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Industrial Treasure: North Queensland's Mining Heritage

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Why does NQ have so much mining heritage?

Since 1860 North Queensland has been one of the most important mining provinces in Australia, and significant on a world scale (I'm defining North Queensland as everything north of Mackay and its hinterland). Pastoralism first spread a thin veneer of settlement over the area and established a few ports, such as Bowen, Burketown, Normanton, Cardwell and Townsville, and a couple of inland towns such as Hughenden and Dalrymple. Agriculture added a few more, like Ingham, Innisfail and Mackay. However the majority of towns were begun by mining and existing towns were heavily boosted, particularly the ports. New ports such as Cairns and Cooktown came into existence, and some other settlements like Atherton were begun to supply the mining fields with food and timber. Not only did the population increase, it was far more evenly spread than today, given that most of the mining fields were inland. After all, in the 19th century Charters Towers was Queensland's second biggest city. The following table shows how important the mining industry was to the North:

*Table: percentage of the North Queensland population engaged in mining (Source: C.P. Harris 1984, *Regional Economic Development in Queensland 1859 to 1981 with particular emphasis on North Queensland*, Centre for Research on Federal Financial Relations, Australian National University, Canberra)*

1864	1868	1871	1876	1881	1886	1891	1901	1911	1921	1933	1947	1954	1961
0.4	19.8	34.2	50.3	36.8	12.9	15.3	15.2	15.5	6.1	5.0	3.9	3.9	4.7
1966	1971	1976	1981										
4.5	4.9	6	6.4										

These figures are dominated by gold mining.

In fact it was this population which swung Queensland's decision to join a federated Australia. The south voted against, Central Queensland was fairly evenly split, and North Queensland voted for. Why did they do that? – One reason was because the mining fraternity resented Queensland's high customs duties on mining equipment and supplies, and thought they would get a better deal from the Commonwealth. Another was that the North was supplying most of Queensland's exports thanks to mining, and felt that too little of the wealth produced in this area was coming back in the form of government expenditure.

Mining also provided services and infrastructure to the North. Before the gold rushes, roads were formed by their users and the only Government services were mail runs in the more closely settled pastoral areas, an occasional road party, and the Native Mounted Police sent

to destroy Aboriginal resistance. As for commercial services, there were a few pubs sprinkled along the major tracks. Only the ports had the services and facilities one came to expect from British settlements in the 19th century. Mining however creates almost instant towns, and most offered at least a pub, a store and a butcher's shop. If the mining lasted for more than a few months, better roads would be built by the colonial or (after 1879) local governments, encouraging faster coach services; a police station might be next, followed by a court house. Banks would appear, stores would become specialised, and the growing population might support a hospital, churches and school. If they were lucky, some towns like Ravenswood, Charters Towers, Cloncurry, Forsayth, and Chillagoe would score a railway which in turn established more towns like Mareeba, Julia Creek, Mungana and Almaden. As the mining fields faded, many towns disappeared and services were lost, but not all. Had there been no mining, there would have been far fewer inland towns to become administrative centres like Charters Towers, Croydon, Georgetown, Coen and Cloncurry, and transport and communication networks would have been sparser and less developed. There was already a telegraph line between Cardwell and the Gulf (near Karumba) built in the late 1860s, put there in the expectation that it would join with the undersea cable to Java and link Queensland with Asia and Europe. Of course the undersea cable went to Darwin, but from this line branched more telegraph lines to mining fields to keep the North in touch with the world.

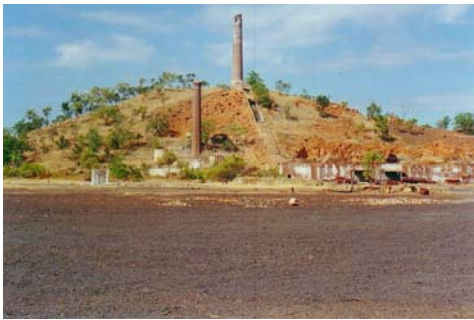


Laura-Maytown coach road, Palmer Goldfield



Causeway on the Bump Road, Hodgkinson goldfield

So, North Queensland rode to prosperity on the mine truck (as Geoffrey Blainey suggests for Australia generally). A very wide range of minerals has been found and exploited here, beginning with copper at Peak Downs and Einasleigh (Richard Daintree's copper mine) in 1862 and 1864 respectively, and gold rushes at Clermont (1861-2), Cape River (1867), Gilberton and Ravenswood (1868), the Etheridge (1870), Charters Towers (1871), the Palmer (1873), Hodgkinson (1876), Coen and Croydon (1886) and Kidston (1907), and a host of smaller fields such as the Woolgar, Wenlock, Ebagoolah, Alice River, Horn Island, Eungella and Balcooma. Copper remained a big part of North Queensland's mining with major discoveries at Cloncurry in 1866 and Chillagoe in 1887. The Cloncurry field also contained Mt Isa, one of the world's great mines, found in 1923. It was discovered so late because it was silver-lead, and most of the miners were looking for copper.



Chillagoe Smelters – the copper smelters and slag heap

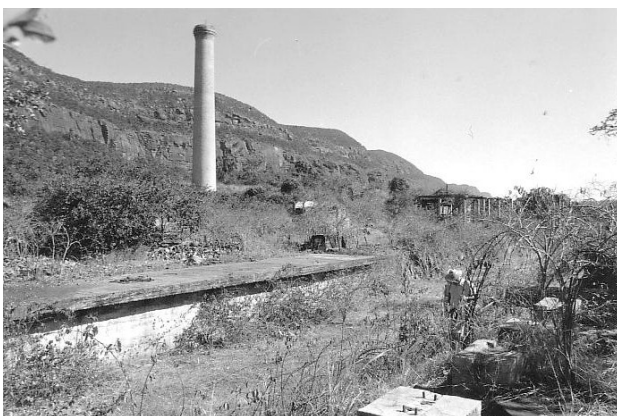
Silver was mined extensively between the 1870s and early 1890s, encouraged by a silver boom in the 1880s. Districts included Silver Valley and Montalbion on the western Tablelands behind Cairns, Argentine and Ewan near Townsville, Totley, Sellheim, Mt Wyatt and Dreghorn near Charters Towers/Ravenswood, and Lawn Hills near Burketown. Lead is often found in association with silver and sometimes with copper, so this mineral was occasionally mined in the 19th century but really came into its own in the 20th century, particularly at Chillagoe and Mt Isa.



Remains of the Argentine Smelter near Townsville, an unsuccessful silver venture

Tin was being exploited on the Atherton Tablelands from 1878, with major centres developing at Herberton, Irvinebank and Mt Garnet, and the miners soon found more deposits near Cooktown (such as the Annan River and Bloomfield) and smaller fields such as Cannibal Creek south of the Palmer, Kangaroo Hills behind Paluma and Stanhills near Croydon. The tin miners came upon associated minerals such as bismuth, scheelite, molybdenite and wolfram which were exploited as their markets expanded, leading to other mining fields such as Koorboora, Wolfram Camp and Mt Carbine. Zinc was just a nuisance until the early 20th century, and though it was occasionally mined for its own sake, it wasn't a major part of the region's mining industry until after World War II. Currently the biggest mines are Century on the old Lawn Hills field and Mt Garnet (Kagara).

Lime has been made from limestone at Chillagoe and other places, coral rock on some Great Barrier Reef islands, and shell middens in the Gulf from the 1860s until today. Despite many discoveries, until World War II coal was mined in only a few places, at Blair Athol (1874), Mt Mulligan (1907) and Collinsville and Scottsville (1912). Since the 1960s, of course, the Bowen Basin has become one of the world's largest coal producing areas. Gems have been found in many places, but apart from Agate Creek, mining has been on the fossicking scale. More modern minerals have included uranium, with the biggest find at Mary Kathleen being mined from 1958, though deposits near Mt Isa (1954), Maureen near Georgetown and Ben Lomond near Townsville (1971) were tested. Other additions to northern mining are bauxite at Weipa (1961) and Gove; nickel from Greenvale (1967); silica sand, with the world's largest mine at Cape Flattery; phosphate at Phosphate Hill and other places in the Mt Isa area; kaolin at Weipa and Skardon River; and perlite near Chillagoe. Despite the many iron deposits which have been identified since the beginning of settlement, iron ore has also been mined only occasionally, usually as flux for smelters. Cobalt, fluorspar and mica have also been occasionally mined.



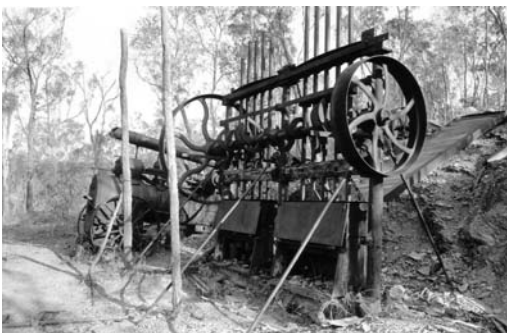
Remains of Mt Mulligan coal mine



Kagara's Mt Garnet zinc mine

What's left of 150 years of mining?

Anyone who has visited most of North Queensland's mining fields knows there are lots of standing stamp batteries in the bush. This might lead you to believe they are quite common. They aren't – because North Queensland has most of Australia's remaining stamp batteries. On nearly every mining field you'll find old boilers, steam engines (usually incomplete or in pieces), fragments of other equipment, and traces of towns, roads and causeways, market gardens, houses and camp sites. The goldfields were cosmopolitan places so some of these remains are not European. A lot of work has been done and is still being done on Chinese heritage, but more needs to be done on the Singhalese (Sri Lankan), "Malays" (usually Indonesian), "Manilla men" (Filipinos), and "Afghans" (mostly Pakistanis) whom we know were on the fields too. North Queensland's mining fields are extraordinarily rich in mining heritage and far more research needs to be done to find, analyse and explain it.



Enterprise Battery, Palmer goldfield

Why has mining heritage survived?

Economic decline and isolation

Mining heritage survived for the usual reason heritage survives: because the region fell on economic hard times. Gold mining declined after the First World War, despite a brief revival in the 1930s Depression, because for most of the period the price of gold was usually fixed.

Wartime inflation ate away its value until currencies were freed from the gold standard and the price of gold could fluctuate. Both world wars also made mining supplies hard to get and disrupted metal markets. Base metal mining has always been chancy as world prices dip and rise so quickly, but except for tin, it has increasingly become a big company's game. Big company mining doesn't lead to the population levels of small mining, with some exceptions such as Mary Kathleen, because modern mining methods using big machinery and open cuts will strip out ores far quicker and with far fewer miners. Fly in-fly out is just the latest development in this trend. Small mining also became harder as the more accessible deposits were worked out. Even the North's remaining small tin miners gave up after tin prices crashed in 1984, and now there are few small miners left, mainly on alluvial gold. As mining declined, people and businesses left except for a small number servicing the cattle industry and transport links. The deepest trough was the 1940s and 1950s. Towns like Forsayth, Ravenswood and Irvinebank became little more than a pub, a store, and some Government services like a police station or a railway station. If they were lucky enough to be Shire centres, like Georgetown, Croydon, Charters Towers and Coen, they fared a little better. Some towns declined to the point where they became station homesteads, such as Mt Mulligan, Kidston and Palmerville. Other mining settlements were abandoned altogether and while North Queensland doesn't have a Bodie, the intact abandoned mining town in California, it does have some fascinating abandoned mining town sites. Without the population there was little incentive to keep up transport infrastructure so roads and even railways disappeared.

Tourism

Since the 1970s, better roads (especially the Beef Roads) and modern technology have made life in these communities a little easier, and tourism has boosted their economies. However those long periods of decline and the isolation of many former mining areas meant they became static, preserving many buildings and structures long enough for them to become attractive to tourists – so there was now an economic reason not to get rid of them. Towns like Charters Towers, Ravenswood, Herberton and Croydon are making their mining heritage accessible to tourists.

Lack of pressure from other industries

The cattle industry in North Queensland has also never been a wealthy industry so there wasn't the money around for new buildings. Pastoralists had no reason to 'clean up' old mining areas so they were likely to be left alone thanks to the isolation and bad roads, apart from some recycling by graziers and occasionally, farmers (e.g. battery stamp stems used as

cattle grids, or tobacco barns made from bricks scavenged from former smelters). Some pastoralists have 'adopted' mining remains and keep watch over them. Scrap metal merchants raided the old equipment, but a lot remained.

Recycling

Another reason for the abundance of mining heritage is the relative poverty of the miners. Overseas capital was attracted to North Queensland in the 1880s and 1890s, but mining has its fashions and there were plenty of new and booming mining districts worldwide competing for the attention of investors from the 1890s onwards. Except for isolated examples like Mt Isa, there wasn't a lot of money coming in from outside the region, so miners tended to re-use existing equipment. Most mines had a short life so there was usually plenty to choose from, much of it abandoned. Recycling second hand equipment has therefore preserved a lot of older mining machinery, especially that equipment which came under the Mining Machinery Advances Act of 1906. The State government wanted closer settlement of inland Queensland which was best done by small miners and their families. Under this Act, it encouraged small miners by loaning them money to buy equipment, with the equipment providing the security for the loan. Of course mining is an uncertain game and a lot of that equipment was seized by the Department of Mines for non-payment of loans (or later, hire purchase agreements). This equipment was then circulated around the mining fields through new loans and agreements, or leased to miners. The result of all these factors is that older styles of machinery were kept in service longer than you'd expect. Mines like the General Grant were using 19th century technology in the 1930s, and the Tyrconnell and Emuford batteries were relying on such technology into the 1980s. Abandoned plant is assisted to survive by the dry inland climate, particularly cast iron. This is why it's never a good idea to put it on display on a well watered lawn.



The dry climate of Croydon has preserved this little cast iron winding plant

Adaptation

Some mining structures have been adapted to other uses. The most obvious example is mining dams such as those at Cumberland and Durham near Georgetown, and Montalbion near Irvinebank, now used to water cattle and for recreation. The Mt Garnet mine's assay house was restored as a private house before being adapted as the office for the new mine.

Families preserving their heritage

Another reason was that former mining families who stayed on (usually in some other occupation) often had some ownership of the mining heritage and acted as caretakers, often in the hope that the value of the mines would rise again. Emuford Battery is one example. The Daltons in Kidston kept an eye on the Kidston Battery until the town was bought up by the Kidston mine.



The Emuford Mill, preserved intact by John Green after it stopped working in 1985.

The heritage movement

More recently, people are becoming fascinated by North Queensland's mining past and have acted to save its heritage, such as the National Trust of Queensland in Charters Towers and Mt Isa, Chris Weirman in Croydon, John Fitzgerald at Emuford, and the work of the Palmer River Preservation Society and Jack Skinner on the Palmer. Several mining sites have been

put on the Queensland Heritage Register (began in 1990) which offers them legal protection. Regrettably the industry itself does little to help preserve its own past apart from sparing some heritage structures from destruction in accordance with heritage consultants' reports. One outstanding exception is the work of Carpentaria Gold to repair the six mining smokestacks in Ravenswood as well as the School of Arts building, in conjunction with the Dalrymple Shire Council.

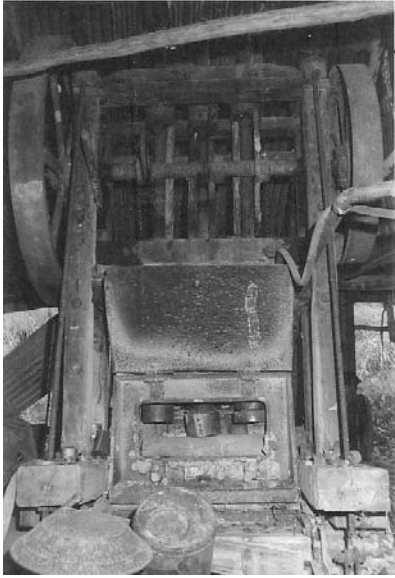
How significant is it?

North Queensland's mining heritage is world class. How many mining regions still have two batteries capable of operation like the Tyrconnell near Dimbulah and the Venus Mill in Charters Towers? (The Tyrconnell was a goldmine, found in 1876. It went through several stamp batteries – most of the present plant was installed in the 1930s and 1940s, but all of the technology is 19th century. It was last worked in the 1980s.) (The Venus Battery was built in 1872, updated in 1900, became a State battery in 1919, crushed ore from as far away as Cairns, and stopped commercial crushing in 1973).



The Scott's shaking table at the Tyrconnell, in working order.

How many have batteries that are virtually intact from their working days like the Wild Irish Girl on the Palmer and Emuford on the Irvinebank-Petford road? (The Wild Irish Girl crushed gold ore for small miners. It was erected 1894 and stopped crushing sometime in the 1970s. Its last owner was Sam Elliott, who died at the mill.)



The three stamp battery at the Wild Irish Girl

(The Emuford battery was mainly for tin. The plant was brought in from a defunct mine nearby in 1911, and was occasionally added to but its owners never threw anything away! It was owned for most of its life by one family, the Greens; it stopped crushing when tin prices collapsed in 1985).



Ten-head stamp battery, Emuford Mill

How many mine sites are as intact as the Great Northern at Herberton and the General Grant at Kingsborough, near Dimbulah? (The General Grant was a gold mine, found 1878. Its main period of working was 1893-1910, though it worked intermittently afterwards; it has very rare equipment especially its winder, an intact Babcock and Wilcox boiler, and a Schran air compressor.) (The Great Northern was the first tin discovery Herberton, and provided the start for the storekeeping firm of Jack and Newell. It was mined from 1879 to the early 1950s.)



Winder at the General Grant (photo Bryan French)

There are also mine and mill sites with their main equipment intact even if some elements are gone, including the Iguana Consols at Croydon, a prospecting shaft put down 1915-18 to find the lost Iguana reef by Freddie Cuthbert; its equipment originally came from other Croydon and Charters Towers mines. The Richmond near Croydon is another (it was a gold mine, found 1886 and worked by small miners on and off for its very rich specimens; the current stamp battery was erected in 1913 from second hand equipment around Croydon. It crushed tin towards the end sometime in the 1920s). Others worthy of note are the Aspasia near Georgetown (worked 1916 intermittently to 1952 on gold/silver/lead ore), and the Alexandra Mill on the Palmer (the mine was found in 1878, and had very rich gold ore but didn't make much profit because of isolation; its equipment and battery were brought in during 1895, but the mine closed in 1898 and the battery frame was scavenged in 1940). Others include the Lukin on the Cape, the Tyrconnell Mine referred to above, and the Kidston Battery.



Alexandra mine and mill, Palmer goldfield

North Queensland also has two remaining headframes (poppet heads) of the old style favoured by Australian miners, as opposed to the A-frame introduced by European and

American miners. One (made of steel) is at the Vulcan mine at Irvinebank, which was found by a party of Italians in 1888 but by various means became owned by base metals entrepreneur John Moffat and was the mainstay of his empire until the 1920s. A strike at this mine began the Australian Workers Association, which later became the Queensland section of the AWU. The other headframe is at Dobbyn, near Cloncurry, and was moved there from Charters Towers.



The Vulcan mine headframe, Irvinebank

The region has had a number of smelters, the most spectacular at Kuridala and Mt Cuthbert on the Cloncurry field. However slag heaps, smokestacks, foundations of stone, brick or concrete and terraces, and remains of smelters, flues and machinery can be found on many sites, such as Mt Molloy, Chillagoe, and Mt Garnet.



A nicely formed edge on the Mt Garnet smelter slag heap.

There are also some extraordinary mining precincts. The red sandstone cliffs of Mt Mulligan provide a spectacular backdrop to the former coal mine and its structures, and the cemetery

which has most of the victims of one of Australia's worst coal mining accidents in 1921. The townscape also has many building remains, though the only standing building is the former hospital, now a station homestead catering to tourists. The Palmer goldfield around Maytown is famous for the heritage of its 17,000-odd Chinese miners, including dams and water races, pig ovens, forges, camp sites, lone graves and cemeteries. It is also a graveyard of early mining technology – steam engines and boilers, pumps, stamp batteries – and has a number of abandoned townsites.



Chinese grave, Palmer goldfield

Why don't more people know this? (Why is it undervalued?)

The first problem is that most people of the region are cut off from their mining tradition. Mining has a lower profile in the community now and given that most people are excluded from mining sites for safety reasons, it is often a mysterious activity that happens somewhere Out There, unless of course you're working in the industry. It is also still overcoming the bad image it gained during the 1960s to 1980s when it came under attack from the environmental movement, even though miners now are very environmentally conscious. There is less understanding of the important role it has played in forming the North Queensland of today.

The second reason is closely related: we tend to value heritage when we understand the history behind it. We don't even teach Australian history in the schools, let alone the history of our own region.

The third is an underestimation of the economic potential of mining heritage. Some towns have capitalised on their mining heritage for the tourist trade. However the North has yet to tap into the specialised markets of mining, industrial and engineering tourism, which are better understood in Britain and the U.S.



James Cook Uni students learn about mining heritage at the Chillagoe smelters.

What threatens its future?

There are several threats to mining heritage.

1. The earliest response of those wanting to tap into the tourist trade, ie. collect moveable heritage items and put them in a vacant lot in town, usually with inadequate interpretation. Herberton, Chillagoe, Croydon and Ravenswood have examples. Doing this does not 'rescue' items – it lessens the value of heritage mining sites and deprives the moved items of their history and therefore their heritage value. Croydon has since worked out that it's better to take tourists on tours of heritage places – they spend more time and therefore more money in the town, and you don't destroy the heritage value of the equipment by taking it out of context. The Council is also working to better protect and interpret the items that were brought into town, in line with museum practice.

2. Continued mining by unsympathetic or uninformed miners. It can be easy to destroy important parts of a heritage site simply because you don't realise what's there. My favourite example is a boiler house and its chimney in Ravenswood, both carefully preserved by the mining company, with the low concrete flue which joins them bulldozed over. In recent years this has become less common with the requirement to assess environmental impacts of further mining on heritage places, but mining companies can't be forced to preserve heritage unless it's of such value that it is worth being nominated to the Queensland Heritage Register.

3. Simple decay. Fixing this can be costly, and while a restored building can be put to use, conserved industrial heritage is less obviously useful. The saddest case is the London North headframe at Ravenswood, until recently the oldest surviving timber headframe in Australia

and an extraordinarily rare structure. Despite getting a grant to conserve it, the local Shire Council chose to let it collapse and planned to build a replica instead, citing safety concerns.

4. Souveniring and 'collecting'. The 4WD boom has ended the isolation of many sites and taking items away is helping to destroy heritage. The small carved headstones sometimes found on Chinese miners' graves, and any part of equipment with the machinery brand names on them, seem to be favourite targets. Desecration of graves, and the removal of information that can tell us more about our mining heritage sites, seems to be a senselessly destructive type of collecting.

Our mining heritage is worth looking after. It recalls an era that formed many of our towns and transport links, and an industry which helped Queensland get to its feet as a colony and a state. It is a source of history which has barely been touched and has much to tell us. Through tourism, it is an economic resource with its best days yet to come. Finally, it is fascinating in its own right, and worth seeing for itself.

Janice Wegner