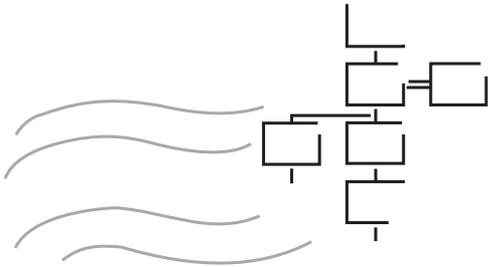




MINERAL RESOURCES TASMANIA

Archaeological Survey Report 1997/01



Back - Tracks Heritage Consultants

Lucy Spur Goldfield
North-West Tasmania

Historic Heritage Assessment

Report to Mineral Resources Tasmania

Back-Tracks Heritage Consultants
November 1997

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1.0 Introduction

This report contains the results of a historic heritage reconnaissance survey, undertaken in June 1997, of the Lucy Spur Goldfield, a small series of alluvial and underground workings with associated processing plant which operated intermittently from 1886 to 1902.

The site is situated in the centre of EL 43/94, a 127 km² lease which forms part of a large parcel of leases totalling 696 km² taking in a major portion of the Arthur Lineament in North west Tasmania, and held by joint venture partners Titan Resources No Liability and Goldstream Mining No Liability (Fig. 1). High resolution aero magnetic surveys and stream sediment analyses have been followed up by detailed exploration and mapping of the Lucy Spur area since early 1996. During the summer of 1996/97 a drilling programme, centred on the southern hard rock workings, was carried out. The close proximity of the current exploration effort to 19th century workings and machinery relics, and the potential for further development of the site has provided the rationale for the present heritage study, which aims to record the historically worked areas and provide preliminary significance assessments and recommendations for conservation management.

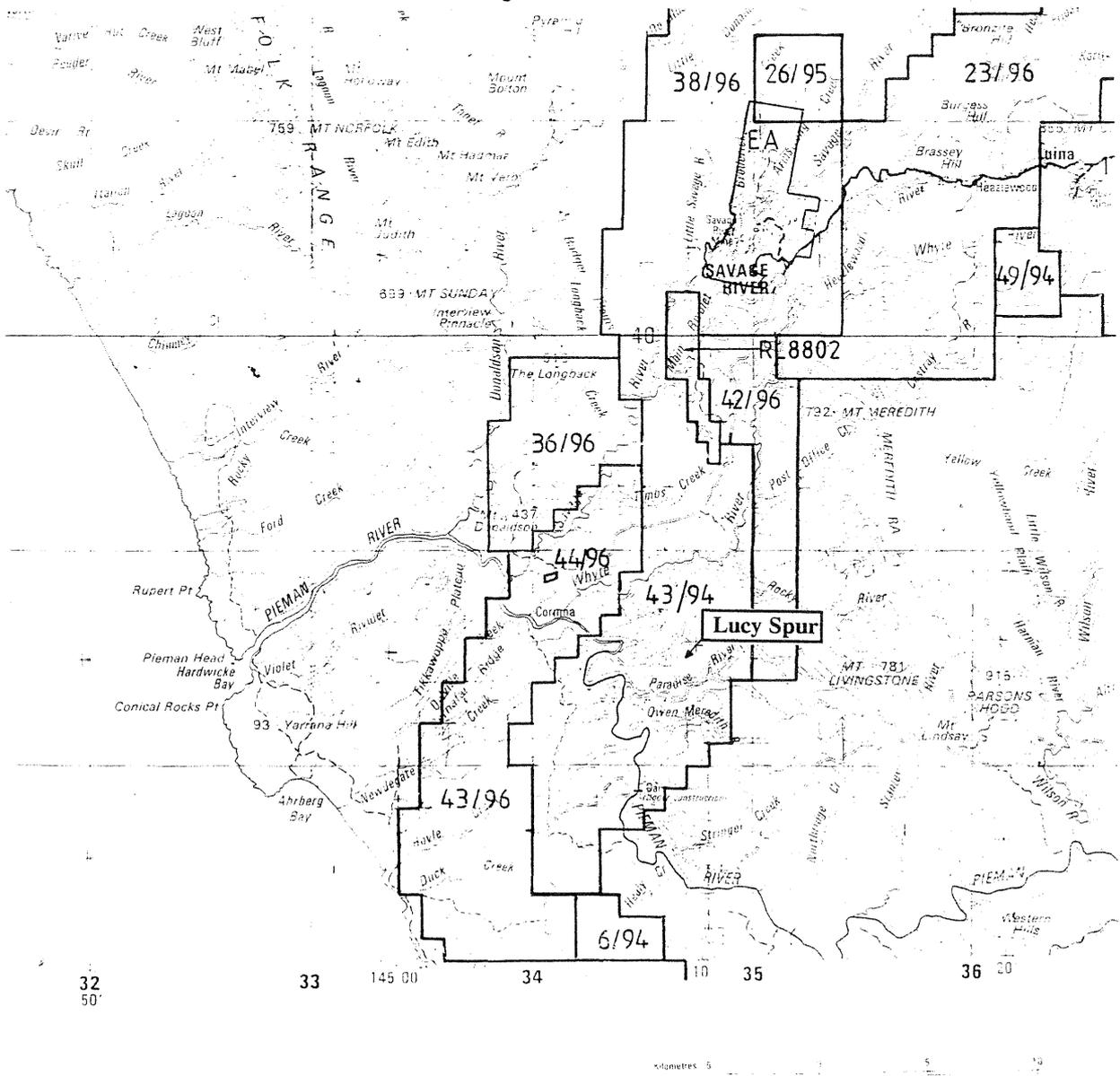


Fig. 1 Location of Lucy Spur study area, EL 43/94, North West Tasmania

2.0 Physical Environment

2.1 Topography

The study area is located roughly in the centre of a heavily dissected peneplane which slopes gently westwards from the Meredith Range to the coast. The principal historic areas are situated at the respective ends of a north striking spur, 2 km in length at 230 m ASL, forming the south-western end of an elevated ridge positioned between the Whyte and Pieman rivers approximately 7.5 km ESE of the township of Corinna. The spur is dissected to the north and west by tributaries of the Lucy Creek, and to the south by tributaries of the Paradise River.

2.2 Vegetation

The workings are situated within an area of regenerating *Leptospermum sp.* (tea tree), *Melaleuca sp.* (heaths), and *Banksia sp.*, scrub at the southern end of a recently burnt area, which extends over the length of the main ridge. Beneath the 220 m contour the open area closes into dense tea tree regrowth infiltrated by cutting grasses and lantana, while wet forest, containing *Acacia dealbata* (silver wattle), *A. melanoxylon* (blackwood), *Nothofagus cunninghamii* (myrtle) and *Atherosperma moschatum* (sassafras) persists in the creek gullies beneath the spur.

2.3 Geology

The dominant lithotypes within the study area are pale to chloritised quartz mica schists and phyllites which constitute local representatives of the Whyte Schist group of the Arthur Metamorphic Complex, a broad north-east trending lineament of late Precambrian age. In the area of the historic alluvial workings the ridgeline bedrock is blanketed by quartzose sands and lag gravels, relict of Tertiary fluvio-glacial activity (Fig. 2). Within the southern adit workings localised spotted felsic schists are intruded by small quartz porphyry dykes and associated stringers, with development of numerous small shears and quartz limonite veinlets with a predominant north-south strike.

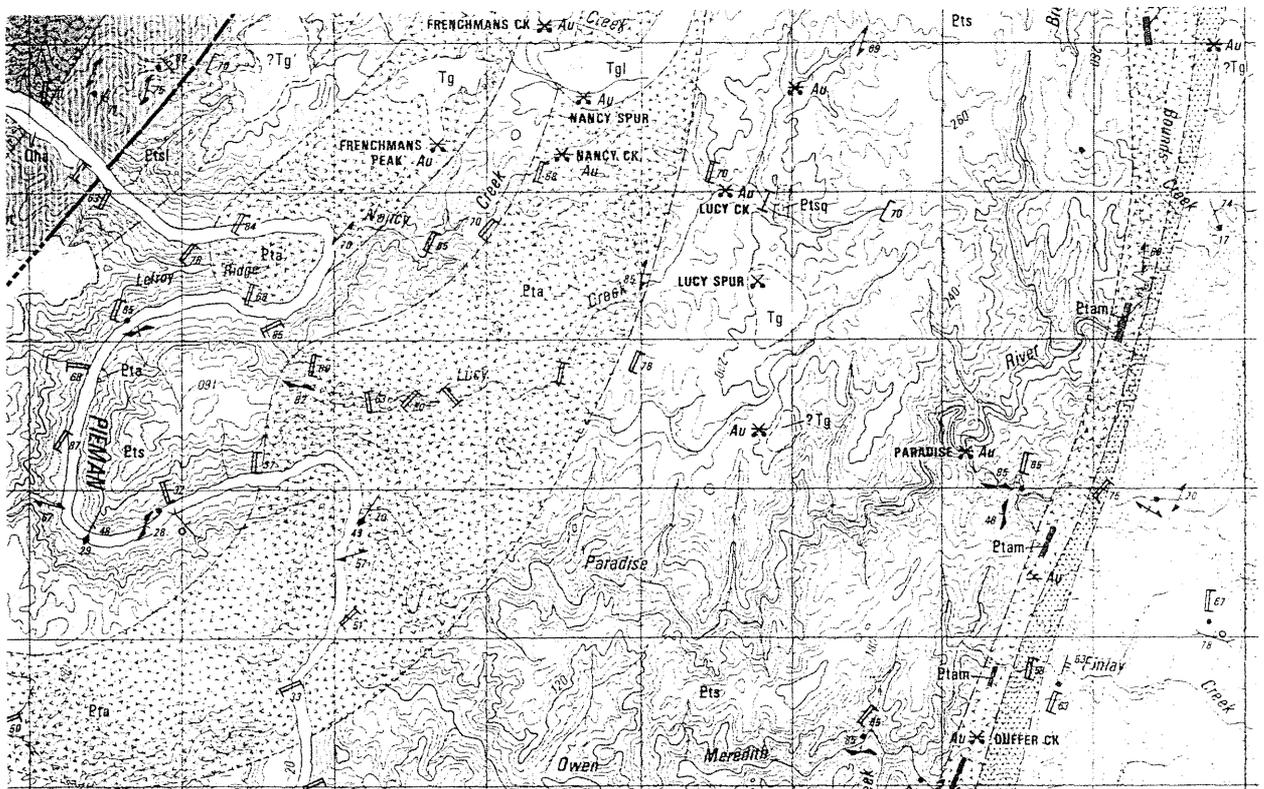


Fig. 2 Regional geology, showing location of Lucy spur workings

3.0 Historical synopsis

3.1 Regional context

The discovery of vast quantities of alluvial gold in the colonies of Victoria and New South Wales during the early 1850s provided the catalyst for the growth of interest in the mineral potential of the, at that time, largely uncharted wilds of the Tasmanian North West. Tasmania had suffered badly during the economic depression of the previous decade, and in the wake of the mainland gold discoveries was faced with severe labour shortages as feverish young men left in droves to chance their luck on the diggings. Buoyed by the proclamations of the Rev. William Clarke, a Sydney based clergyman trained in geology at Cambridge, that the altered and contorted ranges of the Tasmanian West Coast along the 146th longitudinal meridian were ideally prospective for gold,¹ the Tasmanian Government commissioned English geologist Charles Gould to undertake preliminary investigations. Three expeditions to the West Coast resulted, in the summers of 1860, 1862 and finally 1863, all without success in discovering payable quantities of the precious metal.

It proved to be the discovery eight years later, by James 'Philosopher' Smith, of cassiterite shedding from Proterozoic schists on the flanks of Mt. Bischoff in the State's North West which led to the rekindling of interest in the region's gold-bearing potential. Success for hopeful gold-seekers was not immediate however, and it was not until government surveyor Charles Sprent reported traces of gold in the creeks of Long Plains during sorties of 1876-77, that hopes began to build that a west coast goldfield might finally be realised. The chill waters of the Whyte, Donaldson, Heazlewood and Savage Rivers and tributaries attracted the first hardy and optimistic panners, but it was the 1879 discovery, by would be hotelier Harry Middleton, of good gold on a tributary of Savage River, later known as Middleton's Creek, which saw a reward claim finally issued and the initiation of a corresponding rush to the area.

A settlement for the new diggings was soon established on the banks of the Pieman River. The rough township, originally called Royenrine, after one of the old hands, soon became known as Corinna, peaking with a population of around 700.²

On the neighbouring goldfields the working down of the best gold-bearing drifts was prosecuted with opportunistic vigour, with typically little effort being expended towards extending the life of the field. The most productive ground was found to be where the gravels lay directly upon the metamorphosed sediments, forming natural traps in which the liberated reef gold gathered. Government geologist Thureau noted with dismay in 1884 that while there had been some expansion of prospecting activity over the previous three years the field was not being tested in a systematic manner, and that the withholding of valuable production figures by the itinerant mining population made it almost impossible to deduce the value of the field or to attract others to it who might.³

The boom proved to be short lived and by the following year only 30 miners remained.⁴ For the next few years very little activity occurred, and then only during the winter months when water was plentiful. In the gullies the methods employed remained primitive, essentially involving use of the cradle, long tom and tin dish. Elevated areas were typically only fossicked over by digging holes and washing the soils by hand for want of water for sluicing.

A revival occurred in 1894 with the introduction of hydraulic sluicing activity on the stranded auriferous gravels blanketing the hills. During the early part of that year large tracts of land at the head of Middleton's and Lucy Creeks became exempt from the leasing clauses of *The Mining Act 1893* in order to allow prospecting by syndicates who wished to undertake hydraulic working of the idle drifts.⁵

¹ Blainey 1954, 4

² Pink 1982, 149

³ Thureau 1884

⁴ Blake 1939, 26

⁵ Montgomery 1894, xxix

Government geologist Montgomery by this stage considered the landscape to comprise an elevated marine terrace, blanketed with sediments derived from the eroding of the West Coast and Donaldson ranges, and subsequently dissected during uplift by numerous streams on route to the retreating sea. The cemented gravels capping the numerous ridges and spurs in the Corinna area were considered to comprise the older, less re-worked gravels, possibly obscuring leads or other palaeo-topographic gold traps. Reworked gravels in the valleys were thought likely to contain remobilised gold which would be trapped near the bases of the alluvial terraces, extending for considerable distances down the gullies and which would in turn be dissected by smaller tributaries running down the gully walls.⁶

A number of syndicates and companies were subsequently floated between 1894 and 1897 in order to raise the necessary capital for bringing in long water races and sluicing hardware. Among the major promoters during the boom was Edward Gaunt, a Launceston based speculator and mining broker who was listed as manager of a number of sluicing companies working in the Corinna area, including the Brooklyn, Paradise Creek, and Lucy Spur Hydraulic Gold Mining companies.⁷ The task of introducing equipment to the field was onerous as the quality of road works along the bridle track from Waratah to the marginal Corinna goldfield was characteristically poor, impacting heavily on the costs of goods and associated cartage.⁸

Despite many of the ventures developing their properties to production stage, by mid- 1897 all of the hydraulic sluicing companies had ceased operations with disappointing results.⁹ A small amount of trenching and driving had been commenced on a number of prospects where the bedrock had been exposed by the sluicing but even there the allure of gold was proving to be more potent than the reality. The extensive and expensive company races were ultimately left to provide water for small prospectors fossicking on the claims. By 1900 there was no work of note being carried on, although government geologist Twelvetrees was able to report that some interest was being shown in the osmiridium sands along the watercourses of Savage River and tributaries¹⁰ By this stage the presence of auriferous reefs in the area was being discounted, the source of the gold being perceived to be from decomposing base metal deposits and gold bearing igneous/metamorphic country rock.

A second, but smaller, rush back to the Pieman area occurred after 1909 for the osmiridium which washed with the gold, but which, being considered worthless, had previously been discarded. Drifts and old workings abandoned over a decade before were revisited, and for as much as the next 15 years a few die hard diggers endured the privations of bush life to eke out a meagre living panning the white alloy from the gravels and tailings on the forgotten goldfield. By the mid 1920s this activity too had come to an end.

3.2 *Operational history*

The first recorded mining activity at Lucy Spur occurred towards the end of the prospecting boom of the early 1880s, with the first gold lease, a 10 acre section at the north end of the spur, being applied for by Edward Brooks on 8 December 1886. The site was reached via a 4.5 km long cut track which left from a landing at the junction of Nancy Creek with the Pieman River, approximately 5 km SE of Corinna, and which ran up over a ridge and through the neighbouring Frenchman Peak workings before descending down into the valley of Lucy Creek and around and up the head of Lucy Spur. In May 1890 a survey of the lease indicated the continuation of the track southwards from a small hut situated roughly at the centre of the section. By this stage water was being supplied to the prospect via a small race tapping the head waters of Lucy Creek to the north. In October 1893 Rudolph Wachsmuth and Robert Symmons applied for the water rights along two new races, 12 miles and 8 miles long, proposed to be cut for bringing a total of 25 sluice-heads to the spur from the Rocky River and Paradise Creek respectively. Rights over an additional 10 sluice-head race segment, running from higher up the Rocky

⁶ *ibid*, xxx

⁷ *The Mercury* 20/2/1895

⁸ Twelvetrees 1900, 5

⁹ Harcourt-Smith 1897, xliii

¹⁰ Twelvetrees 1900, 67

River to connect with the existing Rocky River race, were applied for by Wachsmuth the following September.

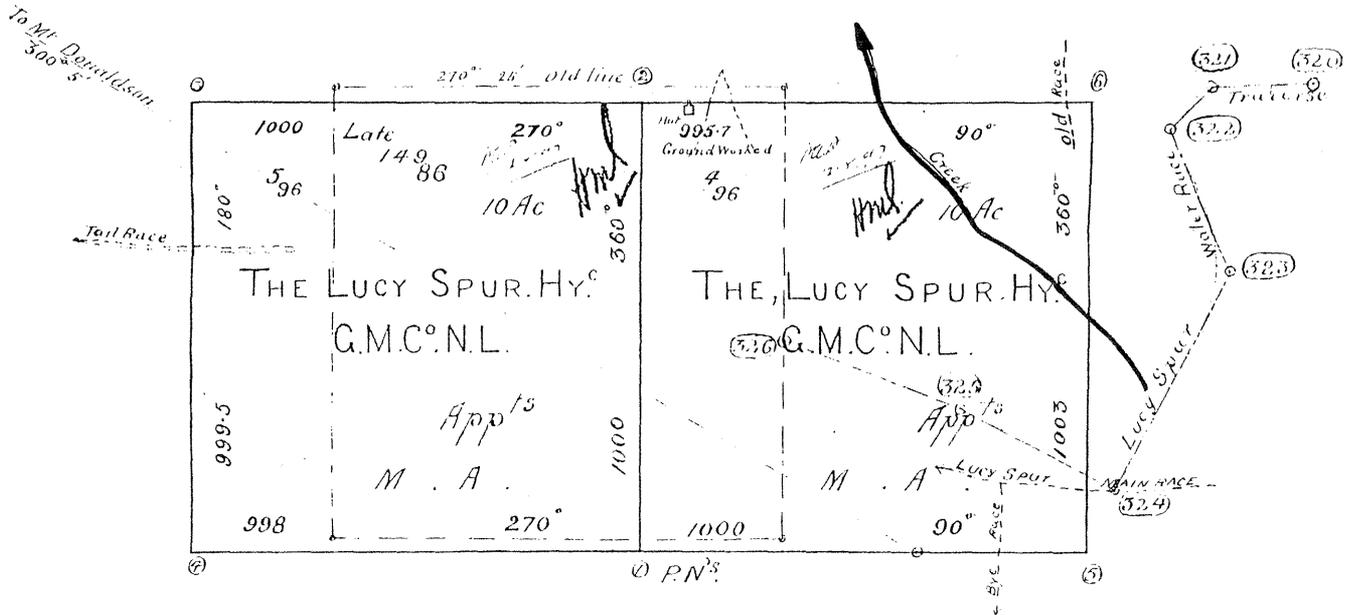


Fig. 3 Portion of survey 149M/86, surveyed May 1890

Eight months later, government geological surveyor Alexander Montgomery inspected the Lucy Spur workings, and was able to report that:

The spur runs about E.S.E from the camp at the northern end, where the track comes upon it and where the principal workings are situated. These consist of two large faces that have been worked out on the eastern side of the spur, and three small tunnels. The northern face is probably two chains in length, and the stuff has been worked out for perhaps 30 or 40 feet in width, the depth of the wash being from 6 to 20 feet....To test the ground and get at the bottom layer of gravel two small tunnels have been driven on the east side of the spur, below the faces worked. One of these is still in progress, and has gone 52 feet through soft schist bedrock, but has not yet reached the gravel: the other, some 30 or 40 feet further south, goes in for over 50 feet, then rises into the wash, and has been carried on along the bottom for 30 or 40 feet. On the western side of the spur there is another small tunnel driven towards those just spoken of,....

Montgomery 1894, xxxvii/i

Montgomery observed that the basal gravels cut by the tunnels demonstrated a convergent dip, suggesting that a gutter, suitable for the entrapment of gold, might lay beneath the ridge of the spur. He went on to report that:

Two or three years ago an attempt was made to bring in a water race, but the cost was underestimated, and it was never completed. The syndicate who were instrumental in getting the ground round the Lucy Spur withdrawn from leasing are, I understand, trying to bring in water from the Paradise and Rocky rivers, a distance of probably 10 or 12 miles.

Montgomery 1894, xxxviii

Despite a considerable amount of work evidently having been carried out, the long standing application was withdrawn and cancelled, without formal issue of a lease, in June 1894. The cancellation came shortly after 500 acres at the head of Lucy Creek had become temporarily exempted from leasing following pressure from a number of prospecting syndicates interested in working the goldfields by hydraulic means.¹¹ One of a number of such companies under the control of mining agent Edward Gaunt, The Lucy Spur Hydraulic Gold Mining Company No Liability, was subsequently floated on the Hobart stock exchange in February 1895 with 30 000 shares at 10/- each (Fig. 3). A syndicate of seven Launceston investors, comprising merchants, a medical practitioner and a chemist, collectively held 1 400 shares with the balance being held in trust by Gaunt.¹² On the goldfield, rights to the unfinished races were taken over by the new company in August, and the work completed, which included roughly 250 m of tunnelling beneath a ridge 1 km north east of the workings. At the mine site, leases on two contiguous 10 acre sections, centred upon Brooks' former holding, were eventually applied in January 1896. At the time of the accompanying mineral lease survey, in June 1897, the old alluvial workings and a small hut occupied the central northern portion of the 20 acre parcel.

One month later, Montgomery's successor at the department of mines, J. Harcourt-Smith reported on the progress of workings under the new company.

The Lucy Spur Company spent a large sum in bringing in a water-race fifteen miles long from the Rocky River, and a good deal of sluicing was done. Some rich patches of gravel were found, but were of very limited extent, and the bulk of the wash did not prove payable. The company has a couple of men working in the southern portion of the property, about SSE. from the old workings, and they are at present driving a small prospecting tunnel through soft sandstone striking north and south, and overlaying to the east. Eighty feet above this another tunnel has been driven 115 ft., in which several veins of rubbly quartz, containing copper pyrites and red and

brown oxides of iron, were cut, which give very fair prospects of fine gold. These quartz veins occur in what is probably the capping of a quartz porphyry dyke, containing gold more or less through its entire width of 38 ft., but not in payable quantities. These workings are on the eastern side of the ridge which runs through the property a little to the west of north. Good gold has been obtained from the creek on the eastern side, and from another creek running to the west good gold is said to have been obtained up to where it cuts through the spur, to the north of the present workings. The lower tunnel is about 220 ft. below the Lucy Spur water-race, which is said to contain from 35 to 40 sluice-heads, so that ample power for crushing purposes would be available if payable gold were struck.

Harcourt Smith 1897, xliii

THE LUCY SPUR HYDRAULIC GOLD-MINING COMPANY, NO LIABILITY.

I, THE UNDERSIGNED, hereby make application to register THE LUCY SPUR HYDRAULIC GOLD-MINING COMPANY, NO LIABILITY, as a No Liability Company, under the provisions of the Mining Companies Act, 1884.

1. The name of the Company is to be The Lucy Spur Hydraulic Gold-Mining Company, No Liability.
2. The place of intended operations is at Corinna, in the County of Russell, Tasmania.
3. The registered office of the Company will be at St. John-street, in the City of Launceston.
4. The number of Shares in the Company is Thirty Thousand, of Ten Shillings each. Fifteen Thousand issued paid up to Seven Shillings and Sixpence each, and Fifteen Thousand issued paid up to Five shillings each.
5. The number of Shares subscribed for is Thirty Thousand.
6. The name of the Manager is Edward Gaunt.
7. The names and addresses and occupations of the Shareholders, and the number of Shares held by each at this date are as follow:—

F. K. Fairthorne, Launceston, chemist	200
W. G. Maddox, Launceston, medical practitioner	200
F. W. Grubb, Launceston, investor	200
W. F. Petterd, Launceston, manufacturer	200
J. Barclay, Launceston, merchant	200
H. Ritchie, Launceston, investor	200
R. S. Scott, Launceston, merchant	200
E. Gaunt (in trust for shareholders), Launceston, commission agent	28,600
	30,000

Dated this Eighteenth day of February, One thousand eight hundred and ninety-five.
E. GAUNT,
Manager.

Witness to Signature—
F. A. GAUNT.

I, EDWARD GAUNT, do solemnly and sincerely declare that—

1. I am the manager of the said intended company.
2. The above statement is, to the best of my belief and knowledge, true in every particular; and I make this solemn declaration, conscientiously believing the same to be true, and by virtue of the provisions of the Statutory Declarations Act, 1837.

E. GAUNT.
Taken before me this 18th day of February, 1894.
F. K. FAIRTHORNE, J.P.

Fig. 4 Mercury Notification

¹¹ Montgomery 1894, xxix

¹² The Mercury, 20/2/1895

At the time of Harcourt-Smith's inspection work on the old alluvial deposits at the north end of the spur had evidently been suspended, and interest was being directed towards testing the potential of the schists on a narrow southerly continuation of the spur. Despite the solid start to sub-surface prospecting, no further development is recorded however, and no leases on the southern workings were issued. The company continued to pay rent on the northern leases until July 1898, but by the end of the following year all rights and leases had been surrendered. By 1900 the entire Corinna field was described as idle.¹³

A brief revival of activity at the northern alluvial workings occurred after November 1901 when Robert Royenrine applied for the rights to 5 sluice-heads from the 12 mile race from Rocky River for working a small 1 acre claim centred over Brooks' earlier workings (Fig. 4). A lease for the small claim was approved in April 1902 but relinquished shortly afterwards in December of that year. The water rights were declared void in December 1905. No production figures for the operation are recorded.

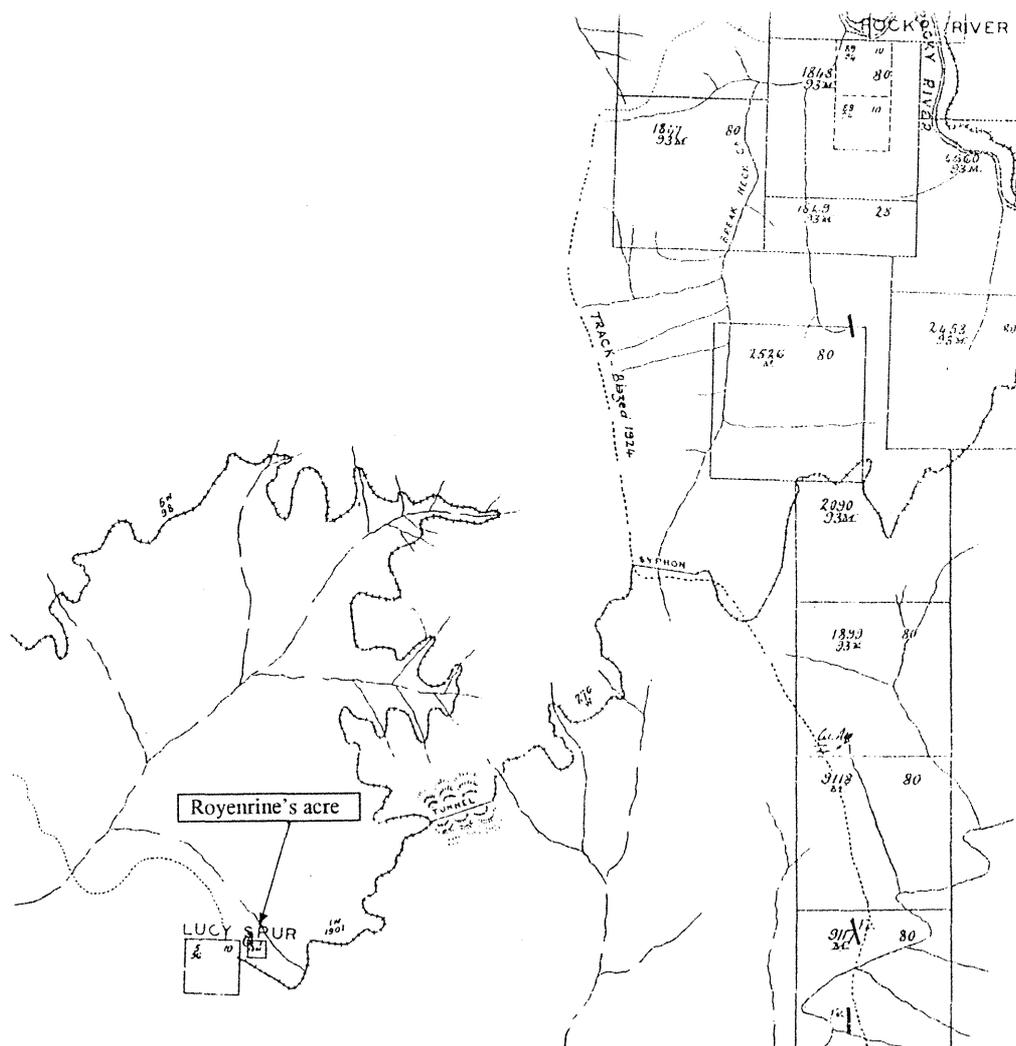


Fig. 5 Location of Royenrine's holding, Lucy Spur northern workings (Rocky River chart)

¹³ Twelvetimes 1900, 67

4.0 Aims of the present study

The principal aim of the present study was to record the Lucy Spur Goldfield and associated features. The project brief specified that the project should comprise:

- Background research to establish the history of the Lucy Spur Goldfield
- Field examination of the site and a detailed recording of the goldfield, especially the machinery in context
- Documentation of the site on standard THPI forms including preparation of a plan of the site which focuses on the machinery and associated features
- Preparation of a report which summarises the results of the project and documents methods, results and provides a photographic record as well as written descriptions of the goldfield and machinery

In addition, following consultation with MRT staff responsible for managing the project, it was agreed to undertake preliminary significance assessments of site elements and of the goldfield as a cultural landscape, and to formulate general recommendations for the conservation of historic heritage values on the site.

5.0 Methodology

Time breakdown for the project was approximately as per the schedule outlined in the project brief (Appendix 3), with one day being dedicated to historical research in advance of fieldwork which was carried out over a four day period from 30th May to 2nd June inclusive.

Historical research

Historical research included examining County mining lease charts and the accompanying *Mineral Lease* and *Water Rights Registers* and *Survey Books*, while relevant Mines Department inspectorate reports, historic maps and some lease records were provided by Greg Dickens, courtesy of MRT. Records consulted at the Archives Office of Tasmania included *The Register of Inspection of Industrial Machinery 1897-1932* and the *Register of Mining Companies 1876-1956*. Interstate authorities consulted included Dr. Peter Milner of the Engineering Department, University of Melbourne, and the Library of Natural Resources and Environment, Victoria.

Fieldwork

The team of two archaeologists were helicoptered to the site and accommodated in a galvanised iron stores shed at the helipad. Historic elements were classified according to a simple ordinal system which recognised, as its basis, discrete areas demonstrating a particular activity theme, such as habitation, water supply, alluvial and hydraulic working, tunnelling and so on. Individual components within each site type were afforded a feature designation within the general site numbering system. Recording of sites and features was made by written description and measured drawing. The existing geoprospecting grid was used for site/feature location, with tape, compass and clinometer used for additional survey control. Photographs of features were taken using black and white print and colour transparency using a numbered 'movietext' board and standard 1 cm graduated mini rod for reference and scale.

Assessment and reporting

Assessments of the cultural significance of the Lucy Spur goldfield, individual sites and site features were made using established criteria for significance evaluation (see section 8.0). Ratings reflecting the

sensitivity to disturbance and priority for protection for the site features are given according to the following hierarchical system.

- **High (H)** The area/feature is highly sensitive to disturbance and should be preserved intact and avoided if possible
- **Medium (M)** The area is sensitive to disturbance and care should be exercised to minimise the impact of any operations
- **Low (L)** The area is able to withstand normal operations, is of little significance or otherwise does not require additional protection

The sensitivity/priority ratings for each site/feature do not necessarily correspond directly with the assessed significance levels but are intended to indicate the extent to which the cultural significance of the fabric may be compromised by normal mining activities.

Limitations of the survey

A total of seven days were budgeted for the project, reducing fieldwork and background research to a minimum. As a result a number of potentially informative sources, including the mining notices in the *Examiner* newspaper for the years 1896 to 1898, were not able to be checked.

Owing to the time considerations and thickness of the vegetation at the site, field reconnaissance was restricted to short transects from the established survey baseline and cut gridlines. Detailed mapping of amorphous, overgrown and extensive linear features encountered, including sluiced areas and water races, was not attempted.

Field mapping was undertaken utilising the existing geoprospecting grid, however it was noted that a significant discrepancy existed between the grid and true AMG coordinates; in the order of 70 m at the northern workings. To aid in site relocation grid references given in the feature inventory are relative to the site grid. On the overall site plan, an attempt has been made to show features in a truer landscape context.

6.0 Results

The history of mining on the Lucy Spur goldfield is comprised of four principal phases of industrial activity.

1	1886-1894	Early alluvial working by Brooks and partners
2	1895-1897	Hydraulic sluicing on Brooks' site by the Lucy Spur Co.
3	1897-1898	Hydraulic sluicing/tunnelling on South Lucy Spur, Lucy Spur Co.
4	1901-1902	Royenrine's alluvial mining at North Lucy Spur

A total of 14 sites, or discrete activity areas, comprising 31 individual elements or features, containing evidence relating to at least the latter three phases of activity were identified and recorded during the project. The results of the survey are given in table form below. Detailed site and feature inventory records are attached as appendix A.

Area	Phase	Site #	Site name	Features	Significance	Sens.
Northern workings	2	1	Hydraulic working		Local	L
	1/2	2	Water race		Local	M
	4	3	Alluvial workings		Local	M
	4	4	Camp site		Local	H
	4	4a		earthworks	Local	H
	4	4b		portable forge	Local	H
	4	4c		camp oven	Local	M
	4	4d		rectangular trench	Little-Local	M
	3	6	Upper adit		Not Assessed	M-H
	Southern workings	3	7	Lower adit		Local-Regional
3		7a		winze	Local	M
3		7b		stope	Local	M
3		7c		tram rails	Local	H
3		7d		mullock spur	Local	L
3		8	Southern adit		Little-Local	L-M
3		9	Water race		Local	M
3		10	Fe water main		Local	H
3		10a		cast Fe gate valve	Local	H
3		11	Mill site		Regional-State	H
3		11a		primary crusher	Regional	H
3		11b		trestle frame/hopper	Local-Regional	H
3		11c		Huntingdon Mill	State	H
3		11d		riffle plates	Regional	H
3		11e		inclined table assembly	Local	H
3	11f		miscellaneous hardware	Local	H	
3	11g		pulley wheel assembly	Local	H	
3	11h		Pelton wheel nozzle	Local	H	
3	12	Hut site		Local-Regional	H	
3	13	Tramway		Local	M	
3	13a		tramway relic	Local	H	
3	14	Shaft/trench		Little-Local	L	
3	15	Hydraulic working		Little-Local	L	

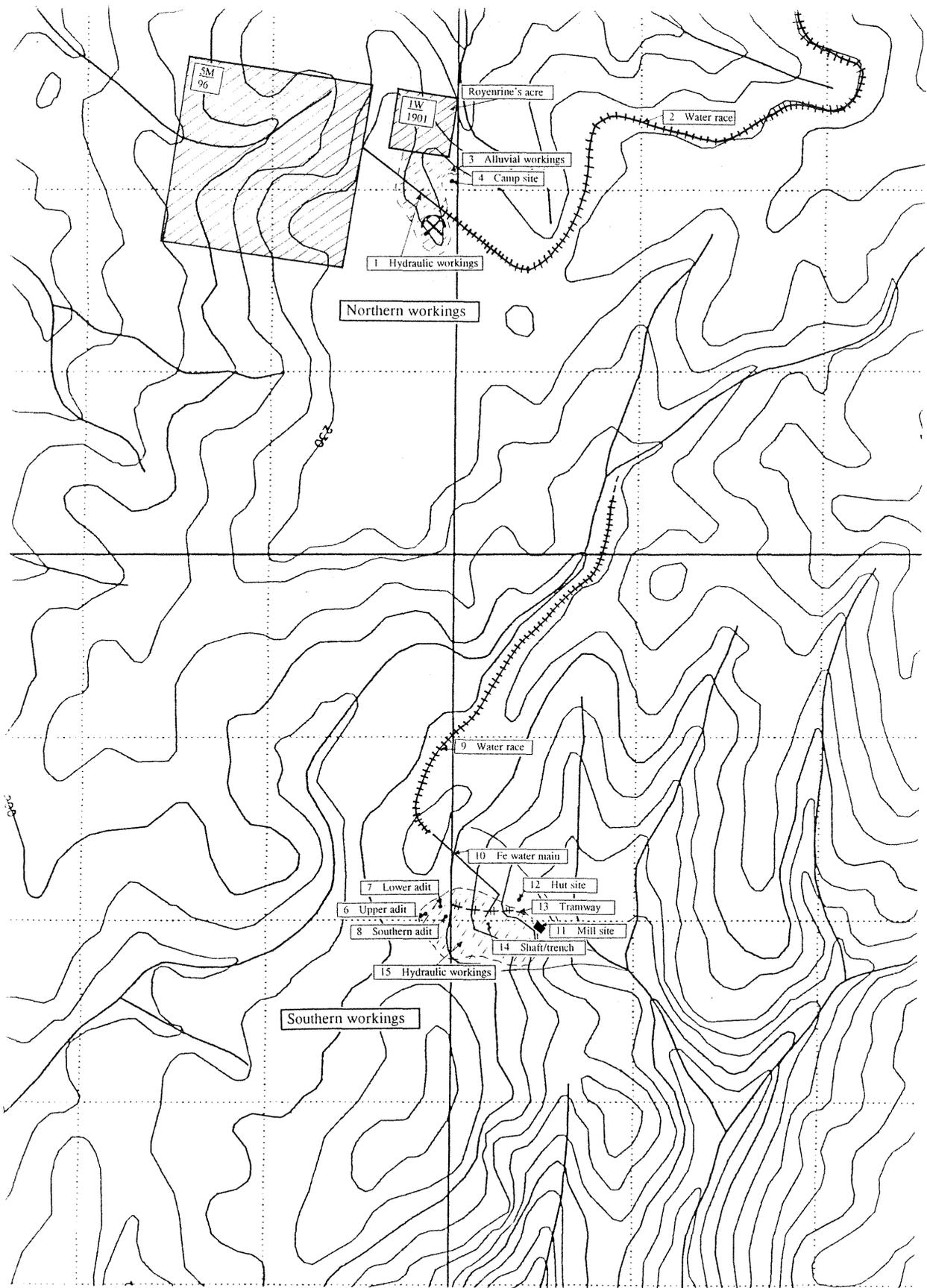


Fig. 6 Site feature plan

7.0 Site analysis

From the historical accounts and the evidence contained in the physical fabric of the place, the Lucy Spur goldfield can be considered to comprise two discrete areas of mining related activity, serviced by common water supply and transport infrastructure.

Northern workings

The northern workings, the most thoroughly documented in historical terms, comprises, in the main, a broad and shallow sluiced gully on the north east side of the spur, covering approximately 0.6 ha, with a 1.2 m wide water race entering the workings approximately halfway along the east side. The scale and form of the workings attest to the hydraulic sluicing activity undertaken by the Lucy Spur Co, and which almost certainly overprinted Brooks' earlier workings. No indisputable evidence of Brooks' alluvial mining, nor of the tunnelling historically recorded as having been undertaken was located during the survey.

The water race segment, which was followed for only a short distance, corresponds approximately with the position of a short race used by Brooks to bring in water from the head tributaries of Lucy Creek, however it also appears from lease charts that the lower portion of the race was re-used by the Lucy Spur Co. to channel water from the Rocky River and Paradise Creek races to the site. It is likely that the lower race segment was enlarged in order to handle the extra capacity, and that the current physical dimensions are an artefact of the latter operation. Sections of the Rocky River race itself are visible on air photos of the area.

A smaller set of workings is situated on the edge of an unnamed gully to the east side of the main pit, approximately 40 m north of the water race entry point. Comprising a series of rectangular and lobate cuttings on the upper north face of the gully, the workings indicate a smaller, less capital intensive phase of surface mining subsequent to the main hydraulicking operations. Immediately above the workings are the remains of a camp site containing a number of small earth terraces and drains, as well as artefactual remains including a portable forge, camp oven and fragments of domestic crockery and window glass of approximately turn of the century manufacture. The ephemeral nature of the camp suggests casual, or seasonal occupation for a short period preceding eventual abandonment.

The proximity and scale of the camp site and workings suggests that both the small workings and camp sites are related to Royenrine's re-occupation of the northern goldfield during 1901-1902.

Southern workings

The principal activity area is located approximately 750 m south of the northern workings, and comprises hydraulically sluiced faces, adits, tramway features, water supply features and mill plant, all relating to the activity of the Lucy Spur Co. between c.1896-1898. A modern drill pad has been cut in the centre of the site complex.

The sluiced workings are centred upon a low knoll, formed between two seasonal creek gullies, and the adjacent gully walls, on the east side of the southern continuation of Lucy Spur, and comprise a series of low faces, up to 3 m high, cut into the gravels and underlying decomposed schist. Three adits have been driven in to the side of the spur above the denuded knoll, which also contains the drill pad. One adit which was inspected consisted of a doglegged drive, with small crosscuts on narrow quartz-limonite shears within the host schist, and two winzes sunk to provide access to several larger brittle shears associated with an anastomosing porphyritic intrusive. The larger body has been followed upwards by means of an inclined rise and short stoped level 3 m above the drive. A short mullock spur extends from the mouth of the drive to end above the northern creek gully, the floor of which forms the easement for a narrow gauge tramway, which terminates at a narrow gravel formed embankment overlooking the mill site. The drystone hearth for a small hut, with an associated scatter of industrial and domestic artefacts, sits near the mouth of the gully adjacent to the tramway embankment a short distance from the mill.

Water was supplied to the workings and mill site via an earth race which takes off from the main northern race to run around the west side of the southern spur before crossing over a saddle to connect with a 7" iron water main, which continues in a south-easterly direction down over the east side of the spur towards the mill site. The water main bifurcates at a cast iron gate valve, 50 m from the mill, with a south-west branch of the main continuing over the tramway gully towards the centre of the hydraulic workings.

Mill plant

The mill site is located on the floor of a gully formed at the confluence of two seasonal streams, immediately below the sluiced knoll at the centre of the hydraulic workings. The site consists of a rectangular levelled area containing a collection of *in situ* machinery items, and items which have either collapsed or settled within a short distance of their operational position. Among the principal industrial relics are a reciprocating jaw crusher, collapsed trestle and feed hopper lying near the head of a 5' Huntingdon mill. Paired sets of cantilevered cast iron riffle plates extend from the mouth of the grinding mill, ending adjacent to the frame for an inclined table of some configuration. Pulley wheel assemblies attached to the Huntingdon mill and table frame are suspended above a timbered water channel, which commences at an upturned Pelton wheel jet and truncated pipe collar before running along the north-east side of the mill site platform to escape back into the creek gully. A variety of discarded plant fragments lie, suspended in mud, about the site.

No historical information dealing with the operation of the plant was located during the project, however given the scale of the intended operation it is likely that accounts may exist, particularly in *The Examiner*, covering the period 1897-1898.

The most significant individual item at the plant site is arguably the Huntingdon mill. Patented originally by F.A. Huntingdon in 1883 principally for the use on the goldfields of the south-western United States this example of the device is one of very few thought to have been used in small Tasmanian mines. A simple explanation of the operation of the mill is given in Louis (1909).

It consists essentially of an iron drum, the lower part of which carries a steel ring which forms the track against which the crushing is performed. Immediately above this ring are placed three screens, about 9 inches deep, which occupy the front half of the circumference of the drum. Below these screens is a semicircular launder which receives the pulp discharged through the screens. In the centre of the drum rises a tapered iron sleeve, through which passes a vertical shaft carried upon a step bearing and rotated by means of suitable gearing. To the top of the shaft is keyed a cross shaped casting, from which four spindles are suspended by means of yokes; the lower end of each of these spindles is provided with a steel roller which works against the above-mentioned annular track. These rollers are capable of revolving on the spindles, and the latter are overhung as shewn, so as to be pressed outwards both by gravity and by centrifugal force against the steel ring. The material to be crushed is introduced through the feed shoot at the back of the machine.

Huntingdon mills were commercially produced in three sizes, 3'6", 5' and 6', with the middle size being the most popular. Capable of crushing in excess of 20 tons of ore in 24 hours the device equalled the capacity of a standard 10 stamp assembly with 850 lb heads, but weighed as little as one third and took considerably less time to install.¹⁴

Alongside the standard patent information embossed on the main casting a hemispherical brass plate has been affixed, bearing the name 'Parke & Lacy Patentees, Sydney N.S.W', the company which had evidently made some engineering modification of the base unit before resale in Australia. Importantly the name of the firm is also cast onto the body of the fallen jaw crusher lying to the rear of the mill.

¹⁴ Warnford-Lock 1890, 327

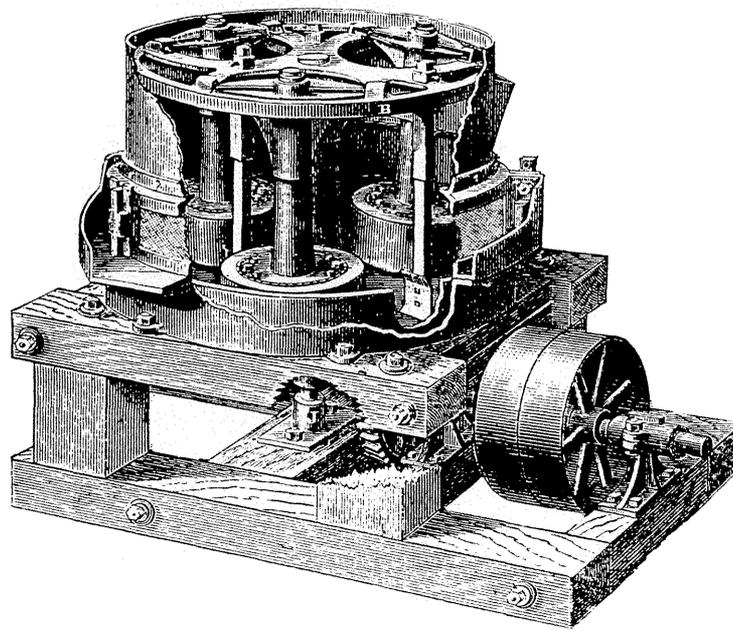


Fig. 7 Huntingdon Mill, cutaway perspective¹⁵

It is significant to note therefore, that following an inspection in October 1889 of the Full Moon tin mine on Blue Tier, North-east Tasmania, government geologist Montgomery was able to report that this company had just completed erecting a mill which included an M.B. Dodge's 'Giant' rockbreaker, discharging crushed granitic ore into a wooden hopper, from where it was fed automatically via a 'Challenge' ore feeder into a 5' Huntingdon Centrifugal Roller Mill. The pulp passed over three Frue Vanners for concentration. The whole assembly was powered by a 12 hp 'Porter' engine supplied with steam from a 12 hp 'Tangye' upright boiler. All of the equipment was supplied by the Sydney engineering firm of Parke and Lacy, the respective unit cost of the items being £105.00 for the primary crusher, £45.00 for the ore feeder and £375.00 for the mill.¹⁶

Three years later the Huntingdon Mill had been relocated along with other equipment to a new mill established by the successor company, the New Moon TMC NL, on one of its leases along Haleys Dyke, approximately 1 km south-west of the Full Moon site. The mill was only in operation for about one month up during second half of 1892 in its new location owing reputedly to lack of boiler pressure.¹⁷ The controlling company, which had been registered in Hobart on 2 October 1891 with a share float of £30 000, suffered badly in the economic malaise which accompanied the collapse of the bank of Van Diemen's Land, and was ultimately ordered to be wound up in January 1893.

Although a direct association between the Lucy Spur Co. and the New Moon Co. was not established during the course of the present study, it is pertinent to note that the manager of the Lucy Spur Co, Edward Gaunt, was also the principal shareholder in a number of Blue Tier mines around the turn of the century, including the East Coast Bischoff during 1891-1892 and the Crystal Hill mine from 1900-1901. Gaunt had the reputation of being a rather ruthless and opportunistic speculator and promoter, a characteristic which saw him attract considerable negative public comment in relation to some inflated

¹⁵ Louis 1909, 192

¹⁶ Montgomery 1889, 5

¹⁷ Montgomery 1893, 6

pronouncements regarding the economic potential of the ill fated East Coast Bischoff mine, a small vein style prospect within the tin bearing granite a short distance to the east of the formidable Anchor mine. A predilection for scavenging and recycling outdated and often ill suited equipment for use on his mostly marginal prospects can be seen at his Crystal Hill mine, situated on the southern flank of Blue Tier approximately 1 km from the New Moon Co. workings, where between June and August 1901 a steam driven crushing plant was erected utilising 10 head of stamps powered by a 25 hp marine boiler made for the ship "Indignant" by Salisbury Scott and Co. in 1890.¹⁸ A second and smaller 6 hp vertical boiler, made by J.V.L. Young of Ayr in Scotland in about 1880, provided the auxiliary power needed for dressing the ore.

Given the relative isolation of the Blue Tier workings and the associated high cartage costs on the tin field, there is a strong likelihood that in the fire sale of assets following the demise of the New Moon Co. local promoters and managers would have had first refusal on vital, and otherwise expensive plant items with which to fit out their own marginal operations. Through his involvement in other small mines on Blue Tier Edward Gaunt would certainly have had the opportunity, if not the motive, for acquiring the second hand ex New Moon/Full Moon Co. milling equipment.

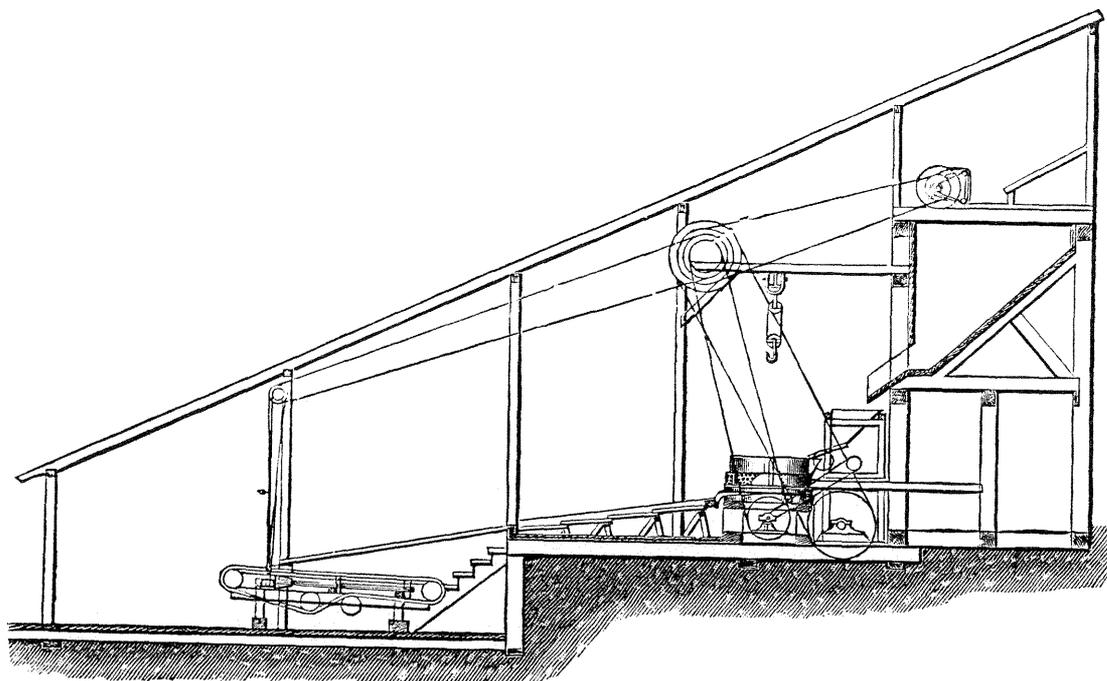


Fig. 8 Arrangement of Mill on Huntingdon System¹⁹

¹⁸ Inspectorate of Machinery Register 1891 AOT

¹⁹ Warnford-Lock 1890, 328

8.0 Cultural Significance

8.1 Criteria for the assessment of heritage value

The concept of cultural significance forms the basis for the assessments contained in this report regarding the importance, and consequently the value, to be placed on features related to historic mining on the Lucy Spur Goldfield. The concept of the cultural significance of a place is complicated to define, but can be considered to be embodied in its fabric, its setting and its contents, and reflects not only the way in which a place has been used, but also the values which it has held, and holds for past, present and future generations. Numerous criteria exist to guide the means of determining such values, including tests defined by statute and professional charter. The most suitable criteria for assessing the cultural significance of a particular place ultimately are those which facilitate the fullest, most relevant and succinct exposition of the range of values held by, or ascribed to the place. For the purposes of the present study the criteria outlined in the Tasmanian *Historic Cultural Heritage Act 1995* and The Conservation Plan²⁰ are considered to provide an adequate framework for articulating the cultural values embodied in the fabric, setting and associations of the Lucy Spur Goldfield.

8.1.1 Tasmanian Heritage Register

The *Historic Cultural Heritage Act 1995*, establishes a set of significance criteria which, if satisfied, may justify inclusion of a place on the Tasmanian Heritage Register. The main purpose of the register is to offer some level of statutory protection to listed historic sites and areas on lands not already controlled by the Crown and for which suitable planning controls may already exist, although such lands, which include Unallocated Crown land and State forest also fall within the jurisdiction of the legislation. The enabling criteria are broadly derived from those established for the Register of the National Estate and require that one or more of the following cases be made:

- (a) *it is important in demonstrating the evolution or pattern of Tasmania's history;*
- (b) *it demonstrates rare, uncommon or endangered aspects of Tasmania's heritage;*
- (c) *it has potential to yield information that will contribute to an understanding of Tasmania's history;*
- (d) *it is important as a representative in demonstrating the characteristics of a broader class of cultural places;*
- (e) *it is important in demonstrating a high degree of creative or technical achievement;*
- (f) *it has strong or special meaning for any group or community because of social, cultural or spiritual associations;*
- (g) *it has a special association with the life or work of a person, a group or an organisation that was important in Tasmania's history;*

8.1.2 Kerr's 'Conservation Plan' approach

The preceding definitions may be suitable for satisfying the formal requirements for nomination to the Tasmanian Heritage Register, however they do not provide the only framework for assessing the cultural significance of a place. Kerr, for example, provides a three concept model for significance assessment, wherein cultural value is embodied within the criteria:

²⁰ Kerr, J.S. 1996

- ability to demonstrate philosophy, custom, taste, design, usage, process, technique, material, association with events or persons
- associational links for which there is no surviving physical evidence
- formal or aesthetic qualities

These criteria are broadly, although not precisely, synonymous with the ICOMOS concepts for scientific, historical and aesthetic values.

8.2 *Degrees of significance*

Every historical/archaeological site has cultural significance at some level in so far that each has the potential to yield information which can contribute to an understanding of past processes or events. The quality and importance of that information however can vary greatly between sites, hence it becomes necessary to rank them according to the thresholds, or degrees of demonstrability they have with regard to the aforementioned categories of cultural value. As with the criteria for evaluating significance, there is no single system for assessing degrees of significance, however both geographic and simple subjective ordinal ranking systems are commonly used within Australia. For sites within forested in Tasmania the following standard thresholds for significance have been established and are widely utilised.²¹

- **State significance** is reserved for sites of an outstanding nature and either particularly rare or unique, or those which have played an important role in the history or development of Tasmania.
- **Regional significance** may be assigned to a site which is a particularly well preserved example of its type, and one which illustrates and adds to an understanding of the history and development of the region in which it lies.
- **Local significance** may be assigned where a site is generally in fair order and is able to add to an understanding of the history and development of a particular district or local area.
- **Little significance** indicates that the site has few identifiable remains, has been substantially disturbed, or has negligible historical or social association.

The terminology is applicable for ranking the significance of site components and entire places as well as the cultural landscapes which they collectively constitute.

8.3 *Cultural landscapes*

Modified systems known as cultural landscapes are composites, being made up of the physical changes affected through use and re-use of the land, for whatever purpose, through time. Through the dynamic process of landscape formation, later events overprint and occasionally obliterate traces of the earlier land use. Where this has not occurred, or has occurred to a minimal degree, rendering evidence of the earlier activity observable, an historic landscape of specific character may be retained.

The utility of the concepts of cultural landscape, and of historic landscapes created by a particular type of activity, lies in their capacity for linking individual sites and areas between sites together according to common systems of behaviour. By considering the patterning of culturally connected areas within the environment, the nature of the processes and the behaviour patterns which created them can be better understood.

²¹ Gaughwin 1991

Individual sites which may contain limited information and be of relatively modest intrinsic value may, when considered as part of a larger system, reveal a pattern of land use and development not previously recognisable.²² This resultant composite land use expression, or cultural landscape, records the complex relationship between the natural and cultural processes which operated in an area. In the case of the Lucy Spur goldfield both the physical form of the mineral deposits and the cultural and social systems, through which they were comprehended and exploited, are encoded in the individual landscape features as well as the spaces between them. Viewing the disparate activity areas within their wider physical and cultural milieu enables a deeper appreciation to be gained than can be done by considering them in isolation from each other. The significance of a cultural landscape is commonly greater than the sum of the individual sites it encompasses.

For the purposes of this report, evaluations of significance will consider the entire Lucy Spur Goldfield as a cultural landscape, rather than focus on individual sites or feature complexes.

8.4 *Significance assessments*

The following assessments are based on the criteria for determining cultural significance outlined by Kerr.²³

- **ability to demonstrate philosophy, custom, taste, design, usage, process, technique, material, association with events or persons**

The Lucy Spur goldfield landscape comprises a linked suite of elements which collectively illustrate the process of small scale surface mining and the progression to more capital intensive means of resource exploitation. At the northern workings the fabric of sluiced faces, races and habitation sites demonstrates evolution in the process and techniques of bringing in power to move the ground and continuity of the economic focus on the gold bearing alluvial capping over a number of distinct capital phases, as well as exemplifying the philosophies and techniques embodied in providing suitable domestic accommodation during the latter subsistence phase of alluvial mining.

At the southern workings the races and pipe column, sluiced gullies, adits, mullock heaps, tramway, habitation and mill sites reflect close to the full spectrum of mining related activity, and the application of attendant techniques, at the site, and clearly demonstrates the evolutionary processes of surface mining leading to underground prospecting and subsequent development of the mine to trial production stage.

- **associational links for which there is no surviving physical evidence**

Although the field is very limited in geographical extent, the mining philosophies and techniques manifest on the field demonstrate adherence to orthodoxies, and were the product of economic forces, operating at regional and global levels. On a more tangible scale, there is a strong likelihood that several of the field's relics are derived from, and hence demonstrate a connection with, historically significant mine sites on Blue Tier in the State's North-East.

- **formal or aesthetic qualities**

An appreciation of the aesthetic qualities of the goldfield is to be derived from a consideration of the sense of integrity that the historic elements maintain with respect to their operational maximum, and the degree to which the impacts of historic mining are complemented by, or re-contextualised by the regenerating natural environment. The northern workings are largely obscured by forest regrowth, limiting the ease with which the cultural environment may be visualised and comprehended, however

²² McCann 1987

²³ Kerr 1996

the juxtaposition of workings and ephemeral habitation areas illustrates the perseverance and privations which characterised subsistence mining on the field. On the more visible and complex southern site the presence of unambiguous mining features and relics beneath a more mature canopy provides a sheltered and pensive environment for considering the processes and impacts of historic industry and the indomitable regenerative capacity of the forest.

Criteria for evaluating Cultural Significance as defined by the Historic Heritage Act 1995.

(a) *it is important in demonstrating the evolution or pattern of Tasmania's history;*

The Lucy Spur goldfield, as part of the larger Corinna goldfield, occupies a significant position in the economic development of the State through being a component of the first goldfield discovered in Western Tasmania, the advent of which prompted further exploration of the metal rich ranges to the south leading to the eventual discovery of one of the world's great base metal zones.

(b) *it demonstrates rare, uncommon or endangered aspects of Tasmania's heritage;*

The Lucy Spur goldfield contains a largely undisturbed suite of late 19th century mining related sites and features, demonstrating, particularly in the case of the southern workings, a remarkable level of integrity. Mining fields displaying so complete an array of site types, and in particular industrial plant, as this are becoming increasingly rare in Tasmania. The Huntingdon mill is possibly the only intact and *in situ* example of its kind in the State, if not the Nation.

(c) *it has potential to yield information that will contribute to an understanding of Tasmania's history;*

The Lucy Spur goldfield contains individual elements and articulated complexes which display a high degree of integrity and are able to furnish a high quality of information about the processes and techniques utilised on the field, as well as being able, through demonstrating adherence to widely accepted norms of cultural practice, to illustrate aspects of mining activity on other fields and the development of small industry, settlement processes, trade and consumer behaviour and other social and economic themes.

(d) *it is important as a representative in demonstrating the characteristics of a broader class of cultural places;*

The historic fabric of the goldfield demonstrates clearly and unambiguously the processes of early opportunistic prospecting and low capital surface sluicing, followed by capitalisation in the form of hydraulic sluicing and hard rock trialling, prior to collapse and the re-emergence of subsistence fossicking behaviour. This progression is characteristic of much of the historic mining industry in Tasmania, and elsewhere. The southern workings provide a highly intact and neatly bounded example of a small, moderately capitalised, but ultimately unsuccessful mining venture in an isolated location.

(e) *it is important in demonstrating a high degree of creative or technical achievement;*

The field principally demonstrates the application of standard techniques for the time, however the installation of the Huntingdon mill, an essentially state of the art device, elevates the technological efficacy of the Lucy Spur Co.'s operations above the strictly mundane.

(f) *it has strong or special meaning for any group or community because of social, cultural or spiritual associations;*

Not evaluated

- (g) *it has a special association with the life or work of a person, a group or an organisation that was important in Tasmania's history;*

The field's principal industrial operator, the Lucy Spur Co. was one of a number of small companies promoted and managed by speculator and broker Edward Gaunt, reputedly a notable personality in Launceston society around the turn of the century.

8.5 *Statement of Cultural Significance*

The Lucy Spur goldfield is one of a number of small alluvial fields making up the Corinna goldfield, the location of the first discovery of payable gold in Western Tasmania. The Lucy Spur field comprises a series of discrete workings, linked by common infrastructure, which clearly demonstrate the evolutionary application of a range of mining techniques in accordance with historical phases of capitalisation. The goldfield contains individual elements and sites representative of a range of late 19th century mining related activities and displaying high levels of preservation and integrity, and rarity.

The goldfield has overall significance at the Regional level, while the mill site is arguably of State significance.

9.0 Conservation management

9.1 Constraints

In considering the following recommendations for the protection of heritage values it is important to recognise the limitations of the present study. This report constitutes a site inventory and preliminary significance assessment only and should not be taken to constitute a formal conservation plan for the goldfield. Preparation of an effective conservation plan requires that policies be developed which are cognisant of proposed future developments and uses. In the case of the current project details of the potential or likelihood of future development have not been made available to the consultant for reasons of industry confidentiality.

9.2 Recommendations

General

Priority 1

- All proposals for works likely to impact upon the historic fabric of the goldfield should be scrutinised by appropriate MRT staff, and where necessary, referred to the Cultural Heritage Branch, PWS, and/or the Mining Heritage Management Committee for comment.
- Disturbance to elements with high levels of significance and/or sensitivity should be avoided as a priority.
- Unnecessary disturbance to heritage fabric of lesser significance/sensitivity should be avoided.
- All relics and artefacts are to be retained in situ, unless removal or relocation is the sole means of preservation. Such determinations are to be made by qualified heritage practitioners or appropriate MRT staff under advice from the Cultural Heritage Branch, PWS.

Priority 2

- Unrecorded site elements and elements uncovered during future site works should be recorded in a format consistent with heritage industry standards.
- A formal conservation plan will be required should the current exploration venture or any other on the goldfield proceed to full development stage.

Specific

Priority 1

- The southern workings area feature complex of lower (and possibly upper) adits, mullock heap, tramway, hut and mill sites retains a high degree of integrity and should be reserved, intact, from new works, unless there is absolutely no feasible alternative.
- The southern workings mill site should be designated be a works exclusion area and buffered appropriately.

Priority 2

- Investigations should be made at the conclusion of the current exploration programme to determine its impact on heritage fabric, and appropriate site remediation undertaken.

- Consideration should be given to nominating the Lucy Spur goldfield, or at least the southern workings, to the Tasmanian Heritage Register.

References

- Blake, F. 1939 Report on Corinna Alluvial Goldfield. *Mines Dept. Unpublished Typed Report*
- Harcourt-Smith, J 1897 Report on the Mineral districts between Corinna and Waratah. *Report of the Secretary for Mines 1896-1897*
- Kerr, J.S. 1996 *A guide to the preparation of conservation plans for places of European cultural significance* National trust NSW
- Louis, H. 1909 *The Dressing of Minerals*. Edward Arnold, London
- McCann, J. 1987 Researching Cultural Landscapes in Country Victoria in Sagazio (ed) *The National trust Research Manual Investigating Buildings, Gardens and Cultural Landscapes*. Allen and Unwin, Sydney
- Montgomery, A. 1894 Report on the Corinna Goldfield. *Report of the Secretary for Mines 1893-1894*
- Montgomery, A. 1889 Report on the Blue tier Tin Field. *Report of the Secretary for Mines 1887-1889*
- Montgomery, A. 1893 Report on the Tin Mines at the Blue Tier, County of Dorset. *Report of the Secretary for Mines 1892-1893*
- Taggart, A.F. nd *Handbook of Ore Dressing*. John Wiley and Sons, Inc. New York
- Twelvetrees, W.H. 1900 Report on the Mineral Fields between Waratah and Corinna. *Report of the Secretary for Mines 1899-1900*
- Warnford-Lock, C.G. 1890 *Mining and Ore Dressing Machinery*. E & F.N. Spon, London

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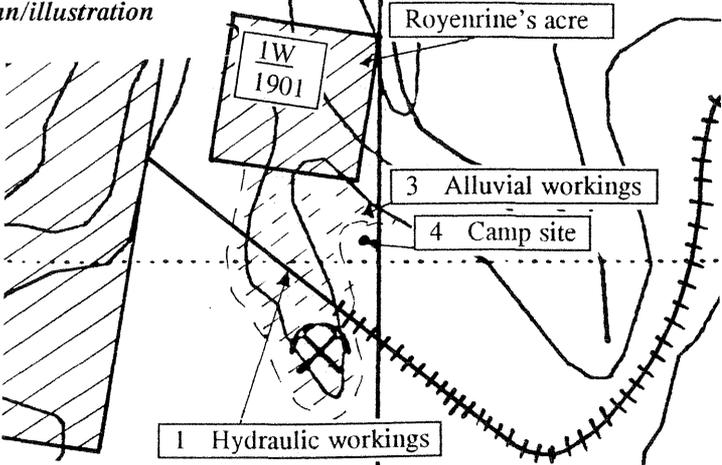
Carol Bacon, David Gatehouse and John Pemberton, MRT, for assistance with organising the contractual and logistical arrangements at the commencement of the project, and for their patience of late.

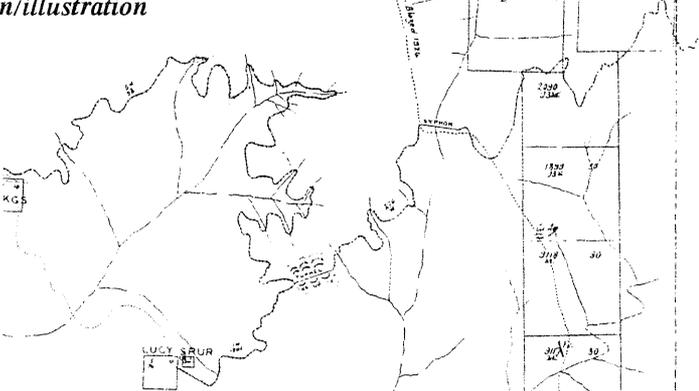
Nick Turner, for advice and information on the location of site features, and logistical support.

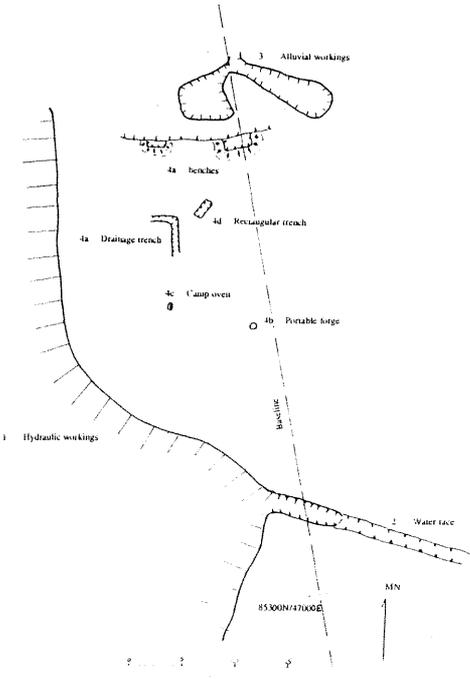
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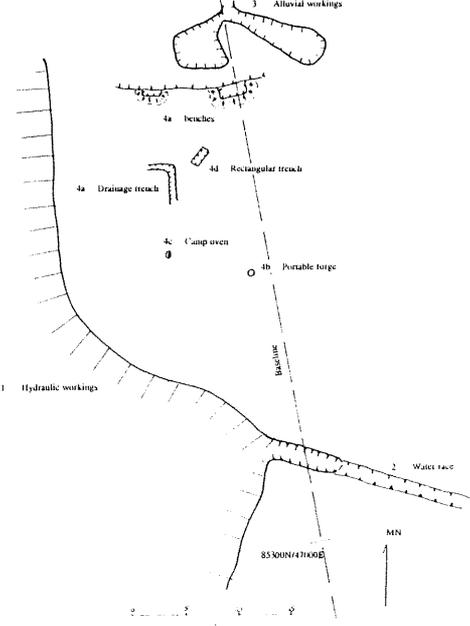
12.0 Appendices

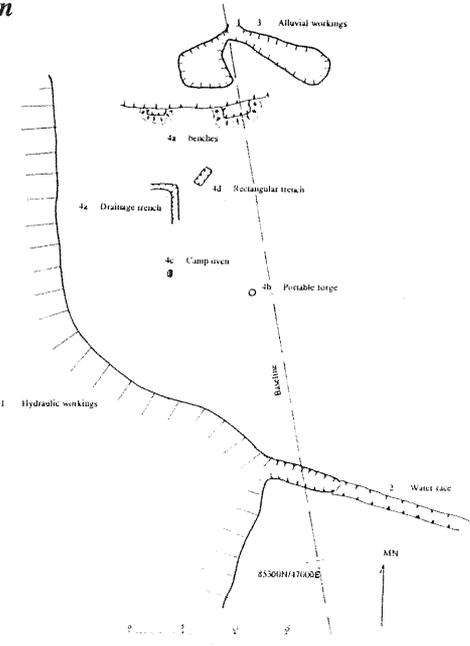
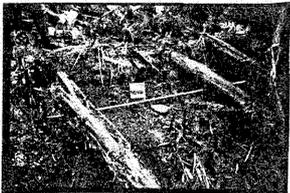
Appendix 1 Feature records

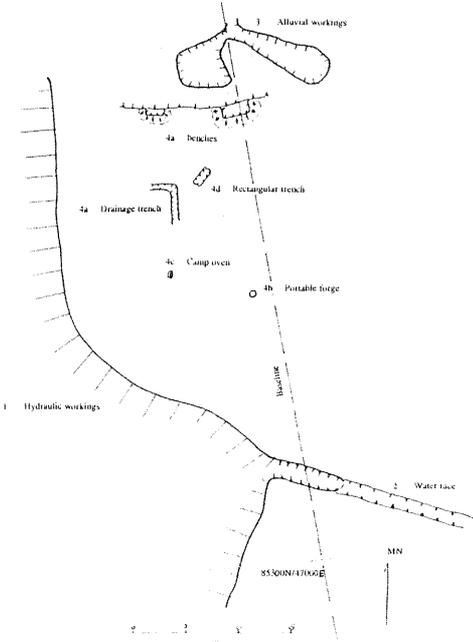
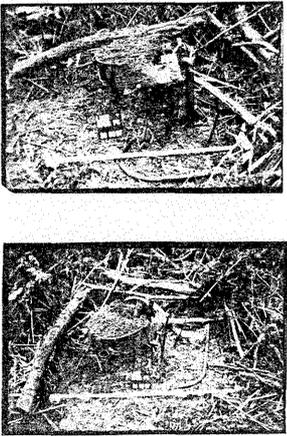
Site # 1	Type Hydraulic workings	Grid Reference 85370N/46970E
Associated features		Dating c1894-1896
Plan/illustration 	Photos	
Description An elongate sluiced gully, up to 150 m long and 60 m wide, with faces up to 6 m high, is situated on the east side of the northern portion of Lucy Spur, above an unnamed tributary feeding into the headwaters of Lucy Creek. The existing survey baseline skirts along the eastern perimeter of the workings for a distance of approximately 100 m.		
Historical reference <i>These consist of two large faces that have been worked out on the eastern side of the spur, and three small tunnels. The northern face is probably two chains in length, and the stuff has been worked out for perhaps 30 or 40 feet in width, the depth of the wash being from 6 to 20 feet....To test the ground and get at the bottom layer of gravel two small tunnels have been driven on the east side of the spur, below the faces worked. One of these is still in progress, and has gone 52 feet through soft schist bedrock, but has not yet reached the gravel: the other, some 30 or 40 feet further south, goes in for over 50 feet, then rises into the wash, and has been carried on along the bottom for 30 or 40 feet. On the western side of the spur there is another small tunnel driven towards those just spoken of,...</i> <p style="text-align: right;">Montgomery 1894</p> <i>...a good deal of sluicing was done. Some rich patches of gravel were found, but were of very limited extent, and the bulk of the wash did not prove payable.</i> <p style="text-align: right;">Harcourt-Smith 1897</p> <p>An area of sluiced workings and associated hut are indicated in the north-west corner of lease 4M/96, surveyed in May-June 1897. Formerly located in north-east corner of 149M/86 (Brooks' section).</p>		
Synthesis/interpretation The gully, entered by a water race midway along the east side (F 2), represents the principal focus of the Lucy Spur Co.s' northern activity after 1895, and sited over Brooks' earlier workings. Brooks' tunnels were not located during the survey, and may have been obliterated by the later hydraulic activity.		
Condition Poor: The sluiced faces have suffered considerable erosion, and the workings are heavily overgrown.		
Significance Local: The sluiced gully represents the cumulative effect of an decade of intermittent alluvial and hydraulic sluicing activity at the northern workings. The remaining features demonstrate principally the latter, capital intensive phase of hydraulic sluicing.		
Sensitivity Low	Action The area is unlikely to be affected by proposed future developments. Should evidence of the former tunnels be identified, it should be recorded and the information appended to the this survey document.	
Records Field book	Photos	

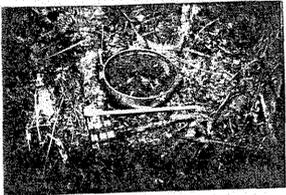
Site # 2	Type Water race	Grid Reference 87400N/54860E- 85307N/46995E
Associated features		Dating 1886-1896
Plan/illustration 		Photos
Description <p>The water race runs for a distance of 20 km from an intake on the Rocky River at approximately GR 87400N/54860E, around the lower north side of the Mt Livingstone foothills before passing along the ridge between the headwaters of Bounds and Breakneck creeks. From here a siphon carried the water across a head tributary of the Paradise River to a continuation of the race for a further 1.5 km along the east side of the large spur separating the Paradise River and Lucy Creek catchments to a tunnel, approximately 250 m long, which passes beneath the ridge to the west side of the spur from where the race continues to the northern workings. A second race runs for 2 km around the western side of the spur, from an intake on a head tributary of Lucy Creek, to meet the Rocky River race at the tunnel exit point.</p> <p>At the point of intersection with the exploration baseline at 85307N/47000E, the race comprises a shallow U profile trench, 1-1.2 m crest width and 0.5 m deep, trending 285°. The formation is eroded to a moderate batter and is partially infilled with sediment and leaf litter. The race opens out into an erosion channel, 8m long x 1.2 m deep, before entering the eastern side of the main hydraulic workings.</p>		
Historical reference <p>Two or three years ago an attempt was made to bring in a water race, but the cost was under-estimated, and it was never completed. The syndicate who were instrumental in getting the ground round the Lucy Spur withdrawn from leasing are, I understand, trying to bring in water from the Paradise and Rocky rivers, a distance of probably 10 or 12 miles. Montgomery 1894</p> <p>The Lucy Spur Company spent a large sum in bringing in a water-race fifteen miles long from the Rocky River. Harcourt-Smith 1897</p> <p>A water race of 35 sluice heads capacity and 14 miles in length was constructed with intake of Rocky River [sic]. This included a tunnel 11 chains long and a siphon of similar length, together with 1/4 mile of fluming. Blake 1939, 40</p> <p>Water rights 11W/93, 12W/93, 24W/94, 35W/94, 34W/95, 1W/1901, 27G/W</p>		
Synthesis/interpretation <p>The extensive Lucy Spur Co. race appears to have subsumed part of an earlier race constructed to service Brooks' section.</p>		
Condition <p>Fair: The race is considerably obscured by thick regrowth, but likely to be intact over much of its original length. As much as 15 km can be traced westwards from the Rocky River on current aerial photographs.</p>		
Significance <p>Local: The race is integrally associated with the alluvial and hydraulic mining activities occurring on the northern leases over an extended period, and while possibly modified during its life, is likely to constitute the earliest discernible feature on the field.</p>		
Sensitivity Medium	Action Avoid unnecessary disturbance	
Records Field book 1/1	Photos	

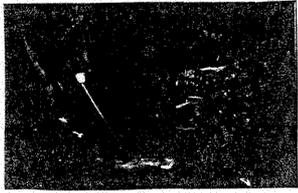
Site # 3	Type Alluvial workings	Grid Reference 85350N/47000E
Associated features		Dating c1901-1902
Plan/illustration 		Photos
Description The principal working consists of a roughly square pit measuring 5m on each side and 1.6 m deep with a lozenge shaped extension to the east measuring 10 m x 2.5 m wide. The workings are cut through quartzose alluvium into decomposing schist across the north flank of a gully overlooking an unnamed tributary at the north end of the spur at approximately 85350 N on the exploration baseline.		
Historical reference Royenrine's 1 acre lease, 2W/1901, is centred in the vicinity of the area of alluvial workings indicated on the survey of 4M/96.		
Synthesis/interpretation The possibility exists that Royenrine may have reactivated some of Brooks' earlier workings, although it is more likely that Brooks' workings were consumed by the operations of the Lucy Spur Co., and that Royenrine commenced activity on fresh distal portions of the lag gravels beside the worked out areas.		
Condition Fair: The recorded workings are reasonably stable.		
Significance Local: The alluvial workings, which relate to the final phase of activity, demonstrate a return to a subsistence form of mining behaviour following the collapse of the previous over capitalised venture.		
Sensitivity Medium	Action Avoid unnecessary disturbance to features	
Records Field book 1/2	Photos	

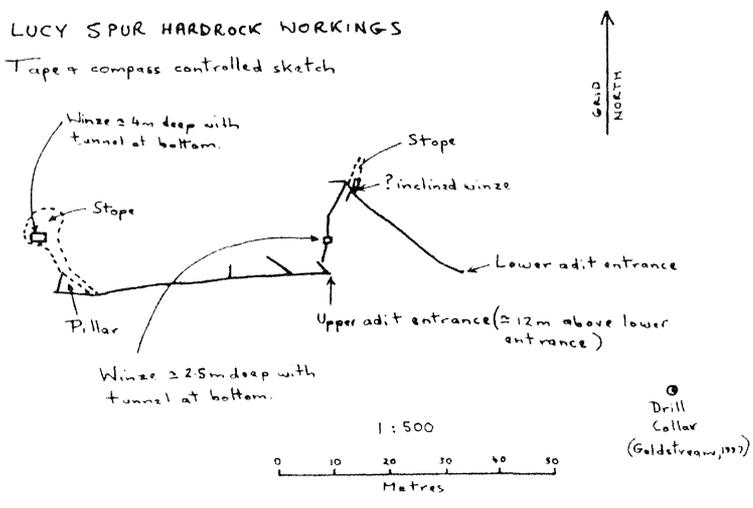
Site # 4	Type Camp site	Grid Reference 85335N/46995E
Associated features 4a-earthworks 4b-portable forge 4c-camp oven 4d-rectangular trench		Dating c1901-1902
Plan/illustration 		Photos
Description <p>The site occupies a level area on the north end of the spur immediately overlooking Royenrine's alluvial workings. Features relating to temporary habitation are scattered over an area measuring approximately 20 m x 15 m, and include a pair of rectangular cuttings at the north end, and shallow drainage ditches and a rectangular pit near the centre of the site. A number of domestic and industrial relics, including a camp oven and portable forge lie to the south, adjacent to the survey grid baseline.</p>		
Historical reference <p>The camp site is situated in the vicinity of an earlier hut indicated at the west side of the alluvial workings shown on the 4M/96 survey.</p>		
Synthesis/interpretation <p>The camp site probably represents Royenrine's re-occupation of the northern workings, and may have utilised an earlier camp site. The material culture abandoned at the site, ceramics, glass and metal, indicate turn of the century occupation.</p>		
Condition <p>Poor: The site is substantially overgrown, with individual features displaying evidence of erosion and disruption through the effects of regenerating vegetation.</p>		
Significance <p>Local: The camp site demonstrates the characteristics of temporary, low infrastructure accommodation and equipment maintenance activity on a subsistence prospect around the turn of the century. The site is not well preserved, however several elements retain moderate heritage values, relating principally to their archaeological potential.</p>		
Sensitivity High	Action Avoid unnecessary ground disturbance. Relics are to remain <i>in situ</i> .	
Records Field book 1/2-5	Photos B&W Neg# 1/19-28 Colour slide 1-7	

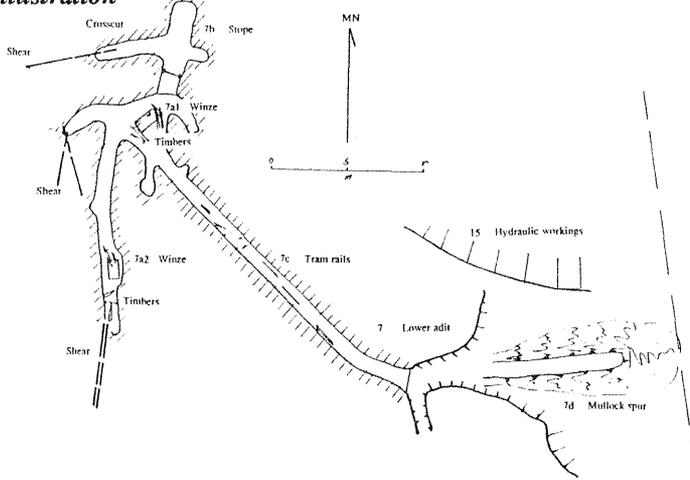
Feature # 4a	Type Earthworks	Grid Reference 85340N/46995E
Plan/illustration 		Photos 
Description <p>Two rectangular formations, each comprising a small cutting surrounded by a topside berm of excavated earth, are terraced into the top of the spur at the northern end of the habitation area, immediately above the alluvial workings. The eastern formation takes the form of a straight-sided rectangular depression, 2.5 m x 1.0 m x 0.3 m deep, orientated east-west with mounded spoil along the east, south and west sides. The feature terminates to the north at a shallow ledge, 150 mm deep. Fragments of 2 mm thick window glass and a porcelain saucer are located within the cutting.</p> <p>The western formation, located 6 m away, comprises a small cutting, measuring 1.2 m x 0.5 m x 0.3 m deep. As with the eastern feature, this terrace is truncated to the north by a shallow cutting, and bordered to the east, south and west by a spoil berm.</p>		
Historical reference <p>No specific historical reference to the features has been located.</p>		
Synthesis/interpretation <p>The pads and window glass indicate the existence of small structures, or portions of a single structure, of unknown configuration.</p>		
Condition <p>Poor: Both terraces appear to have been truncated to the north. The present sampling grid traverses the eastern cutting.</p>		
Significance <p>Local: The features represent part of the accommodation complex, or possible equipment settings, associated with a small turn of the century subsistence mining venture. The form and artefactual contents of the features afford them moderate archaeological potential.</p>		
Sensitivity High	Action Avoid further disturbance. Artefacts should remain <i>in situ</i> .	
Records Field book 1/2	Photos B&W Neg# 1/19-20 Colour slide 1-2	

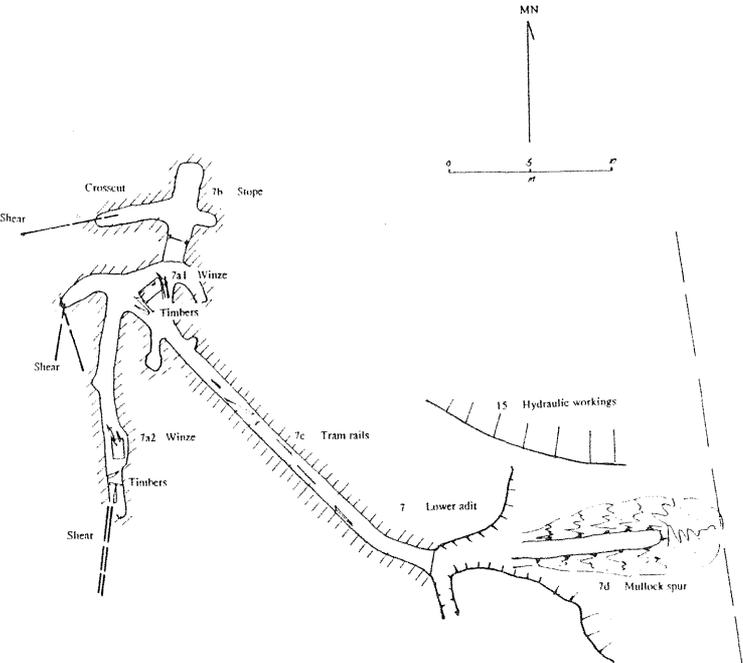
Feature # 4b	Type Portable forge	Grid Reference 85326N/46998E
Plan/illustration 		Photos 
Description <p>The item consists of a straight sided, concave bottomed, drum, 530 mm in diameter x 150 mm on a side, supported on four legs wrought from iron bars, and with an inverted 'Y' treadle frame suspended beneath the center from short arms attached to the sides of the drum. A cast iron manifold extends from the treadle level, rising to pass through a flange at the rear of the drum. No remains of bellows or of a centrifugal pump were identified. The drum is filled with charcoal. The entire relic stands approximately 650 mm high.</p>		
Historical reference <p>There is no historical reference to the use of this feature at the prospect.</p>		
Synthesis/interpretation <p>The feature represents the remains of a small portable forge with a missing centrifugal blower.</p>		
Condition <p>Fair: The relic is substantially corroded, but sufficient intact for its form and function to be readily determined. The drum houses a colony of bull ants.</p>		
Significance <p>Local: Items of this type were commonly available, relatively inexpensive and highly portable. Its presence in association with the ephemeral camp site and nearby workings further demonstrates the small scale nature of the final phase of mining activity at the site</p>		
Sensitivity High	Action The feature should be left undisturbed.	
Records Field book 1/3	Photos B&W Neg# 1/21-25 Colour slide 3-4	

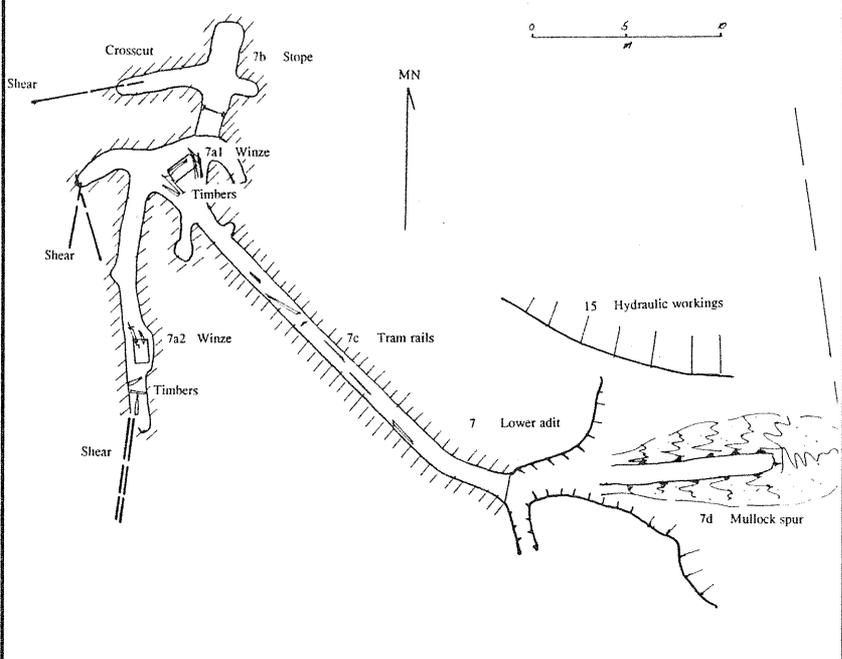
Feature # 4c	Type Camp oven	Grid Reference 85329N/47991E
Plan/illustration		Photos 
Description A 9 gallon cast iron camp oven is situated near the south end of the camp site, some 8 m west of the portable forge. The oval shaped cooking pot, which measures 480 x 360 x 280 mm bears an embossed manufacturer's logo on the side, containing the details 'A KENDRICK & SONS WEST BRONWICH'. The item displays the effects of a contemporary repair, the cast iron handle having been broken off with the remains of a replacement wire handle being wrapped around the cast handle lugs.		
Historical reference There is no documentary reference to the use of this item at Lucy Spur.		
Synthesis/interpretation An abandoned cooking pot.		
Condition Fair: The item is filled with water and leaf litter, but otherwise appears moderately stable.		
Significance Local: The camp oven clearly and unambiguously demonstrates the nature of domestic activities occurring at the site. The curation of the item illustrates practicality in recycling associated with the low cost nature of the mining/prospecting venture.		
Sensitivity Medium	Action The item should remain <i>in situ</i> .	
Records Field book 1/5	Photos B&W Neg# 1/26-27 Colour slide 5-6	

<i>Feature #</i> 4d	<i>Type</i> Rectangular trench	<i>Grid Reference</i> 85337N/46995E
<i>Plan/illustration</i>		<i>Photos</i> 
<i>Description</i> <p>A straight sided, rectangular trench, measuring 1.7 m x 0.7 m x 1.1 m depth, is situated roughly in the centre of the habitation area, at a distance of 6 m south-west of the F4a benches.</p>		
<i>Historical reference</i> <p>No specific reference to this, or similar features, has been identified during the study.</p>		
<i>Synthesis/interpretation</i> <p>The feature may represent an early prospecting pit, an excavation for a privy, or both.</p>		
<i>Condition</i> <p>Poor: The sides of the pit are eroded and overgrown, and the feature is partially filled with water and leaf litter.</p>		
<i>Significance</i> <p>Little-Local: The feature, which owing to its proximity to other domestic features may represent part of the habitation infrastructure, may have the potential to demonstrate the pragmatic character of the domestic arrangements during the final phase of subsistence mining on the field.</p>		
<i>Sensitivity</i> Medium	<i>Action</i> Avoid if possible	
<i>Records</i> Field book 1/5	<i>Photos</i> B&W Neg# 1/28 Colour slide 7	

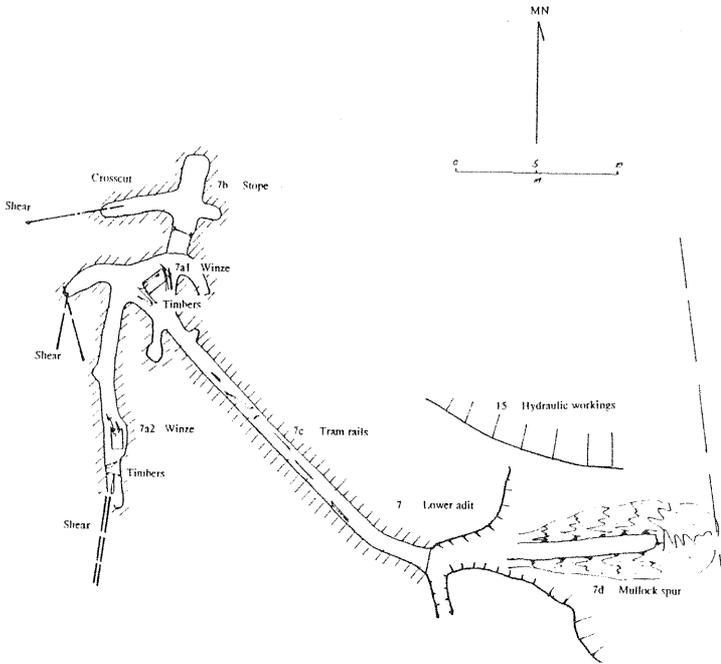
Site # 6	Type Upper adit	Grid Reference 84622N/46965E
Associated features		Dating c1897
<p>Plan/illustration</p> <p>LUCY SPUR HARDROCK WORKINGS Tape & compass controlled sketch</p>  <p>Goldstream Mining NL, 1997.</p>		Photos
<p>Description</p> <p>The entrance to the upper adit is located approximately 22 m from the portal, and 12 m above the level, of the lower adit. The feature comprises a 40 m long tunnel running almost due west into the hillside, before turning W.N.W. for a further 7 m. Short blind drives take off in a northerly direction at points 1, 7 17 and 46 m along the main level from the portal. A stope extends in a north-westerly direction from the 40 m mark dogleg, enclosing with the westernmost blind drive a pillar of country rock. The stope continues for 17 m, opening into a chamber measuring 7 m x 6 m. A 4 m deep winze, with a tunnel at the base, is sunk in the south west portion of the chamber.*</p> <p>*Information provided by N.J. Turner</p>		
<p>Historical reference</p> <p><i>Eighty feet above this another tunnel has been driven 115 ft., in which several veins of rubby quartz, containing copper pyrites and red and brown oxides of iron, were cut which give very fair prospects of fine gold. These quartz veins occur in what is probably the capping of a quartz porphyry dyke, containing gold more or less through its entire width of about 38 ft., but not in payable quantities. These workings are on the eastern side of the ridge which runs through the property a little to the west of north.</i></p> <p>Harcourt-Smith, 1897, 128</p>		
<p>Synthesis/interpretation</p> <p>The lower and upper adit (unrecorded) would appear to represent facets of a single sampling programme which aimed to trace and test the run of the predominantly east dipping mineralisation.</p>		
<p>Condition</p> <p>Not assessed</p>		
<p>Significance</p> <p>Not formally assessed, but probably significant at the Local-Regional level, depending upon degree of preservation and integrity.</p>		
<p>Sensitivity</p> <p>Medium-High (provisional)</p>	<p>Action</p> <p>Avoid unnecessary disturbance.* Include within works exclusion area if possible. If not, recording of feature should be undertaken in advance of any development.</p> <p>*Low impact activities, channel sampling etc. may be appropriate.</p>	
<p>Records</p> <p>Record Book 1/23</p>	<p>Photos</p> <p>Not recorded</p>	

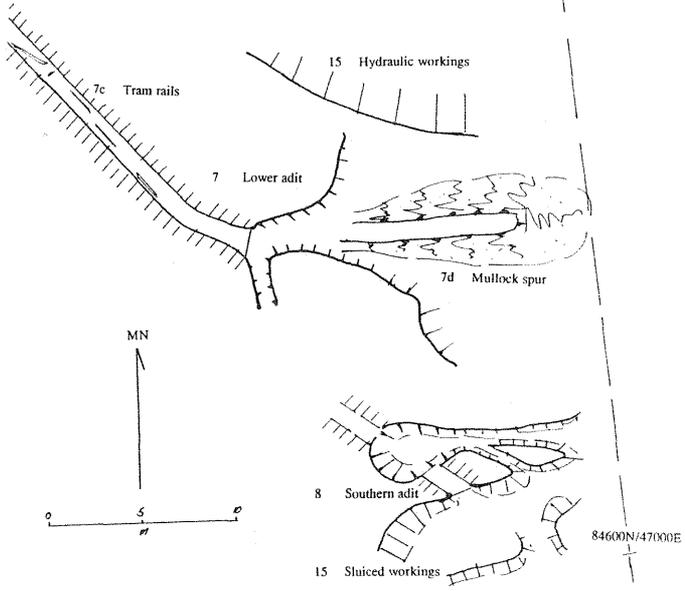
Site # 7	Type Lower adit	Grid Reference 84619N/46982E
Associated features 7a1-winze 7a2-winze and tunnel 7b-stope		Dating c1897
Plan/illustration 		Photos 
Description A straight drive, 1.8 m high to an unsupported arched ceiling, runs for 26m in a north-easterly direction into the hillside through decomposed spotted felsic schist, shot through with numerous small quartz-limonite veinlets and shears (striking generally N-S and dipping eastwards), before opening into a small chamber, 2m high, with a centrally positioned winze (4a1) and short blind drives to the north, east and south-west. An inclined stope (4b) extends to the north. The main level doglegs to the south-west and then south for a further 15 m, with a second winze located 4m short of the end (4a2). Relict timber rails and sleepers for a narrow gauge tramway (7c) are visible along the floor of the drive, which opens onto a 14 m long mullock heap (7d) overlooking the northern sluiced gully. The main chamber, winze 4a1 and stope are opened on a broad brittle shear zone within a chloritised quartz porphyry intrusive, with the shorter crosscuts and northern winze opened up over smaller ferruginised shear sets within the schistosed host.		
Historical reference <i>The company has a couple of men working in the southern portion of the property, about S.S.E. from the old workings, and they are at present driving a small prospecting tunnel through soft sandstone striking north and south and underlaying to the east.</i> Harcourt-Smith, 1897, 128		
Synthesis/interpretation The form of the workings indicate an inductive approach, with driving on all mineralised zones encountered in order to provide sufficient ore for trial crushing. The stope and northern winze provide evidence of germinal development, however the new work appears to have been proved to be unremunerative within a short time of its commencement. The lower and upper adit (unrecorded) would appear to represent facets of a single sampling programme which aimed to trace and test the run of the predominantly east dipping mineralisation.		
Condition Fair: The workings are stable and well drained. Timber elements; props and rail; are very fragile.		
Significance Local-Regional: The workings and associated features clearly demonstrate the orthodox sampling and ore handling methods employed by a small scale prospecting venture operating on a 'trial and error' basis. In isolation the workings are significant at the Local level, however when considered in association with the upper adit, tramway and battery site the significance becomes enhanced to a Regional status.		
Sensitivity Medium-High	Action Avoid further disturbance. The workings should be included within a buffer zone which encompasses the tramway formation and battery site.	
Records Field book 11/6-7, 2/1	Photos B&W Neg# 1/29-34 Colour slide 8-15	

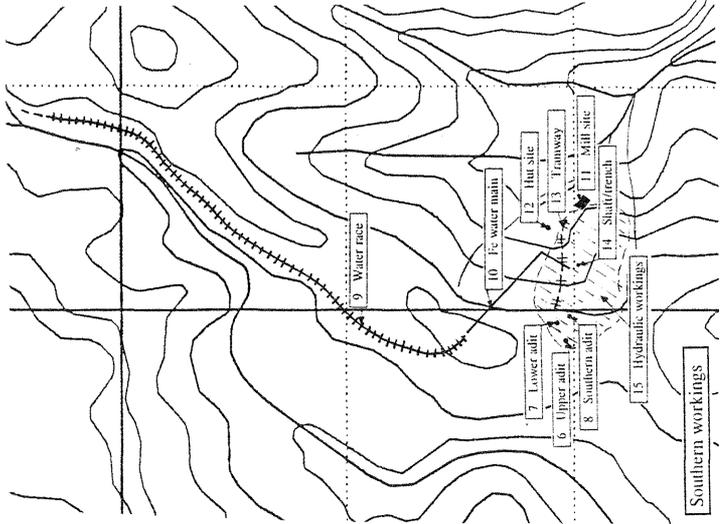
Feature # 7a1 & 7a2	Type Winzes	Grid Reference 84638N/46968E, 84620N/46964E
Plan/illustration 		Photos 
Description <p>The northern winze is located in the floor of the central chamber, and measures 1950 x 750 mm. A number of fragments of split collar timbers lie about the opening which has collapsed/been infilled to within 300 mm of the top. The southern winze, located off the centre of the southern doglegged drive in a shallow cutting made into the east wall, is sunk on a continuation of the main east dipping quartz limonite shear followed by the drive extension. The opening measures 1400 x 950 mm and is approximately 3 m deep with a tunnel taking off from the base. The remains of timber collaring and the collapsed frame and drum of a windlass lie scattered about and within the feature.</p>		
Historical reference <p>No specific references located.</p>		
Synthesis/interpretation <p>The winzes have been sunk in the centre of the principal mineralised zones encountered in the drive in order to test the continuity of the formations at depth.</p>		
Condition <p>Poor: The features are partially collapsed and infilled with debris.</p>		
Significance <p>Local: The features are remarkable insofar as they enhance the interpretive potential of the workings. The planking collar remnants and windlass lying adjacent to the southern winze are scarce relics.</p>		
Sensitivity Medium	Action Care should be taken not to disturb or damage the associated timbers and windlass.	
Records Field book 1/6	Photos B&W Neg# 1/29-30 Colour slide 8-9	

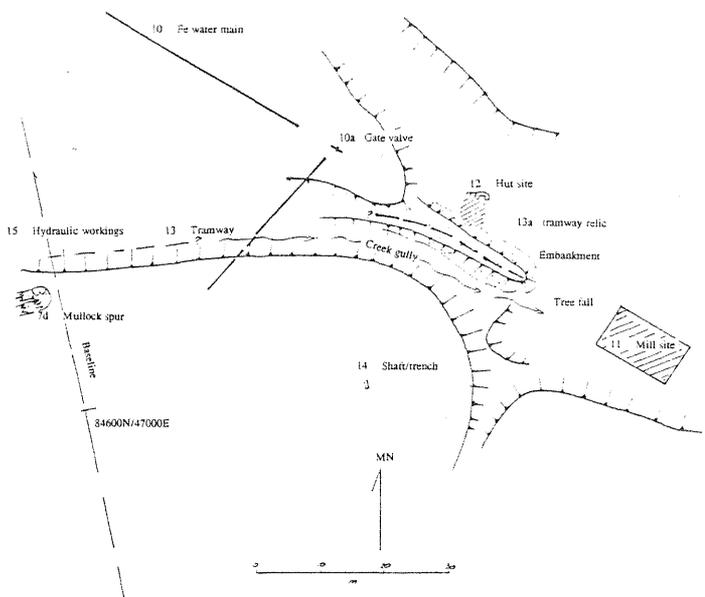
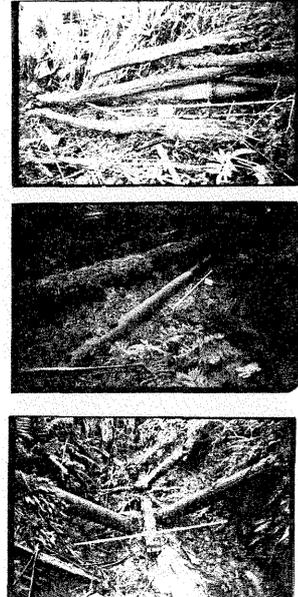
Feature # 7b	Type Stope	Grid Reference 84642N/46970E
Plan/illustration 		Photos 
Description <p>An underlay stope, up to 1.7 m wide, rises at a steep angle from the northern side of the main chamber to follow a brittle shear, striking 260° and dipping 50° S, associated with the intrusive quartz porphyry. A single timber prop, built of 6" x 3" hardwood planks and standing 1.3 m high, is positioned close to the mouth of the stope. The 1.5 m long head beam is held against the ceiling by a series of timber wedges. The run of the shear has been followed by a 1.2 m deep cutting into the east wall and 4.4 m crosscut into the west wall, at a height approximately 3 m above the main adit level.</p>		
Historical reference <p>No specific historical reference located.</p>		
Synthesis/interpretation <p>The stope has been installed on a porphyry breccia zone in order to provide bulk samples for trial crushing. This was one of the principal prospecting locations.</p>		
Condition <p>Fair: The cutting appears reasonably stable, however the roof is unsupported. The timber prop and chocks are saturated and very fragile.</p>		
Significance <p>Local: The stope illustrates the inductive processes of following and quarrying the exposed mineralised body for trial crushing.</p>		
Sensitivity Medium	Action Avoid unnecessary disturbance to feature and timber components.	
Records Field book 1/7	Photos B&W Neg# 1/31-32 Colour slide 10-11	

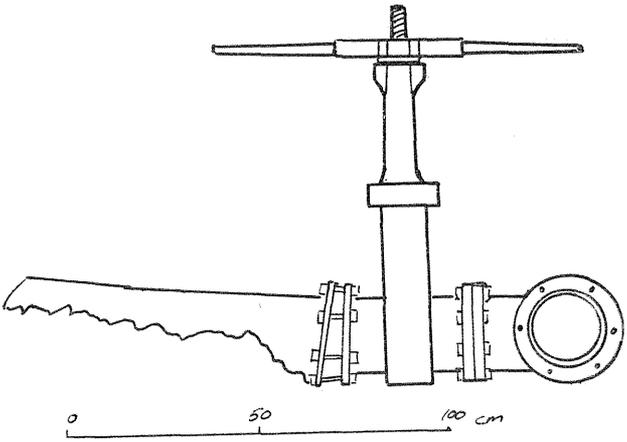
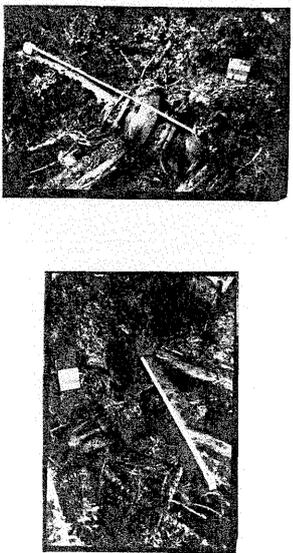
<i>Feature #</i> 7c	<i>Type</i> Tram rails	<i>Grid Reference</i> 84627N/46975E
<i>Plan/illustration</i>		<i>Photos</i> 
<i>Description</i> <p>The remains of a timber tramway can be traced for at least 16m along the main drive from the portal. The sleepers are fashioned from 130 x 80 mm hardwood planks, up to 800 mm long and spaced 700-800 mm apart. The top surfaces of the sleepers are notched to accept the rails which were formerly spaced at 500 mm centres (20") apart. Remnant sections of rail, now detached from their sleeper base, comprise hardwood planks measuring 100 x 40 mm (4" x 1.5") and up to 2.6 m long.</p>		
<i>Historical reference</i> <p>No historical references to tramways located.</p>		
<i>Synthesis/interpretation</i> <p>The features relate to a small tramway used to transport ore/mullock from the workings to the mullock heap. The means of transporting the crushing ore to the head of the battery tramway has not been determined.</p>		
<i>Condition</i> <p>Poor: The timbers are substantially decayed and friable. The elements are highly sensitive to foot traffic disturbance.</p>		
<i>Significance</i> <p>Local: The tramway demonstrates the process of ore and mullock handling inside the workings.</p>		
<i>Sensitivity</i> High	<i>Action</i> Avoid disturbance to the floor of the drive.	
<i>Records</i> Field book 1/7	<i>Photos</i> B&W Neg# 1/33-34 Colour slide 12-13	

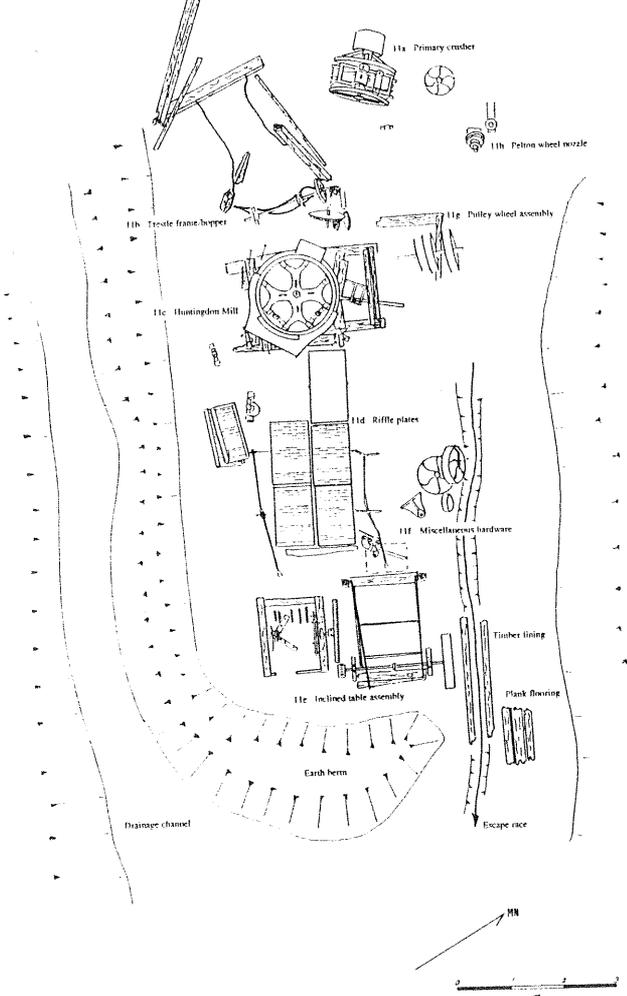
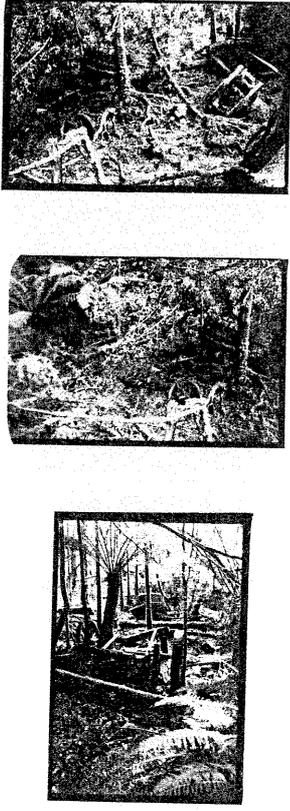
Feature # 7d	Type Mullock spur	Grid Reference 84618N/46996E
Plan/illustration 		Photos 
Description <p>A flat topped mullock heap extends as a lobate spur for a distance of approximately 19 m in an easterly direction from the portal of the lower adit, to overlook the northern hydraulically sluiced gully and the head of the tramway to the battery site. The 3 m high mullock heap has a crest width of 1 m, and is composed almost entirely of decomposed clayey schist with minor ferruginised quartz.</p>		
Historical reference <p>No specific historical reference has been located.</p>		
Synthesis/interpretation <p>The mullock spur contains the waste from the underground prospecting operations.</p>		
Condition <p>Fair: the mullock heap is substantially overgrown but otherwise stable.</p>		
Significance <p>Local: The mullock heap is integrally associated with the underground prospecting tunnels as well as the tramway and battery sites to the east.</p>		
Sensitivity Low	Action <p>The mullock heaps should be conserved within a works exclusion area which encompasses the lower (and upper?) adit(s), tramway, water column and battery sites.</p>	
Records Field book 1/9	Photos B&W Neg# 2/3-4 Colour slide 14-15	

Site # 8	Type Southern adit	Grid Reference 84604N/46992E
Associated features		Dating c1897
Plan/illustration 		Photos 
Description <p>The remains of a third adit are situated approximately 17 m south-east of the lower adit (F7). A 1 m wide arched portal pierces the north face of a shallow sluiced cutting above the presently cleared spur, trending 302° into the hillside. The adit has collapsed for 1.7-5.1 m from the portal, resulting in a conical depression 3 x 4 m with an erosion gully leading to the east. The drive continuation appears to be blocked by roof fall a short distance further on.</p>		
Historical reference <p>No specific historical reference located.</p>		
Synthesis/interpretation <p>The proximity of the adit to F7 suggests an affinity with the other prospecting activities, however the inaccessibility of the feature precludes a more precise interpretation.</p>		
Condition <p>Poor: The adit has largely collapsed, and associated surface features are substantially eroded.</p>		
Significance <p>Little-Local: The juxtaposition of the portal with the sluiced workings demonstrates the evolutionary character of the prospecting venture. The low integrity of the feature mitigates against a more meaningful significance determination.</p>		
Sensitivity Low-Medium	Action Further recording of the internal configuration is warranted in the event of mining related disturbance.	
Records Field book 1/8, 2/2	Photos B&W Neg# 1/35-36, 2/1-2 Colour slide 16-18	

Site # 9	Type Water race	Grid Reference 85500N/47450E? - 84715N/46985E
Associated features F10-Fe pipe column		Dating c1897
Plan/illustration 		Photos 
Description <p>The water race supplying the southern workings was charted over a distance of approximately 350 m. The origin point was not determined, however it possibly takes off from the main race in the vicinity of 85500N/47450E, picking up the headwaters of the southern branch of Lucy Creek before running along the east side of the gully, passing below the helipad en route to the southern workings by way of the west side of the southern spur. Where the race passed across the site grid at 85000N/47165E, and 84805N/47000 it was observed to comprise a typical U profile trench 0.8-1 m wide, and 0.5-0.6 m deep with a berm of excavated spoil built up along the lower edge to a maximum width of 1.5 m. The race terminated at a low saddle on the top of the southern spur at 84715N/46985E, giving way to a riveted iron water column (F10) which continued down the east side of the spur towards the hydraulic workings (F15) and battery site (F11).</p>		
Historical reference <p>While water rights were issued for the race sections terminating at the northern hydraulic workings, no surveys or leases have been located for the race section running to the southern workings, which is likely to have been a late augmentation to the scheme approved under some form of special permit or exemption. The following observation, made by the government geologist following his 1897 inspection, may relate to either the new race section, or simply the terminal level of the northern race.</p> <p><i>The lower tunnel is about 220 ft. below the Lucy Spur water-race, which is said to contain from 30 to 40 sluice-heads, so that ample power for crushing purposes would be available if payable gold were struck.</i></p> <p style="text-align: right;">Harcourt-Smith, 1897, 128</p>		
Synthesis/interpretation <p>The race was extended to the southern workings by the Lucy Spur Co. following the cessation of activity on its northern leases, as a means of supplying the water needed for sluicing and powering the crushing plant.</p>		
Condition <p>Fair: Where inspected the race was overgrown but essentially stable, although no longer functional.</p>		
Significance <p>Local: The race demonstrates the arduous but vital task of supplying water to the prospect.</p>		
Sensitivity Medium	Action Avoid unnecessary disturbance	
Records Field book 1/9, 2/3	Photos B&W Neg# 2/5-6 Colour slide 19-20	

Site # 10	Type Fe water main	Grid Reference 84715N/46985E- 84633N/47046E
Associated features 10a-cast Fe gate valve		Dating c1897
Plan/illustration 		Photos 
Description <p>A pipe column comprising lengths of riveted 18 cm (7") diameter iron pipe bolted together at cast iron collars, runs at 120° from the end of the water race for a distance of 210 m along the top of a small spur towards the mill site, crossing the site grid at 84680N/47000E. The main branches at a T piece and cast iron gate valve (10a), situated at a point on the line approximately 50 m north-west of the mill site, with the second branch heading south-west towards the centre of the hydraulic workings. This branch of the column has collapsed into the tramway creek at the point where it originally crossed.</p>		
Historical reference <p>No specific historical reference to the pipe column has been identified.</p>		
Synthesis/interpretation <p>The pipe column was installed at the terminus of the water race to channel water down the steep hillside to the hydraulic workings and also to the mill site, where it powered a Pelton wheel driven assembly of plant.</p>		
Condition <p>Fair: Large sections of partially decayed pipe remain <i>in situ</i>, however the gate valve and connecting pipe section to the mill have been disturbed through recent tree felling activities associated with drill pad preparation.</p>		
Significance <p>Local: The pipe column unambiguously demonstrates the process of conveying water directly into the heart of the site, both for hydraulic sluicing and powering the mill. The feature provides a linking context between the workings/processing area and the water race.</p>		
Sensitivity High	Action Avoid further disturbance. The surviving column section should be included in a mill site buffer zone/works exclusion area.	
Records Field book 1/10, 19, 2/4	Photos B&W Neg# 2/7-8, 3/18-27 Colour slide 21-33	

Feature # 10a	Type Cast Fe gate valve	Grid Reference 84633N/47046E
Plan/illustration 		Photos 
Description A large cast iron gate valve is situated, upside down, within a disturbed area on the edge of a spur on the line of the pipe column at a point 50 m north-west of the mill site. The valve was formerly set on the subsidiary branch of a 7" cast T piece, and comprises a rectangular gate housing with a large threaded rod protruding from the top, running through an open armature into the yoke of a 1 m long T-bar handle.		
Historical reference No specific historical reference to this feature has been identified.		
Synthesis/interpretation Although no longer <i>in situ</i> , the valve appears to have served to control water from the main entering the line to the hydraulic workings.		
Condition Good: The valve housing is massive and in sound condition, although the feature has been displaced from its original position as a result of tree fall.		
Significance Local: The gate valve forms part of the infrastructure needed to control water movement on the site.		
Sensitivity High	Action Avoid further disturbance to the item, which should remain <i>in situ</i> .	
Records Field book 1/19	Photos B&W Neg# 2/18-23 Colour slide 24-27	

Site # 11	Type Mill site	Grid Reference 84592N/47085E
Associated features 11a-primary crusher 11b-trestle frame 11c-Huntingdon Mill 11d-riffle plates 11e-inclined table assembly 11f-miscellaneous hardware 11g-pulley wheel assembly 11h-Pelton wheel jet		Dating c1897
Plan/illustration 		Photos 
Description <p>The mill site is located on the floor of a gully formed at the confluence of two seasonal streams, immediately below the sluiced knoll at the centre of the hydraulic workings. The site consists of a rectangular levelled area containing a collection of <i>in situ</i> machinery items, and items which have either collapsed or settled within a short distance of their operational position. Among the principal industrial relics are a reciprocating jaw crusher, collapsed trestle and feed hopper lying near the head of a 5' Huntingdon mill. Paired sets of cantilevered cast iron riffle plates extend from the mouth of the grinding mill, ending adjacent to the frame for an inclined table of some configuration. Pulley wheel assemblies attached to the Huntingdon mill and table frame are suspended above a timbered water channel, which commences at an upturned Pelton wheel nozzle and pipe collar before running along the north side of the mill site platform to escape into the creek gully. A variety of discarded plant fragments lie, suspended in mud, about the site.</p>		
Historical reference <p>The possibility for crushing ore at the southern workings is briefly alluded to by Harcourt-Smith, however the mill appears not to have been built at the time of his visit to the site in early 1897. No other references to milling operations were identified during the study.</p>		

Synthesis/interpretation

The hydraulically powered plant was probably installed and operated during the latter part of 1897 to process selected ore from the adits higher up.

Condition

Fair: The floor of the mill platform is blanketed by thick mud, and the northern portion partially obscured through recent tree felling activity. The metal machinery items have collapsed through the decay of timber footings and display surface corrosion, but are otherwise sound. Timber elements are substantially decomposed.

Significance

Regional-State: The mill site contains a suite of plant which clearly demonstrates the sequence of ore processing, including primary reduction, fine crushing, separation, concentration and recovery, as well as the means of powering the equipment. The high level of integrity and rarity of individual plant items affords the site a high level of significance.

Sensitivity

High

Action

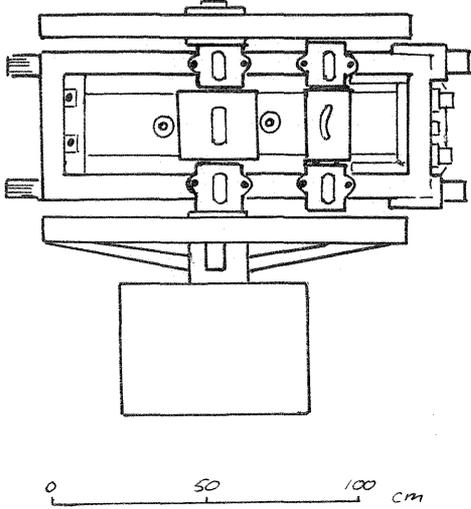
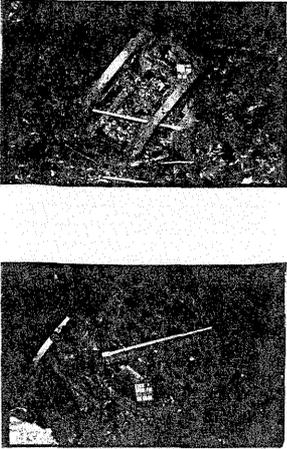
The site should be protected through inclusion in a suitably buffered works exclusion area, which also incorporates elements demonstrating sluicing, underground prospecting, ore transportation and water supply. Monitoring should be undertaken in order to determine the long term impacts of the recent exploration activity, and, if necessary a conservation plan prepared for the site.

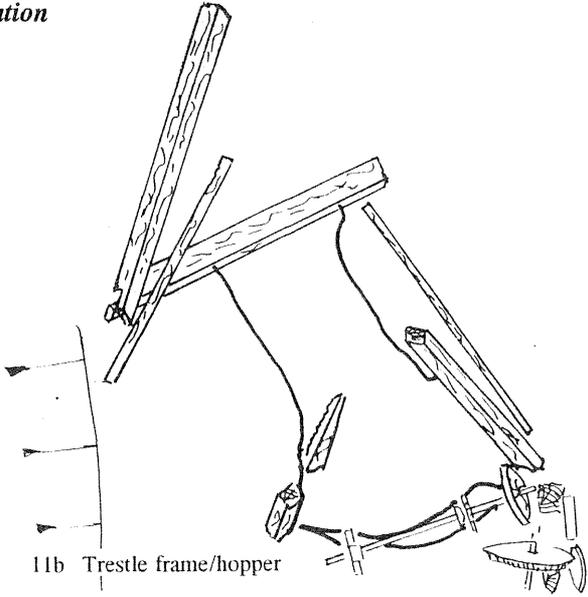
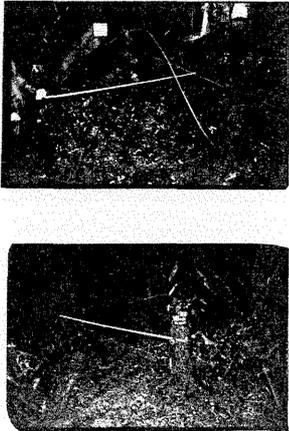
Records

Field book 1/11-18,21-22, 2/5-7

Photos

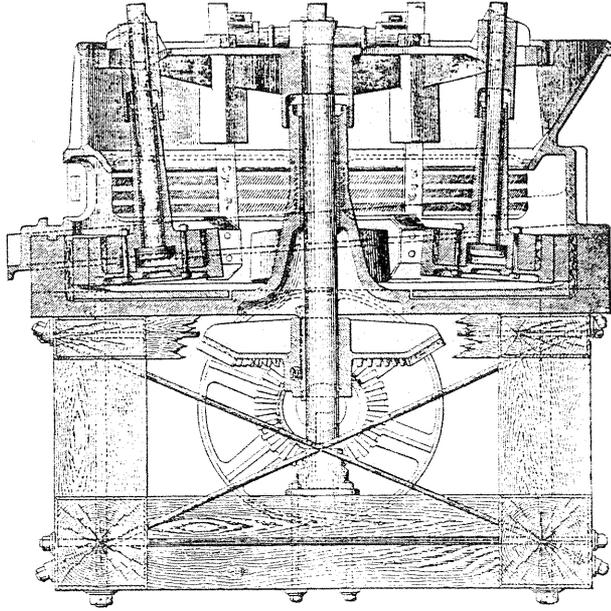
B&W Neg# 2/9-36, 3/3-17 Colour slide 28-36

Feature # 11a	Type Primary crusher	Grid Reference 84596N/47084E
Plan/illustration 		Photos 
Description A cast iron/steel 'Blake' style jaw crusher lies partially on its side at the base of the collapsed cutting which runs around the head of the mill site platform. The apparatus consists of a reciprocating jaw suspended above a fixed jaw plate all set in a frame measuring 1500 mm x 500 mm, flanked by paired flywheels of 1200 mm diameter. A belt wheel, 340 mm wide x 600 mm diameter, is fitted over the projecting shaft. Manufactures information 'Parke & Lacy' is embossed on the toggle shaft housing.		
Historical reference No specific references to operations at the site located. Possible references to its former use are given by Montgomery (1889 & 1893).		
Synthesis/interpretation The crusher is not in its original position, appearing to have fallen from either from the top of the bank or adjacent timber trestle, from which location reduced ore was sent via a chute to the Huntingdon Mill.		
Condition Good: The relic is superficially corroded but generally sound.		
Significance Regional: The relic demonstrates an important part of the milling process at the site, and arguably also has strong associations with mining sites in North-East Tasmania.		
Sensitivity High	Action The relic should not be disturbed.	
Records Field book 1/11	Photos B&W Neg# 2/9-11 Colour slide 36-39	

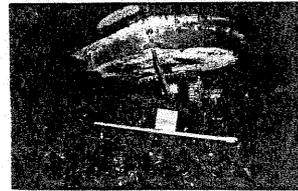
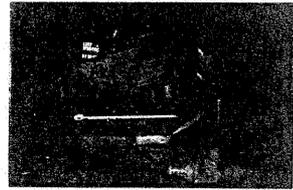
Feature # 11b	Type Trestle frame and hopper	Grid Reference 84594N/47082E
Plan/illustration 		Photos 
Description <p>The collapsed remains of a timber trestle lie at the base of the cutting at the north end of the mill site, immediately to the rear of the Huntingdon mill. The principal frame element consists of sections of two decayed posts, up to 1.5 m remaining length and set 2.0 m apart, connected to a 2.5 m long squared head beam by means of similar length, 15 mm thick, iron rods which run up the inside face of the posts to pass through the bottom of the head piece. A fourth 2.5 m long squared beam of lies across the west end of the header, both pieces being scarfed at their ends. The main timbers are all 200 mm (8") square. Several narrower (100 mm) palings up to 2.3 m in length lie adjacent to the collapsed frame.</p> <p>An axle assembly comprising a 2 m long shaft with 450 mm belt wheel at the east end, and two hasp brackets, sits at the base of the fallen posts. A section of buckled iron face plate, 1.5 m long, from a hopper of some configuration, lies beneath.</p>		
Historical reference <p>No specific historical reference to the feature has been located, however see Montgomery (1889, 5) for a description of a possibly similar set up.</p>		
Synthesis/interpretation <p>The trestle marks the point of access into to the mill site from the tramway, and probably supported the primary crusher from which reduced ore dropped into an iron hopper. The axle apparatus may be associated with a self discharging mechanism, enabling ore to be send automatically in a controlled manner into the feed chute of the Huntingdon mill.</p>		
Condition <p>The trestle has collapsed entirely and its timbers are substantially decayed. The hopper and possible feed drive apparatus have become detached and are partially obscured by silt and debris.</p>		
Significance <p>Local-Regional: The Trestle and hopper assembly is able to demonstrate the means of supplying ore to the Huntingdon mill. The hopper and axle may have associations with other mine sites in North-Eastern Tasmania.</p>		
Sensitivity High	Action The features should be avoided.	
Records Field book	Photos B&W Neg# 2/12-13 Colour slide 40	

<i>Feature #</i> 11c	<i>Type</i> Huntingdon Mill	<i>Grid Reference</i> 84593N/47084E
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Plan/illustration



Photos



Description

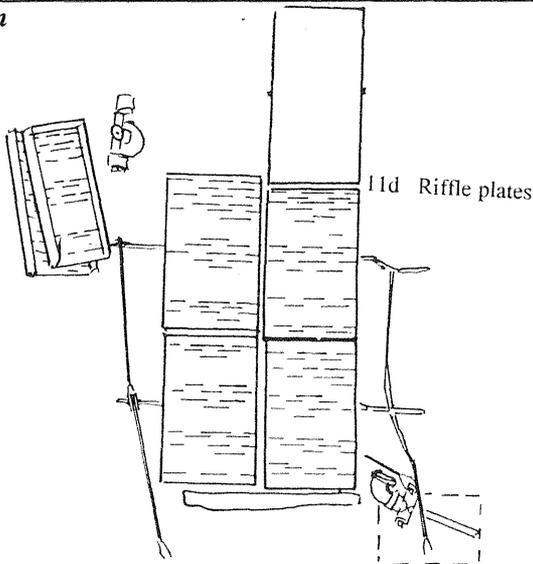
Situated roughly in the centre of the mill platform, the feature comprises three stacked cylindrical castings, 1500 mm, 1600 mm and 1700 mm diameter respectively and 600 mm, 400 mm and 300 mm deep. The lower casting is lined with steel plates around the internal perimeter. The southern side of the central casting is perforated by three rectangular openings, 650 mm in length, which open onto a broad launder with raised sides. A smaller square feed chute enters the opposite side of the top casting. Within the drum a cruciform yoke is suspended from a spindle which passes through a tall boss in the centre of the floor of the lower casting. Two rollers are suspended from the ends of the yoke, with another pair sitting in the mud beside the mill. Beneath the drum the spindle is attached to an 800 mm diameter bevel gear, coupled with a smaller bevel gear attached to a horizontal drive shaft. A second, unattached, bevel gear set lies on the ground a short distance to the north. The whole apparatus is set on a heavy frame of squared logs, measuring 3 m x 1.7 m x 600 mm high. A lightweight metal frame for what appears to be a seat is fastened to the bearer supporting the east side of the device. Patent information, embossed on both sides of the top casting, reads:

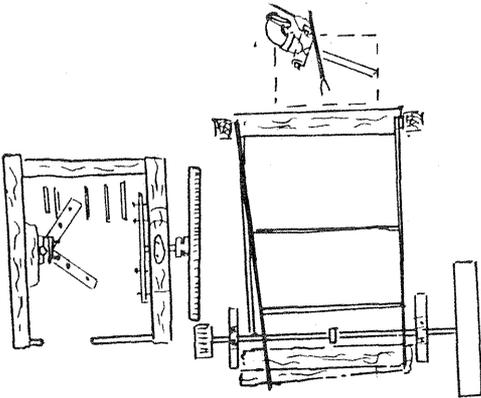
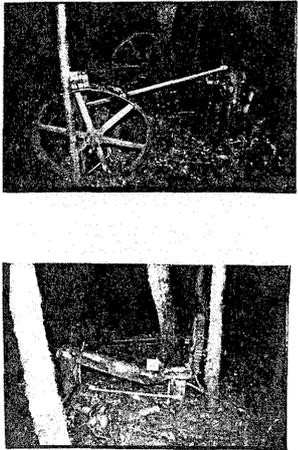
F. A HUNTINGDON
 PAT'D MAY 8 1883
 PAT'D SEPT 8 1885
 PRIVILEGIADO
 EN MEXICO
 ENERO. DE. 1886

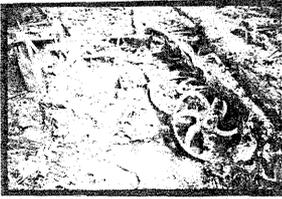
A hemispherical brass plate, affixed to the front of the casting, above the discharge vents, reads:

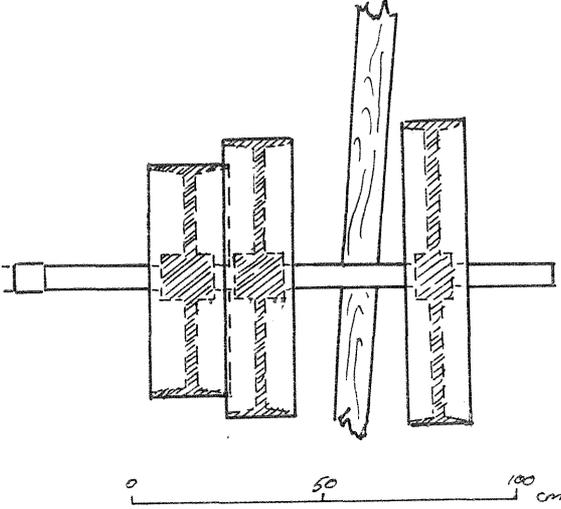
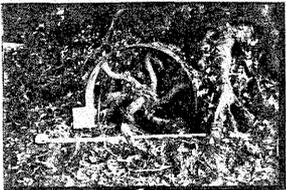
F. A. HUNTINGDON. CENTRIFUGAL
 ROLLER
 QUARTZ MILL,
 PARKE & LACY PATENTEES,
 SYDNEY. N.S.W

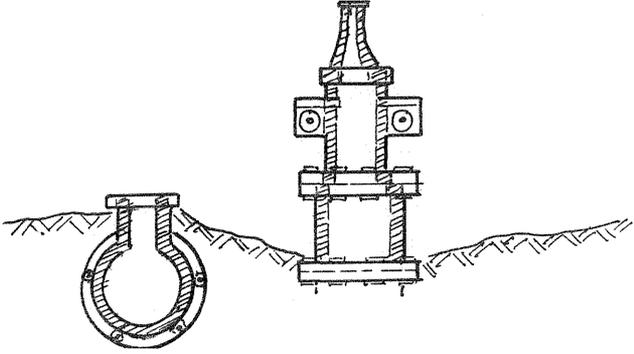
Historical reference	
No historical references to the use of the device at the site has been located, however see Montgomery (1889 & 1893) for possible information about its former use in Tasmania.	
Synthesis/interpretation	
The mill received the reduced brecciated porphyry ore from the primary crusher before pulping it and discharging onto the plates and tables below.	
Condition	
Fair: The mill castings, rollers and drive assembly are superficially corroded, but otherwise stable. The drum is partially filled with water and leaf litter. The timber footings are substantially decayed and have collapsed.	
Significance	
State: Unlike much of the other equipment present at the site, the Huntingdon mill represents, for its time, an essentially up to date piece of milling machinery, designed as much for its portability as for its ability to process sizeable quantities of friable ores. The item has potential associations with mine sites in North-Eastern Tasmania, and is possibly the only surviving device of its kind remaining in its operational context in the State, if not in the Country.	
Sensitivity High	Action Disturbance to the feature should be avoided. The relic must remain <i>in situ</i> .
Records Field book 2/5-7	Photos B&W Neg# 2/14-23 Colour slide 41-49

Feature # 11d	Type Riffle plates	Grid Reference 84592N/47082E
Plan/illustration 		Photos 
Description <p>A series of flat and riffled trays extends from the mouth of the Huntingdon mill, to cover an area of 4 m x 1.5 m. Closest to the mill, on the east side, is a shallow, flat bottomed, rectangular galvanised iron trough measuring 500 mm x 700 mm x 1100 mm, which sits upon a plank base supported over a frame of 150 mm squared bedlogs. A square section shaft or axle passes beneath the tray frame, suggesting some kind of cam-driven vibrating motion. A second trough, on the west side, could not be detected. The tray(s) feed(s) onto two pair of terraced and cantilevered cast iron riffle plates, consisting of 500 mm x 700 mm x 1100 mm plates with raised sides and staggered sets of triangular profile baffles spaced at 50 mm intervals. A square shaft/axle passes beneath the centre of each plate pair, from which uprights with handle ends rise, bolted along each side to a flat rod to produce a coupled cantilever effect. A spare pair of riffle plates lie partially on their side in the mud at the western side of the site.</p> <p>At the lower end of the tables is the collapsed remains of a timber paling trough, 500 mm x 950 mm x 350 mm deep, comprised of 140 mm (5 1/2") x 40 mm (1 1/2") planks fastened to 75 mm (3") x 40 mm (1 1/2") posts at 550 mm centres.</p>		
Historical reference No specific historical references located.		
Synthesis/interpretation The tables appear to have operated as a coupled cantilevered set, controlled by long levers running along each side. The flat tray beneath the mill possibly contained mercury for amalgamating gold in the fresh pulp, which overflowed onto the terraced plates for washing and trapping remaining free gold. The timber trough at the lower end of the apparatus is probably a settling tub for slimes.		
Condition Fair: The metal elements are superficially corroded but structurally intact, although the western flat tray seems to be missing. The east side lever arrangement has been flattened through tree fall. The tub has been similarly crushed. Other timber elements, framing and footings, are substantially decayed or absent. The whole feature is blanketed with mud.		
Significance Regional: Sufficient remains of the various troughs, plates and tub to demonstrate the means of separating and concentrating the coarse gold from the milled ore. The apparatus is a good example of a type rarely preserved on historic mining sites in Tasmania.		
Sensitivity High	Action The features should not be disturbed.	
Records Field book 1/14-15	Photos B&W Neg# 2/24,25 Colour slide 50-51	

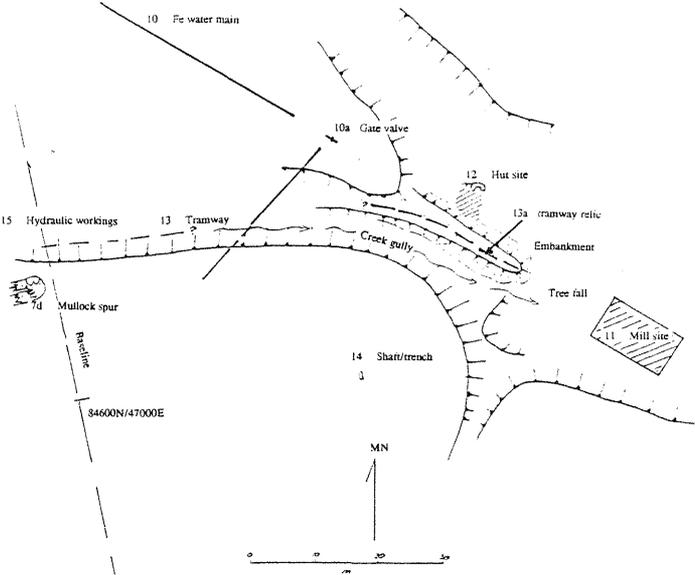
Feature # 11e	Type Inclined table assembly	Grid Reference 84589N/47091E
Plan/illustration  <p style="text-align: center;">11e Inclined table assembly</p>		Photos 
Description Situated at the south-east end of the mill site, the feature comprises a rectangular trough, 1750 mm x 1050 mm x 300 mm deep, made from 40 mm (1 1/2") palings, faced internally with galvanised iron sheeting, fastened with carriage bolts to the framing at 200-400 mm centres. The box is enclosed within a frame consisting of 150 mm (6") x 1750 mm long x 850 mm high posts at the north-west end and a three high stack of 100-150 mm (4-6") square x 1250 mm long beams at the south-east end, between two cast iron standards which support a shaft and drive wheel assembly. A three lobe cam at the centre of the shaft suggests that the top of the frame may have supported a vibrating table. A pair of lateral iron rods run from the rear framing posts across the top of the shaft at the lower front end. Immediately to the south west a smaller log footing, measuring 1450 mm x 1250 mm x 300 mm high, built of 150 mm lateral timber beams and 40 mm thick end boards, supports a large gear wheel, 1200 mm in diameter, which is paired to a small ratchet wheel at the south-east end of the aforementioned drive shaft. The gear wheel is attached by a short shaft to an iron cross brace, which appears to have held a laminated timber flywheel over the centre of the footing. Sections of curved iron strapping lie beneath. The opposing cross brace has fallen from out of place. The gear wheel/flywheel apparatus is secured to its log footing by means of timber collars.		
Historical reference No specific historical reference has been located.		
Synthesis/interpretation The larger frame and trough represent the remains of an inclined concentrating table of some configuration, possibly a Wilfley. The smaller frame adjacent appears to have supported a laminated flywheel/belt wheel, although the reason for its reduction coupling to the probable drive shaft, with its own belt wheel suspended beside the Pelton wheel overflow, has not been determined.		
Condition The timber elements are substantially decayed, however the feature retains a high degree of integrity.		
Significance Local: The features demonstrate the process of concentrating the fine gold from the slimes after having passed over the riffle plates. The crude nature of the apparatus suggests that gold recovery was minimal, further illustrating the pilot nature of the prospecting and crushing venture.		
Sensitivity High	Action The features should be avoided	
Records Field book 1/17,18	Photos B&W Neg# 2/26-33 Colour slide 52-57	

Feature # 11f	Type Miscellaneous hardware	Grid Reference 84594N/47089E
Plan/illustration		Photos 
Description <p>Miscellaneous items of engineering hardware and associated equipment lie scattered about the mill site. Several belt wheels, including one of 360 mm and two of 740 mm diameter are situated beside the water channel on the east side of the pad, midway between F 11e and F 11g, with a shaft mounting lying nearby. Two pipe valves for 3" internal diameter water pipes lie on the surface near the south east corner of the riffle tables (F11d). One of the valves is brass, retaining a large iron wrench-type handle attached to the valve boss and bearing a manufacturers plate with the information 'JOHN DANKS & SONS LTD MELBOURNE'. An iron rod with a sliding brass lock and forked end, to pivot, also lies amidst the collapsed timbers of the settling tub (F 11d).</p>		
Historical reference <p>No historical reference to the operations of the mill have been located.</p>		
Synthesis/interpretation <p>The pulley wheels and mounting may mark the location of a transfer point between the Pelton Wheel driven set coupled to the Huntingdon mill and the inclined table at the south end of the site.</p>		
Condition <p>Fair: The items display varying degrees of surface corrosion, but are reasonably stable in their present environment.</p>		
Significance <p>Local: The items, when viewed in context, are able to demonstrate various facets of the engineering for power transfer associated with ore processing and gold recovery operations at the site</p>		
Sensitivity High	Action All portable items of plant and equipment should remain <i>in situ</i> .	
Records Field book 1/21	Photos B&W Neg# 2/34,35 Colour slide 58-59	

Feature # 11g	Type Pulley wheel assembly	Grid Reference 84594N/47087E
Plan/illustration 		Photos 
Description <p>A graduated series of three broad rimmed belt wheels are fastened to a 60 mm (2 1/2") diameter steel shaft, at least 1.5 m long, the axis of which passes across a 700 mm wide channel which runs along the east side of the mill site platform. The belt wheels measure 500 mm, 740 mm and 800 mm, being of 5 x 'C' spoke, 6 x 'C' spoke and 6 x 'S' spoke configuration respectively. A single piece of milled timber, measuring 90 mm x 120 mm x 1.4 m long passes beneath the shaft, between the two larger diameter wheels, and connects with a larger bedlog, measuring 200 mm (8") all square x 1015 mm, which trends towards the north-east corner of the Huntingdon mill frame.</p>		
Historical reference <p>No specific historical reference located.</p>		
Synthesis/interpretation <p>The graduated wheel set lies in line from the postulated position of the missing Pelton wheel take-off, and is positioned adjacent to the Huntingdon mill, strongly suggesting that it was the means of providing the power transfer, as well as the reduction needed to compensate for lack of variable gearing at the pan.</p>		
Condition <p>Poor: The wheel and shaft set display surface corrosion but are generally sound. The timber footings are substantially decayed.</p>		
Significance <p>Local: The assembly demonstrates the means of transferring and regulating mechanical power from the Pelton wheel to the Huntingdon mill.</p>		
Sensitivity High	Action The relics should not be disturbed.	
Records Field book 1/13	Photos B&W Neg# 2/36, 3/0-2 Colour slide 60-63	

Feature # 11h	Type Pelton wheel jet	Grid Reference 84598N/47085E
Plan/illustration 		Photos 
Description A cast iron jet assembly protrudes from the mud at the far north-east corner of the mill site platform. The device is constructed in three sections, a section of 180 mm (7") diameter pipe being bolted to a 100 mm (4") diameter section, to which is fastened a 170 mm long nozzle, which necks down to terminate at a reinforced ring with a 40 mm (1 3/4") opening. The broken end of a section of cast iron 180 mm water pipe lies buried in the mud beside the jet, on line with the projected termination point of the water column F 10.		
Historical reference No specific historical reference has been located		
Synthesis/interpretation The jet was probably fastened to the now truncated end of the pipe column, which delivered water from the race at high pressure to a Pelton turbine, which no longer remains on the site.		
Condition The features are largely obscured by mud. Where visible, the items display surface corrosion but otherwise appear reasonably sound.		
Significance Local: The jet and pipe section are associated with the means of converting hydraulic energy to mechanical power at the site.		
Sensitivity High	Action The features should not be disturbed.	
Records Field book 1/12	Photos B&W Neg# 3/3,4 Colour slide 64-65	

Site # 12	Type Hut site	Grid Reference 84620N/47068E
Associated features		Dating c1897
Plan/illustration		Photos 
Description <p>The remains of a small hut are situated on the floor of the gully approximately 30 m north-west of the battery site. The ruins comprise a rectangular chimney base, measuring 2.5 m x 1.2 m and standing up to 0.5 m high, built from granite mullock and earth and sitting atop a low cut embankment up to 0.6 m high. A fragment of heavy gauge cast iron plate stands to a height of 540 mm against the rear of the fireplace, tied by a bolt into the mullock surround. A scatter of domestic, mechanical and possibly architectural debris litters a roughly level area extending to the south away from the chimney base. Included are pipe and shaft collar fragments, a spanner and auger bit, and a small number of bottles. A single Codd patent soda bottle bears the details 'M.E. ABBOTT LAUNCESTON'.</p>		
Historical reference No specific reference to the feature has been identified, however Harcourt Smith refers to men working at the site at the time of his visit in mid 1897. Given the extent of the sluicing and prospecting work carried out, and that involved in setting up and operating the mill, it is likely that a number of structures may have existed at one time for workers' accommodation and workshops.		
Synthesis/interpretation The structure may have served as accommodation for workers or a workshop associated with mill operations, or both.		
Condition Poor: The hut site is substantially degraded as a result of erosion, being situated essentially in a creek bed, as well as being impacted upon by recent tree felling operations associated with drill pad preparation.		
Significance Local-Regional: The hut site has the ability to demonstrate the facets of the prospecting venture relating to workers' accommodation and machinery maintenance, and forms a vital counterpoint to the predominantly industrial character of most of the other surviving features at the site. The feature has enhanced significance through its probable association with establishment and maintenance of the mill plant.		
Sensitivity High	Action Avoid further disturbance. Relics are to be left <i>in situ</i> and should not be collected unnecessarily.	
Records Field book 1/20, 2/9	Photos B&W Neg# 3/28,29 Colour slide 66	

Site # 13	Type Tramway	Grid Reference 84623N/47000E- 84006N/47071E
Associated features 13a-tramway relic		Dating c1897-1898
Plan/illustration 		Photos
Description <p>The remains of a tramway are traceable along the floor of the gully beneath the Lower adit mullock heap (F 7d) running for a distance of 70 m towards the mill site. A formed mullock embankment, up to 3 m high with crest width of 1.5 m, extends around the south face of the low spur carrying the water column (F 10) over the 25 m section closest to the mill site, the point of intersection being washed out and concealed by tree fall. N.J. Turner (pers. comm.) reports the presence of tram rails/sleepers in the base of the gully at approximately 84620N/47030E, however the observation was not able to be confirmed.</p>		
Historical reference <p>No specific historical reference to the feature has been located.</p>		
Synthesis/interpretation <p>The tramway appears to have followed the gully floor from below the lower adit for at least a portion of the distance to the mill, however the embankment and associated relics (F 13a) suggest that it ran for the latter part of its length on a built formation and probable trestleway.</p>		
Condition <p>Poor: The feature is subject to erosion and its alignment is largely concealed through the effects of recent tree felling activities.</p>		
Significance <p>Local: The tramway demonstrates the process of transporting ore from the adits to the processing area.</p>		
Sensitivity Medium	Action <p>Further disturbance to the feature should be avoided. Monitoring should be undertaken to determine the erosional effects of the recent exploration activity.</p>	
Records Field book 1/20b, 21b	Photos	

Feature # 13a	Type Tramway relic	Grid Reference 84610N/47061E
Plan/illustration		Photos
Description A 480 mm diameter 4-spoke wheel with perimeter spur gearing, set on a 70 mm diameter shaft of indeterminate length, is situated on top of the mullock formation (F 13) approximately 20 north-west of the mill site. A large iron bolt, 18 mm (3/4") section with a 40 mm square head and standing 710 mm high, protrudes from the ground immediately to the east.		
Historical reference No specific historical reference to the feature has been located.		
Synthesis/interpretation The items may be associated with a braking or winching mechanism on the lower portion of the tramway ahead of the mill terminus.		
Condition Poor: The feature is obscured by tree fall.		
Significance Local: The feature appears to be associated with the tramway system, and has the potential to demonstrate aspects of the system of ore transportation at the site.		
Sensitivity High	Action Avoid disturbance to the feature.	
Records Field book 1/20b	Photos	

<i>Site #</i> 14	<i>Type</i> Shaft/trench	<i>Grid Reference</i> 84595N/47044E
<i>Associated features</i>		<i>Dating</i> c1897
<i>Plan/illustration</i>		<i>Photos</i>
<i>Description</i> A small rectangular shaft is situated near the end of the spur, recently cleared for use as a drill pad, overlooking the mill site. The cutting takes the form of a narrow straight sided trench, 1.5 m x 0.6 m x 1 m deep.		
<i>Historical reference</i> No specific historical reference to the feature has been identified.		
<i>Synthesis/interpretation</i> The feature probably represents a small prospecting trench, cut into the oxidised ferruginous schists which extend the length of the spur. The costean may pre-date, and therefore may have informed the more substantial underground workings further west.		
<i>Condition</i> Fair: A number of large trees, since cut down, have grown into the sides of the trench. Some recent litter has been deposited in the feature.		
<i>Significance</i> Little-Local: The feature in isolation has only limited significance, however its significance is enhanced if considered within the context of the overall historic prospecting strategy employed at the site.		
<i>Sensitivity</i> Low	<i>Action</i> Avoid if possible.	
<i>Records</i> Field book 1/22, 2/10		<i>Photos</i>

Site # 15	Type Hydraulic workings	Grid Reference 84650N/47000E to 84520N/47150E
Associated features		Dating
Plan/illustration		Photos
Description Sluicing has been principally confined to the gullies of two creeks which flank the low projection of the southern spur which extends beneath the prospecting adits to overlook the mill site. The workings encompass an area of approximately 1.5 ha and comprise a discontinuous series of low faces, up to 3 m high, running across the knoll and around the heads of the adjacent gullies.		
Historical reference No specific historical reference to sluicing activity had been identified, however Harcourt-Smith (1897) observed that: <i>Good gold has been obtained from the creek on the eastern side, and from another creek running to the west good gold is said to have been obtained up to where it cuts through the spur, to the north of the present workings.</i>		
Synthesis/interpretation The sluiced workings represent early prospecting activity at the site, and involved stripping away the shallow soils in order to expose the mineralised schists over a large area in advance of underground prospecting.		
Condition Poor: The low level features are typically eroded and overgrown.		
Significance Little-Local: The workings demonstrate the evolution of prospecting activity at the site.		
Sensitivity Low	Action None required	
Records Field book 1/22		Photos

29. TDR'S RIGHTS

Any express statement of a right of TDR under this Agreement is without prejudice to any other right of TDR expressly stated in this Agreement or arising at law.

**SCHEDULE 1
(CONTRACTED SERVICES)****THE PROJECT:**

Recording of Lucy Spur Goldfield.

THE SERVICES:

The Consultant is required to perform the following service:

Archaeological recording of Lucy Spur Goldfield as outlined in the Project Brief.

SPECIFIED PERSONNEL

Greg Jackman, Back-Tracks Heritage Consultants

Other Back-Tracks Heritage Consultants staff as required.

PROJECT BRIEF

Recording of Lucy Spur Goldfield.

PROJECT AIM

To record the Lucy Spur Goldfields and associated features located near Corinna.

PROJECT JUSTIFICATION

The Lucy Spur Goldfield is known to contain abandoned mining machinery from earlier phases of gold extraction. An assessment of the significance of the goldfield is required so appropriate conditions can be placed on future exploration in the area.

PROJECT DESCRIPTION

The project will require:

- Background research to establish the history of the Lucy Spur Goldfield.
- Field examination of the site and a detailed recording of the goldfield especially the machinery in context.
- Documentation of the site on standard THPI forms including preparation of a plan of the site which focuses on the machinery and associated features.
- Preparation of a report which summarises the results of the project and documents methods, results and provides a photographic record as well as written descriptions of the goldfield and machinery.

The time break down for the above tasks should be approximately:

Background research:	2 days
Site recording:	3 days
Report production:	<u>2 days</u>
Total:	6 days

SPECIAL REQUIREMENTS

- The consultant will provide two copies of the report to Mineral Resources Tasmania.
- The report is to contain standard information on authorship, project background, methodology, results, references and a copy of this brief.
- The report is to contain a detailed photographic record of the area *situ* as well as documenting all associated features by means of a written description and a site plan with an emphasis on machinery site.
- All photographs are to become the property of the Mineral Resources Tasmania. Copies may be kept by the consultant.
- There is no restriction on the use of research data provided the source of the data and funding is quoted.

The project will be coordinated by John Pemberton, Mineral Resources Tasmania

Payment of the total will be upon submission of the report and associated documentation.

The project is to be completed by 30 June 1997.