency of data
layers used in this map, the spatial locations of features may not coincide
when overlaid.

when overlaid.

Disclaimer: This map has been produced for the purposes of information and discussion. While the map has been prepared with care, neither the Queensland Government not the Department of Environment and Heritage Protection or its officers or its staff, accept any liability for any decisions or actions taken by individuals or organisations on the basis of this map.

Queensland Government

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Local significance

The 2010 Copperstring Project Non-Indigenous Cultural Heritage Assessment field survey discovered some 74 sites along the transmission corridor; of these only 11 were classed as having possibly local heritage significance and one other was misidentified as having no significance and likely has local significance Site Id 67 Place Hadleigh Castle Mine abandoned.

The full list of twelve sites are as follows.

Site Id 6

Place Former Hampden railway line Location -21.2176 E 140.404 S Notes

Significance local

Site Id 9

Place Mount Elliot Mine Location -21.5821 E 140.4921 S Notes 1.2 km northeast

Significance local

Site Id 16

Place Mine remnants Location -20.7294 E 140.4239 S Notes 1.6 km north

Significance local

Site Id 17

Place Mining remnants Salmon Mine Location -20.7389 E 140.4336 S Notes 400 m north

Significance local

Site Id 37

Place Marathon South Homestead and shearing shed Location -20.8997 E 143.5843 S Notes 1.2 km south

Significance local?

Site Id 43

Place Winton Hughenden Railway line Location -20.8945 E 144.1607 S Notes

Significance local

Site Id 44

Place Nicoleche homestead Location -20.9017 E 144.1669 S Notes 900 m south

Significance local?

Site Id 45

Place Telegraph line disused Location -20.8973 E 144.217 S Notes

Significance local

Site Id 63

Place Mount Leyshon Mine Location -20.2859 E 146.2587 S Notes 2 km south

Significance local

Site Id 64

Place Dam Location -20.1664 E 146.4494 S Notes 50 m south

Significance local

Site Id 67

Place Hadleigh Castle Mine abandoned Location -20.0971 E 146.6141 S Notes 700 m south

Significance none – Note**** this site Upgraded to LOCAL. This is part of the Ravenswood gold field and operated as early as the 1870s although it has been reworked in recent times. Nearby creeks may have artefact material such as mine machinery or bottles/ceramics.

Site Id 69

Place Silver Valley homestead Location -20.0643 E 146.6694 S Notes 1.1 km south

Significance local

Note that the above sites were determined from the 2010 aerial survey and that additional sites of habitation or artefacts may be discovered when groundworks commence along the Copperstring 2.0 corridor.

Bibliography

Blake, Thom. *Copperstring Project Non-Indigenous Cultural Heritage Assessment* commissioned 2010 for CuString.

Department of Environment and Science Queensland Heritage Register site https://apps.des.qld.gov.au/heritage-register/

Kennedy, Dr Kett, *The profits of boom: A short history of the Cloncurry Copper Field*, Lectures on North Queensland History, Third Series, James Cook University, Townsville, 1979.

Kerr, T James Semplar. The Seventh Edition. *Conservation Plan, A Guide to the Preparation of Conservation Plans for Places of European Cultural Significance*, Australia ICOMOS, 2013.

Ruins: A guide to conservation and management. Australian Heritage Council. Commonwealth of Australia 2013.