

A Draft History of the Nine-Mile Diggings, Kiandra Goldfield

David Scott, November 2008

MR. 2043

TRACING

Shewing Gold Diggings near

KIANDRA

TUMUT RIVER

SELWYN

Eight Mile Diggings

Fourteen Mile Diggings

Round Hill

Three Mile Diggings

Two Mile Diggings

One Mile Diggings

Trails Top

Waller

North Hill

South Hill

Waller

Waller

Represented with stars on this map are the sites of the diggings. The diggings are situated on the banks of the Tumut River and are situated on the banks of the Tumut River and are situated on the banks of the Tumut River.

Source of the Tumut River is situated on the banks of the Tumut River and is situated on the banks of the Tumut River.

Ligar's Route

Trails Top

Scale 2 miles to an inch

0 1 2 3 4 5 cm



To accompany my Report
James Young
Geological Survey
1860

Handwritten notes in the bottom left corner, including "No. 1015" and "Kiandra".

Fig 1: Kiandra Goldfield – early map (1860?) showing separate diggings, with Ligar's Route added - mine record MR2043 © NSW DPI

Nine-Mile Diggings:

Nine-mile diggings is located in the northern part of the Kosciuszko National Park, about nine miles (~14.5km) by track south of Kiandra. In its early days the Nine-mile was accessed via a track that ran over Dunn's Hill and down Commissioner's Gully to the Four-mile, before dimbing over the range into the headwaters of Nine-mile Creek. That track – part of Ligar's Route – travelled on via Arsenic Ridge, Farm Ridge and Toolong Plain to the Murray. Today access is a walk along the Tabletop Fire Trail, which starts and ends on sections of the original track, but follows a higher route to the west for most of the distance.

Outside of the immediate Kiandra township environs, inclusive of Pollocks gully, Township and New Chum Hills, the Nine-mile was the most important diggings on the Kiandra Goldfield. At times the Nine-mile produced more gold than any other part of the field, especially around the turn of the C20th century.

Discovery of The Kiandra Lead

The initial discovery of gold at Kiandra is generally attributed to the Pollock brothers prospecting of Bullock Head Creek in October 1859⁽¹⁾. The Pollocks were graziers from the Murray, who brought sheep into the area each summer and prospected the area in their spare time. An alternate claim is that a party from Denison comprising William Russell senior, Berrigan, Black and McLean made the initial find and negotiated with Robert Pollock to take some gold for testing⁽²⁾. In either case, the Pollock's report of the discovery at Tumberumba⁽³⁾ was the trigger to subsequent events.

In November a further find of 'payable gold' in Pollock's Gully by Gillon, Hayes and Grice was reported⁽⁴⁾. By December the rush to Kiandra had begun, and by March the goldfield population would peak at about 10,000 miners⁽⁵⁾.

The area between Kiandra and Tabletop Mountain was quickly opened up:

"The country to the south being exceedingly rough, a surveyor named Ligar devised a route for the Victorian miners by way of the Upper Murray, coming into Kiandra through Happy Jack[s Plain] ... Ligar's Route.

"As the diggers swarmed along this and other routes they prospected the area ... of Table Top Mountain and the Four Mile.

"Towards the end of January 1860, the Four Mile rush took place and about 1000 miners were employed ... many of them making small fortunes.

"The Nine Mile also broke out at this time, and kept another 1000 people employed ... very rich water-worn gold was found in Scott's Gully ... the finds were almost phenomenal ... and by working up this watercourse, the gold was traced into the old drift underlying the basalt."⁽⁶⁾

The "old drift", and the source of the gold found in the creeks around Kiandra, was the *Kiandra Lead*, itself an ancient river bed of gold-bearing gravels laid down ~40,000,000 years ago. The river channel of the *Lead* follows a meandering course that extends 20km north and 16km south of Kiandra. It rarely exceeds 200m in width whilst the deepest part of the river

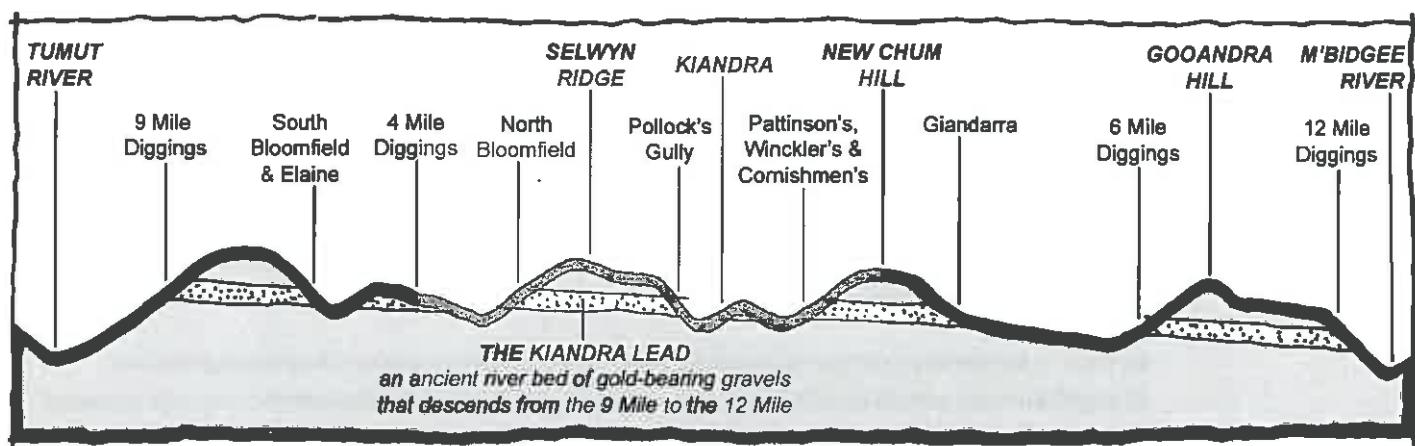


Fig 2: Cross-section of the Kiandra Lead - the primary source of gold on the Kiandra Goldfield.

channel - to which the gold gravitated and known as *the wash* or *washdirt* - is typically around 50m in width⁽⁷⁾. The channel was subsequently overlain by a layer of basalt which caps the ranges from Gooandra Hill to Tabletop Mountain. Where streams have carved through the basalt and exposed the *Lead* on the sides of these ranges, the gold bearing gravels of the *Lead* are exposed on the hillsides whilst the creeklines below those hillsides contain gold deposited through erosion of the *Lead*. From 1860, major diggings developed at the key locations where the *Lead* was exposed - the Four-, Six-, Nine-, and Twelve-Mile; North and South Bloomfield, Pollock's Gully, Township Hill, New Chum Hill, and Giandarra.

Official references to the mining of *alluvial gold* at these diggings generally relates to the *nature* of the source – the *Kiandra Lead* being an *alluvial* feature, distinct from a *reef* where the gold occurs as veins within a body of quartz. Some confusion occurs from the similar term *alluvial workings* being used to describe the *location* of mining activity along a creek.

Little reef gold was found on the Kiandra Goldfield. Most gold came out of the loose gravel deposit of the *Kiandra Lead* and required flushing with water, rather than crushing, to extract it. Thus the goldfield was more widely strewn with sluice boxes than stamper batteries.

The Nine-Mile Rush - 1860

The first camp at the Nine-Mile is believed to have been established by prospectors in the headwaters of Scott's Gully (later renamed Scotch Gully) and Nine Mile Creek, early in January 1860. Within a few weeks, miners swarmed and the authorities quickly moved to protect the miners and service businesses with an announcement on 10 February that a Lock-up and Guardroom would be built at the Nine Mile. A makeshift township sprang up of tents or bark gunyahs; "*sly grog shops and stores constructed from hide and calico*"⁽⁸⁾

Initial mining activity focused on excavating alluvial gold from along the creek lines. The alluvial deposits proved exceedingly rich, yielding the order of one ounce of gold per man per day⁽⁹⁾. The gold was generally fine or granular in its form although nuggets of up to 120oz [3.7kg] were recovered.⁽¹⁰⁾

The Sydney Morning Herald reported "1400" miners at the Nine Mile as of 15 March; whilst the Assistant Gold Commissioner estimated a more conservative 800 - 1000 on the diggings at 2 April⁽¹¹⁾.

On 28 May, 800 miners were reported working across 10 daims⁽¹²⁾. Ground sluicing was being used extensively – where water was channeled along racelines or through canvas hoses to wash away gravel deposits as they were being broken up with a pick. The gravels were flushed into sluice-boxes or a tail-race in which the gold would gravitate to the bottom for later collection. The main target of sluicing was the gravel banks of existing and former creeks along the tributaries of Scotts Gully and Nine-mile Creek, with excavation typically to a depth of 4-6 feet [1.2-1.8m]. Numerous small dams and racelines used for ground sluicing remain evident today. It is likely that ground sluicing or open cut mining was also being undertaken on the *Lead*, where it was exposed on the hillside at the location of the (later) *Empress* sluice cut.

Many officials believed the Kiandra goldfield would be abandoned for the winter, but the diggers proved more determined and hardy than expected. Surveyor Lt Colonel Freeling appraised the situation in May: "*provided the diggers are properly housed and fed they can remain and work on some part of the diggings during the winter; but I do not believe to work during that season would be at all profitable. To brave the winter under a calico tent would be madness . . . the site of any permanent building should be judiciously selected so as not to be liable to be covered by snow drift. The danger of attempting to winter in Kiandra this season will consist chiefly in want of food . . . in the present unimproved state of the roads [the place] will be unapproachable for months*".⁽¹³⁾

Gold Commissioner Cloete responded: "*On the 'Tabletop' or 'Nine Mile Rush' about 200 diggers will, I think remain, or rather attempt to remain. . . . I have offered 20 pounds for the complete marking of a track from the Tabletop to 'Chalkers', on the main road to Cooma . . . 20 miles south of Kiandra . . . which by taking a leading range will avoid all swamps and creeks, and be practicable during any but the most severe snow storms*".⁽¹⁴⁾

Numbers on the field declined progressively as the weather turned to snow and the deposits of alluvial gold waned, although 500 miners were still on the Nine mile as late as July 1860⁽¹⁵⁾. The first tunneling operations commenced around this time, into the hillside in the vicinity of the (later) *Empress* sluice cut. Tunneling work may have offered respite from the snow, but the gravelly and porous nature of the *Lead* resulted in a steady flow of water through the tunnel. Bert Bell

The Empress Claim - 1870s

The main focus of the mining activity at the Nine-mile over the next 60 years would be the *Empress Mine* – sluicing and tunneling into the *Kiandra Lead* on the hillside overlooking Scott's Gully. It is unclear when the name *Empress* first came in use, but certainly by the mid 1870s⁽²⁵⁾.

The exposed *Lead* at the *Empress* site was probably worked by ground sluicing from 1860 through the 1870s. Here the ground sluicing method was on a grand scale, forming a large cut into the hillside. The face was being chiseled away by pick and water, flushed into a tailrace at the base. A number of racelines that today end abruptly at the south side of the existing sluice cut, probably date from this period. In 1876 the Mining Inspector reported:

"the present face of the 'Empress' . . . is fully 130 feet [40m] in depth, about 50 feet [15m] of which is wash-dirt . . . ground sluicing . . . pays 20s per day to every man employed whilst the water lasts . . . the best sluicing claims did not get more than six weeks water this season . . . in most seasons the water lasts 10 to 12 weeks. The majority of sluicers here work their claims while there is water, and when none, follow some other occupation."⁽²⁶⁾

By the mid 1870s John M Lette was the owner of the *Empress* claim. Lette owned many of the larger operations on the Kiandra Goldfield including the *Emperor*, *Cornishman's* and *Homeward Bound* claims at New Chum Hill.⁽²⁷⁾

Other recorded claim holders on the Nine-mile during the early 1870s include Bourke and Halloran⁽²⁸⁾, William Bourke⁽²⁹⁾, and Chee Fook and Others⁽³⁰⁾. The latter is the first record of Chinese miners at the Nine-mile, who would remain in force on the Kiandra goldfield up to the First World War.

The Mining Act in 1874 brought changes to the issuing and recording of mining leases. The previous system of 'claims' was temporarily converted to 'Gold Mining Leases' recorded on Lands Department portion plans up to the 1880s, when the current system of 'Gold Leases' (GL#) and 'Mining Leases' (ML#) with their associated GL and ML plans was introduced. Unfortunately for researchers, the old claims – for which records are difficult to locate - remained in place until surrendered or replaced with one of the new gold leases, often years later.

Drought conditions through the late 1870s seriously reduced the viability of mining operations and played a major contribution in the decline of the Kiandra goldfield. The *Emperor* at New Chum Hill and the *Empress* at Nine Mile were the only claims subject to major mining activity. Gold production across the field dropped to just 200oz [5.7kg] in 1878, whilst only 100 miners' rights were issued.⁽³¹⁾

"Everything here depends upon the supply of water, so that those who have the first water-rights out of creeks or springs virtually hold the gold-field in their hands. All the disputes . . . are about or in connection with water, and some of the parties have shown themselves to be exceedingly pertinacious in wrong-doing."⁽³²⁾

The drought moderated briefly in 1879, when twelve miners were recorded at work on the Nine-mile and Four-mile diggings.⁽³³⁾

A Quest for Water - 1880

Dry conditions returned in 1880. Eight parties are recorded as working the Nine-mile for three months, with none having sufficient water to *washup* – flush the excavated *wash-dirt* to extract the gold.⁽³⁴⁾

"The drought still continues with unabated severity, and I have not seen so short a supply of water here for nearly 40 years past. Even the mountain streams, which used formerly to be little affected by the heat of summer, are drying up one after the other . . . and the limited supply of water hardly serves to keep the sluice boxes tight . . . alluvial mining is altogether stopped, and even quartz mining is at a standstill from the fact there is not sufficient water to supply the motive power for the crushing machines."⁽³⁵⁾

"With a very moderate outlay, the head waters of the Tumut could be brought to bear upon this deposit, and until this is done Kiandra will not advance. Working three months and lying idle nine months, will never do . . . sluicing must ever be the great feature in the working of the Kiandra Gold Field, and until water is available, little advance can be made."⁽³⁶⁾

The concept of bringing water from the Tumut River via Tabletop Mountain to the Kiandra Goldfield was first raised in 1876, and by 1878: "Mr Philip Davis, a gentleman of great mining experience, recently made a rough inspection of the country embracing the head waters of the Tumut River. He estimates the outlay required at from £12,000 to £15,000' and later 'On the Nine-mile . . . an attempt was lately made by a few gentlemen, including a well-known mining manager, Mr Philip Davies, to try and bring water from the head of the Tumut River, in which attempt they failed"⁽³⁷⁾. It is unclear what is meant by 'failed': did they abandon the task after surveying the difficulties of the route, or following commencement of a raceline?

The Mines Department subsequently investigated the feasibility of the proposal, as the introduction of hydraulic sluicing was considered to have vast potential across the Kiandra Goldfield. In 1880, Geological Surveyor Lamont Young reported:

"With the aid of a compensated aneroid I ascertained that a fair amount of water, enough to supply twenty sluice-heads continuously, could be obtained from the left-hand branch of the Tumut River; two gaps, however, were unfortunately found to occur between the source of the water and the first diggings . . . Snow Vale and Russell's Corner . . . are too deep to be bridged over with fluming . . . [requiring] inverted siphons. The length of the race up to the Nine-mile diggings, the first place where the water would be used, would be about 25 miles, and an additional twelve miles could be required to take water on to New Chum Hill and Township Hill deposits. Mr Lett[e], JP . . . informed me that £100 a mile would . . . cover the cost of constructing this race.

"Mr Sullivan, LS, mining surveyor, is at present engaged in taking some levels in order to check my aneroid observations . . ."⁽³⁸⁾

Sullivan reported: "I have the honour to inform you that I have just returned from Kiandra, where I have been occupied, according to your instructions, in running a level from the Nine-mile diggings to a branch of the Tumut River known as Doubtful Creek . . . I took as my datum level a point 120 feet above the level of the wash in the Empress claim . . . thence I ran a contour line following the main range which separates the waters of the Tumut and the Eucumbene Rivers. At 9½ miles . . . the range falls suddenly and causes a small break [The Dip?] . . . across which water can be brought by fluming . . . 30 chains further on is Russell's Gap . . . 292 feet below the datum point. The range is then very low for a considerable distance, and three other gaps occur at short intervals . . . Harnett's Gap . . . 255 feet below the datum . . . Barney's Gap . . . 182 feet below the datum . . . Snowvale Gap . . . 385 feet below the datum. After leaving Snowvale, the range rises very rapidly and, with the exception of two small breaks, is much higher than the Nine-mile claims, and I considered it advisable. . . to fix . . . a point on the Doubtful Creek which would allow sufficient fall . . . but I was unable to do this, as the weather was extremely severe, and snow had been falling almost uninterruptedly during my last fortnight there, and was very thick on the ground. However, I reached the Creek a little lower down, and left a bench mark on it's right bank, at a point 72.67 feet above my datum point. The stream at this place is 12-15 feet wide and nearly 3 feet deep . . .

"The distance . . . of the race may be set down very approximately as 30 miles [48km] . . . The whole . . . amount of piping to be done would be about 11 miles [18km], chiefly embraced in the four gaps above mentioned; and allowing a head of only 8 feet per mile to overcome friction, this would bring the source . . . 170 feet [52m] above the datum point, and consequently 1¼ mile nearer the head of the stream than the place I left off. This would naturally reduce the volume of water available, and the chances of it being permanent in all seasons, very much.

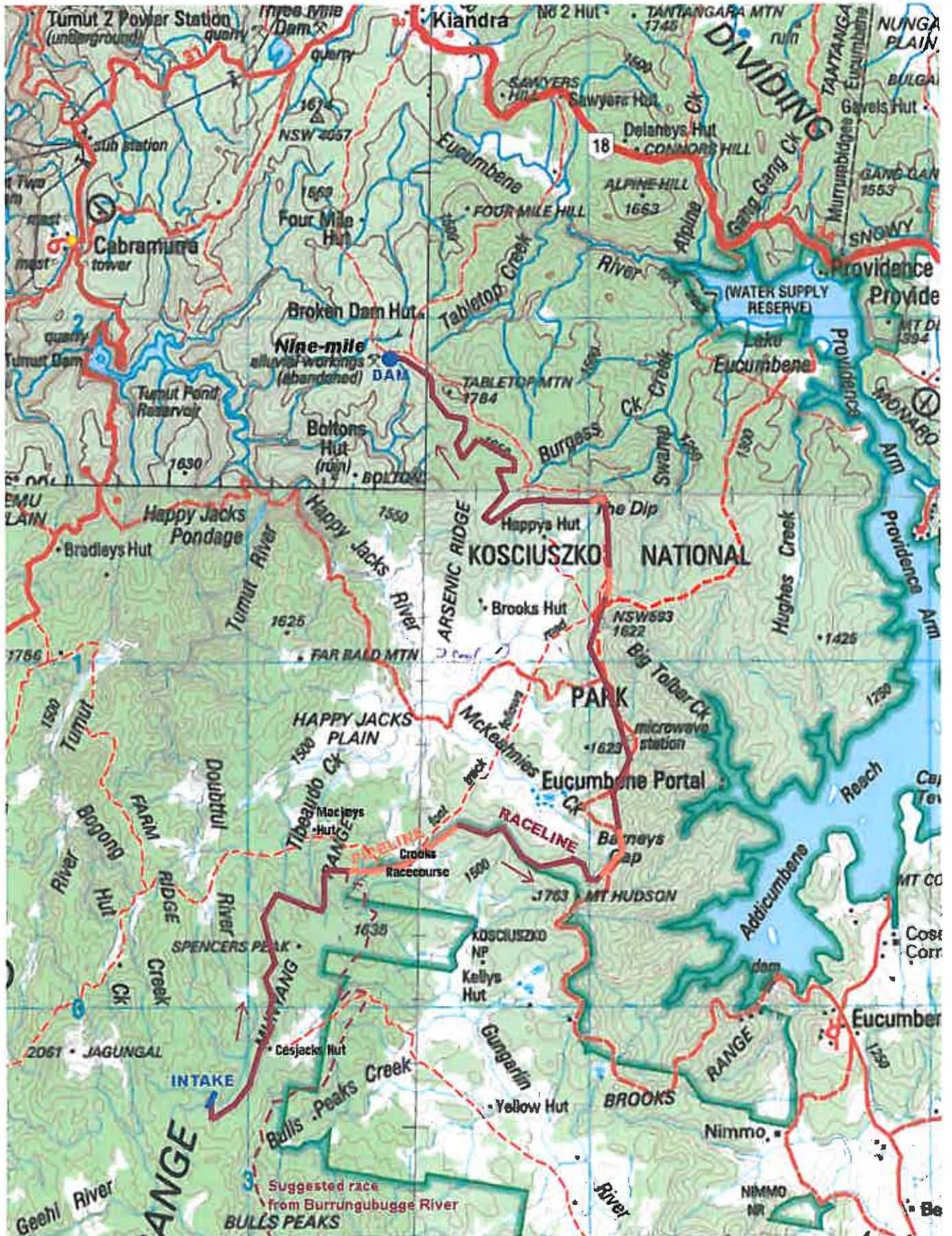


Fig 4: Approximate route of proposed race/pipeline from Doubtful River to the Nine-Mile. Basemap 1:250,000 Natmap.

"I have been informed by some of the residents of Kiandra that the supply might be augmented by cutting a canal from the Burrungubugge River . . . to the Snowvale Gap, where the two races could meet; but the practicality of this I am unable to speak, as I have not examined it."⁽³⁹⁾

The absence of guaranteed year-round flows and construction cost went against the Doubtful River proposal. The future of hydraulic sluicing lay in the fall-back option described by Lamont Young in 1880 *"for one of two claims the present supply might be supplemented; thus a fair-sized dam might be made on the site of the Three-mile diggings, which is practically worked out, and this water used for the claims on New Chum Hill. There is also a good site for a dam just behind Mount Tabletop, from which the water could be brought on to the Empress Claim."*⁽⁴⁰⁾

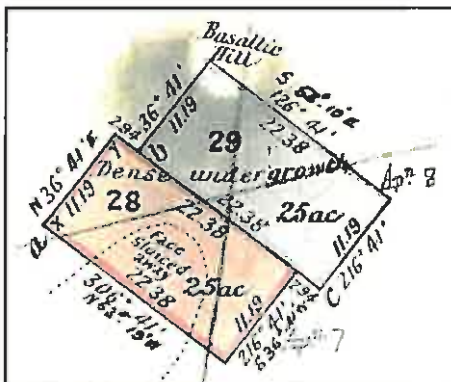


Fig 5: GML/Portions 28 & 29 of William Davies

Hydraulic Sluicing - 1880s

In 1881, Lette sold a number of his claims, including the *Empress*, to a syndicate led by Russell Barton. The *Empress Company* was formed to develop the Nine-mile and acquired lease GML/portions 28 and 29 through William Davies - incorporating the face of the open cut and land above⁽⁴¹⁾. At the time the other claim holders at the Nine mile were A Marshall and R Colhoun, *"Marshall is a long resident of this diggings, as also Colhoun, who has the best position on the creek, and owns alluvial claims as well as leases . . . in the creek two large Chinese parties are doing very well, and commencing to understand the nature of a lease"*⁽⁴²⁾. The Chinese teams had taken up small alluvial claims downstream on Nine mile Creek in 1881, Gee Wah and Party on GML/portion 30 and Yet Wah and Ah Way on GML/portion 31.⁽⁴³⁾

At a time of depressed mining activity, the Barton syndicate brought substantial investment capital to Kiandra with the view to introducing hydraulic sluicing. The primary focus of the syndicate was to be the New Chum Hill claims:

"In 1882 the Three Mile Dam was constructed and connected with the claims by means of a large single headrace, 130 feet above the base of the wash. Hydraulic sluicing was started at these claims in 1883. One nozzle was at first employed, but subsequently an additional one was brought into play. The Cornishmen's, and Pattinson's and Winckler's claims were . . . sluiced by hydraulic methods."⁽⁴⁴⁾

The nozzles were operated day and night, and reportedly capable of removing 60 tons of earth per hour⁽⁴⁵⁾. The operation was described in Mines Department reports:

"water is conveyed by a race to the workings . . . a constant supply of water is obtained from a dam . . . on the top of the face, and the water is conveyed from there, first in 22 inch pipes [560mm], and then in 15 inch pipes [380mm], to the bottom of the cutting, where the pipes are reduced to 13 inch [330mm], and this size of pipe carries the water to the nozzle, whose diameter at the point is 5½ in [140mm]. Pressure is . . . 120[psi] . . . It can throw a stream of water 150 ft; but to work the distance must be from 100 to 120 ft [30-36m]. The nozzles are movable in all directions. . . The stream of water is applied to the wash-dirt at the base of the section; as this is washed out the cliff is undermined, and as a result great masses of it fall . . . the nozzle is allowed to play upon these masses . . . and all the loose material is washed away, leaving the larger lumps of clay and lignite. These are blown into small pieces by means of blasting so that most of these clays and lignites are washed away along with the gold bearing gravel. For the collection of gold there are 15-1600 ft [460-490m] of wooden boxes . . . The material which falls from the cliff along with the finer washdirt and gold is carried by the stream of water from the bottom of the cutting into the boxes, which are paved with stones. When the gold is to be collected from the boxes this false bottom of stones is taken out, and the amalgam of mercury and gold is removed and retorted."⁽⁴⁶⁾

Smaller hydraulic sluicing operations were commenced by other companies in 1883 at the Eight-mile and Fifteen-mile.⁽⁴⁷⁾

From 1881-83 the *Empress Company* constructed infrastructure at the Nine-mile to support hydraulic sluicing, including a new headrace that extended to the saddle north of Mt Tabletop, where it divides into two racelines that

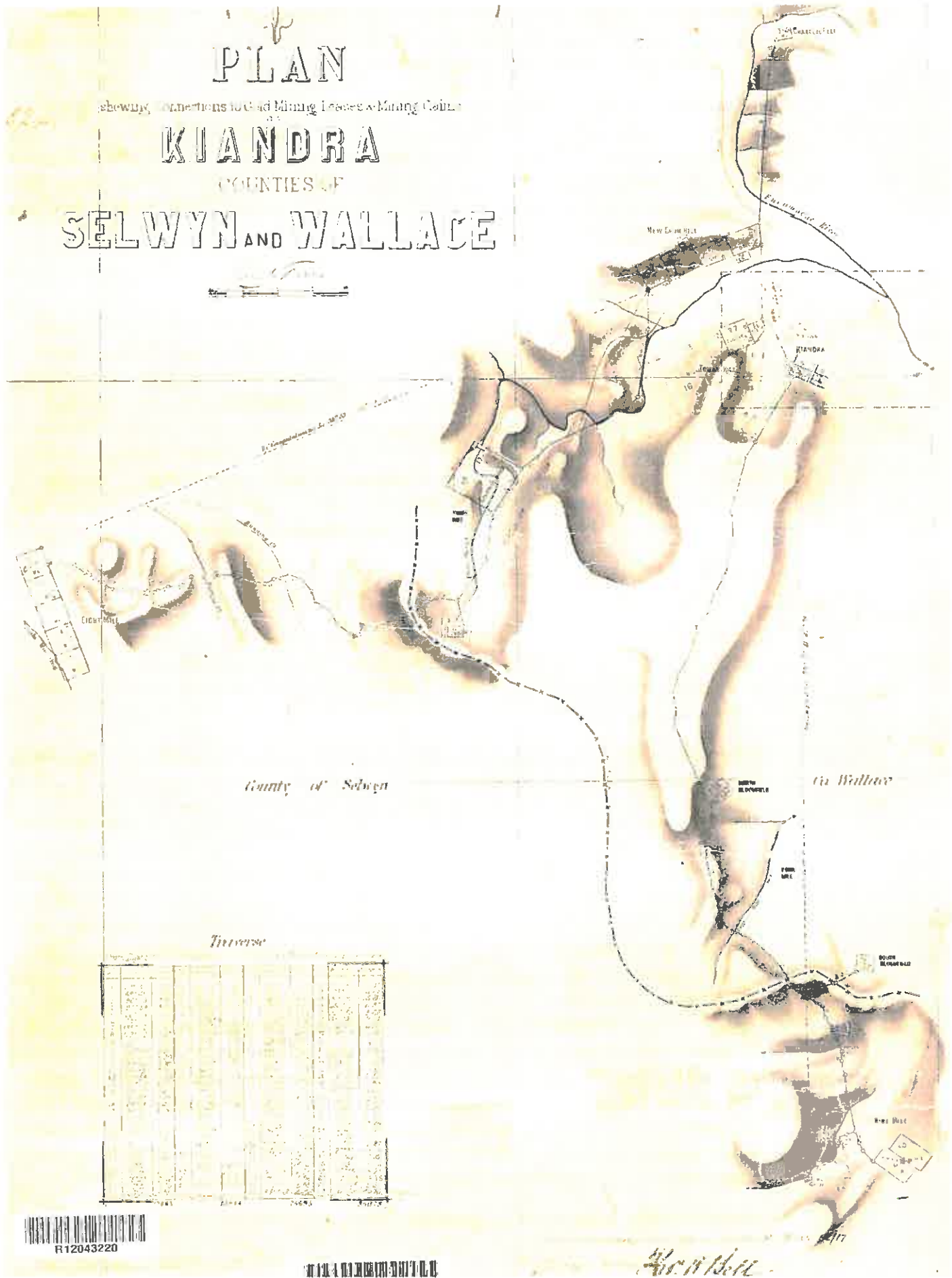


Fig 6: Kiandra Goldfield c1882 © NSW DPI

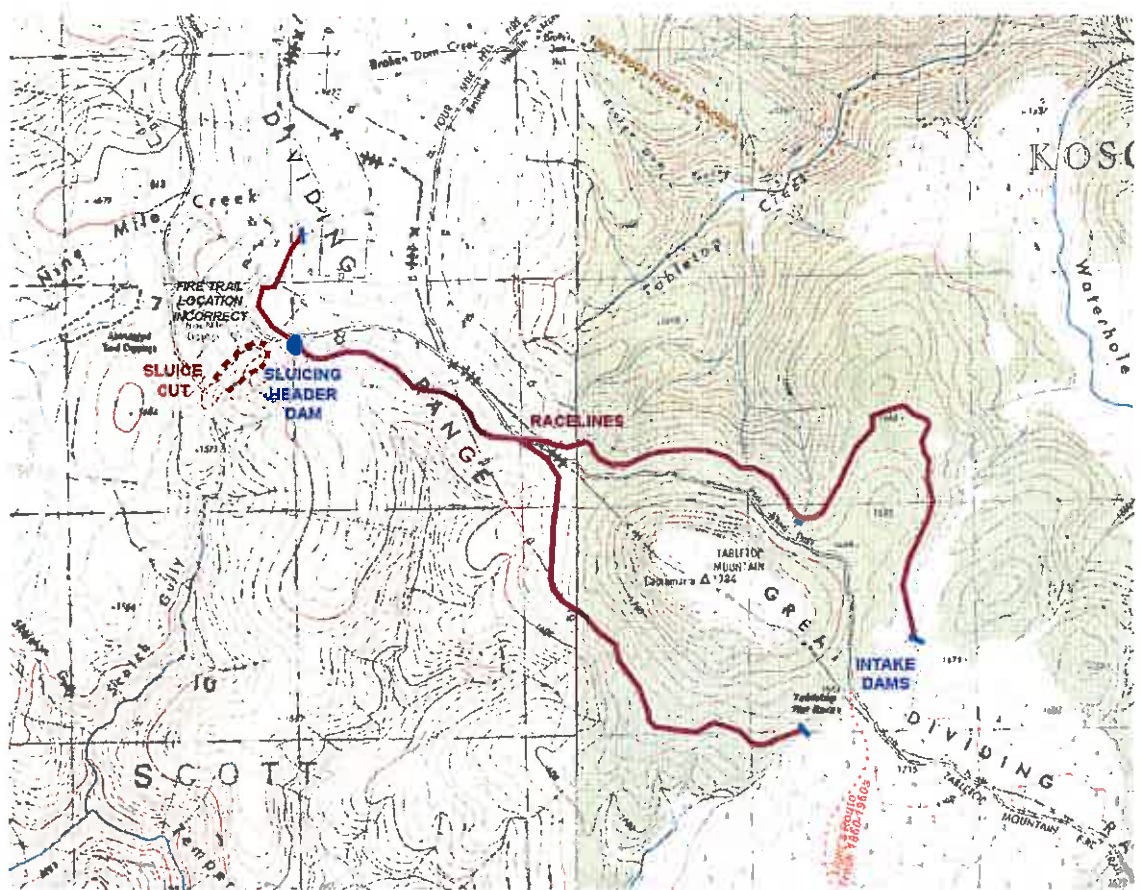


Fig 7: Racelines constructed c1882-84 for hydraulic sluicing (estimated positions). Basemap 1:25000 CMA 1977/83

contour around each side of the mountain to the creeks draining from it's southern saddle⁽⁴⁹⁾. At one point (possibly GDA94 367186) the eastern race was cut 3m deep to pass through a minor saddle.

Buildings were constructed on the watershed of Scott's Gully: "four huts of rude timber construction, a blacksmiths shop, and a number of calico shanties".⁽⁴⁹⁾

By 1884 the racelines were complete and a hydraulic sluicing plant had been set up at the Empress. A short period of sluicing was undertaken before the water ran out.⁽⁵⁰⁾ "... considerable quantities of gold have been obtained similar in character to that obtained in the Scott's Gully surfacings ... In the sluicing claim the whole of the wash is taken, no distinction being made between the rich auriferous channel and the poorer and higher contiguous wash."⁽⁵¹⁾

Hydraulic sluicing plant was also set up at 'South Bloomfield or Four Mile', bringing the total such operations on the Kiandra goldfield to five.⁽⁵²⁾

In 1885, dry conditions seriously retarded hydraulic sluicing operations "the manager of the Nine-mile Company reports that he had only 238 hours sluicing [~4 weeks], giving a return of 40oz 10dwt of gold [1.25kg], and adds that it was the worst season for water experienced on that part of the field for the last twenty years."⁽⁵³⁾

In 1886 "Mr Drummond, manager of the Empress Company, reports:- during 1886 I repaired and extended the headraces, tailrace, and dams, and other preparatory work. We had no water until August, since which time the season has been a fair one for water. I had a washup in December with very fair results."⁽⁵⁴⁾

The limited water catchment proved the drawback for hydraulic sluicing just as it had for ground sluicing. The annual work pattern was the same:- excavate the hillside from around August-November, the gold-bearing washdirt being deposited into a tailrace which is then flushed or

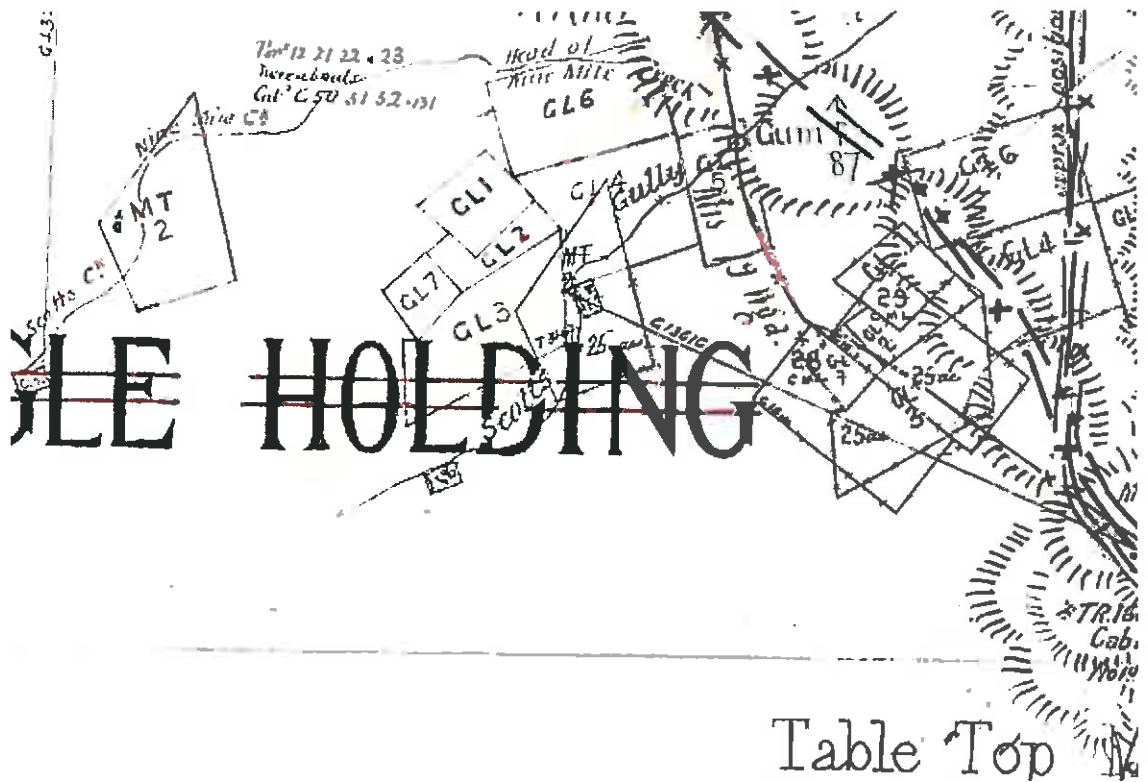


Fig 6: 1880s gold leases from parish map; apparent 'double image' has corrected locations shown in red

'washed up' to recover the gold November-December. The remaining 8-9 months would include a period of maintaining infrastructure, but was mostly left for the miners to pursue work elsewhere.

In 1886 it was also noted that "There are still one or two parties working in the redistributed gravels in the Nine-mile Creek."⁽⁵⁵⁾

In 1887 "Mr Drummond . . . reports:- during the year we have deepened our tailrace and improved the headrace. When water was available, worked the mine with seven men. The amount of gold won, 82oz [2.6kg]"⁽⁵⁶⁾. The following year "At the Empress claim they had a very short season for water, but the yield of gold was fair."⁽⁵⁷⁾

Hydraulic sluicing appears to have been abandoned in 1889, when the overburden reached a depth of 150-160 feet [46-49m]⁽⁵⁸⁾. At this point $\frac{3}{4}$ of the effort, and water, was being expended in cutting away the hillside to get to the washdirt. As it was difficult to separate useless overburden from gold-bearing washdirt when sluicing, three times as much earth had to be 'washed up' to extract the gold. As the Lead (washdirt) sloped downward into the hillside, then the further the cut progressed horizontally the deeper the base of the entire cut and tailrace extending out to Scotts gully had to be made. The profit margin had simply dried up.

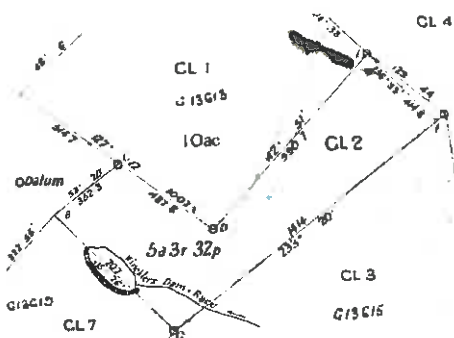


Fig 9: GL2 gold lease plan, 1899

Ultimately, hydraulic sluicing proved only a marginal success for the Empress Company: "yields from sluicing operations at the Empress claim during the years 1884-9, and supplied by Mr J Pattinson snr, from the company's books, amount to 3400 [cubic] yards, sluiced for a yield of 496 $\frac{1}{4}$ oz of gold [15.4kg]"⁽⁵⁹⁾. Considering the infrastructure took three years to construct, the average return amounted to the order of only 60oz per year for 8 years' effort.

In 1891, AR Winckler, who previously had a major claim at New hum Hill, took up a tenement (MT1) at the head of the Empress sluice cut, for the purpose of supplying water to an unspecified claim, probably either ground sluicing or further hydraulic sluicing of the Empress. Lease plans show 'Wincklers dam' fed by 'Wincklers race' - emanating from Tabletop Mountain - which was probably a recycling and upgrading of the Empress Company's water supply.⁽⁶⁰⁾

Tunnels of Gold - 1890s to 1900s

There are no further references to mining activity in the early 1890s however by the middle of the decade John Lette was back managing the Empress, and it was soon to become the most prosperous mine of the day on the Kiandra goldfield.

"It was formerly intended to work this extensive deposit by hydraulic sluicing, but the depth from the surface to the bedrock is in some parts 250 feet [76m], and the available water supply being insufficient, Mr Lett[e] . . . one of the oldest and most highly respected identities and miners of this district . . . has come to the conclusion to work the Empress Mine on the blocking out system . . ." ⁽⁶¹⁾

Lette had 12 miners driving a tunnel from a point close to Scott's Gully beneath the sluice cut and into the *Lead*. By 1897 the tunnel had progressed 1000 feet [300m] ⁽⁶²⁾ Due to the loose nature of the earth the entire tunnel had to be shored up and lined with planks to prevent the roof and walls slumping into the tunnel ⁽⁶³⁾. A gentle uphill grade facilitated drainage and air circulation, whilst rising to intersect the downward sloping *Lead*. At intervals along the tunnel shafts were to be driven upward into the base of the *Lead*, from which the gold-bearing gravel could be extracted.

It didn't quite go to plan. When the first shafts reached the *Lead*, the amount of groundwater percolating through the washdirt and cascading into the tunnel, caused Lette to temporarily abandon work and reconsider his approach. ⁽⁶⁴⁾

A second, high level tunnel was started from a point in the base of the sluice cut, driven straight into the gold bearing gravels at the headwall *"keeping as nearly as possibly to the centre of the auriferous channel. Cross drives were put in on each side of this upper tunnel for about 50 to 75 feet [15-23m] to prove the wash."* ⁽⁶⁵⁾ The upper tunnel had to slope downward as it penetrated the hillside, to keep in touch with the downward-sloping *Lead*. This would normally have been problematic, turning the tunnel into a sump filled with water or foul air, and the reason it had not been tried initially. However by connecting up with the lower tunnel a loop was established where the lower tunnel functioned as a drain for water and foul air whilst the upper tunnel functioned as an air intake and alternative work access.

In 1898 the prospects at the *Empress* were promising enough for a number of new gold leases to be taken out by JM Lette, W Forrester, A Schiedel and DH Bayldon. Over the following year the number of miners working the Nine-mile increased to 20. ⁽⁶⁶⁾

By the late 1890s, the Nine-mile was once again a modest settlement of buildings spread across the diggings. The hub of the settlement was a group of buildings in woodland on the watershed between Nine-mile and Scott's Gully Creeks, some of which may have originated in the 1860s, with additions to the group during the hydraulic sluicing phase, and some of which would remain until the 1940s (fig 22). John Lette resided in a house, that is believed to have been within the hub although later maps make reference to *Gold or Lette's Hut being* located on the north bank of Nine Mile Creek. William Horsburgh occupied another of the houses, ⁽⁶⁷⁾ and it appears likely that the settlement included a number of accommodation huts, workshops, a blacksmith's shop and possibly even a store/shop to service the miners personal needs.

A number of other buildings were constructed by Lette:

"A hut was constructed . . . at the base of the open cut . . . at the end o the tram tracks leading into the tunnel, to store equipment and provide shelter for the men. Without the hut the miners would have had to walk a quarter of a mile [400m] to find rest and shelter in the main group of buildings . . . [This] weatherboard hut was soundly constructed and had glazed windows and an iron roof. Bill Hughes was known to occupy it at the turn of the century. By then the floor boards had been removed revealing a layer of clay which was used as the original floor surface, and a bark roof had replaced the galvanized iron [the iron had likely been removed for use elsewhere]. In 1928 Sanko Smith refurbished the hut with galvanized iron and new floor boards. Annexed to the hut was a small 6' square shelter. Both the walls and roof of this building were clad with split Ash palings. It was originally used as the access shelter for the tunnel and helped to reinforce

the walls of the shaft. Later it was used to store firewood and mining equipment after shaft operations were abandoned.

Another "one of the huts stood near the dam beneath the open sluicing face. This was a simple one room building set into a steep slope with a verandah perched on four posts. Square in plan and constructed of mountain ash slabs and shingles, it remained standing well into the 1930s."⁽⁶⁸⁾

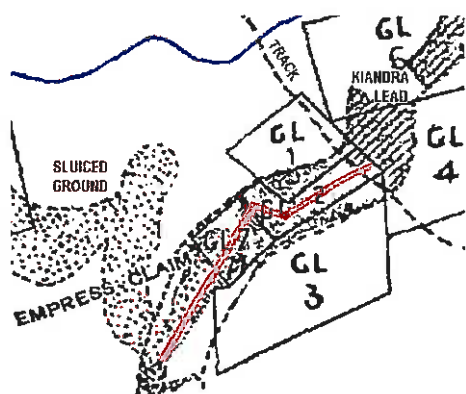


Fig 10: Route of Lette's primary (lower) tunnel, enhanced from mine record MR2043

By 1898 the *Empress* was being heavily worked. 1300 feet [400m] into the hillside, the primary/lower tunnel had a zigzag kink before arriving at the *Lead* at about 1700 feet [520m]⁽⁶⁹⁾. The *Lead* between the upper and lower tunnels had become an interconnected honeycomb of shafts and paneled sections.

"The wash is extracted by a system known locally as 'paneling'. Three or 3½ feet depth of wash are blocked out, laths being placed vertically 1 foot apart to support the overlying mass. As the paneling progresses, the wash crushes the laths and settles down."⁽⁷⁰⁾

In the first 6 months of 1900 the *Empress* mine produced 300 ounces of gold [9.3kg] valued at £1200.⁽⁷¹⁾

In 1901, 375 ounces [11.7kg] valued at £1400 were produced, although drought conditions had restricted the processing of extracted washdirt through the sluice boxes to just 12 weeks⁽⁷²⁾. Lette reported "In all about 1000 feet along the channel are now ready for blocking out which should yield 12000 superficial yards of wash averaging 4dwt [of gold] to the yard."⁽⁷³⁾

The water supply only lasted 8 weeks in the following year, but 454 ounces of gold [14.1kg] were retrieved valued at £1600. The primary/lower level tunnel reached 2,000 feet in length [610m].⁽⁷⁴⁾

In 1903 production peaked. The *Empress* produced the greatest quantity of gold recorded at the Nine-mile in any year, albeit the yield of the 1860 rush is not recorded. "JM Lette, the holder of the *Empress* mine at the Nine-mile, reports having won 462oz of gold [14.4kg], valued at £1,400 during the year. The output, it is stated, was restricted owing to the property being placed under offer of sale."⁽⁷⁵⁾

Lette appears to have shrewdly placed the mine on the market to coincide with peak production. Prospective buyers looked upon reports of production steadily rising over a number of years, but the reality was that the accessible wash along the upper and lower tunnels would be worked out within 18 months.

Mining reports tell the real story. In 1904 Lette "obtained 360oz [11.2kg] of gold, valued at £1,200. The output is below that of the year 1903, as during the last four months attention was centred in the extension of the low-level tunnel along the deep lead". In 1905 "The *Empress* Mine at the Nine-mile has yielded a fair amount of gold, but it is understood that there is a difficulty in continuing further operations on account of the presence of foul air."⁽⁷⁶⁾

The gold-bearing washdirt between the point where the main/lower tunnel intersected the *Lead* and the surface had been extracted. To extract more washdirt the tunnel had to follow the *Lead* deeper into the hillside, first flattening out and then descending downhill. Water seeped down into the head of the tunnel, an inconvenience that could be overcome by pumping. A more insidious problem was foul air, where carbon monoxide and carbon dioxide, being heavier than air, gravitated to the head of tunnel where it could leave miners short of breath, and in severe instances result in collapse.

In 1906 the *Empress* mine was sold to a new (unspecified) owner. Work was done to excavate a ventilation shaft above Lette's main/lower tunnel,⁽⁷⁷⁾ but the *Empress* appears to have been abandoned in 1907, by which time all of the previous gold leases had been cancelled.⁽⁷⁸⁾

Beyond the major works at the *Empress*, small scale reworking of the ground along Nine-mile Creek appears to have continued through the 1890s and early 1900s. JJ Pattinson acquired mining tenement

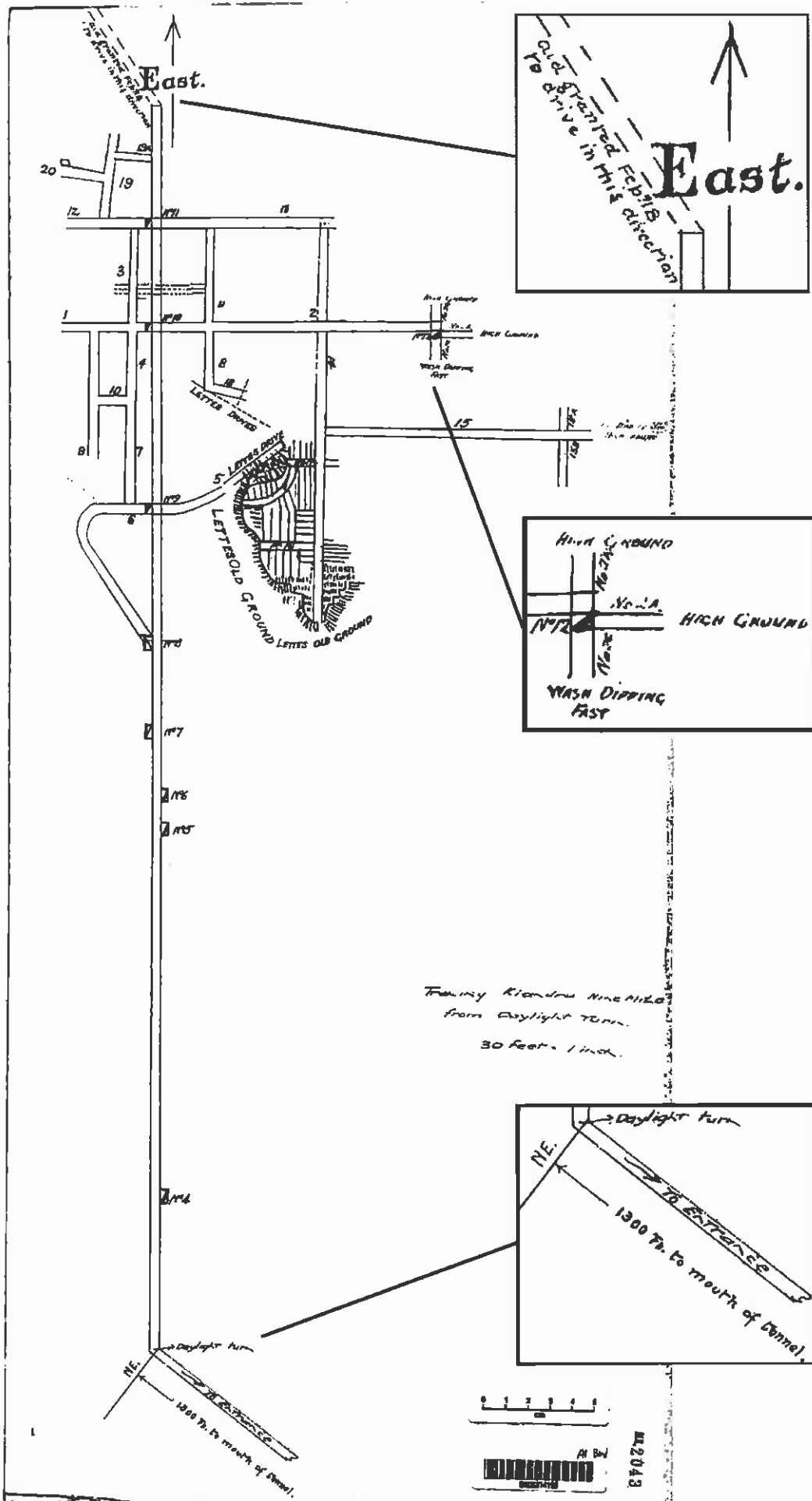


Fig 11: Plan of Lette's primary (lower) tunnel from time of Bell's occupation c1918, mine record MR2043

MT2 in 1899 for the purpose of constructing a dam. He retained it until 1913, suggesting sluicing works were occurring throughout this period⁽⁷⁹⁾. A 1901 report makes reference to fossickers on Nine-mile Creek.⁽⁸⁰⁾

The Bell Round - 1910s to 30s

The closure of the *Empress* marked a major downturn in mining across the Kiandra goldfield, exemplified in the reports of the following years: "The gold-mining industry in this Division has evidence of a marked retrogression . . . Few other claims were worked, and very little fossicking was resorted to . . . nearly all the miners have left the field . . ." ⁽⁸¹⁾

By 1913 only 15 miners remained on the goldfield.⁽⁸²⁾

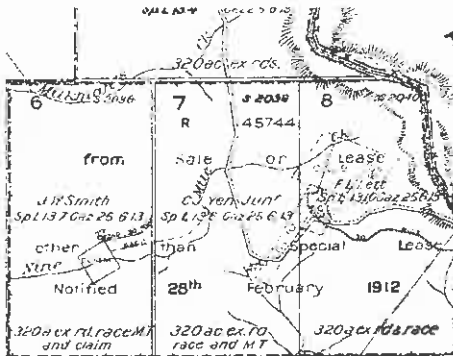


Fig 12: 1910-20 mining & special leases, from parish map

In that year, rather than be offered as snow or scrub leases, the Nine-mile vicinity was divided up into four 'special leases' of 320 acres. Two lots were acquired by Charles J Yen jnr, one by JW Smith and one by Frank Lambert Lette, who is believed to be John Lette's brother⁽⁸³⁾. This type of lease appears to have allowed for limited pastoral and mining activity, subservient to any mining leases issued under the Mines Act, however there is no record of activity on these leases.

In August 1915, the Kiandra Mining Company was formed in Newcastle for the purpose of reworking the *Empress* mine⁽⁸⁴⁾. George H Bell was appointed mine manager and acquired gold leases GL9, GL12 and GL13⁽⁸⁵⁾. Over the following summer Bell had 6 men - including his three sons, Bert, Charlie and Harold, with

W Eccleston as carpenter and Herb Steadman as blacksmith - engaged in clearing out the Lette's primary/lower tunnel.⁽⁸⁶⁾

"The timber had rotted and everything had collapsed. It had gone in about 2000'. It had to be [re-timbered] . . . all Mountain Ash. We had people employed to cut it at The Springs and Duffers Gully. They brought it up in drays.

"The timber was cut ready to cover what we called a set. A set covered 4'6" [1.35m]. In a set there were two legs that were 6' long and about 8" square [1.8m x 200mm] and they supported a cap that was 3"6" long [1.05m], then laths that were 4'6" long and 8" wide stretched from one pair of legs to the next to stop the walls slumping and the roof caving in.

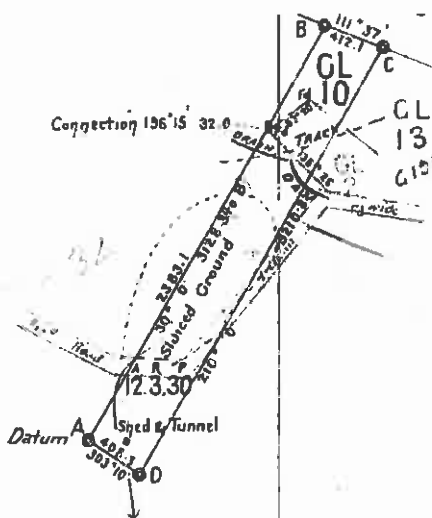


Fig 13: GL10 gold lease plan, 1916

"For a start we lived in Lette brothers' old hut, between Nine Mile creek and the sluicing. Then we had huts put up for everyone. One for [the Bells] and 3 or 4 for the men. There was a smithy too, for the blacksmith."⁽⁸⁷⁾ Aerial photos and chimney remains indicate the Company may have constructed most of it's new buildings on the west bank of Scott's Gully opposite the tunnel entrance (fig 22), and the lease plan for GL10 indicates the presence of a shed built over the main tunnel entrance in 1916 (fig13).

The preparatory work continued for another year "GH Bell, manager for Kiandra Mining Company Limited, reports that 1200 loads of washdirt were obtained from their mine at Nine-mile, which, when treated gave a return of 20oz gold [0.6kg] , valued at £76. The main drive was cleaned out for a distance of 1900 feet [580m], and the o[verhea]d air drive picked up. About 400 feet [120m] of driving remains to be done to carry the air to the main face. It is anticipated that payable results will follow the work of driving in the wash, which will be commenced early in the new year."⁽⁸⁸⁾

By 1917 the return had improved but remained a fraction of that achieved by Lette. It appears Bell may

have been extracting washdirt left behind by Lette because it contained a less viable percentage of gold
"Total yield of gold in this Division [Kiandra] for the period under review as 141oz [4.4kg] valued at £564, of which the Kiandra Mining Company (Limited) furnished an output of 137oz [4.26kg] valued at £535." ⁽⁸⁹⁾

Bert Bell recalls operations during this phase: *"Harold, my brother, and I were at the face but only one could work on the actual face at any one time . . . pick and shovel . . . just candles [for light] . . . later we got carbide lights . . .*

"When a truck was full you turned it on a flat sheet of iron . . . and when you had two trucks full you pushed them out. We had the trucks running on rails . . . you could ride the truck once you got it started. It was a downhill run so that the water could get away, ran down the drive like a little creek. You could get up a fair bat of speed. No brakes of course. Just used your hobnail boots . . . In a couple of places the caps were a bit low or a leg came into the drive a bit and you could crack your head or leg on them . . . by the time you reached 'daylight corner' and you could see you were coming to the entrance the slope was not so much, so you slowed down. It was [graded] so that the truck ran to a stop before the end of the rail. Then you had to push it a bit to the bin to dump it.

"Anything showing colour, or looking likely, would be dumped in the bin. That was a big wooden box 10' long by 5' wide [3 x 1.5m], and it had an opening at the bottom. . . You might fill the bin in a week, or it might take a month. When it was time to wash up what was in the bin, everything was allowed to drop out the bottom into the box head and then run down into the sluices.

"We built a holding dam ourselves, right at the bottom of the sluicing cut . . . water was stored in the dam and released by a tap system.

"There were 10 sluice boxes all in a straight line, each one 8' long, 18" wide and 10" deep [2.4m x 450mm x 250mm]. There was a riffle sheet t the bottom of each box; metal sheet with little ridges, or riffles, running across it. Each riffle was about 1" high and they were about 3" apart [25mm & 75mm]. The gold being heavier, got caught between the riffles. When the washup was finished the bin was empty, the water turned off and the sluice boxes cleaned out . . . [by] hand to get rid of the stone and gravel, but the sands and gold had to be washed properly using a pan." ⁽⁹⁰⁾

Whilst there was money available the miners worked 24 hours a day in three shifts. Sundays were off. In periods where the money or water for washing up ran short, then the mine closed down and they

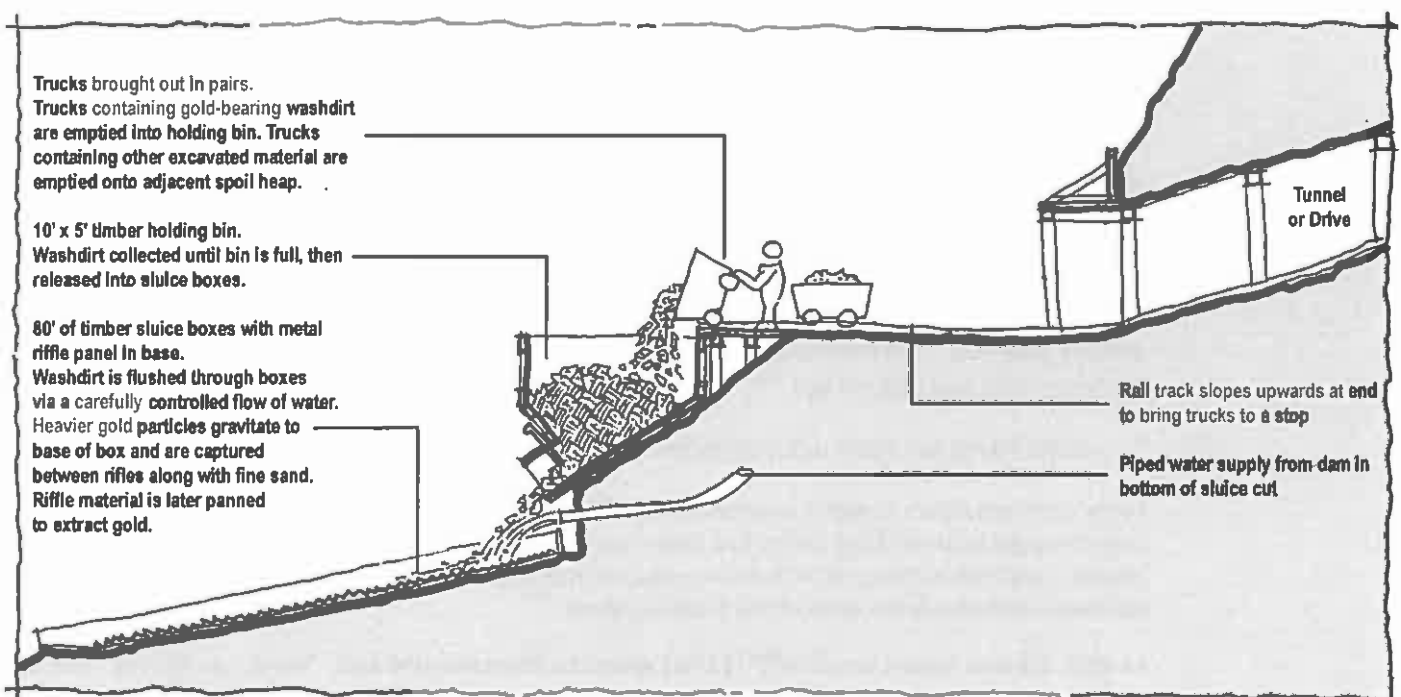


Fig 14: Indicative process of extracting gold from washdirt at Empress mine c1917. Gradient of the sluice boxes & tunnel exaggerated.

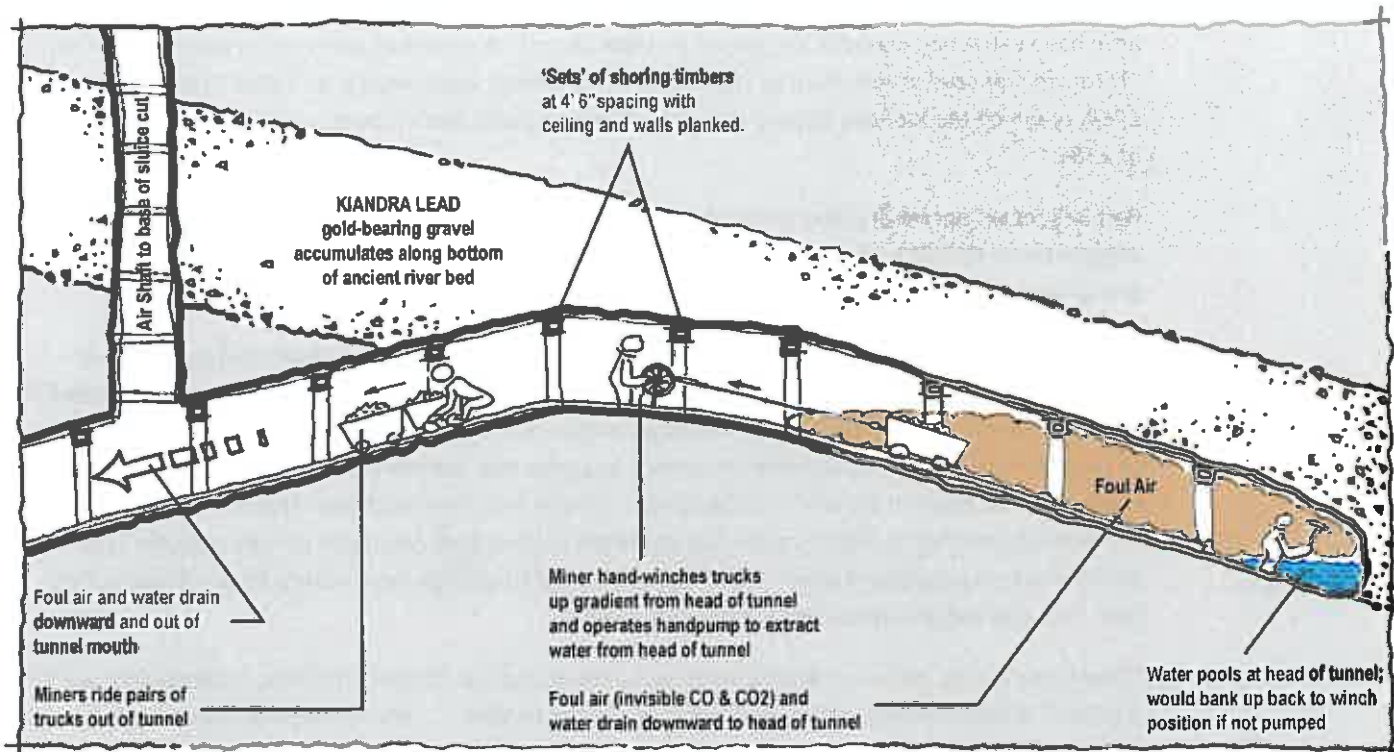


Fig 14: Indicative conditions at the head of the Empress mine tunnel when it was abandoned c1920. Gradient of the Lead & tunnel exaggerated.

typically sought trapping rabbits and foxes. ⁽⁹¹⁾

In February 1918 mining aid was granted to Bell to extend the main drive northeast. Bell had taken up a further gold lease (GL11) and had 12 men working below ground and 3 above ⁽⁹²⁾. "The estimated total yield of gold [for the Kiandra Division] is 120oz [3.7kg] of which 84oz [2.6kg] was obtained from the Princess [sic, Empress] Mine, Nine-mile, Kiandra, the balance by fossickers and prospectors. Work on the Princess mine and at AR Winkler's Mine, Township Hill, has been carried on during the greater part of the year, but has been confined principally to development and prospecting, each of these mines has been assisted by government aid . . . prospects at the former suggest an improvement in output." ⁽⁹³⁾

However no improvement was forthcoming in 1919 "Disappointing results were obtained from the Kiandra Gold Mining Company's mine at the Nine-mile, this mine worked only for the first five months of the year, with the assistance of government aid, the wash was followed on the dip, when the work was suspended for want of capital." ⁽⁹⁴⁾

Bert and Charlie Bell recalled the difficulties " . . . the air got bad and you couldn't burn a candle. Anyhow, they put an air shaft down into it, from the bottom of the sluicing cut at the Nine-mile they put a shaft down into the tunnel and they got enough air to carry on with." ⁽⁹⁵⁾

" . . . got in 2350' [715m] and the Lead dipped . . . tried to follow it down for another 150-200' [45-60m] but the water beat us. It was like opening a big pool under the sand . . . We put in a winch to pull the trucks up . . . We had a pump; a double dodger pump, a hand pump . . . have to go in at two in the morning and pump it out." ⁽⁹⁶⁾

" . . . couldn't keep the water out, and the air was bad. So they closed it down." ⁽⁹⁷⁾

Lette's primary/lower tunnel was abandoned. The Company gave George Bell the option of reworking parts of the Lead which had been bypassed by Lette. Together with his sons Bert and Charlie, and Dick Williams from Tumbarumba, George Bell put a new tunnel into the hillside to the northeast and above the level of the previous drive. ⁽⁹⁸⁾

In 1921 the new tunnel was in 400' (125m) when the Company sold out; "there was five huts and a

store . . . all the stock and plant at the Nine Mile, and there was two blokes named Swinfield and Foye. They wanted . . . all the stock and plant . . . to work the Duffers' Gully Reef [Lorna Doone Mine] and the Elaine Mine. Foye and Swinfield sneaked off to Newcastle, where the Company offices were, and bought the whole bloody lot, stock and dice at the Nine Mile. All the huts, rails, trucks, machinery, the stores and everything! £100 they got it for!"⁽⁹⁹⁾

Charlie Bell claims most of the assets were moved to the other sites at this time, however aerial photographs show a number of buildings remained at the Nine-mile as late as 1944 (fig 22).

Foye retained ownership of the *Empress* as a fall-back option to Lorna Doone: "Messrs Foy and party after spending a considerable sum in their prospecting at Duffer Gully, have abandoned the area. The syndicate has secured the leases recently held by the Kiandra Mining Company, and propose making a further test of the lead in that vicinity."⁽¹⁰⁰⁾

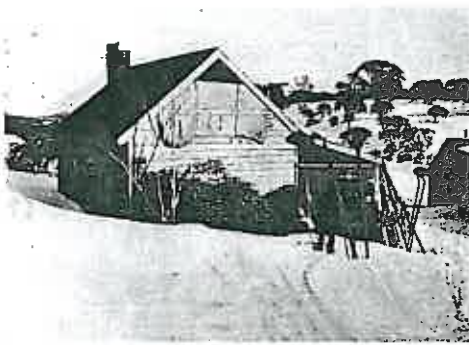


Fig 16: 'Nine-mile Hut (probably Gold Hut) during first K to K ski, from 1928 Australian Ski Yearbook

Foye held gold lease GL13 at the *Empress* until 1928, but it is unclear whether the mine was worked during this period. One story in respect of the origin of Broken Dam Hut describes it as being relocated from the Nine-mile during the interwar years. As major buildings at the Nine-mile were available for purchase in 1921, and again in 1928 when Foye surrendered the lease, it appears plausible that Broken Dam Hut may have come from the Nine-mile around these periods.

George Bell appears to have retained other leases at the Nine-mile until 1929, being worked by one of his sons for a short time:

"Mr Bell continued to work his father's mine until Sanko Smith bought him out for twenty pounds. Mr Smith also acquired a house that had for a time been inhabited by two Chinese miners. Ah Young and Ah Won had lived in a multi-roomed dwelling that probably dated back to the 1860 gold rush. After the two miners died, Mr Smith bought it for a few pounds from the government administrator handling their estates . . . Mr Smith remained in the region tending his sheep and cattle until the 1930s."⁽¹⁰¹⁾

It is unclear where this hut was located; could it be the Gold Hut? Smith is believed to have purchased the Chinese miners' hut some time after his 1928 refurbishment and use of the hut over the tunnel entry as described earlier (p13).

SH Hain made application to acquire the *Empress* in 1931, but was turned down by the Mines Department in 1932.⁽¹⁰²⁾

In 1933, the Elaine Mining Company acquired gold lease GL144, which extended over the top of the range from the Four Mile Creek catchment toward the head of the *Empress* sluice cut. The lease was held until 1940, however it is unclear whether any activity occurred on the Nine-mile side of the ridge during this phase of ownership.⁽¹⁰³⁾



Fig 17: c1930s-40s gold and grazing leases including only record of GL 15 and GL16, from parish map

In this final phase of activity on the Nine-mile diggings, successful gold extraction was only achieved through the same processes as 1860 – prospecting/panning and ground sluicing. RH (Bill) Hughes sluicing produced 117 ounces (3.6kg) in 1922, 18 ounces in 1925, 30 ounces (0.9kg) in 1924, 60 ounces (1.86kg) in 1925 and 34 ounces (1kg) in 1926, the last year in which returns are recorded from Nine-mile.⁽¹⁰⁴⁾

It is likely that further gold was recovered through adhoc and opportunistic prospecting. Bert and Harold Bell claimed to have recovered 100 ounces from Temperance Creek around the late 1920s or early 1930s,⁽¹⁰⁵⁾ and opportunistic prospecting by stockmen, itinerants and even SMA workers is

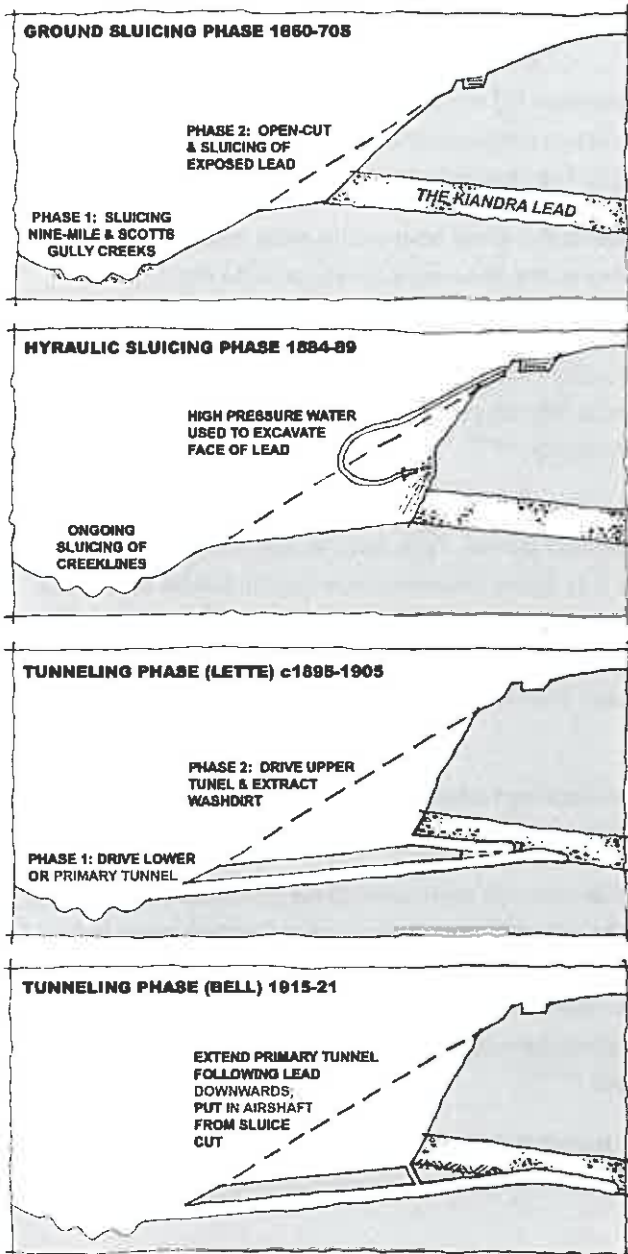


Fig 18: Development sequence of the Empress Mine.



Fig 19: c1953-58, from SMA 1" to mile.

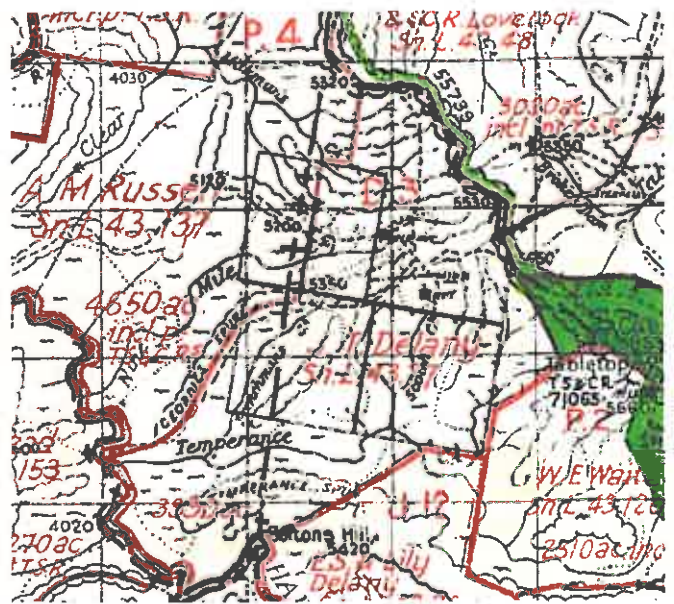


Fig 20: Snow Leases 1943, from Snow Lease Litho 1.

likely to have continued through to the 1960s.

Although a range of different mining techniques were undertaken at the Nine-mile diggings, it was a deposit that prospered most through ground sluicing of the shallow surface deposits, as reflected in a 1901 report:

"A rough estimate made by Mr JM Lette (the proprietor) of the ground treated by hydraulic sluicing, together with a larger area adjoining it and treated by surface sluicing [ie: across the Nine Mile diggings] amounted to 60,000 yards, yielding £1 per yard."⁽¹⁰⁶⁾

Beyond Mining

After 1940, no mining leases are recorded at the Nine-mile and in 1943 the special leases across the area were revoked and converted to Snow Leases. The main workings became Block D3 of 3990 acres, acquired by JT Delaney in 1943 (Sn Lse 43.27). The lower portion of Nine-mile Creek became part of Block P4 acquired by AM Russell (Sn Lse 43.137). Russell retained P4 through the 1950s (Sn Lse 50.111) but D3 transferred to JD Mackay & Others in 1950 (Sn Lse 50.28).⁽¹⁰⁷⁾ The lessees beyond 1957 are unclear.

The SMA is reported to have undertaken some works at the Nine-mile during the 1950s⁽¹⁰⁸⁾. The only works recorded is the construction of a hut half-way down Geordies Spur although it is plausible that a stream-gauging or weather monitoring station was established on the diggings itself.

Maps and aerial photographs from the 1940s and 1950s show a number of huts remaining at the site through this period,⁽¹⁰⁹⁾ but most are believed to have become ruins by the 1960s.

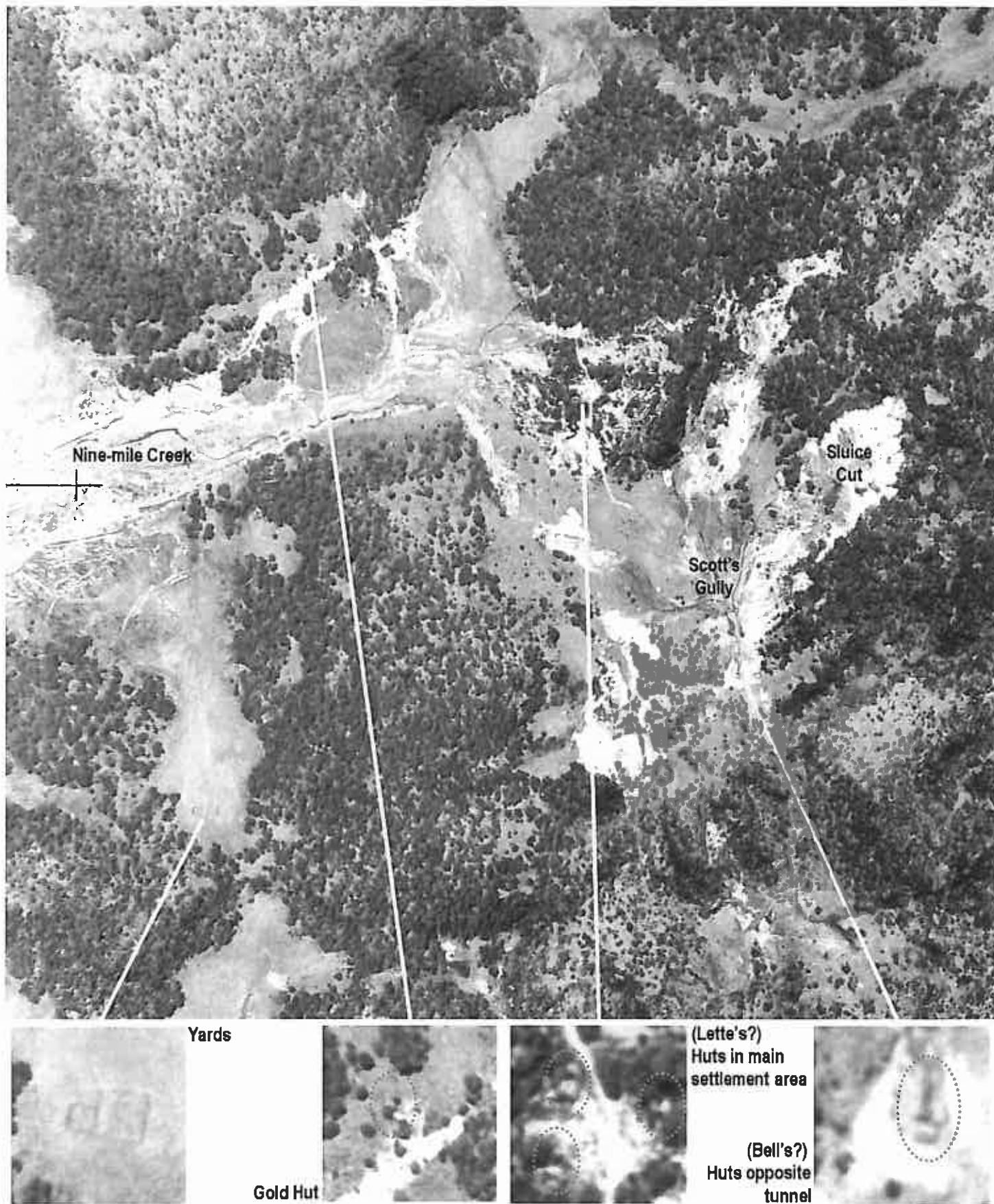


Fig 22: 1944 RAAF aerial photo of Nine-mile diggings

KNOWN MINING LEASES AT THE NINE-MILE

Based on records held within the DIGS online information database; maps of Parish of Scott

<i>Lease Portion</i>	<i>Lessee</i>	<i>Possession</i>	<i>Terminated</i>	<i>Area</i>	<i>Notes</i>
GML 10	?	1872	?	1 ac	area shown on gml 23
GML 12	Bourke & Halloran	1872	?	2 ac	area shown on gml 22
GML 21	William Bourke	1875	ref 1878	2 ac	
GML 22	William Bourke	1875	ref 1878	1 ac	
GML 23	Chee Yook & Others	1876	canc Apr 1881	1 ac	
GML 28	William Davies	1881	canc Jun 1890	25 ac	top of sluice cut
GML 29	William Davies	1881	canc Jun 1890	25 ac	above sluice cut
GML 30	Gee Wah & Party	1881	canc Dec 1886	1 ac	Scotts Ck
GML 31	Yet Wah & Ah Way	1881	canc Jul 1883	1 ac	Scotts Gully
GL1	W Forrester	Nov 1898	cancelled Feb 1900	9 ac	
GL2	JM Lette	Dec 1898	cancelled Aug 1907	5 ac	
GL3	A Schiedel	Dec 1898	cancelled Jun 1902	25 ac	
GL4	DH Bayldon	Dec 1898	cancelled Dec 1905	25 ac	
GL5	A Schiedel	Dec 1899	cancelled Jun 1901	13 ac	
GL6	DH Bayldon	Dec 1898	cancelled Jun 1901	25 ac	
	ES Marks	Sep 1903	cancelled Mar 1904		
GL7	JM Lette	Jan 1899	cancelled Aug 1907	5 ac	incl gml 28 29 mt1
GL8	JM Lette	Jul 1902	cancelled Dec 1905	1 ac	incl part gl3
GL9	GH Bell	Apr 1915	cancelled Feb 1929	12 ac	incl part gl 1 gl2 gl4 gl6
	SH Hain	Sep 1931	refused Jan 1932		
GL10	GH Bell	Apr 1915	cancelled Aug 1923	25 ac	incl part gl 1 gl2 gl7
	SH Hain	Sep 1931	refused Jan 1932		
GL11	GH Bell	c1918			reference in MR2043
GL12	GH Bell	Aug 1915	cancelled Feb 1929	10 ac	incl part gl2 gl4 gl6 gl8
	SH Hain	Sep 1931	refused Jan 1932		
GL13	GH Bell	Aug 1915	cancelled May 1920	8 ac	incl part gl1 gl2 gl3 gl7 gl8
	JC Foy	Jul 1921	cancelled Oct 1928		lorna d syndicate
	SH Hain	Sep 1931	refused Jan 1932		
GL15	unknown	1930s	?	5 ac	shown parish map
GL16	unknown	1930s	?	2 ac	shown parish map
GL144	Elaine Mining Co Ltd	Feb 1933	cancelled Jul 1940		incl part gl9 gl12
Mining Tenements					
MT 1	AR Winkler	Mar 1891	? by 1899	10 ac	incl part gml 28 29
MT2	JJ Pattinson	Mar 1899	forf Mar 1913	25 ac	Nine Mile Ck

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Present Remains at the Nine-Mile

The following is based on a far-from-complete inspection of the diggings by the author and evidence reported by Pearson and Hill.

Three distinct types of mine workings occur at the Nine-Mile diggings:

1. *Hydraulic sluicing.*

The most prominent feature at the Nine-mile is the 1880s **sluice cut** on the east side of Scotts Gully. Including the tail race, the sluice cut measures ~400m long by 120m wide, with a near-vertical headwall ~60m high, bare eroded sides and a flat base of rubble workings and flooded areas. The base of the sluice cut is reported to contain evidence of what may be a collapsed tunnel or timbered shaft up near the headwall – possibly Lette's upper tunnel or the air shaft from the Bell period. It also contains a number of stone dams, that would have been constructed in the 1890-1920 period to store water for washing-up ore being brought out of the primary/lower tunnel. The whole floor warrants detailed exploration, particularly for the building sites known to exist, and GPSing of features.

20m uphill of the headwall, and immediately beside the fire trail, is the **header dam** from which water was fed by pipes to the sluice nozzle in the base of the cut. The dam occupies a triangular area ~80m long x 20m across, with a stone rubble wall ~3m wide x 3-4m high. A deft in the outside face of the wall, with a few small timber posts adjacent, marks the likely site of the outlet – which is covered both sides by collapsed soil and vegetation. The dam floor is dry and grassed whilst the wall is partly covered in grasses, small shrubs and trees.

A **major raceline system** feeds the header dam. A prominent incoming race can be seen at the eastern end. This reportedly extends to the saddle west of Tabletop, where it splits into two and wraps around the mountain 3-4km toward the eastern saddle. It warrants further investigation and GPS plotting. It is probably filled in where the Tabletop Fire Trail crosses over it in the saddle. Pearson reported the northern race cuts across a saddle in a ridge at some point – probably GDA94 coords 367186 – in a cutting ~3m deep. There may be evidence of small stone, or timber and earth, walled intake dams at the head of each race. West of the header dam, a race is reported to extend 400-500m to the headwaters of Nine-mile Creek, where Pearson reports evidence of a header dam remained in 1979.

The lowermost section of the sluice cut is actually the **tailrace**, a flat-bottomed, steep-sided channel ~50m long by 15m wide. This is where the washup was undertaken to extract the gold from the sluiced earth. It is likely that the base of it was lined with carefully spaced stones, or perhaps timbers, where the gold particles would accumulate in the gaps. The tailrace is presently flooded with knee-deep water, and warrants further investigation.

2. *Ground sluicing.*

The most extensive evidence occurs along Nine-mile Creek, where a kilometre of creek flats features racelines, dams, and worked ground, now mostly grassed over. The upper reaches of Scotts Gully, on the steep ground adjacent the Sluice Cut, also features similar extensive disturbance, but mostly covered in forest regrowth.

Smaller workings occur at numerous points down Scotts Gully, and essentially every tributary between Scotts Gully and Nine-mile Creek including the headwaters of Skeleton Creek and Frenchman's Creek. A substantial stone dam occurs across Scotts Gully ~100m downstream of the tailrace, but it is unclear whether this is associated with ground sluicing downstream areas, washing up material from the adjacent tunnels, or something to do with hydraulic sluicing (?).

An extensive survey and GPSing of these areas is warranted. It is likely that numerous miner's hut sites will exist in close proximity to all the worked areas.

3. *Tunnel or Adit Mining.*

Possible the most discrete evidence is that of tunneling, which occurred in at least three different periods and locations. The location of the two tunnels constructed in 1860 is completely unknown, but likely to have been within the area of ground that was subsequently removed by hydraulic sluicing.

The location of the two tunnels constructed by Lette in the 1890s is also unclear. The upper tunnel should, in theory, be sited at the lowest point of the sluice cut up at the headwall. There is at least one report of what might be a collapsed tunnel within the sluice cut, which may be the upper tunnel or a c1907-16 airshaft to the lower tunnel. The lower tunnel should, in theory, have its entrance adjacent to but below the level of the tailrace. It is believed to occur within 50m of the tailrace, on the southeast side where workings/spoil is evident on the bank of Scotts Gully. Hill reports finding "a depression, now completely covered with vegetation, but the two 14 pound rails can be seen projecting".

The location of the tunnel commenced by Bell in the 1920s is believed to be about 100m south of the tailrace (GDA coords 338186). A cutting was inspected by Hill & the author c1990, however in 2008 it was difficult to find the cutting, the most likely site appeared to be substantially collapsed and vegetated.

The earth the tunnels were cut through is unconsolidated, and subject to high volumes of water moving through it. It is not surprising the tunnels and the entrance clefts will all have collapsed.

A more detailed survey is required to confirm the likely tunnel sites.

In addition to the above, there is reported to be a further tunnel located at The Springs mine, a small reef deposit, in an unknown location some distance downstream on Nine-mile Creek.

BUILDINGS

The Nine-mile was never a township in the sense of Kiandra, with laid-out streets, it was more a rural hamlet with some concentrations of buildings and numerous scattered huts across the two valleys.

'Main' settlement/Lette's Huts

The main concentration of buildings on the diggings between 1860 and the early 1900s appears to have been situated in woodland on the saddle between Nine-mile and Scotts Gully (GDA94 336189), where the track from Kiandra arrived. It is likely that a number of substantial weatherboard buildings developed here in 1860 – the Lockup, guardroom, public houses and stores. The settlement is unlikely to have been large enough to have any backstreets, just the single track with all buildings facing onto it.

This location also appears to have been a key building area/complex during the 1880s hydraulic sluicing phase and the 1890-1910s tunneling phase. In both instances there was probably some reuse of 1860s buildings and some new structures constructed.

Bell used buildings at this location during the 1915-21 period. There is no recorded use after this time, however 1944 aerial photos (fig22) show a number of buildings remaining at this time.

This site was not inspected and warrants detailed survey. One hut site was stumbled upon on its fringe (GDA94 coords 335189).

Gold Hut

Maps of the 1940s and 1950s show a hut on the north side of Nine-mile Creek, and Pearson reported a site at AGD66 coords 329189 (~GDA94 coords 332192).

This hut is named on one map as 'Gold or Letts Hut'. It appears unlikely, but not impossible, John Lette would have occupied a building on the far side of the diggings from his operations; he is generally believed to have occupied a house in the main settlement. A possibility is that this is Frank Lette's hut from the 1910s period; when he had a special lease over the valley but Bell's were working the Empress.

This hut is possibly the building shown in the 1928 Australian Ski Yearbook (fig 16).

This site was not inspected and warrants detailed survey.

Sluice Cut & Tunnel Buildings

Somewhere near the headwall of the sluice cut should be the site of the 1890s hut that was built over the entrance to Lette's upper tunnel. It also appears likely that service buildings such as blacksmith's shops and equipment stores dating from the 1890s-

1920s would occur around the base of the sluice cut or on the gentle rising ground on the western edge of the sluice cut. A large square stone structure of indeterminate origin was observed near the western edge but not examined in detail (approx GDA coords 338188).

A shed site dating from the 1920s occurs over the entrance to Lettes primary/lower tunnel, situated ~50m south of the tailrace.

These sites were not inspected and warrant detailed survey.

Bell Huts

Two sites on the west bank of Scotts Gully have been associated with the Bell's period of activity 1915-21. One hut site, marked by chimney stones and what appears to be a fruit tree wilding occurs directly opposite the tailrace (GDA coords 337187).

A second chimney site is clearly evident approx 100m south, on a small knoll downstream of the stone dam across Scotts Gully (GDA coords 337186). This is believed to be the site of a large building, or group thereof on the 1944 aerial photo (fig 22).

This site was not examined in detail and warrants detailed survey.

Scattered Hut Sites

It is plausible that more than 30 further hut sites should occur around the diggings, mostly relics of bark or slab structures that were erected in close proximity to their owners' claims. Every worked area on every tributary is a potential site, whilst the perimeter of the extensive workings on Nine-mile creek and upper Scotts Gully have high potential for sites. There may also be a hut site associated with the header dam, probably close to its outlet.

Michael Pearson reported in 1979: *"On Scott's Gully, opposite and upstream from the sluice hole, there are foundations, chimney bases and benched areas indicating at least six or seven building sites, while several other such sites are located below the sluicing."*

Harry Hill is a regular visitor; *"Sites for miners' huts can easily be found."*

"The local basalt was an ideal rock for a fireplace and hearth and if a heap is found. Often on a small patch of leveled ground, one has more than likely found a hut site. There are several such sites on the cleared plateau just north of the bottom of the sluicing hole and even a couple amidst the piles of basalt in the very bottom of the sluicing hole."

"Another good indication of a hut site is to find a patch of greener grass in the more extensive cover of snowgrass; especially in early summer. The brighter green has resulted from the earth being disturbed and then being nitrogen enriched from human waste. Perhaps, other introduced plants (horehound, sorrell, hemlock, briar) can be found."

"During an exploratory walk along the diggings on Nine Mile Creek we were able to pick out several sites through the greener patches even when we were 150 metres from them. On inspection we found hearth stones, fragments of glass, pottery and metal and introduced plants."

"One site, that I've checked several times, between the sluicing hole and Nine Mile Creek, might have been that of a public house, or at least a miner who was getting drinking money. The ground is covered with partly buried bottles and they seem to have been the one variety — dark green glass, with a square bottom and four flattish sides tapering into a neck. One old bottle expert told me they were spirit bottles."

"Several timber huts were built near the bottom of the sluicing hole, quite likely during the 1910 decade. One was still standing in 1950 when a friend of mine, Cliff McElroy, camped in it when he was carrying out extensive geological work in the area. When I first saw the hut remains there was nothing more than a few stumps, some very decayed timber and very rusted corrugated iron flat on the ground. Cliff had taken a photograph of the hut on his earlier visit and in 1995 we were able to determine the exact spot from which he'd taken it. We took a 1995 snap of the same scene. Cliff's earlier photo showed a vehicle about twenty metres from the hut. There's no chance of getting a vehicle to the spot today."

SITE PLAN NINE - MILE DIGGINGS

GROUND SURFACE DISTURBED
BY MINING ACTIVITY



SITE FEATURES:

- 1 Nine-mile Ck workings 1860-1930: extensive ground sluicing, dams & racelines
- 2 Upper Scott's Gully workings 1860-1930: extensive ground sluicing, dams & racelines
- 3 Sluice cut - site of 1860 ground sluicing, 1860 tunnels, & 1880s hydraulic sluicing
- 4 c1882 Header dam for hydraulic sluicing
- 5 c1882 Raceline from each side of Tabletop
- 6 c1880s Tailrace for hydraulic sluicing
- 7 Lettes Primary/lower Tunnel c1895-1904, reopened by Bell 1915-20 with shed site over entrance
- 8 Holding dam(s) for washup of tunnel products, possible blacksmith shop site on ising ground to east
- 9 Lette's upper tunnel c1898-1905 with shed over entrance
- 10 Bell's tunnel c1921
- 11 Major stone dam, uncertain origin
- 12 Nine-mile Settlement site 1860 -1940s
- 13 Gold Hut site c1890? - 1960
- 14 Hut site - Bell's c1920?
- 15 Hut group - Bells c1920?
- 16 Holding dam c1920s
- 17 Stockyards c 1940s

