

23db The Donald Chemical Plant



Looking south towards Kinmount with the railway to the right, and the surviving distribution building almost in the centre. Taken in the postcard era circa 1910-20.

LOCATION

The community of Donald is just east off Haliburton County Road 1, about 5 miles (8km) south of Haliburton. It was chosen for this plant for four reasons:

- A railway that could be used to bring in raw materials and take out finished products
- A plentiful supply of hardwoods
- Flatland close to a water source (the Burnt River), which was needed in the production of wood chemicals both for the boilers and for flushing of effluents
- Farmers and loggers who could conveniently be employed on a full- or part-time basis.

PURPOSE

The plant's initial purpose was to produce charcoal used in the smelting of iron and steel, as well as being a clean-burning fuel for heaters and stoves. The wood of choice for this process was hard maple.

Over time, the plant depended more on by-products of the charring process, such as distillation of wood, notably birch, beech and maple, into wood alcohol and acetate of lime, with charcoal as a by-product. (Every quality cord of wood [4 feet high, 4 feet wide, and 8 feet long, stacked tightly, 128 cubic feet] produced eight gallons of wood alcohol, 200 lbs of acetate of lime and 52 bushels of charcoal. Wood alcohol was used for antifreeze, solvents, fuel and as a denaturant for ethanol [i.e., to make drinkable alcohol undrinkable for industrial purposes]).

The plant was naturally located initially near large and seemingly unlimited supplies of the preferred timbers. It was comprised of four production buildings, consisting of an oven house, still-house, charcoal house and a boiler house, with a 50,000 gallon concrete water tower and a small concrete dam. There was also a distribution building and a vast surrounding open area for the storage of timber waiting to be used, some of it drying out for two years. This open area was served by standard gauge railway spurs and a network of narrow gauge track to convey the selected timbers on "buggies" into the plant for processing.

BACKGROUND AND HISTORY OF THE PLANT

At the turn of the 20th century, there was an Ontario boom in iron and steel foundries, resulting in a tripling demand for charcoal. To capitalize on this boom, an entrepreneur by the name of R.A. Donald bought land in Haliburton County and contracted with Westinghouse Engineering to build the plant, which was completed in 1908. At the time of its construction, it was likely the largest plant of any kind in Ontario and cost \$1,000,000 to build, that is in today's money ~\$23,600,000. The reinforced concrete buildings were architecturally unique and engineering marvels of their day. They were the first buildings in Canada to use chain reinforcement for roofing; they boasted the first concrete raised water tower in North America; had notable features of high tensile steel from Oneida NY, USA in their columns, flint limestone brick from Fenelon Falls used in the infill, highly dense concrete made from sand on-site; and they displayed unique gable roofs. Their remains are an industrial archeological survivor, and they are also markedly unique in being in a primarily natural landscape.

By 1913, domestic markets had become saturated and a world-wide recession began. By 1915, R.A. Donald was in financial difficulty, and sold his interest for \$1 to Canada Wood Products Ltd., whereupon the plant was leased to the Standard Chemical Company. That company had just lost its plant at Fenelon Falls to fire, so it was opportune for it to lease the Donald plant. While the demand for charcoal was then in decline, wood chemicals were in strong demand for the manufacture of explosives. Thus, WWI's demand for acetate freed the wood chemical producer from a dependence on iron foundries. Another byproduct in the charring process that came into heavy demand after WWI was for wood alcohol with its widening industry applications. The operation continued through the Great Depression, although with reductions in wages and output, but the renewed demand for acetate for ammunition manufacture gave it a new lease of life at the outbreak of WWII.

Please turn over

In the meantime, by the 1930s, nearby stands of the core hard maple had been exhausted and was now coming from as far away as Loon Lake and Eagle Lake, and later from as far away as Huntsville.

At the end of WWII, as a result of the cessation of the war-time demand for acetates, the decreasing economic supply of hard timber, obsolescence due to the creation of new petro-chemical related processes and new smelting techniques developed at the beginning of the post-WWII industrial boom, the decision was made to close the plant in 1945. It was stripped of everything that could be salvaged and the buildings were left to become ruins in the wilderness. A fire in 1951 wiped out the company houses built for its employees, but plans are afoot by latter-day entrepreneurs in a partnership with the Municipality of Dysart et al to reclaim the distribution building and to convert it into a centre for small contractors and green building suppliers to market their services, perhaps as the “Donald Innovation Centre Co-operative”.

RELATION TO THE RAILWAY

Before the coming of the plant, there was not even a stop on the railway line (then owned by the Grand Trunk Railway of Canada [GTR]). The nearest stations were flag stops (stations without agents, where intending passengers could stop the train by waving a flag) by the name of Dysarts, about 1½ miles (2.4 km) to the south, or Gould’s Crossing, about 2½ miles (4 km) to the north. With the coming of the plant, a flag stop and a freight shed were built, as well as a long passing siding, and also a spur from the south to the east of the plant. With the creation of the Donald stop, the flag stop at Dysarts was abandoned and had disappeared from the CNR (successor to the GTR in 1923) timetables in the 1930s. The freight shed was lost to a fire that destroyed much of Donald in 1951.

THE PLANT AND ITS IMPACT ON THE COMMUNITY

Economic

In the early 1900s, Canada was the largest importer of iron from England. It was thought that if iron were produced locally, Canada would become an economic power. “The Chemical”, as the plant was referred to simply by local residents, changed the way business was done locally. It impacted the economic, social and ecological conditions across the region. “The Chemical” introduced wage labour where previously only barter systems existed, allowing for the import of new products, the making of new businesses and then changing relationships throughout the Highlands. Steam-generated hydro power was made by the plant 40 years before the “grid” arrived. The first markets and commercial stores were opened, and the plant became the primary economic engine of the Highlands. With its closure and the decline of the local lumbering economy generally, Haliburton County then reinvented itself to become the tourism and arts centre that it is today.

Social

“The Chemical” had the same impact in miniature as the migration from an agricultural economy to the factory system in the United Kingdom that ushered in the Industrial Revolution in the early 19th century. It created a classic company town with a company general store, a company-sponsored community centre, company cottages for resident employees, and bunkhouses for those employees who lived further away but preferred not to “commute”. Its payroll provided welcome cash income for loggers and farmers in the off-season, and wages were attractive for their day, although the work was physically very hard and the working conditions unthinkable by today’s standards, especially with respect to the almost unbearable heat generated from the oven and boiler houses. At its peak, the plant employed over 300 men, most of whom were “in the field”, many of them Italian immigrants who were brought in for wood-cutting and stacking. There were two field camps, Anglo and Italian, that operated quite differently culturally, the former consisting of men away from their families for five to six weeks at a time, and the latter opting to have their families with them in the bush.

During the 1930s, tractors began to replace the great number of teams of horses previously required. By the outbreak of WWII, the plant employed about 60 men in three shifts.

Sources:

A Notable Industrial Plant of Reinforced Concrete – the Chemical Mills of the Wood Products Company at Donald, Ontario.

Cement Age January 1909, University of Michigan, USA.

Dictionary of Canadian Biography Online, 1921-1930 (Volume XV), Peuchen, Arthur Godfrey.

Hamilton, Andrew: *Modernity, Metaphor, and Maples: the Landscape created by the Wood Chemical Plant in Donald*; Trent University, Peterborough, Ont.

Scott, Guy: *Donald and the Chemical*, Kinmount Gazette, Vol 2 Issue 8 July 2010, Kinmount, Ont.

Wilkins, Taylor: *Haliburton by Rail and the I. B. & O.*, self-published, Haliburton, Ont. 1992

Wilson, Ian: *Steam Memories of Lindsay*, Canadian Branchline Miniatures, Orillia, Ont. 2010