

## **IRONSAND AND IRONWILL: The Story of Taranaki's Steel Industry**

**Locals too long away from the black sands of Taranaki's beaches, quickly forget its foot-blistering summer heat and all-pervading sprinkling on picnic sandwiches.**

Geologically, the result of erosion of the andesite volcanos of the western North Island, the sands have high concentrations of the mineral, titanomagnetite, the raw material of the iron industry. The history of the industry is little known outside the region and the antecedents of the export operations at Taharoa (Kawhia) and Waipipi (Waverley) surprises even many locals.

To begin, therefore, at the beginning.

We are asked to believe that immediately after the culture shock of first setting foot on a rat and sandfly infested beach on a remote South Pacific island, reliably reported to be inhabited by ferocious tattooed cannibals and birds the size of a well-bred shire horse, one tiny entrepreneurial Plymouth Company immigrant had the wit to recognize the commercial potential of Taranaki ironsands during his six kilometre trudge up the beach to the embryonic settlement of New Plymouth.

This gentleman, recorded as a carpenter in the 1841 ship's manifest of the *Amelia Thompson*, had, by the time of a 1917 account, increased his status to that of a "previous proprietor of an iron foundry in Cornwall"!

To John Perry however, must go the honour of the 1848 first of a lamentable series of failures, which has tended to signal "progress" in the local iron-smelting industry.

Following Perry's unsuccessful smelting attempt of 1848, samples of ironsand were shipped 'Home' at regular intervals to the established foundries of the Black Country. The subsequent reports were redolent with such terms as "surpassing excellence," and "incalculable value" along with that most puzzling and erudite word of Victorian English - "sanguine".

Hyperbole aside, it does appear that English founders did recognize that Taranaki ironsand, being high in titanium content, formed naturally high-quality steel when it could successfully be smelted.

In the late 1850s the Taranaki Provincial Council, determined to establish New Plymouth as an antipodean Newcastle-on-Tyne, offered a reward of £1000 for the first 100 tons of merchantable iron manufactured from sand. It was never claimed.

A Captain Morshead, however, tried unsuccessfully to float a company in Britain. His trip to England, along with some ironsand, resulted in the production of a small quantity of steel reported to be of a quality which "cannot be surpassed by anything of the kind produced by the best of the Sheffield firms." A range of "various warlike and household implements" was made including, reputedly, a sword for the Duke of Wellington and a pair of ice skates for the Prince Consort.

The arrival in New Plymouth of gunsmith, Edward Metcalf Smith in 1861, however witnessed the beginning of an heroic five decade struggle with the technical problems of smelting ironsand. Smith was one of the brilliantly ebullient characters of colonial New Plymouth. He maintained an avid interest in any of the oft-raised schemes designed to exploit the natural resources of the area. His vision for New Plymouth was, presumably, the wealth of a grey wasteland of slagheaps and smoke-belching chimneys with the evening sun slipping down gently behind a Bessemer converter.

His manuscript plan for a harbour at Sugarloaf Point, held by Puke Ariki, certainly shows no sign of conceptual restrictions imposed by such minor natural features as offshore islands or abysmal depths. It could - with due deference of course - be even considered a touch megalomaniacal in concept.

Born in 1839, Smith was apprenticed to various English small-arms factories before being appointed as garrison armourer to the N.Z. field forces. His training in gunsmithing led to his life-long association with the ironsand industry, and quickly gave him his nickname, "Ironsand". The last decade of his life was spent as a Member of the House of Representatives for New Plymouth and Taranaki where his considerable histrionic abilities were enabled full rein on the floor of the debating chamber.

But to return to the beaches. It was in 1868 that the enthusiastic Smith and his partners, Decimus Atkinson and our old friend John Perry of *Amelia Thompson* fame, announced that success had "attended" their smelting attempts after manufacture of an artificial ore using a clay and sand mixture.

For the next few years, Smith orchestrated a bewildering series of companies and individuals until, late in 1872, the N.Z. Titanic Steel and Iron Company was formed in Wellington with Smith as chief troubleshooter and clerk of works.

Land was secured at the mouth of Te Henui stream in New Plymouth in 1873 and talk of plans for a smelter quickly circulated among the town's corporate community.

Two years later, only the buildings had been erected, Smith was dismissed and the shareholders were baying for blood.

On July 14 1876, finally, the furnace was eventually loaded with Golden Bay ironsand, local sand being introduced subsequently. The furnace then promptly clogged and the shareholders caught the whiff of further blood.

True to form, Smith, waiting in the wings, stage-managed a public lecture whose final and firm resolution urged the company directors to "give Smith a chance." Faced with a dilemma of increasing proportions, the company had little choice.

In September 1876 after six "runs" some three tons of pigiron were obtained from the smelter. Smith was hailed as a hero. Citizens, delirious with joy, banqueted him and the Taranaki Rifle Volunteers and their band provided an escort to the venue at the Oddfellow's Hall.

A seven verse, especially composed ode, 'The Iron Man', by "WHB" began:

" 'I sing the deeds of heroes'  
Said Virgil, Latin poet;  
I sing concerning E.M. Smith,  
And I will plainly show it,  
That he's entitled to a place,  
'Midst heroes, old and young,  
And if my muse will help me,  
I'll sing as Virgil sung...".

Over the next couple of years some test castings of this local pig were completed at James Vivian's New Plymouth foundry. These included four rail wagon wheels, rifle breechblocks, an assortment of tools - and two ornamental plates depicting Napoleon crossing the Alps!

Notwithstanding the local enthusiasm, the more circumspect Wellington directors and

shareholders disposed of the Titanic company in 1881. It was bought the following year by a New Plymouth-based group of local fledgling capitalists.

During 1883, four tons of iron was produced before it was reported that "operations .... have been brought rather abruptly to a close on account of the metal cooling in the furnace." This is a nice, concise, technical explanation that most readers will understand!

The 10-tonne block of "cooled metal" was uncovered in 1997 during site-works for a house in Nobs Line, Strandon – the site of the smelter.

The advent of yet another company three years later - this time with a newly-imported English iron-worker in charge - cleared the furnace, produced about 12 tons of iron then slid ignominiously into temporary oblivion only to arise again, phoenix-like, three years later under one, Thomas Oldfield and E.M. Smith. Twenty to thirty tons of iron was obtained on this occasion, the quality however proved, after subsequent testing, to be very poor.

Financiers and shareholders alike were finally bludgeoned into submission by the repeated failures to maintain production in commercial quantities.

The works were sold and moved to Onehunga in the early 1890s accompanied, of course, by the sole remaining flame of optimism - Edward Metcalf Smith. At the Onehunga site, Smith produced some 40 tons of pigiron.

The champion of Taranaki ironsand died in 1907 from injuries received after falling from a train in New Plymouth.

The final gamble with Taranaki's ironsands was made during World War I. John A Heskett, an Australian-trained metallurgist, his father W.P. Heskett, Samuel Frazer and others, bankrolled by Amuri wool baron, Duncan Rutherford, formed the N.Z. Iron Ore Smelting and Manufacturing Company, and erected a smelter near the base of Paritutu overlooking Port Taranaki in 1916.

Yet again technical problems beset the enterprise and, after only a year or so, the plant was dismantled and moved to Onekaka in Golden Bay where Rutherford was also involved in an ironsand company.

This venture saw the end of attempts to exploit ironsand locally, although as late as 1921 a shipment of Taranaki sand was smelted in a foundry at Darlington, Durham and witnessed by the New Zealand Prime Minister, William Massey, while travelling in Britain.

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