

Progress at Ageston Plantation: survey

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This paper presents a brief report on the preliminary archaeological investigations at Ageston Plantation, Alberton, one of the earliest and most important of the sugar plantations in southeast Queensland. There have been no published archaeological studies of any of the early plantation sites in the southeast Queensland region, where the State's sugar industry was pioneered, and little understanding of what physical evidence survives across the region. The Ageston mill site, which is the focus of this paper, has revealed information pertaining to the organisation, layout, function, evolution and social life of the plantation landscape, as well as information on South Sea Islander experiences and contributions to colonial development. Future archaeological potential, as well as human and natural threats to the evidence, are also considered.

INTRODUCTION

During the last 150 years, the country around the Logan and Albert Rivers has been transformed from a wholly Indigenous-mediated landscape to a colonial and agricultural one. Due to lack of familiarity with Australian conditions, much early European enterprise in Australia was conducted by trial-and-error. Accumulation of environmental knowledge and engagement with global markets were critical to the success or failure of colonialism. The development of the early sugar industry in southeast Queensland, specifically at Ageston Plantation, is the focus of an archaeological project by the Council of City of Gold Coast and the University of Queensland, and forms the basis of a PhD study.

Established in 1866, Ageston Plantation was one of a number of plantations in southeast Queensland which pioneered the State's sugar industry. The site is located on the south bank of the Logan River, within the sugarcane lands of the Gold Coast suburb of Alberton. Although the site still produces sugarcane intermittently, the original property has been subdivided into smaller farms.

In 2012 Gold Coast City Council and the University of Queensland conducted an archaeological survey of the Ageston plantation site. Three weeks of fieldwork were completed at the mill site over the months of September, October and November, which entailed vegetation clearing and the exposure and mapping of features. No subsurface excavation was undertaken. The purpose of this work was to ascertain the extent of the mill complex, understand the taphonomy of the site, and identify target areas for later archaeological excavation. The results of this preliminary investigation form the basis of this report. It is anticipated that further fieldwork, including excavation, will be conducted in 2014.

Research rationale

The role of the sugar industry in Queensland's development has been subject to wide historical examination (e.g. Davidson 1981; Graves 1993; Griggs 2011; Saunders 1982; Shogren 1980); however, archaeological analysis has been scanty, and confined to describing material culture and power relations (Balanzategui 1995; Hayes 2000; White 2004). Archaeology has the potential to reveal the complex relations of past people to land, market production and technology, as well as the emerging social and economic networks of colonial agriculture.

Ageston plantation has long been part of local knowledge, and has been included in historical studies (Gold Coast City Council 2007; Howells 2003; Jones 1988). However these

studies only provide a brief examination of the subject and provide no detailed account of the physical remains of the plantation. Indeed, there have been no published archaeological studies of any of the early plantation sites within the broader southeast Queensland region. Morayfields Plantation at Caboolture, a site contemporaneous with Ageston, has recently been listed on the Queensland Heritage Register (QHR 700014), but there is still little understanding of what physical evidence survives across the region and what important information can be derived on the organisation, layout, function, evolution and social life of the plantations from which Queensland's sugar industry developed.

Survey at Ageston offers an opportunity to assess a sample of the archaeological remnants of early agricultural expansion into the Logan and Albert Rivers region. It also has potential to reveal South Sea Islander presence, contribution, and experiences in the colonial landscape. The Ageston research project considers the implications of both landowners' and workers' agency for the resulting landscape of the Ageston site, the sugar industry, and Queensland society.

Because Ageston was (and continues as) both a home and a place of work, agricultural, industrial, social and domestic factors have combined to influence the ways people constructed and perceived economy and social relations. In addition to this project's strong social focus, the environmental state of Ageston through time is also of interest, as a way to access the changing and cumulative needs of people on the land. Establishing the succession of production, processing and transportation technologies would determine how people altered and moved through the landscape in the performance of their work, and the local and global networks they acted within.

HISTORICAL CONTEXT

The sugar industry is one of Queensland's chief agricultural enterprises. Although today most production comes from the coastal areas of central and northern portions of the State, the industry has its origins in the southeast corner, where large plantations were established in the early 1860s.

The initial impetus for the formation of these estates was actually not sugar but cotton. Following separation from New South Wales in 1859, the new colony of Queensland was desperate to generate revenue through commercial agricultural production, and when the American Civil War (1861–1865) disrupted world cotton supplies, local investors moved to supply the market (Jones 1988:55–63). Generous land grants produced a rush of planters and capital into the region and from 1862 the first applications were submitted. As cotton

growing was labour intensive, finding sufficient numbers of workers was a key consideration for the planters, and successful trials with South Sea Islander labourers under contracts of three-year indenture soon led to the widespread adoption of this model within the industry.

The cotton experiment was cut short because of poor seasons and the end of the American Civil War. Planters sought an alternative crop that would continue the plantation system, and this was sugarcane, which shared similar production systems with cotton and was considered a suitable crop for the region's subtropical climate. Between the 1860s and 1880s sugar-growing properties of between 320 and 1280 acres (128 and 512 hectares) were established on the floodplains and valleys of the region (Jones 1988:65-96). These estates operated like self-contained villages, and could include a manager's or engineer's residence, stables, blacksmith, workers' barracks, carpenter's house, stores, mill, distillery and sawmill. As a general rule, sugar properties with their own mills were referred to as plantations, while those without were called farms (Griggs 2000:614).

Sugar growing became the mainstay of the local economy, and a boom occurred from 1870 to 1885 (Jones 1988:88). The region's sugar industry was characterised by many privately owned operations rather than a co-operative central mill system which would become the norm in northern Queensland (Pearson *et al.* 1952:732). Planters often refused to pay for shipping and processing cane at one of the larger mills because of high fees and inefficient transportation that could result in spoilage. In addition, having a mill was central to plantation prestige; while acquiring, discussing and improving milling technology was an integral part of the way of life for planters (*Cairns Post* 21 August 1884:3; *The Queenslander* 27 February 1869:10). Hence it was considered necessary to process the cane locally. Another notable characteristic of the local industry was a high level of experimentation with mill technology. The early mills used horse-drawn crushers, but during the 1870s these were superseded by steam-driven plant. Improvements to refining also occurred, with a progression from primitive open boilers to complex closed pans.

By the late 1880s the local industry fell into a major decline. Planters had to contend with increasing competition from the sugar producers of North Queensland, declining soil fertility, outbreaks of rust disease, environmental degradation, difficulties in obtaining South Sea Islander labour, and a dramatic drop in sugar prices. In 1887 the region experienced a devastating flood (the worst known since European settlement began) which destroyed much caneland and infrastructure. This was followed in 1888 by a severe drought. In some instances poor estate management or the extravagant lifestyles of plantation owners were to blame for business failures, while the decentralised small-scale milling system, despite much ingenious adaptation, was inherently inefficient (Griggs 2000:638-639).

During the 1890s most of the large plantations were subdivided into small farms, and mills progressively closed. Sugar was no longer the economic driver of the region. However, production did not entirely cease,

and it continues today in the northern, coastal areas of the Gold Coast (Gold Coast City Council 2007).

Ageston plantation was established on the south bank of the Logan River by John Stevens in 1866. John Stevens was born in Maine, USA, and came to Australia in 1835, involving himself in squatting and then cotton and sugar cultivation (*The Brisbane Courier* 21 February 1871:4; QSA Item ID23109). The original holding comprised a 320 acre block of native forest and swamp. Fifty acres of cotton was grown, but following a poor yield Stevens turned to sugarcane, planting out 60 acres (*The Brisbane Courier* 23 November 1868:3). A comfortable house set within gardens and orchards was built upon a hill that was the highest point on the estate. Like most of the sugar estates of the district, Ageston depended heavily on indentured South Sea Island labour, with eight men working in the slack season and many more during harvest and crushing. There was a horse-drawn mill to crush the cane and a wharf enabled steamers to regularly collect the sugar for market and bring in supplies.

Despite the soil mostly being impoverished sand, the plantation was highly productive because of manuring practices, the excellent drainage and presence of aquifers and springs. The plantation was also favourably situated, having a north easterly aspect and being close to the mouth of the river where it enjoyed a mild coastal climate while still being adequately sheltered (*The Brisbane Courier* 23 November 1868:3).



Figure 1: Ageston Plantation after acquisition by William Couldery. Adapted from Queensland Surveyor General's Office, Moreton 40 chain map 1887–1900. MAP RM 1958. Part 22.

John Stevens died in February 1871 and the estate went to auction (*The Brisbane Courier* 21 February 1871:4; 27 February 1871: 4). At this time the property comprised 641 acres, a lease having been taken out in 1869 on an adjoining 320 acre block to the east (QSA Item ID30080) (Figure 1). The 1871 auction advertisement recorded that the estate had 70 acres of cane, 200 acres of fenced paddocks, a horse mill, a stable, a sugar store, two workers' huts, and a weatherboard house of seven rooms surrounded by two acres of garden (*The Brisbane Courier*, 27 February 1871:4). The Queensland Census of 1871 records a larger number of structures, with ten inhabited buildings and 30 people (27 men and 3 women) being listed (Votes and Proceedings of the Queensland Legislative Assembly 1872 v.2:1035).

The plantation was bought by William Henry Couldery, a wealthy gold mine owner in Gympie (QSA Item ID2310). Couldery remained in Gympie to oversee his interests there, and installed a manager, William Mune, to run Ageston (QSA Item ID23109; *The Queenslander* 31 October 1874:4). In 1881 William Mune resigned and was replaced by W.M.C. Hickson, who was manager until 1884/5 (*The Brisbane Courier*, 15 February 1881:1; *Queensland Figaro* 25 October 1884:3).

By 1873 the amount of land under cane had been increased to about 90 acres (*The Queenslander* 20 September 1873:5). The now outdated horse mill was replaced by a steam-driven mill (Figure 2). A wooden railway conveyed the cane to the mill, which incorporated the district's first vacuum pan. By 1876 the plantation had gained a distillery (*The Brisbane Courier* 14 December 1876:3).



Figure 2: View of Ageston from the Logan River in 1882. Australian Town and Country Journal 21 January 1882:24.

A source of good clay was discovered on the estate, leading to the establishment of a brick and tile works by 1883 (*The Queenslander* 25 August 1883:331, 8 December 1883: 1018). An extensive system of open and closed drains and floodgates was built to convert swamp areas into canefields (*The Queenslander* 10 December 1881:744, 25 August 1883: 331; QSA Item ID30080).

Although Ageston was one of the more advanced and profitable plantations in the district, it was nonetheless affected by the 1880s downturn, and in 1884 William Couldery made the decision to gradually phase out sugar production and move into general farming and cattle and horse breeding (*The Queenslander* 4 October 1884: 568, 22 November 1884:847, 10 November 1888:863, 6 April 1889:627). As part of the strategy to diversify the

income of the estate, a sawmill was attached to the mill by 1885 (*The Brisbane Courier* 24 October 1885:2). The sawmill used the boiler and engines of the sugar mill during the non-crushing season and provided employment for a large number of men (*The Queenslander* 30 May 1885:853). It was hoped that this initiative, coupled with the brick and tile works, distillery and drainage scheme would ensure the economic future of the estate. However, the crushing season of 1885/6 was to be the last on Ageston of any significant scale (Votes and Proceedings of the Queensland Legislative Assembly 1889 v. 4:419). In 1893 Couldery's distilling license was not renewed and the distillery was dismantled (*The Brisbane Courier* 6 November 1893:3). By the turn of the twentieth century Couldery had moved to Sydney, where he died in 1919 (QSA ID743082; *The Queenslander* 16 February 1901:339s; *The Sydney Morning Herald* 18 June 1919:12). From 1923 the plantation was progressively subdivided and sold off (Howells 2003:105).

SURVEY WORK AND RESULTS

Initial site visits were undertaken in November 2011 and August 2012, to determine the general layout and archaeological potential of surviving features. During these visits artefacts and physical features relating to the functioning of the plantation, including a stone flywheel housing, tramways, wharf and bamboo, were located (Figure 3). Riveted iron objects, identified as a boiler and a syrup pan, were also located in the vicinity of the major features. As historical data suggested that archaeological remains would be concentrated in the location of the mill, it was decided to centre intensive survey on the mill-related stone flywheel housing feature and move outwards radially. To date, areas north and east of the stone feature have been investigated through removal of the leaf litter and vegetation cover; although no vertical excavation has yet been undertaken. In addition to the mill site investigations, recording site topography was trialled using differential GPS, and this method will be pursued in future seasons. All artefacts recovered from the surface have been collected.

Archaeological landscape of the plantation

Today the site of the plantation remains an agricultural landscape that continues to grow sugarcane as well as support cattle and horses. The site of the manager's residence is



Figure 3: Remnant features of former Ageston Plantation.

located on a high point overlooking the property to the river. Although the original house has disappeared and been replaced by a house dating from the 1930s, the site is identifiable by a set of masonry or brick stairs (reclad in contemporary sandstone and incorporated into the existing house) and a square, buried, subterranean feature of rendered brickwork said to be a cellar. Immediately north of the existing house are a large mango tree (*Mangifera indica*) and Cook Island pine tree (*Araucaria columnaris*), both of advanced age. These specimens are probably survivors of the original house garden.

To the east of the hill on which the residence site is located is a section of low flat land fronting the river and fringed by mangroves. This was a former sugarcane field but now supports a mixture of pasture and salt grass and is grazed by cattle. The field is dissected by a series of open drains that drain to the east through a levee bank. Visible on the eastern side of the levee bank is a large brick culvert. Information provided by the property owner indicates that there are also buried drains of terracotta pipes which extend out into the mangrove areas.

A cutting believed to be the remains of the tramway originates from this field system and runs northwest, climbing the side of the manager's residence hill. It divides with one branch descending to the river flat lying in front of the mill site, and the other branch terminating at the mill site itself.

Mill site features

The mill is located on a north-facing slope, where it overlooks the Logan River. It is obscured by dense tree cover and, prior to the archaeological investigation, lantana and other weed growth. To the west of the mill site is a large stand of bamboo and a series of ponds. It is unknown if the bamboo or ponds are contemporaneous with the mill.

During the 2012 season, an extensive complex of features was uncovered relating to the cultivation, processing and transport of cane products. Due to variations in overhead vegetation, feature positions were recorded using a combination of GPS and baseline and offset method. The main complex of features consists of a series of platforms cut and filled from the natural hillside. The removal of weeds and some targeted removal of the modern topsoil has revealed two stone machinery foundations, an *in situ* cast-iron Cornish boiler, an overturned cast-iron iron syrup pan, a circular feature of unknown purpose, two ships' tanks, remnants of a timber wharf, a raised pathway leading to the wharf, a refuse heap from a smithy, a brick floor surrounded by postholes, a cambered concrete floor for accommodating a brick machine, the base of a kiln (Figure 4), a brick drain, and several other brick features.



Figure 4: Brick kiln, revealed downslope from a brick-making area.

Investigation of the south and west areas of the industrial complex, as well as farmhouse surrounds, clay pits, levee and drain system are planned for future seasons. The spatial organisation of the features and distribution of artefacts will be used in conjunction with topographic data to locate ephemeral sites, such as labourers' barracks, gardens and bagasse composting.

Artefacts

Artefacts recovered from the surface survey were recorded by their association with site features, in order to ascertain artefact distribution, and were assigned a category by function and material type. Most artefactual material was metal, and was related either to the architectural structures or commercial features (Table 1). Within the structural metal category was a preponderance of nails, featuring hand-wrought, machine-wrought and roseheaded types, indicative of a range of manufacture periods across the mid- to late-nineteenth-century. Other metallic artefacts included commercial items such as a wrench and components of ship tanks, including an entire ship tank lid manufactured by John Bellamy of London, who operated from the 1860s-1930s (Pearson 1992:26).

Table 1: Type, function, and number of artefactual evidence found during the 2012 season.

Artefact material type	Function	Number
Metal	Architectural	62
	Commercial	19
Ceramic	Domestic	3
	Commercial	2
Glass	Alcohol	29
	Domestic	3
	Architectural	2
Wood		2
Animal	Consumption	8
	Architectural	2
	Other	11

Glass items were mainly fragmented alcohol bottles, including beer and case gin, and some window glass was also recovered. Animal remains included butchered cow bone, oyster shells, shells and coral eroding from mortar, and a large deposit of horse bone. Small sherds of domestic pottery, buttons and a pipestem fragment were among the few personal items recovered from the complex of industrial features.

Due to their position on the ground surface, most artefacts were heavily fragmented, or in the case of ferrous artefacts, highly corroded. However the number and diversity of artefacts at surface level is a promising indicator that the sub-surface material record can reveal evidence of daily activities, material culture choice, and the movement of people and products through the site, information which is not accessible through the historical record.

Threats to the site

The Ageston mill site is relatively protected in terms of potential disturbances to the archaeological record. There is minimal human traffic though the area, either on foot or by vehicle, and a recent growth of black wattles around the site has reduced attractiveness to grazing animals. However, some trampling damage by horses continues to occur, in addition to the displacement of sediments by the trees themselves. Other risks to the archaeology include erosion (Figure 5) (slope over the mill site averages 17°) and flood (significant flooding is recorded for the Logan River in 1864, 1874, 1887, 1890, 1893, 1947, 1974, 2011 and 2013). Human activity in recent decades



Figure 5: Cornish boiler and brick floor feature, with in situ post (top left). Several sections of the floor have collapsed due to heavy erosion.

has also impacted the site. Small areas have been excavated with machinery, and waste such as car bodies deposited in the resulting depressions. However, threats to archaeological material from ploughing have abated over the property as a whole, with the change in land-use from crop-growing to grazing.

Since the period under study, the wider archaeological landscape surrounding the mill has undergone changes including subdivision, road re-alignment, and laying underground cables. Flood events have caused silting of the Logan River, which now flows more slowly. The opening of Jumpinpin between North and South Stradbroke Islands in 1898 has caused increases in tidal inundation of the river mouth, raising salinity and erosion, which has resulted in mangrove growth over formerly developed areas of riverbank (Howells 2003:26, 107). These changes can affect access to the archaeology, and have implications for interpretation.

CONCLUSION

The history of Ageston plantation indicates that it was one of the earliest and most important plantations and mills of the southeast Queensland sugar industry. Historical data can be used to access the timeline of major developments at Ageston, but understandings of the degree of capitalisation of the site, everyday movement and activities, and taphonomic changes, are not available through the historical record.

In its preliminary phase, archaeological investigation has revealed extensive surviving remnants of the physical elements of the plantation, including the mill itself. Despite ceasing to operate over 100 years ago, the plantation remains a legible historic landscape with high potential for archaeological investigation. Excavation of domestic and industrial areas proposed for future seasons is intended to determine the extent and nature of the industrial features, artefact distribution, and the movement of people and goods to and from the site. These data can inform analysis of key issues such as plantation organisation, technology, trade networks, social relations, and living conditions.

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