



MINERAL RESOURCES TASMANIA

**Archaeological Survey Report
2000/03**

**An inventory of historic mine workings
at the All Nations group of mines,
Moina Mineral Field**

By Parry Kostoglou



October 2000

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The consultant wishes to to gratefully acknowledge the assistance provided by Mr Robyn (Shorty) Halfacre of Mineral Resources Tasmania, who proved yet again such an affable mine guide.

1.0 INTRODUCTION

1.1 Background

This inventory of historic mining sites, comprising the All Nations group of mines in the Moina area, was commissioned by Mineral Resources Tasmania prior to the implementation of a clean up program at the Pig and Whistle and All Nations workings. The verbal brief for this survey called for an assessment of the cultural significance of the above mines, with special emphasis on the objects subject to removal. This report goes beyond the brief in inspecting additional nearby mines such as the Squib and Narrawa Reward.

1.2 Previous work

No previous cultural heritage work has been undertaken at the Moina mineral field. Several Department of Mines geologists had occasion to inspect this locality, and it is their internal reports upon which the historical precis appearing in this document are based. The relevant Department of Mines geologists included:

- George Thureau (1881)
- A. Montgomery (1893)
- J. Harcourt Smith (1897/98)
- George Waller (1901)
- W. H. Twelvetrees (1908, 1913)
- Loftus Hills (1916)
- H. G. W. Keid (1943)
- L. G. Nixon (1954)

1.3 Methodology

This assessment commenced with a half day perusal of relevant documentation in the library at Mineral Resources Tasmania. Fieldwork was undertaken over a three day period between 17 October and 19 October 2000. During this period, sites were accessed by four-wheel motorbike and all relevant features documented using customised site recording forms and colour photography. A GPS unit was also used to assist in the precise location of sites. This report was subsequently authored over a four-day period.

2.0 DEFINITION OF SURVEY AREA

The survey area straddles the northern and western slopes of Dolcoath Hill, some two kilometres southeast of the former Moina settlement on the southern shore of Lake Gairdner. These localities collectively lie between the Iris and Forth rivers in northwestern Tasmania. The survey area is dominated by regenerating rainforest formerly cleared by historic mining activities and wild fires. Figure 1 shows the location and extent of the survey area in addition to the sites located within its boundaries.

3.0 STATEMENT OF SIGNIFICANCE

Originally established as a gold reward claim, the All Nations group of mines was ultimately established to exploit resident wolfram (tungsten) deposits and other rare metals increasingly sought after by heavy industry after the turn of the century. Nominal tonnages of wolfram were won from the All Nations, and to a lesser extent the neighbouring Squib mine, between 1905 and their final closure in 1927. It can be strenuously argued that these palled into relative insignificance when compared to the neighbouring Bell Mount mineral field and most notably its champion, the Shepherd and Murphy mine. This operation fostered the settlement of Moina and a substantial work force which remained employed between 1895 and c.1930. In contrast, the All Nations group of mines operated sporadically, boasted limited improvements, and as a consequence employed relatively few miners. In summary, the All Nations group of mines engenders limited **Local Social and Historical Significance**.

The current on-site archaeological remains further tend to reflect this social and historical humility. Most of the diggings are unremarkable in their scale and ad hoc engineering. Likewise most of these workings lacked related transport and milling infrastructure which is usually associated with more long-term and significant mining operations. The All Nations group of mines is therefore deemed to have **Local Archaeological Significance** only.

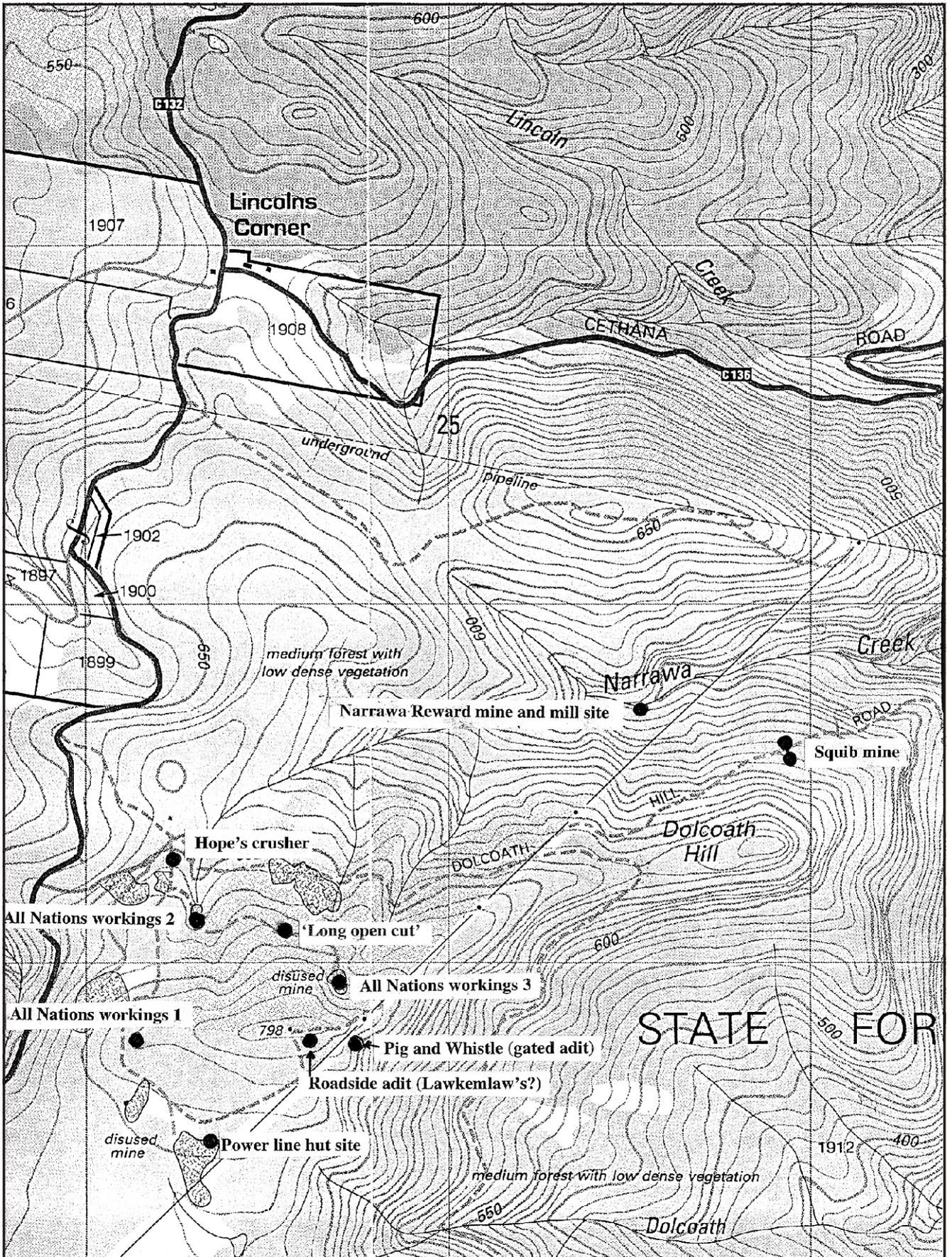


Figure 1
 Map showing location of survey area and constituent sites within it.

In summary, the All Nations group of mines overall is of Local Significance and as such warrants only limited site specific management proscriptions which appear in the site inventory section of this report.

4.0 RECOMMENDATIONS

- As a result of this survey, it is recommended that a systematic site survey of the Narrawa Creek mill site be undertaken in order to provide an accurate documentary account of this interesting archaeological site.
- As a consequence of scouring the Moina vicinity, the minescape at the nearby Bell Mount mineral field was visited and also found to contain particularly impressive mining heritage in the form of the Shepherd and Murphy mine and mill site. It is therefore recommended that this complex also be systematically surveyed and documented in the near future.

5.0 HISTORICAL OVERVIEW

The group of mines referred to in this report formed a part of what was historically referred to as the Middlesex/Mount Claude mineral fields. Although all of the mines described here were eclipsed by the neighbouring Shepherd and Murphy mine, some like the All Nations mine did enjoy some favourable press and speculative investment before the realities of mining in such an isolated locality were brought home to miners and shareholder alike.

The earliest mineral discovery in this area was made in 1891 by Messrs. John Levings and Thomas Brennan, who discovered tinstone and wolfram on Dolcoath Hill and were granted a reward claim for their services. Two more prominent mines, known as the Iris and Bell Mount mines, were then located in 1892. The most significant operation was the Shepherd and Murphy mine, which totally dominated mining in this area from its inception to its ultimate closure in the 1930s.

The Moina group of mines were found as a direct consequence of the large numbers of prospectors tracing extensions of the Bell Mount lodes in 1893. The first of these to be leased and worked was the Dolcoath mine, where Department of Mines geologist Montgomery noted the exposure and crude processing of tin-bearing rock that same year. By the mid 1890s, the Mount Claude field had grown with the establishment of a gold reward claim at the Narrawa PA. In 1898, geologist J. Harcourt Smith noted that that some good pockets of gold had been found, although the failure of the nearby Bell Mount gold leases counselled caution in this regard.

A relatively major mine called the All Nations was subsequently established in 1905 in order to tap the continuation of one of the Shepherd and Murphy lodes. Visiting this mine in 1907, Department of Mines geologist Twelvetrees was moved to note that *This lode is one of the most remarkable in the State, consisting of combed quartz crystals throughout, some of which are of great size and beauty. The crystals have been noticed as much as 14 inches in circumference... A distinct feature of the ore in this lode is its purity. It is unaccompanied by pyrites or any deleterious material.*

The period of the First World War saw wolfram mines throughout the Empire benefit from the coming of war and its increased appetite for strategic minerals. The All Nations mine changed hands twice as a result of speculative zeal, and the nearby Squib mine came to short term prominence with the hasty development of such infrastructure as a self actuating ropeway and concentrating mill. While wolfram mines enjoyed wartime success, the various gold reward claims, typified by the Narrawa PA, had fallen on hard times some years ago and were now only being prospected for their wolfram content.

By the end of the First World War it had become evident that many workings such as the All Nations mine would soon fail without a peak war-time market to bolster business. Visiting the workings in 1919, Department of Mines geologist McIntosh Reid subsequently speculated that *The reserves of rich ore above the present working level are now so low that production even on the present small scale, will soon cease.* He could only see the mine surviving if it obtained larger volumes of working water and better facilities for adit driving made the mine more productive. As neither strategy eventuated, the mine failed to increase production and was accordingly doomed. All mining activities at this group of workings had ended by 1927, and although some attempts were made to revitalise tungsten production in 1943 and 1954, little activity has occurred. Today, these workings are the venue for incidental private gem fossicking only.

6.0 SITES INVENTORY

MOUNT CLAUDE ARCHAEOLOGICAL INVENTORY

Site/Feature name: All Nations workings 1

Site/Feature number: 01

Location: This mine is situated 450 metres east of the Cradle Mountain road some 2 kilometres southeast of Moina (see map).

AMG grid reference: 424 171 mE, 5 405 809 mN

Site type(s): Mine and camp site

Related lease numbers: 4909/93M, 4134M, 5986M, 7100M, 35M/48, 17M/60

History: The land containing this set of workings was first registered in 1893 as a 78 acre lease in the name of H. P. Mitchell (4909/93M)¹. By c.1905, the same 78 acre lease had been transferred to Messrs. J. Kenney and E. F. Goninon (4134M)². By 1907, this block in conjunction with two adjacent 78 acre leases had become the All Nations wolfram mine registered in the name of Mr. T. J. Clerke³. Government geologist W. H. Twelvetrees, visiting this mine site in that same year, noted that it was being worked in a rather desultory fashion due to winter water shortages, and that as a result only two to three men were employed to recover sufficient money to cover working and prospecting expenses⁴. By 1913, this lease had been turned into a 235 acre consolidated lease in the name of the Lady Barron Prospecting Syndicate No Liability (5986M), and further surface sluicing was undertaken in association with drive development throughout the lease. By 1916, the mine was once again known as the 'All Nations', although the lease had shrunk to a 55 acre lot (7100M) containing this working, and a smaller 10 acre lot to the east. In 1943, Government geologist H. G. W. Keid described shafts at this location being 60 feet deep and totalling some 600 feet in length⁵. By the mid 1950s, this lease and its resident workings were held by the Tasmanian Tungsten Tin Development Company No Liabilities (35M/48), which retained the lease and made unspecified improvements for up to a decade. A final lease relating to gemstone fossicking at this site was evidently held during the 1970s⁶. By this time, this working was also known as the Pig and Whistle mine, which appears to be the name of a rival mine further to the east (see site 03).

Description: This site consists of the following features situated within a 200 metre squared area.

- Two costean trenches measuring up to 40 x 2 x 3 metres deep. One of these is spanned by a timber pedestrian bridge.
- Assorted shallow shafts to 5 metres deep of recent derivation (1970s).
- A shaking table fabricated from timber planking supported on car suspension coils.
- A corrugated iron clad hut and associated outhouse.
- An abandoned excavator .
- Assorted car bodies less than 30 years old.

Interpretation: Early 20th century mine re-worked during the 1970s.

Statement of Significance: This old mine site has been almost totally compromised by subsequent re-developments undertaken during the 1970s.

Significance assessment (Local):

- 5. Very High
- 4. High
- 3. Moderate
- 2. Low**
- 1. None
- 0. Detracts

Recommendations: It is recommended that the c.1970s camp site and associated car bodies be removed as part of a comprehensive site clean up. The shaking table and excavator body might be left on site as less offensive technological remnants of the mine's later period of operation.

Level of recording: This record is deemed to be sufficient for this specific site, although it should be noted that other more significant alluvial/open stope mining sites are known to exist some 150 metres to the northwest, and these should be surveyed independently in the event of any re-development.

References:

1. Map in Waller, 1901.
2. Discontinued County chart No. 167b held by MRT.
3. Twelvetrees, 1908, p.15.
4. Ibid.
5. Keid, 1954, p. 189.
6. R. Halfacre pers. comm.

Photograph: View showing timber collapsed shaft collar



Photograph: View of corrugated iron hut.



Photograph: Home made shaking table for gem separation.



Recorded by: P. Kostoglou

Date: 17/10/2000

MOUNT CLAUDE ARCHAEOLOGICAL INVENTORY	
Site/Feature name: Power line hut site	Site/Feature number: 02
Location: This structure is situated in a large clearing below a power line leading to the Cethana dam.	
AMG grid reference: 424 340 mE, 5 405 500 mN	Site type: Hut (dwelling)
History: The origin and historic use of this structure is currently unknown. However, it seems most likely that this structure was erected by miners working the nearby alluvial beds comprising part of the Iris mine from the 1930s.	
<p>Description: This 5.4 x 3 metre wide composite timber framed and corrugated iron clad structure boasts the following features.</p> <ul style="list-style-type: none"> <input type="checkbox"/> A hipped single gable corrugated iron clad roof. <input type="checkbox"/> A corrugated iron chimney flue with a composite pug mortar/bonded stone and form concrete hearth. <input type="checkbox"/> A timber floor comprised of hardwood joists and 6 cm wide boards previously salvaged from timber water piping. <input type="checkbox"/> Timber paling walls lined internally with hessian sacking. <input type="checkbox"/> A single doorway beside the fireplace. <input type="checkbox"/> A pair of bunks erected against the west wall. 	
Interpretation: This residential structure was most probably built by miners working the adjacent shallow alluvial leases after c.1930.	
Statement of Significance: This structure appears to be one of the few surviving residential huts relating to the mining theme in this region.	Significance assessment (Local): 5. Very High 4. High 3. Moderate 2. Low 1. None 0. Detracts
Recommendations: This structure should be protected from all developments. In the event of any proposed activity in this vicinity, the hut should be more fully recorded and research undertaken as to its age and usage.	
Level of recording: This record is not deemed to be sufficient.	
References: None known.	

Photograph: Southerly view of hut showing corrugated iron chimney flue.



Recorded by: P. Kostoglou	Date: 17/10/2000
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MOUNT CLAUDE ARCHAEOLOGICAL INVENTORY	
Site/Feature name: Pig and Whistle (gated) adit	Site/Feature number: 03
Location: Beside transmission line some 200 metres south east of summit 798 (see map)	
AMG grid reference: 424 743 mE, 5 405 759 mN	Site type: Mine working (adit)
Related lease numbers: 7301M, 58M/51	
<p>History: Although the relevant maps are somewhat confusing, this pair of adits appear to match the mine position and description given by geologist Nixon in 1954 as the Pig and Whistle mine¹. Originally, between c.1905 and 1942, this locality comprised part of the All Nations mine. It was also briefly known as the Lady Barron mine in c.1913-1919 when it was operated by Messrs. Lawson and Riley². By the early 1950s, this working had become known as the Pig and Whistle mine held under lease number 58M/51³. Some further work on both adits was undertaken before their ultimate abandonment by c.1960.</p>	
<p>Description: This site consists of a gated adit portal measuring 3.5 x 2 metres in width. The gate is made of mesh steel with a padlock and chain attached. Immediately adjacent to the adit portal is a slab timber stage for ore sorting and a timber post which further supported the decking during use. A second collapsed adit was noted 40 metres uphill of this adit on the same bearing.</p>	
Interpretation: Early/mid 20th century mine adits.	
<p>Statement of Significance: These adit portals are unremarkable examples of early 20th century mining.</p>	<p>Significance assessment (Local):</p> <ul style="list-style-type: none"> 5. Very High 4. High 3. Moderate 2. Low 1. None 0. Detracts
Recommendations: None made.	
Level of recording: This record is deemed to be sufficient.	
<p>References:</p> <ul style="list-style-type: none"> 1. Nixon, 1954, p.53. 2. Reid, 1919, p.89. 3. Nixon, 1954, p.53. 	

Photograph: View of gated portal and adjacent timber stage.



Recorded by: P. Kostoglou	Date: 17/10/2000
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MOUNT CLAUDE ARCHAEOLOGICAL INVENTORY	
Site/Feature name: Roadside adit (Lawkemplaws?)	Site/Feature number: 04
Location: This site is situated beside the transmission line/ access road some 100 metres southeast of hill 798 (see map).	
AMG grid reference: 424 646 mE, 5 405 767 mN	Site type: Mine working (adit)
Related lease numbers: 7301M.	
<p>History: These workings occupy land originally pegged as a 78 acre mineral lease in c.1893. By 1913, this lease had been cancelled and a larger consolidated lease issued in the name of the Lady Barron Prospecting Association. By 1919, the owners Messrs Lawson and Riley had opened up by two adit cross cuts and lesser tunnels which appear to roughly match the locations of the features described below. These gentlemen also installed some rudimentary concentrating plant consisting of a Dodge crusher and plunger jig powered by a six horse power steam engine¹. The subsequent history of these workings remains uncertain. More recent 1:20 000 scale mineral charts kept and updated by Mineral Resources Tasmania show a mine titled 'Lawkemplaws' at this location². A description of Lawkemplaws mine provided by geologist Nixon in 1954 makes reference to five vertical shafts³. The ultimate identity of these workings must therefore remain in some doubt until further lease related research is undertaken.</p>	
<p>Description: This site consists of the following features:</p> <ul style="list-style-type: none"> <input type="checkbox"/> A 2 x 2.5 metre high adit portal. <input type="checkbox"/> A large 60 x 50 metre wide mullock dump. <input type="checkbox"/> A section of narrow gauge railway iron. <input type="checkbox"/> Two other adits and associated mullock dumps situated further uphill. <input type="checkbox"/> A 30 x 10 metre open cut pit. <input type="checkbox"/> Numerous shallow costean trenches. 	
Interpretation: Early 20th century hillside line of lode adits and open cuts.	
<p>Statement of Significance: These surface features are modest and unremarkable examples of early 20th century mining.</p>	<p>Significance assessment (Local):</p> <ul style="list-style-type: none"> 5. Very High 4. High 3. Moderate 2. Low 1. None 0. Detracts
<p>Recommendations: If any future impact/development is proposed, some research should be undertaken in order to ultimately clarify this mine's identity.</p>	
<p>Level of recording: This record is not deemed to be sufficient.</p>	
<p>References:</p> <ul style="list-style-type: none"> 1. Reid, 1919, p.91. 2. 1:20 000 scale current lease chart MOINA. 3. Nixon, 1954, p.54. 	
<p>Photograph: General view of open cut workings.</p>	
<p>Recorded by: P. Kostoglou</p> <p>Date: 17/10/2000</p>	

MOUNT CLAUDE ARCHAEOLOGICAL INVENTORY	
Site/Feature name: Hope's Crusher	Site/Feature number: 05
Location: 200 metres north of All Nations No. 1 mine (see map)	
AMG grid reference: 424 250 mE, 5 406 210 mN	Site type: Milling plant (primary crusher)
History: As it lies abandoned beside the track formerly accessing the All Nations mine workings, this crusher plant was most likely employed by this mine between c.1905 and 1915, when its mill was destroyed by fire ¹ .	
Description: This portable feature lies upside down, although embossing on the base is still legible. It reads: <p style="text-align: center;">HOPES PATENT No. YARRABANK 112 MELBOURNE</p>	
Interpretation: This item is a portable ore crushing plant.	
Statement of Significance: As a well preserved and increasingly rare portable item of turn of the century milling technology, this artefact is highly significant.	Significance assessment (Local): 5. Very High 4. High 3. Moderate 2. Low 1. None 0. Detracts
Recommendations: This item should be protected from all impacts.	
Level of recording: This record is deemed to be sufficient.	
References: 1. Reid, 1919, p.85.	

Photograph: View of toppled and partially buried crusher plant.



Recorded by: P. Kostoglou	Date: 17/10/2000
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MOUNT CLAUDE ARCHAEOLOGICAL INVENTORY	
Site/Feature name: All Nations workings 2	Site/Feature number: 06
Location: This site is situated beside a dirt track 200 metres south of the Hopes crusher (see map).	
AMG grid reference: 424 309 mE, 5 406 116 mN	Site type: Mine working (adit)
Related lease numbers: 4909/93M, 7100M	
<p>History: This site originally formed part of a 78 acre lease pegged in 1893 by H. P. Mitchell¹. By 1913, this had been added to a larger consolidated lease held by the Lady Barron Prospecting Association. By 1919, this larger lease had been broken up, and the site described here formed part of a 50 acre lease (7100M) once again registered in the name of the All Nations company². In 1919, geologist McIntosh Reid described this lease, stating that the lode here had been opened up using a long open cut trench and three shafts located alongside³. The workings described here appear to be one of these. By 1927 this mine was reported to be idle⁴, and proposed re-developments in the 1940s and 50s appear to have achieved little, although current remains indicate that someone attempted to re-open the mine during this period.</p>	
<p>Description: This mine site is comprised of the following features:</p> <ul style="list-style-type: none"> <input type="checkbox"/> A timbered shaft collar and collapsed vertical shaft. <input type="checkbox"/> A 6 inch metal water pipe and modified 44 gallon drum used as a header tank. <input type="checkbox"/> An elevated 25 metre long section of timber water flume connecting the mine working to nearby Narrawa Creek. <input type="checkbox"/> A remnant hut site consisting of a 5 x 4 metre wide slab timber floor and 4 timber uprights. <input type="checkbox"/> A collapsed adit portal and corrugated iron sluice situated 50 metres further east along the track. <input type="checkbox"/> A metal tank at the same location with the label 'SULPHURIC ACID' stencilled on its side. 	
Interpretation: Early/mid 20th century mining operation.	
<p>Statement of Significance: Despite forming part of the premier mine in the Mount Claude/Middlesex field. This set of workings is another unremarkable example early 20th century mining which was re-worked after the Second World War.</p>	<p>Significance assessment (Local):</p> <ul style="list-style-type: none"> 5. Very High 4. High 3. Moderate 2. Low 1. None 0. Detracts
Recommendations: None made.	
Level of recording: This record is deemed to be sufficient.	
<p>References:</p> <ol style="list-style-type: none"> 1. Lease map in Waller, 1901. 2. Reid, 1919, pp.82-83. 3. Ibid. 4. Keid, 1943, p. 184. 	



Photograph: View of composite timber/metal water flume.



Photograph: View of sulphuric acid tank abandoned beside track.

Recorded by: P. Kostoglou

Date: 17/10/2000

MOUNT CLAUDE ARCHAEOLOGICAL INVENTORY	
Site/Feature name: All Nations workings 3	Site/Feature number: 07
Location: This site is situated at the end of the dirt track some 400 metres southeast of the All Nations No. 1 workings.	
AMG grid reference: 424 683 mE, 5 405 960 mN	Site type: Mine working (adit)
Related lease numbers: 7207M	
<p>History: This site originally formed part of a 78 acre lease pegged in 1893 by H. P. Mitchell¹. By 1913, this had been added to a larger consolidated lease held by the Lady Barron Prospecting Association. By 1919, this larger lease had been broken up, and the site described here formed part of a 40 acre lease held by Messrs Shepherd and Murphy². These gentlemen however concentrated their efforts on a neighbouring 5 acre lease (7301M) and its resident mines (see sites 03 and 04). In 1943, geologist Keid made brief reference to this working, merely stating that it was positioned to exploit the principal mineralised vein on the property, although it was yet to do this³. Some further work appears to have been done here, as some of the current remains (bus body) date from the 1950s. The identity of this proponent remains uncertain.</p>	
<p>Description: This site consists of the following features:</p> <ul style="list-style-type: none"> <input type="checkbox"/> A gated and internally timbered adit portal measuring 3 x 3 metres in dimension. <input type="checkbox"/> An abandoned bus body supported on several timber piers. The engine and all internal fixtures have been removed and the bus body burnt. <input type="checkbox"/> A 3 metre squared corrugated iron clad compressor shed, now empty of all plant. <input type="checkbox"/> A 60 x 50 metre wide quartzitic mullock dump. <input type="checkbox"/> A 35 metre long timber tramway embankment with sequential sleeper impressions linking the adit and mullock dump. 	
Interpretation: Early/mid 20th century mine subsequently re-worked in 1980s.	
<p>Statement of Significance: This is the best preserved set of workings in the All Nations mine complex, and is the only one worthy of preservation as it possesses a diversity of characteristic and relatively well preserved hard rock mine infrastructure.</p>	<p>Significance assessment (Local):</p> <ul style="list-style-type: none"> 5. Very High 4. High 3. Moderate 2. Low 1. None 0. Detracts
Recommendations: The bus and compressor remains are deemed to be rubbish, and should be removed as part of any site clean up here. Other features should be protected from future developments.	
Level of recording: This record is deemed to be sufficient.	
<p>References:</p> <ol style="list-style-type: none"> 1. Lease map (Plate 1) in Waller, 1901. 2. Reid, 1919, pp.89-90. 3. Keid, 1943, p. 189. 	



Photograph: View of tramway embankment.



Photograph: View of abandoned bus beside main adit

Recorded by: P. Kostoglou

Date: 17/10/2000

MOUNT CLAUDE ARCHAEOLOGICAL INVENTORY	
Site/Feature name: 'Long open cut'	Site/Feature number: 08
Location: This site commences at the sulphuric acid tank comprising part of the All Nations No. 1 mine and proceeds northwesterly for a distance of about 100 metres.	
AMG grid reference: 424 509 mE, 5 406 010 mN	Site type: Mine working (open stope)
Related lease numbers: 4909/93M, 7100M.	
History: This site originally formed part of a 78 acre lease pegged in 1893 by H. P. Mitchell ¹ . By 1913, this had been added to a larger consolidated lease held by the Lady Barron Prospecting Association. By 1919, this larger lease had been broken up, and the site described here formed part of a 50 acre lease (7100M) once again registered in the name of the All Nations company ² . In 1919, geologist McIntosh Reid described this lease, stating that the lode here had been opened up using a long open cut trench and three shafts located alongside ³ . The workings described here appear to be the long open cut. By 1927 this mine was reported to be idle ⁴ , and proposed re-developments in the 1940s and 50s appear to have come to nothing.	
Description: This site is an open cut trench or shallow underhand stope measuring 100+ metres in length and 2 metres in width. Today, the trenching reaches a maximum depth of 5 metres, although this was historically deeper until it was backfilled by the Department of Mines during the 1980s.	
Interpretation: Exploratory costean/subsequent stope following line of lode.	
Statement of Significance: Although somewhat lengthy, this site is an unremarkable example of open stoping technology dating from the early 20th century.	Significance assessment (Local): 5. Very High 4. High 3. Moderate 2. Low 1. None 0. Detracts
Recommendations: None made.	
Level of recording: This record is deemed to be sufficient.	
References: 1. Map titled Plate 1 appearing in Waller, 1901. 2. Reid, 1919, p.82. 3. Ibid. 4. Keid, 1943, p. 184.	

Photograph: General northwesterly trend of open cut trenching.



Recorded by: P. Kostoglou	Date: 17/10/2000
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MOUNT CLAUDE ARCHAEOLOGICAL INVENTORY	
Site/Feature name: Squib mine	Site/Feature number: 09
Location: This site is situated on the south side of a junction on the Dolcoath Hill track (see map).	
AMG grid reference: 425 931 mE, 5 406 602 mN	Site type: Mine workings (adits) Former aerial ropeway
Related lease numbers: 3095M, 5221M, 11737M, 13M/52	
<p>History: The earliest mining undertaken in the vicinity of this site related to alluvial gold mining in the mid to late 1890s, which was undertaken by a Mr. C. Packett¹. This site appears to have been first mined in its own right in 1909, when one source claims that the resident wolfram was discovered by one Mr. Warwick Castle². In 1913, government geologist W. H. Twelvetrees visited the mine and noted that this site now formed part of a 50 acre lease being mined alluvially by a Mr. B. J. Gurr³. In 1916 geologist Loftus Hills noted that this mine was processing its ore in a small concentrating mill erected further north on the banks of Narrawa Creek (see site 10 overleaf). By 1919, this working was referred to as the 'Squib', although it was still being worked by Mr Gurr. When geologist McIntosh Reid visited this mine that same year, he found the workings to have expanded, now consisting of an open cut and series of adit workings which admirably exploited the steep slope afforded by the north side of Dolcoath Hill⁴. This mine appears to have fallen idle by the late 1920s. One subsequent source noted that this lease was held by a Mr. W. S. Henderson in 1943, although no development appears to have occurred⁵.</p>	
<p>Description: This site consists of the following features:</p> <ul style="list-style-type: none"> <input type="checkbox"/> A 1.2 metre diameter solid bull wheel beside the Dolcoath Hill road. <input type="checkbox"/> A second bull wheel and lengths of narrow gauge tram rail adjacent to a timbered adit portal 30 metres to the south. <input type="checkbox"/> At least two more adits and an ore skip situated in the creek gully 50 metres south east of the track. <input type="checkbox"/> Numerous costeans and surface workings further southwest of the creek gully workings. 	
Interpretation: Early 20th century mine lease and connecting aerial ropeway to mill.	
<p>Statement of Significance: Sufficient interesting portable artefactual remains (bull wheels, ore skips etc.) survive at this site to raise the otherwise low significance threshold of the hard rock workings.</p>	<p>Significance assessment (Local):</p> <ul style="list-style-type: none"> 5. Very High 4. High 3. Moderate 2. Low 1. None 0. Detracts
Recommendations: In the event of any proposed re-development all remains should be more systematically surveyed and assessed. It is recommended here that the site be protected from future developments.	
Level of recording: This record is not deemed to be sufficient.	
<p>References:</p> <ol style="list-style-type: none"> 1. Smith, 1899, p.iv. 2. Reid, 1919, p.97. 3. Twelvetrees, 1913, p.79. 4. Reid, 1919, pp.97-99. 5. Keid, 1943, p.192. 	



Photograph:
Northerly view of track side bull wheel assumed to relate to former aerial ropeway.



Photograph: Ore skip remains lying in creek uphill of track side adit.

Recorded by: P. Kostoglou

Date: 17/10/2000

MOUNT CLAUDE ARCHAEOLOGICAL INVENTORY	
Site/Feature name: Narrawa Reward mine and mill	Site/Feature number: 10
Location: This complex is situated beside Narrawa Creek some 300 metres north of the Dolcoath Hill road (see map).	
AMG grid reference: 425 557 mE, 5 406 703 mN	Site type: <input type="checkbox"/> Mine workings (adits) <input type="checkbox"/> Concentrating mill plant <input type="checkbox"/> Hut site
Related lease numbers: 35/93G	
<p>History: This site was first explored and pegged in 1893 as a 20 acre gold reward claim by the Narrawa Prospecting Association. In 1898 Department of Mines geologist Harcourt Smith noted that some gold in addition to galena and several other metals was being recovered from a 135 foot long tunnel dug out beside Narrawa Creek¹. In 1907, geologist W. H. Twelvetrees found this working abandoned and its adit emitting acid mine drainage and mine water in abundance². Although this mine did not rate a mention in either Twelvetrees (1913) or Hills (1916) reports, the latter source made reference to a concentrating mill erected at this location beside Narrawa Creek and belonging to the Squib mine³. Three years later Reid wrote a more detailed description of the mill, noting that:</p> <p><i>The mine is equipped with a small concentrating plant driven by a 12 horse power oil engine. From the main tunnel mouth (of the Squib), the ore is delivered to mill in trucks run on a self acting inclined tramway. The ore is conveyed to an 8 inch by 5 inch Blake crusher, thence passes to a coarse trommel, the oversize from which passes to a rolls etc.</i>⁴</p> <p>In his 1943 report, geologist Keid appears to have described this mine site as comprising the Lower Workings of the Squib mine. He also noted the existence of two mill sites beside Narrawa Creek, one recently demolished⁵. It can only be inferred here that the mill remains described below comprised the older/original mill belonging to the Squib mine.</p>	
<p>Description: This complex consists of a concentrating mill site, hillside adit sequence and more recent miners hut site.</p> <p>The mill site is situated above Narrawa Creek and is now bounded by an exploration drill pad track. An earthen water race links the top of the mill site to Narrawa Creek. The mill site is dominated by a large stand of introduced pine trees (<i>P. radiata</i> sp.). Remains of the mill consist of a multi-tiered and benched earthen excavation consolidated with dry-stone walling. This structure is littered with numerous artefacts and debris, including:</p> <ul style="list-style-type: none"> <input type="checkbox"/> A stamp battery mortar box and cam; <input type="checkbox"/> An intact 2 metre diameter waterwheel; <input type="checkbox"/> Remnant trommel cage and screen fragments; <input type="checkbox"/> A set of grizzly bars. <p>An open cut trench lies immediately north of the upper mill storey, and at least three separate adits were noted along the banks of Narrawa Creek. A composite sheet tin and corrugated iron clad hut with remnant dry-stone chimney base was also found 60 metres north of the mill site.</p>	
Interpretation: Early 20th century mining and milling complex.	
<p>Statement of Significance: This is the most significant site on the Mount Claude mineral field, boasting a selection of relatively well preserved mine and mill related sites. Certainly the mill site retains a number of unusual artefacts, such as the waterwheel.</p>	<p>Significance assessment (Local):</p> <p>5. Very High 4. High 3. Moderate 2. Low 1. None 0. Detracts</p>
Recommendations: The mill site should be protected from all future impacts, especially exploration related drilling. This mill should be surveyed systematically.	
Level of recording: This record is not deemed to be sufficient.	

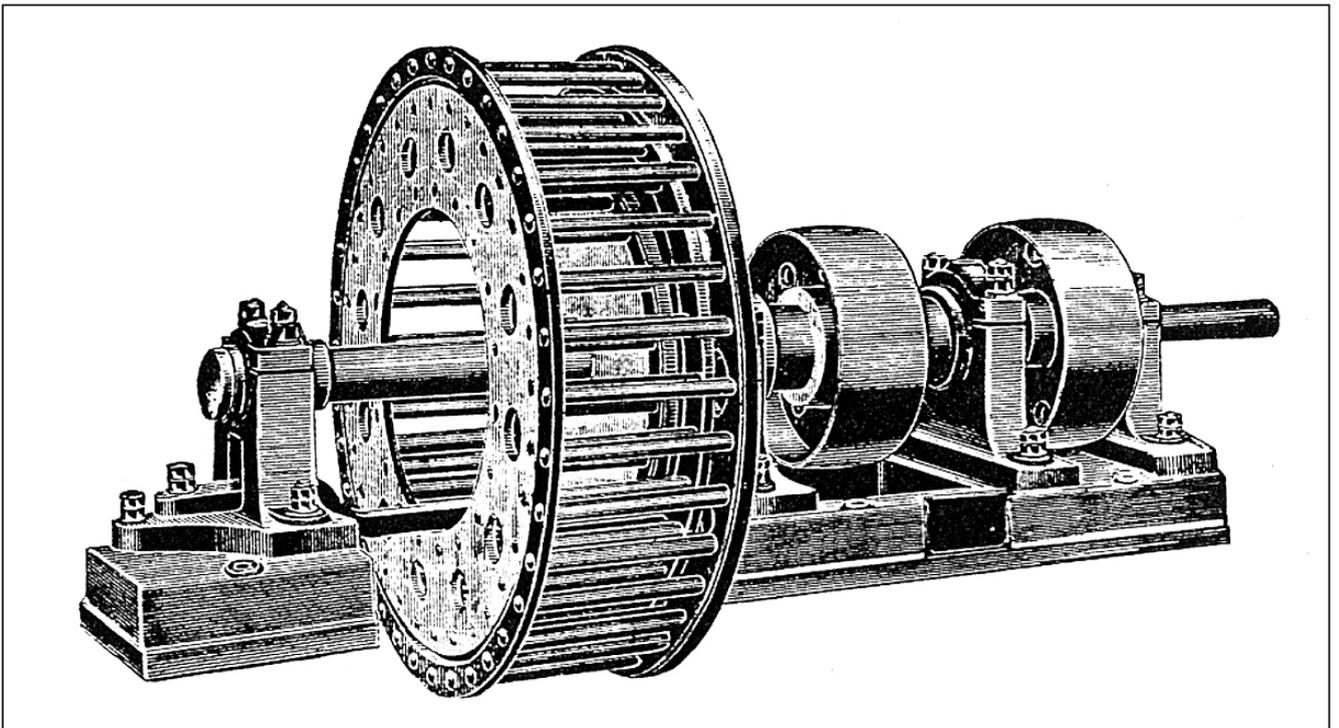
References:

1. Smith, 1899, p.iv.
2. Twelvetrees, 1908, pp.23-24.
3. Hills, 1916, p.9.
4. Reid, 1919, p.100.
5. Keid, 1943, p.193.

Photograph: Detail view of metal wheel possibly comprising part of an ore disintegrator (see diagram below).



Historic illustration: Drawing showing ore disintegrator.



Recorded by: P. Kostoglou

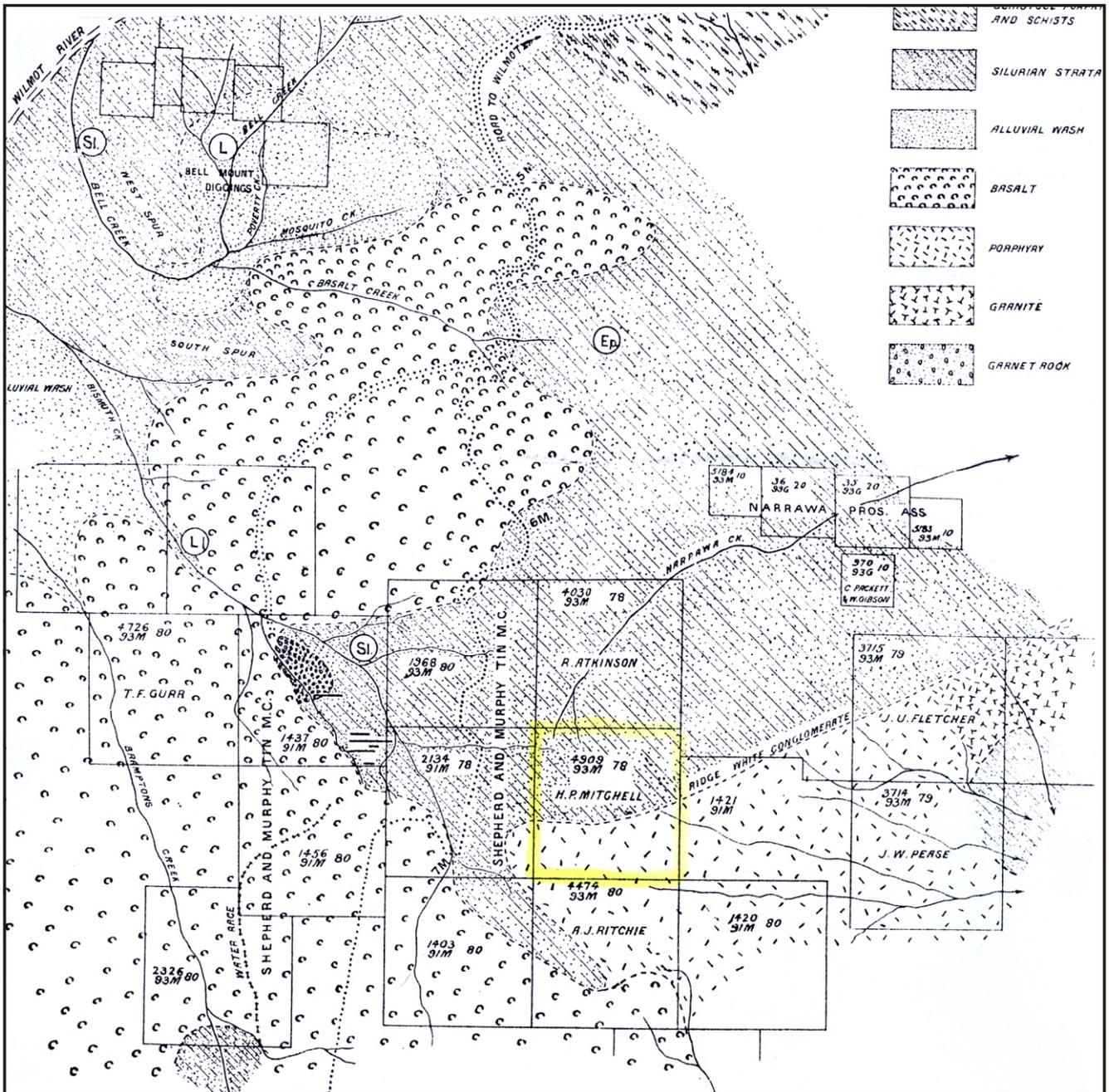
Date: 17/10/2000

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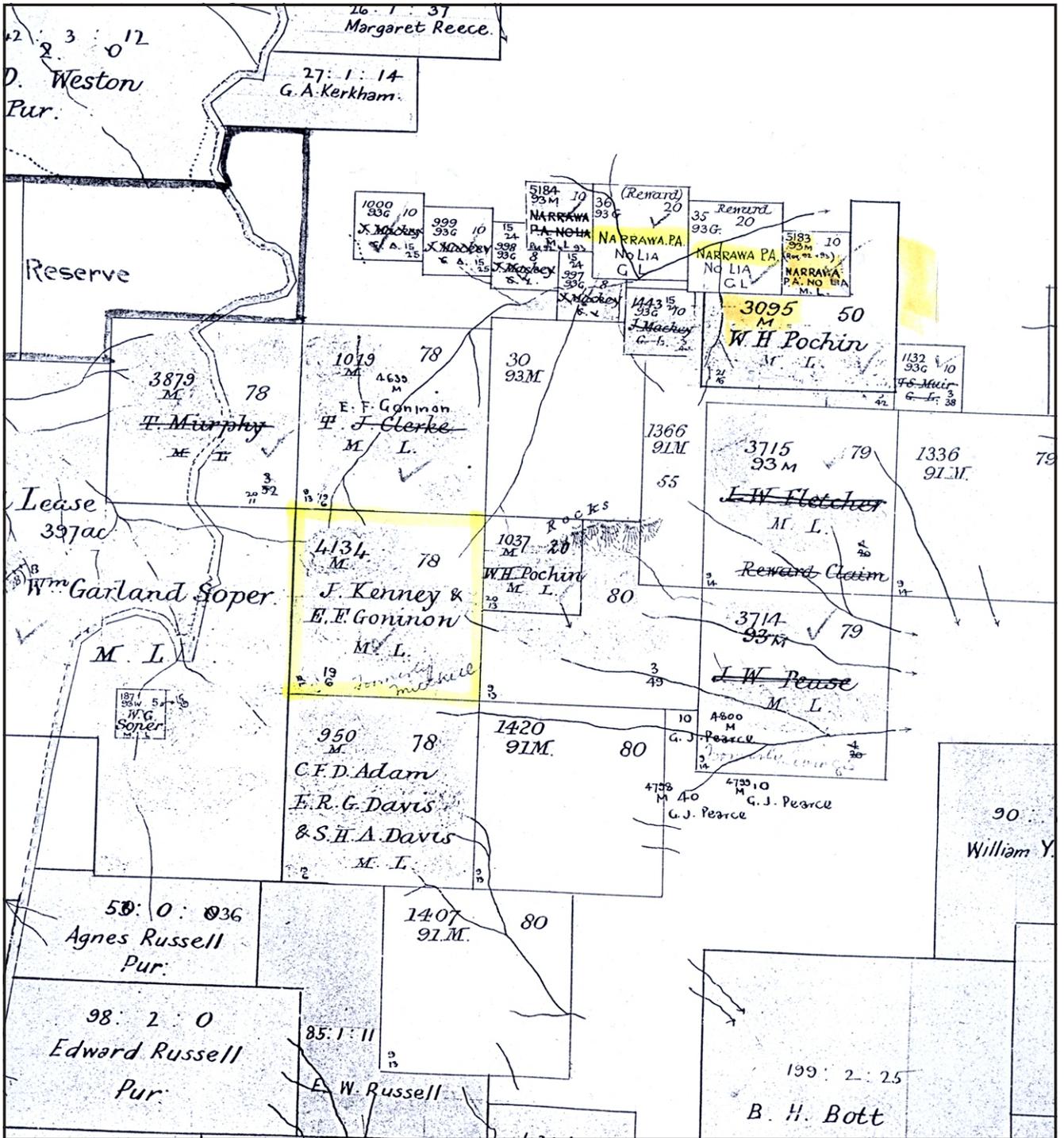
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APPENDIX 1

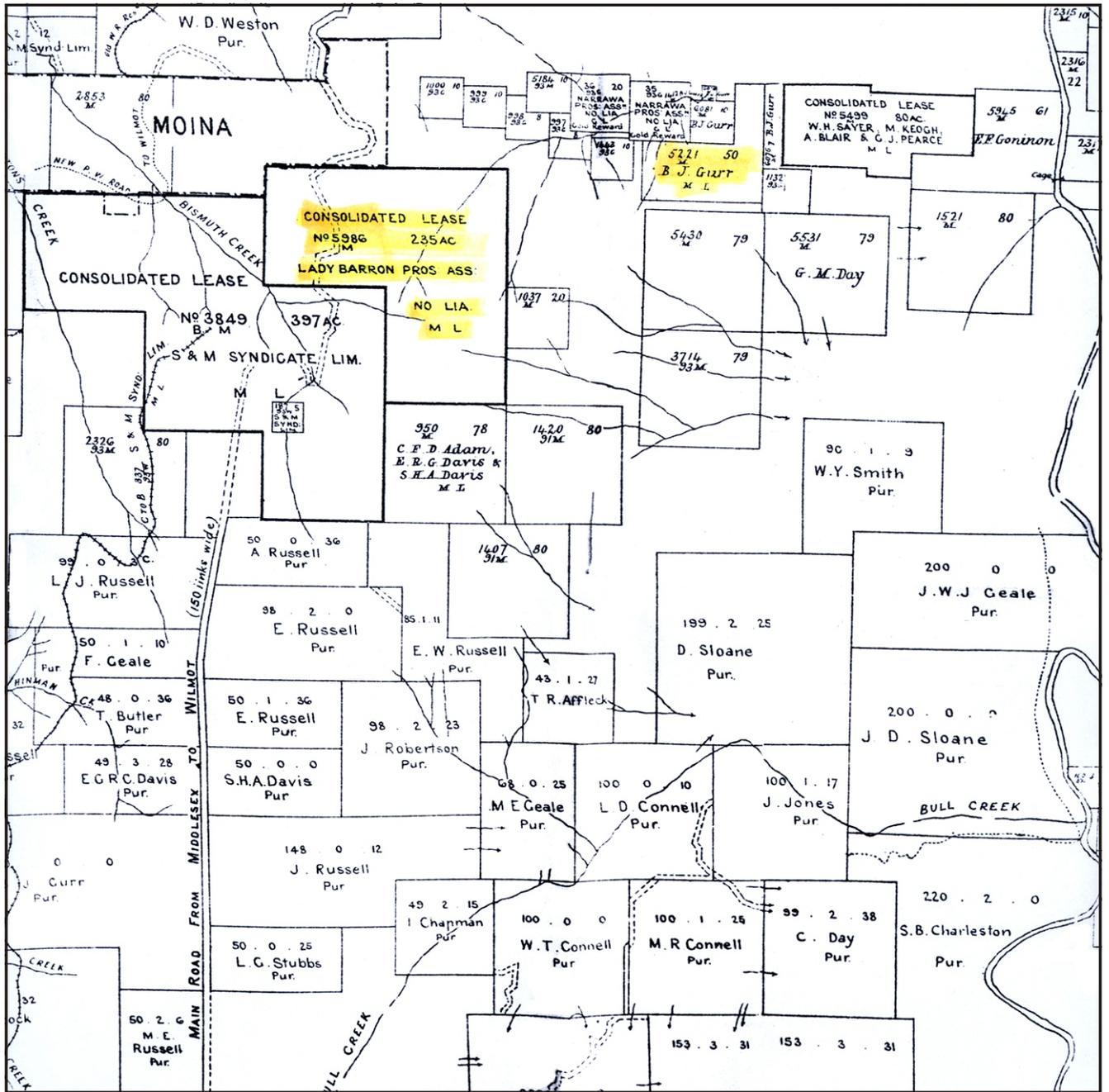
Historic maps



Survey appearing in Waller (1901) showing earliest generation of leases in All Nations area.
This group of mines would essentially occupy lease number 4909/93M.



Old County Chart 1890-1910, showing second generation of leases.



Map accompanying Twelvetrees' 1913 report showing the All Nations leases now taken over by the Lady Barron Prospecting Association. A. Burr's lease will shortly become the Squib mine.



Current mineral lease chart for Moina area showing approximate locations of several historic workings.

APPENDIX 2

Contemporary survey photographs



Plate 1

Detail view of manufacturers embossing on Hope's crusher.



Plate 2

Detail view of bull wheel lying beside Dolcoath track at the Squib mine.



Plate 3

Detail view of buried second bull wheel at the Squib mine.



Plate 4

Detail view of iron wheel possibly relating to disintegrator plant at the Squib concentrating mill.



Plate 5

Stamp battery cam at the Squib concentrating mill.



Plate 6

Stamp battery mortar box at the Squib concentrating mill.



Plate 7

Dry stone walling at the Squib concentrating mill.



Plate 8

Hut remains near the Narrawa Reward mine/Squib concentrating mill.