



MINERAL RESOURCES TASMANIA

**Archaeological Survey Report
1998/01**

**An archaeological survey
of the Five Mile (Cuni)
copper nickel mines**

By Parry Kostoglou





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Introduction

Job brief

This archaeological survey of historic mine sites in the vicinity of Melba Siding was commissioned by the Department of Mineral Resources in response to an application to remove mullock heaps from the Lead Blocks mine for reprocessing. The verbal brief for this assignment required an archaeological survey of the Lead Blocks mine site and an assessment of its significance for the purposes of future management. Other mines in the vicinity were also visited/recorded in order to better gauge the Lead Block mine's relative significance both in relation to the local minefield and the northwestern region of the State.

Methodology

Preliminary research reviewing historic sources referring to the mine was undertaken briefly on 10 March. Field work was then undertaken between the 11 and 12 March 1998. Attempts were made to access and locate all mine sites identified as comprising part of this mining field, although a small number could not be found. Scaled plans and colour photographs were produced for all those sites which were relocated.

Recommendations

As a result of this survey, it is recommended that:

- The Lead Blocks mine site in its entirety be protected from any proposed mining or stripping of its resident historic mullock heaps.
- Further archaeological reviews be undertaken in the event of any future proposals to mine or otherwise impact on other mine sites within the survey area.

Historical overview

Copper/nickel deposits in the Five Mile or Cuni district appear to have been first discovered in the early 1890s, when reward claims were granted to at least two prospectors in recognition of their efforts there. Some of the ore was evidently exported and sold profitably in Europe. Unfortunately further prospecting efforts seeking to attract further capital located only limited shoots of ore and the workings were abandoned. In 1909 further attempts were made to mine the area, with five leases being pegged. Two were duly abandoned, but two of the three remaining leases were acquired in 1912 by the Dundas Cuni Mining Company Limited. Promising assays led to further mining and by the outbreak of hostilities in 1914, some 700 tons of ore had been shipped to Germany for processing. The other lease was taken up by the Copper Nickel Prospecting Syndicate which also managed to offload ore totalling some 2776 tons to its European markets. Given their reliance on sales to Germany, both mines were compelled to close with the coming of the Great War.

Very limited operations recommenced in the early 1920s, and a diamond drilling project to locate more ore bodies was commenced by the State in 1924 under the supervision of government geologist A. M. Reid. Further electrical and magnetic surveys conducted by the Imperial Geophysical Experimental Survey in 1928 encouraged some speculators to form a new company that same year. The Copper Nickel Mining Company obtained 204 refined tons of nickel from the northern end of the field until cash flow problems and groundwater seepage compelled them to cease mining in 1932. On two occasions throughout that decade (1930 and 1939–40), the Department of Mines undertook drilling and trenching programs to further stimulate investment, which proved sufficient to induce the newly formed Australian Nickel Company No Liability to re-open one of the old workings in the field (Vaudeau mine). Another concern, titled the Lead Nickel Mining Company, emulated their efforts in 1948. However the ultimate failure of this enterprise proved to be the last effort to actually mine the Five Mile field.

Further drilling and other geophysical surveys undertaken throughout the early 1950s merely led to a reshuffling of the leases from Eagles Metals Pty Ltd to Montana Silver Lead NL. The field has been periodically re-surveyed to the present day, without any further mining activity.

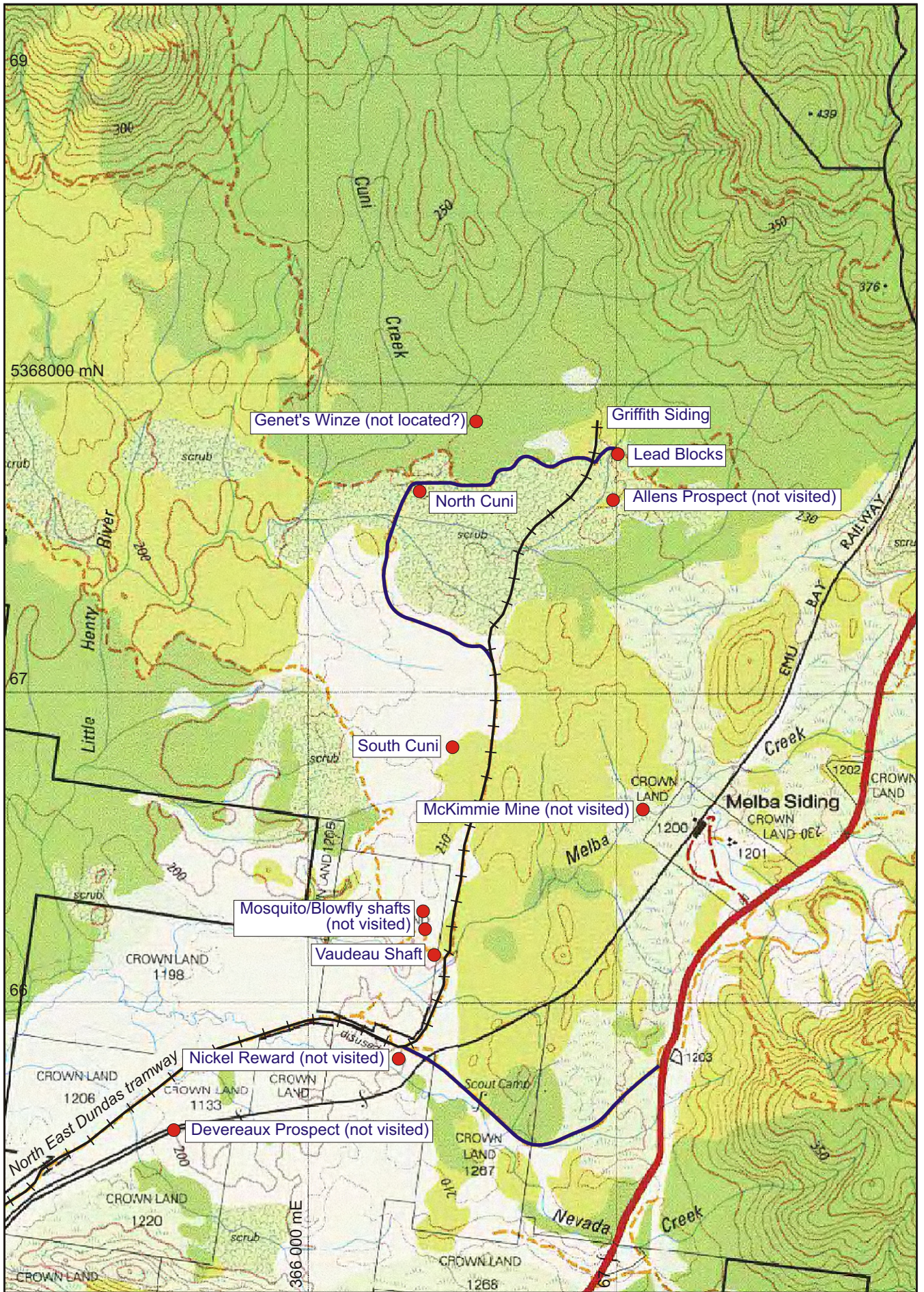


Plate I

Map showing location of sites located or identified during this survey.

Site reports

■ **Devereaux Prospect**

LOCATION

The current 1:50 000 scale geological map sheet (Zeehan) shows the Devereaux Prospect straddling the Emu Bay Railway formation in the vicinity of its passage over Nevada Creek. No more accurate descriptions are available from other sources.

HISTORY

In 1925 Reid reported that a Mr J. G. Devereaux had located a body of ore half a mile southwest of the Nickel Reward claim. He further speculated that: "*The mining of these ores cannot be regarded yet as an established industry, but developments show such encouraging results that preparations are now being made for their exploitation on a commercial scale*". Reid's optimism appears to have proven somewhat misplaced, as the mine was abandoned shortly after.

DESCRIPTION

Blissett states that Devereaux ore body was exposed by a small number of shallow holes, although he does disclose a shaft of unknown depth. This site was not visited due to time constraints.

SIGNIFICANCE/RECOMMENDATIONS

The site is deemed to be of low historical significance locally. Its archaeological importance is unknown, but from the historic descriptions it is more than likely of equal modesty.

REFERENCES

Blissett, 1962, p. 249.

Reid, 1925, p. 30.

■ **Nickel Reward**

LOCATION

The Nickel Reward workings lie some 250 m southwest of the junction between the Emu Bay Railway and the North East Dundas Tram formation.

HISTORY

This claim was presumably one of the five pegged by c.1912, and the modest workings described below were presumably dug shortly after. The mine appears to have ceased operations in 1914, and two new bore holes drilled in c.1913 failed to find anything of commercial value. The Nickel Reward mine does not appear to have been reworked despite several subsequent prospecting programs up to the 1960s.

DESCRIPTION

Blissett (1962) claims that the Nickel Reward shaft was only 20 feet deep, and Reid (1925) before him alleged similarly that only small amounts of low grade ore were removed prior to 1914. Blissett's plan of this mine shows at least two shafts and a number of costeans and bulldozed channels, presumably relating to the periodic prospecting. Due to time constraints, this modest set of workings was not surveyed.

SIGNIFICANCE/RECOMMENDATIONS

The historic significance of the Nickel Reward mine is deemed to be low at a local level. Its archaeological significance remains unknown. In the event of any proposed development for this lease, the mine site should be surveyed archaeologically.

REFERENCES

Reid, 1925, pp. 30–32

Blissett, 1962, p. 249.

Vaudeau's Shaft

LOCATION

The workings known as Vaudeau's shaft lie within Crown Land block No. 1199, some 50 m west of a diversion on the Griffith tramway formation/ modern vehicle track.

HISTORY

One of the largest producers in the Cuni District, this mine had begun operation by 1912 when Mr W. Davie and associates dug an 83 foot long trench along the resident ore body and commenced mining. Over the next two years this mine was worked by the Copper Nickel Prospecting Syndicate/ Melbourne Copper Nickel Company, which after sinking a number of exploratory bore holes sunk the main shaft to a depth of 127 feet. Further stoping produced 2,500 tons of ore containing 10.4% copper. The mine was closed in 1914 and remained dormant until 1938, when the Australian Nickel Company reopened the workings and removed 278 tons of ore containing 19.75 tons of nickel and 11.19 tons of copper. The mine changed hands again and in 1948, the Lead Nickel Mining Company raised a further 750 tons. Unfortunately they failed to find a market for the ore, and operations ceased finally shortly after. During its life this mine produced approximately 3880 tons of ore averaging 10% nickel and 5% copper.

DESCRIPTION

Blissett and Reid described the underground workings as consisting of a main shaft to 127 feet with two levels driven off this at the 70 and 122 foot levels. Several features survive at the mine's surface today, which are described below.

Shaft

Measuring 5 x 3 metres in dimension, the unlined vertical shaft lies at the western end of the mine precinct clearing, and is surrounded by an earthen embankment.

Engine footings

Standing immediately east of the shaft is the first of several concrete plant footings which supported the machinery which drove the winding gear in the shaft. The largest recessed footing 12 m east of the shaft supported the large steam-powered engine and its flywheel.

Boiler beds

Arrayed immediately north of the main engine footing are the remains of the brick beds housing the boiler plant for the engine. A rectangular earthen cutting and resident brick rubble piles are the principal features here.

Water race

A water channel and section of iron pipe at the southeastern corner of the site fed water to the boiler plant.

Hut chimneys

Two brick chimney butts marking the location of miner residences lie ten metres north/northeast of the power plant precinct.

SIGNIFICANCE/RECOMMENDATIONS

Given its known pedigree, this site is deemed to have medium historical significance at a local level. Its archaeological significance is also deemed to be medium at a local level. It is recommended that the site be protected from any development.

REFERENCES

Blissett, 1962, p. 249.

Reid, 1925, pp. 30–31.

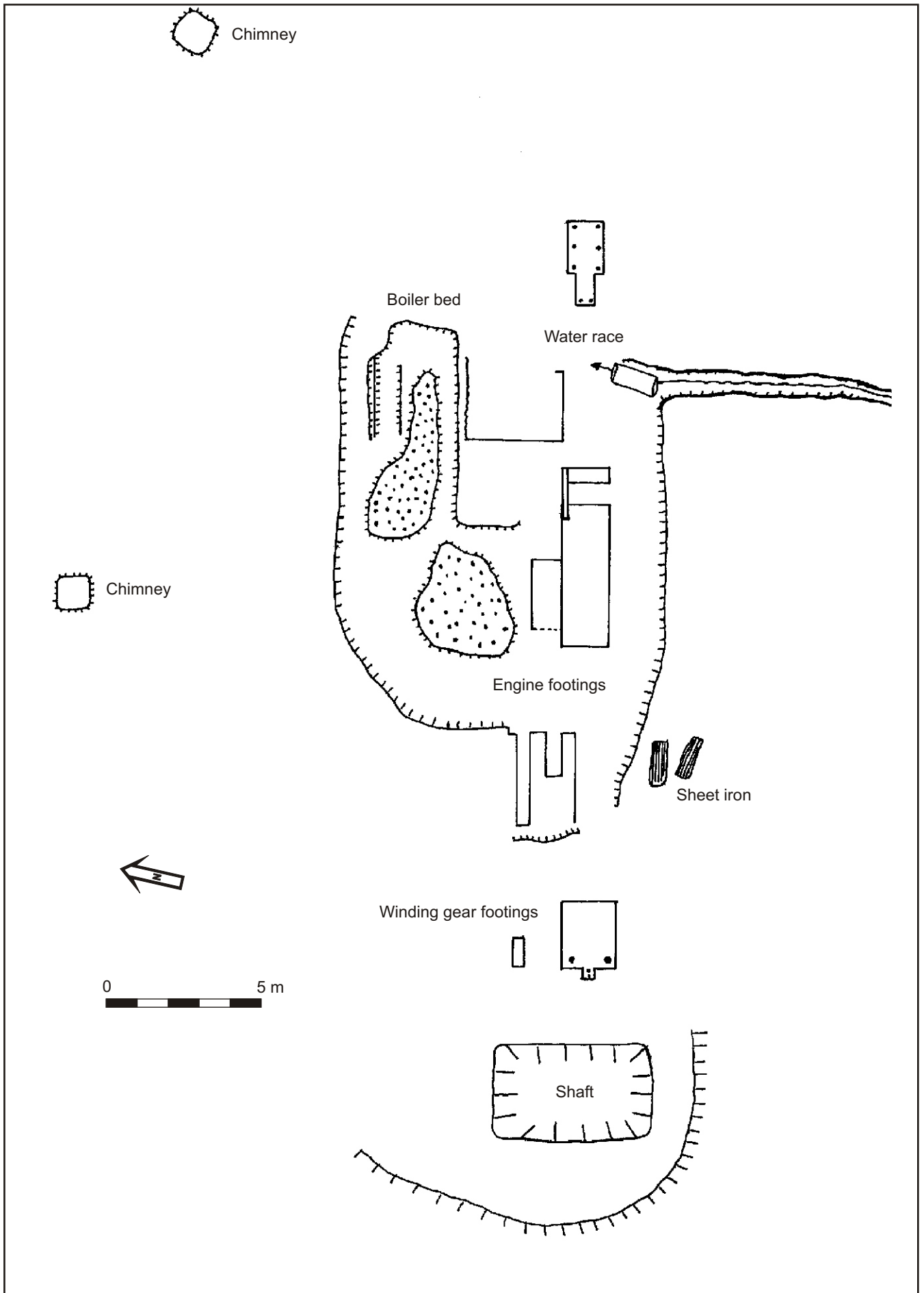


Plate 2

Scaled plan of Vaudeau's Shaft mine site.



Plate 3

Power plant precinct at Vaudeau's Shaft mine site.



Plate 4

Hut chimney at Vaudeau's Shaft mine site.

■ *Mosquito/Blowfly shafts*

LOCATION

Both the Mosquito and Blowfly shafts lie between 200 and 300 m northwest of Vaudeau's shaft.

HISTORY

The Copper Nickel Prospecting Syndicate worked two small lodes which were accessed by two shafts dubbed the Blowfly and Mosquito respectively in c.1912. By 1914 the Blowfly had produced 280 tons of ore before it was exhausted. The Mosquito yielded 52 tons before it too was abandoned. Drilling undertaken in 1930 failed to intersect these lodes.

DESCRIPTION

Blissett's map (1962) shows both modest workings to consist of single shafts and adjacent costean trenches. Very thick vegetation prevented ready access to either workings, and neither were therefore visited.

SIGNIFICANCE/RECOMMENDATIONS

Both sites are deemed to have low historic significance at a local level. Their archaeological significance is unknown, but from Blissett's description and map it would seem that they were very modest and physically unremarkable affairs. An archaeological survey might however be warranted in the event of further redevelopment.

REFERENCES

Blissett, 1962, p. 248.

■ *McKimmie mine*

LOCATION

Blissett (1962) claims that the McKimmie mine lay a little over a quarter of a mile east of the Blowfly shaft, although he failed to mark it on his map of the Cuni workings.

HISTORY

Blissett states that two veins of galena were found in trenches laid here, evidently begun in c.1893. In 1896 some 56 tons of ore had evidently been extracted. A shaft was sunk in c.1902 and two crosscuts excavated at the 50 and 100 foot levels. High volumes of mine water struck at these levels led to the mine's premature closure that same year.

DESCRIPTION

As it was not marked on Blissett's chart of the Cuni workings, the existence of this site was not known at the time of field work. It was therefore not visited.

SIGNIFICANCE/RECOMMENDATIONS

Pre-dating the turn of the century, this is the oldest known set of workings at the Cuni minefield, and as such is historically significant. Its archaeological significance remains unknown. Any development proposal for this vicinity would require a survey and clarification of the mine's location and its contents.

REFERENCES

Blissett, 1962, p. 232.

■ **South Cuni shaft**

LOCATION

The South Cuni Workings lie approximately 300 m west of the Cuni tram formation/modern vehicle track in the northeastern corner of Crown Land Block 1199 (see current 1:25 000 scale map).

HISTORY

This shaft was opened up by the Dundas Cuni Mining Company between 1912–1914. When Reid visited the workings in 1925, the main shaft had reached 75 feet, and a lode driven off this to a length of 96 feet. Assays of the resident ores led Reid to forecast an optimistic future for this mine. However a drilling program conducted in 1930 failed to find the ore body beyond a short distance from the main shaft. The mine was probably abandoned before these tests.

DESCRIPTION

The surface workings at South Cuni are reasonably extensive, with mullock heaps and machinery residues littering a 300 m squared clearing.

Concrete pad

A 10 x 2 metre wide concrete pad appears to mark the central point of the machinery precinct.

Boilers

Two rivetted boiler sections lie 20 m south of the concrete pad.

Bricks

A pile of assorted orange/fire bricks between the pad and the boilers appear to mark the place where the boilers were once bricked in adjacent to the mine's engine.

Mullock heaps

Two large expanses of mullock lie to the west of the machinery precinct. The largest occurs around the mine shafts described below at the northwestern periphery of the site.

Shafts

The main shaft and at least two other excavations were located. All are shored with timber and a number of metal artefacts from the winding plant litter the general vicinity.

SIGNIFICANCE/RECOMMENDATIONS

This site is deemed to have medium historic significance at a local level. It is also deemed to have medium archaeological significance at a local level.

REFERENCES

Blissett, 1962, p. 248.



Plate 5

Cement pad and ferrous artefact scatter at South Cuni.



Plate 6

Riveted boiler section at South Cuni.

North Cuni Shaft

LOCATION

The North Cuni workings lie beside the former Cuni tram formation/current vehicle track some 1.8 km north of its junction with the North East Dundas Tram formation.

HISTORY

The North Cuni workings were begun in 1912 by the Dundas Cuni Mining Company Ltd. By 1914, the shaft had been sunk to a depth of 80 feet and resident ore assayed at 17% nickel and 6.45% copper. In 1925 Reid implied that this mine was taking on water beyond the capacity of its resident pumps, and that work had ceased. In 1929 the Copper Nickel Mining Company expanded the underground workings considerably before the mine's closure in 1932. At least 204 tons of nickel were ultimately obtained from this mine in conjunction with the nearby Genet's winze (see below).

DESCRIPTION

Several relatively well preserved features survive in the roadside clearing occupied by this mine site. These are described below.

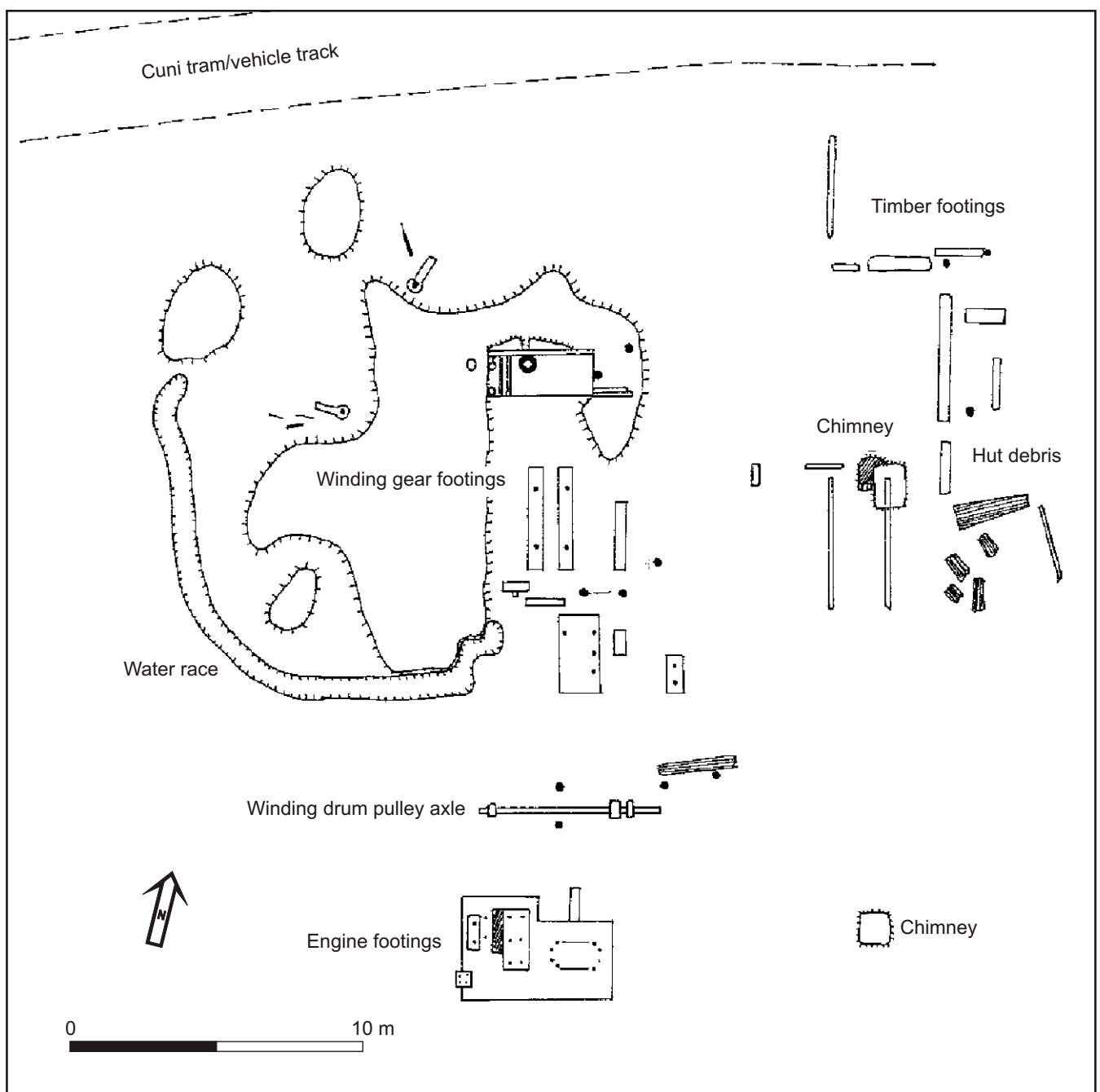


Plate 7. Scaled plan of North Cuni mine site.

Shaft

The 4 x 2 metre width vertical shaft is timber lined and can be seen from the roadside by means of the stout metal pipe which protrudes upwards from its western wall.

Winding plant/footings

Two sets of machinery footings occur 5 and 20 m east of the shaft respectively. The closest/smaller set presumably supported the winding gear and boiler, while the more extensive concrete ones further east held the winding engine in place. A pulley axle from the winding gear lies between the two sets of footings.

Water race

A 500 mm deep earthen trench has been dug from a resident watercourse to the smaller set of footings adjacent to the shaft in order to supply water for the power plant.

Chimney butts

Three brick chimney butts and sheet iron chimney flues lie around the north/northeastern periphery of the mine site clearing.

SIGNIFICANCE/RECOMMENDATIONS

This site is deemed to be of medium historical and archaeological significance. It is recommended that this site be protected from damage by future mining activities.

REFERENCES

Blissett, 1962, pp. 247–248.

■ Genet's winze

LOCATION

Genet's winze appears to be located in bush some 200–300 m north of the North Cuni mine site.

HISTORY

The origins of this site's nomenclature remain unclear. However the Copper Nickel Mining Company is known to have opened a trench measuring 70 x 10 feet in depth between 1929 and 1931. Five bore holes were drilled in 1930 and further drilling programs in 1953 and 1959 failed to make the site payable.

DESCRIPTION

Blissett's 1962 map shows a lengthy costean type trench as the site's principal feature. Myrtle forest in this vicinity was searched but only a 15 m long trench was located.

SIGNIFICANCE/RECOMMENDATIONS

The site is deemed to be of low historic significance. Its archaeological significance remains uncertain. The site's location and contents should be clarified in the event of any development in this vicinity.

REFERENCES

Blissett, 1962, p. 247.



Plate 8

Mine shaft and winding gear footings at North Cuni.



Plate 9

Winding gear debris at North Cuni.

Lead Blocks workings

LOCATION

The Lead Blocks mine lies near the northeastern terminus of the Cuni tram formation/modern vehicle track.

HISTORY

The establishment date for this mine remains uncertain, although production records for this mine commence in 1911. A substantial shaft was sunk to 145 feet before the mine closed in 1914, having lost 13,000 pounds in the extraction of 2136 tons of ore. Tributors briefly reworked the mine between 1915–16 and obtained 35 tons. Other surface workings in 1935–36 and 1947 produced further modest amounts. After its final closure in 1948, the mine had produced 2180 total tons of ore with an estimated content of 120,000 ounces of silver and 1420 tons of lead.

DESCRIPTION

This extensive site boasts several well preserved features which are more fully described below.

Main shaft/engine footings

The main vertical shaft entrance lies adjacent to a set of concrete engine/plant footings at the eastern end of the site. A scatter of bricks marks the location of the boiler beds five metres further east of the concrete engine blocks.

Water race

A metre deep earthen channel carried water from a nearby rivulet to the boiler bed described above. A rivetted ship's water tank stands next to the race 30 m north of the boiler site.

Timbered trench

A one metre deep timber lined trench measuring 10 m in length lies 15 m west of the main shaft.

Northern shaft

Another pair of timber-lined shafts and a building site occur at the very northwestern end of the site.

Western shaft/trenching

A number of small sequential trenches and pits dug to tap the western end of the resident ore body occur between the main mullock heap and the main track into the site.

Mullock heaps

The mine's large mullock heaps, standing to a height of 4.5 m, occupy the clearing between the main shaft and the western trenching. These mullock heaps remain in an exceptional state of preservation, not having been reworked or unduly weathered.

SIGNIFICANCE/RECOMMENDATIONS

This mine is deemed to be of medium historical significance at a local level. In archaeological terms it is deemed to be highly significant at a local/regional level, as one of few well preserved silver/lead mines in existence. It is strenuously recommended that this mine site and all its ancillary features, including mullock heaps, be preserved intact, and future development of any sort be prohibited. Some thought might be given to further statutory registration of this mine place.

REFERENCES

Blissett, 1962, p. 231.



Plate 10

Concrete footings beside the main shaft, Lead Blocks mine.



Plate 11

Extensive well-defined mullock heaps at the Lead Blocks mine.

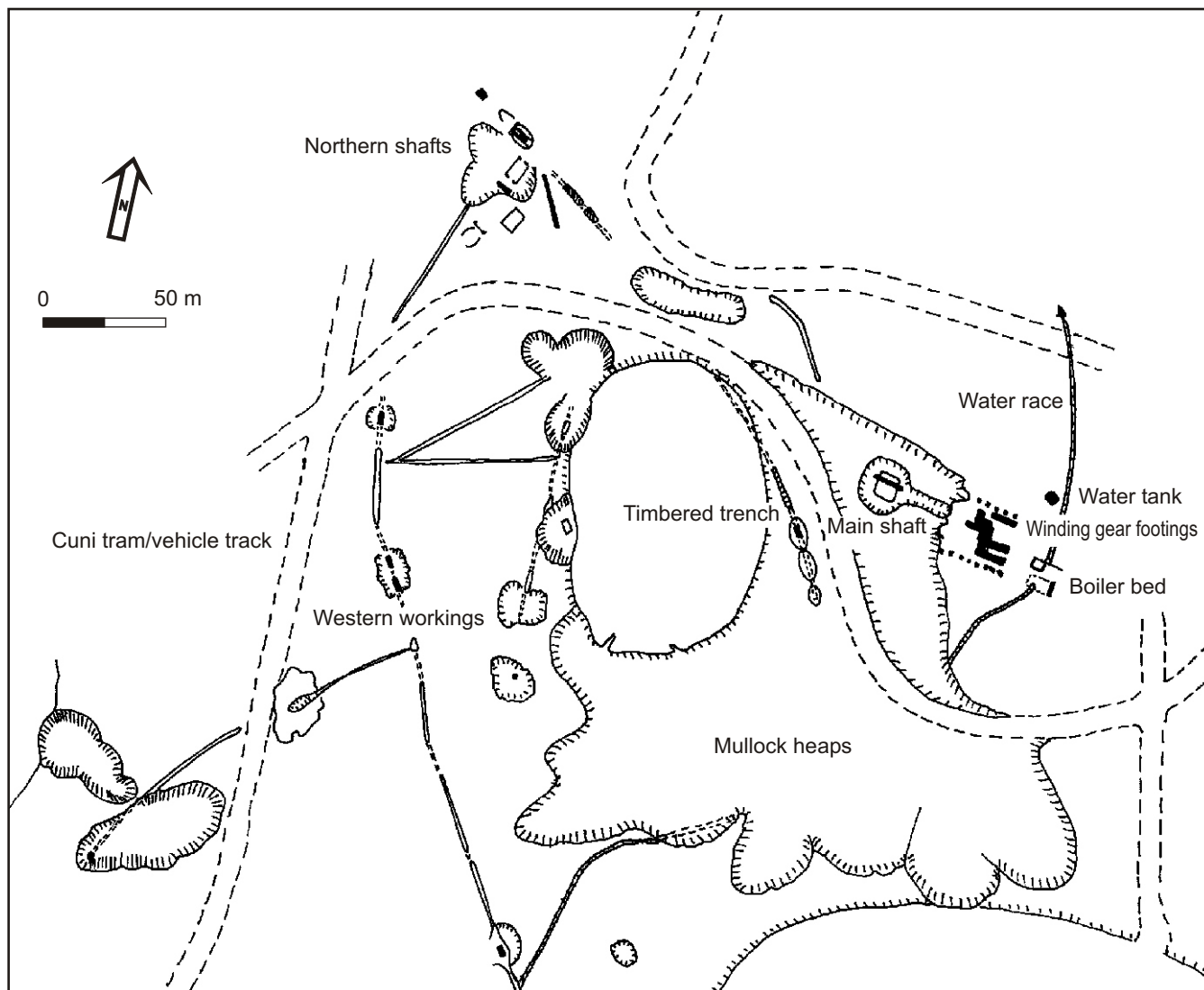


Plate 12

Scaled plan of Lead Blocks mine site

Allen Prospect

LOCATION

Blissett (1962) states that the Allen Prospect lay “a short distance south of Lead Blocks”.

HISTORY

After the establishment of the Lead Blocks in c.1910, a number of shallow shafts comprising this prospect were sunk along the same line of lode as the Lead Blocks. Reid (1925) wrote that the resident galena petered out at a shallow depth, and presumably the prospect was abandoned.

DESCRIPTION

This site is not marked on Blissett’s map and was not known about when field work was undertaken.

SIGNIFICANCE/RECOMMENDATIONS

The site is deemed to have low/local historic significance. Its archaeological significance is not known, but is likely to be very low. It is recommended that the site’s location and contents be clarified in the event of further development in the Lead Blocks vicinity.

REFERENCES

Blissett, 1962, p. 231.

■ **Griffiths tram**

LOCATION

The former tramway linking the various Cuni mines with the North East Dundas tram is now the principal vehicle track through the field. It commences in the vicinity of the Nickel Reward mine and terminates 2.5 km north at the Lead Blocks mine.

HISTORY

Timetables for the North East Dundas tramway show that the spur to Nickel Junction and the surrounding minefield described in this report operated between c.1910 and 1929.

DESCRIPTION

The tramway has been entirely salvaged. Its former right of way is now marked by the current road line between the Nickel Reward and the Lead Blocks mine. Incidental artefacts relating to the former tramway lie along this right of way including dog spikes, sleepers and one remnant section of timber bridge in the vicinity of Vaudeau's shaft.

SIGNIFICANCE/RECOMMENDATIONS

As a peripheral adjunct to the more important North East Dundas tramway, the historic significance of the tramway is deemed to be low. Given the salvage and subsequent road making activity along the line, its archaeological significance is now deemed to be minimal.

REFERENCES

Rae, 1983, pp. 81, 93, 94.

References

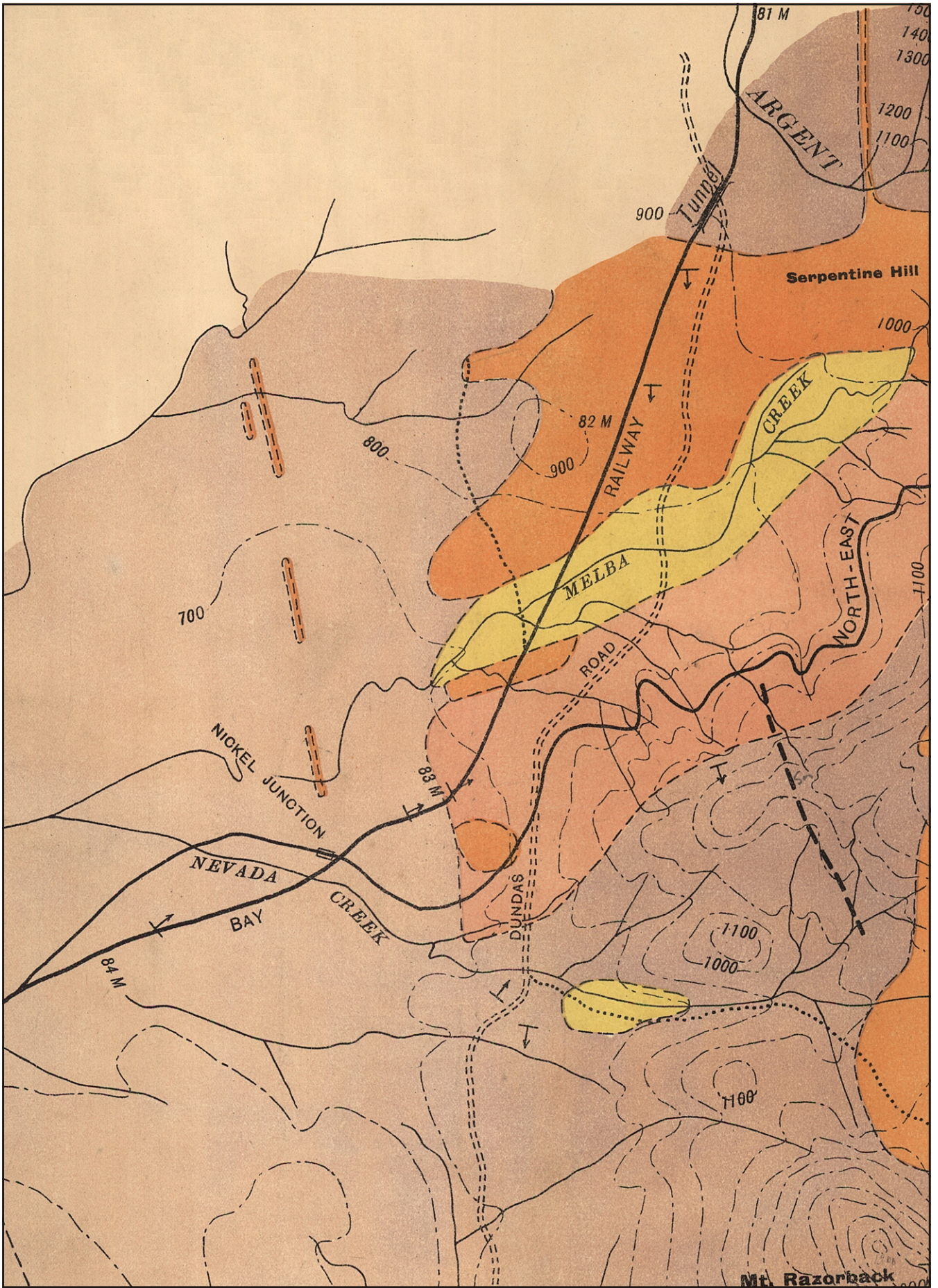
BLISSETT, A. H. 1962. One mile geological map series. K/55-5-50. Zeehan. *Explanatory Report Geological Survey Tasmania*.

REID, A. M. 1925. The Dundas Mineral Field. *Bulletin Geological Survey Tasmania* 36.

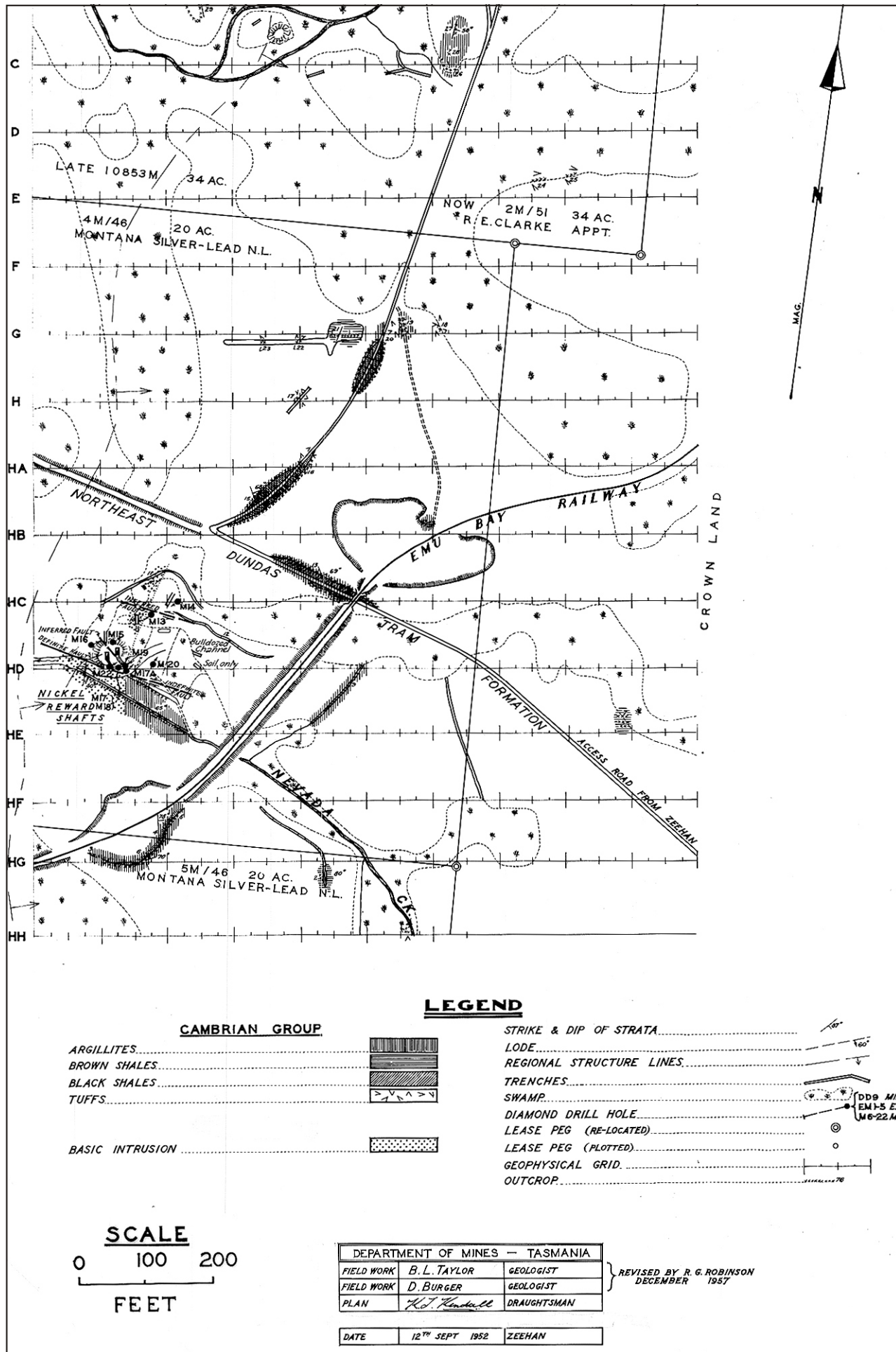
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APPENDIX I

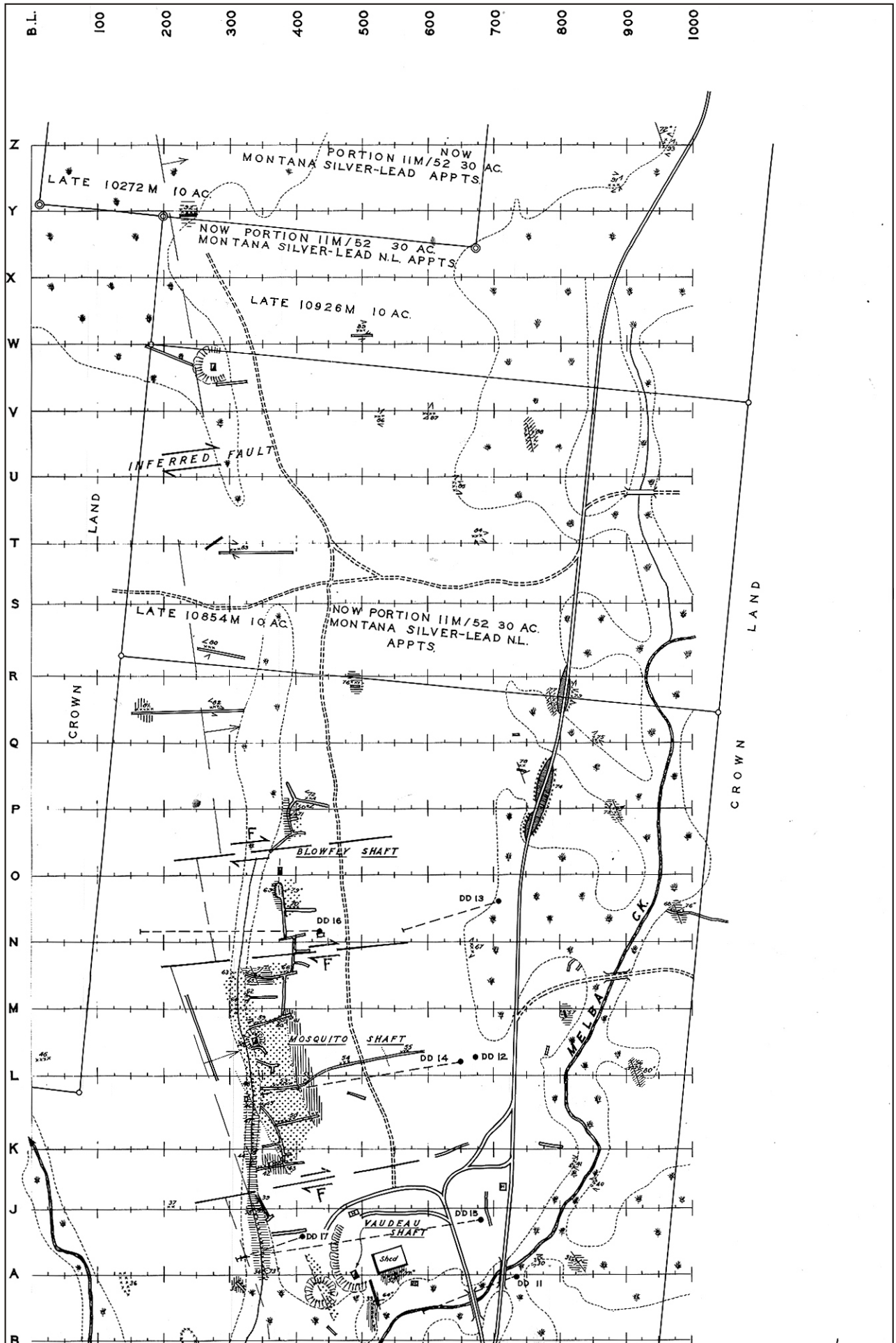
Historical maps



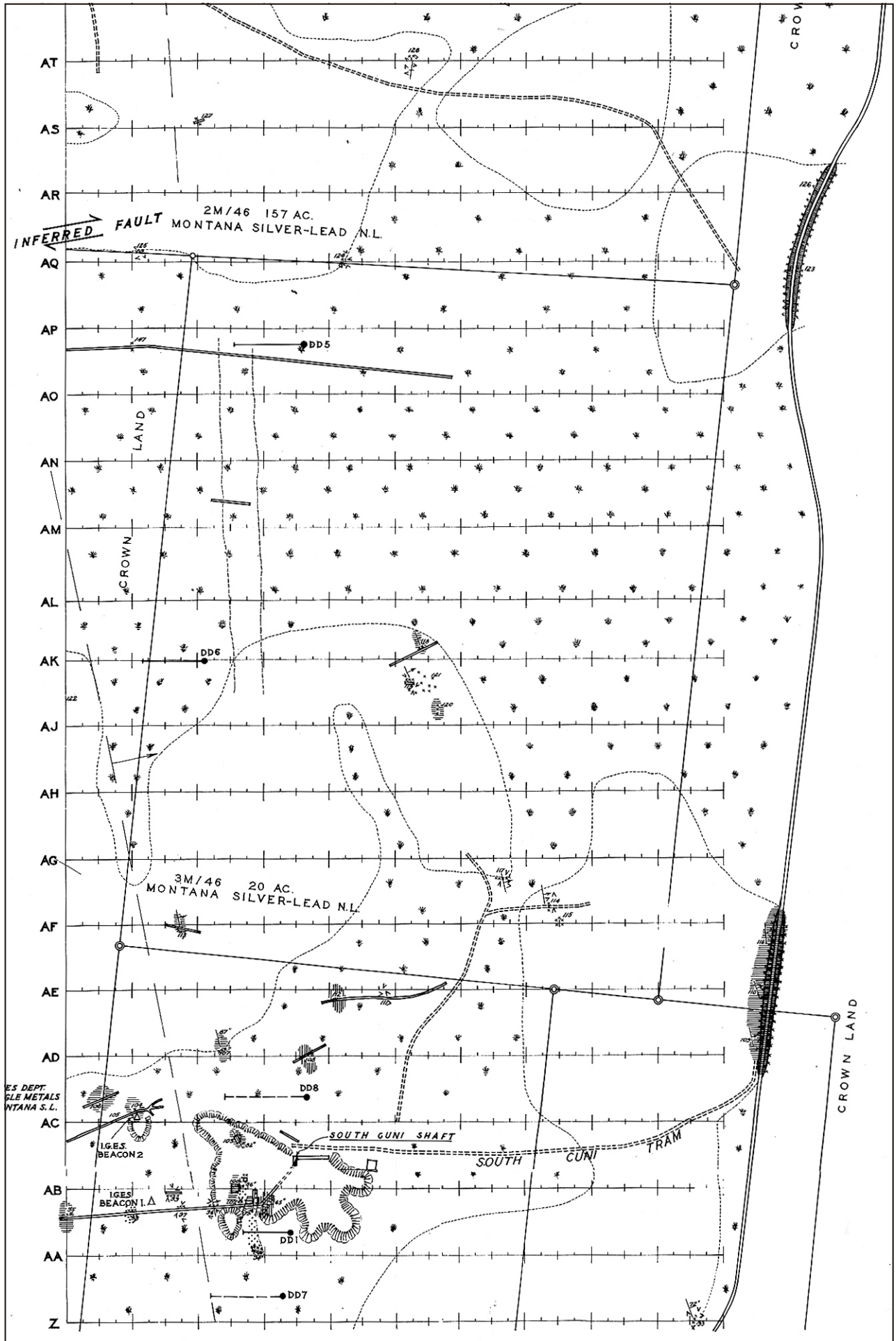
Reid's 1925 map of the Nickel Junction (Cuni) workings.



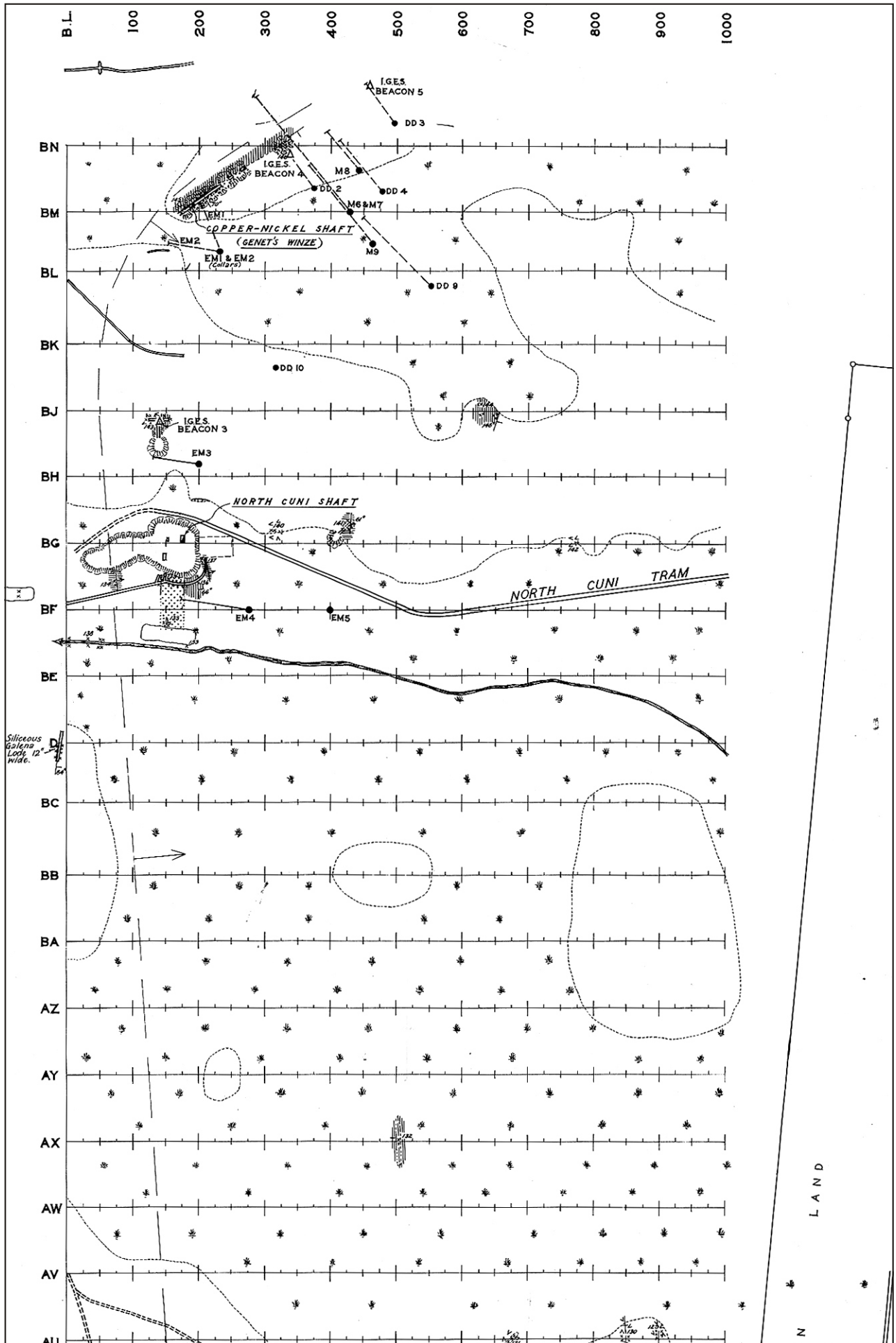
Blissett's 1962 survey of the Nickel Reward vicinity.



Blissett's 1962 survey of the Vaudeau Shaft/Blowfly shaft vicinity.



Blissett's 1962 survey of the South Cuni mine vicinity.



Blissett's 1962 survey of the North Cuni/Genet's Winze vicinity.