

ARCHAEOLOGICAL INVESTIGATIONS AT THE CLOCK TOWER PRECINCT VICTORIA AND ALFRED WATERFRONT

Prepared for

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Prepared by

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1. INTRODUCTION

The Archaeology Contracts Office (ACO) of the University of Cape Town was commissioned by the Victoria & Alfred Waterfront Company to conduct an archaeological investigation of aspects of the Clock Tower precinct, Victoria & Alfred Waterfront, Cape Town. A previous conservation study completed by Revel Fox and Partners¹ evaluated the site for its conservation-worthy structures and identified an area of potential archaeological significance. This is the site of the Chavonnes Battery, an early military structure built by the Dutch East India Company (DEIC) in 1714-1725. The Victoria and Alfred Waterfront Company commissioned the ACO to conduct an exploratory phase of excavations (Stage 1) to determine whether any physical remains still existed. Once we had established that remains of the battery did exist, a second stage of excavations was immediately embarked on.

This report is a compilation of our progress reports, observations and experiences to date on the site. While relevant illustrations are included in the text, appendix A contains diagrams 1-3. Appendix B is an archival study by Harriet Clift evaluating the shipwreck potential of the Clock Tower precinct.

1.1 Site Description

The projected location of the historical site lay in a portion of land to the south east of the Alfred Basin Cut. The Concentra Fish Meal Factory presently occupies the site. The Chavonnes Battery became redundant in the mid-19th century and was lost under landfill when the Alfred Basin was excavated after 1860. After 1870, several warehouses were built on the landfill. Oral history indicates that the fish meal plant was established in the 1930's incorporating one of the early warehouses. Plans exist indicating that the plant was significantly expanded in 1949 with the result that the bulk of the existing factory dates from this period. In summary, four separate phases of development have taken place in the area. These are:



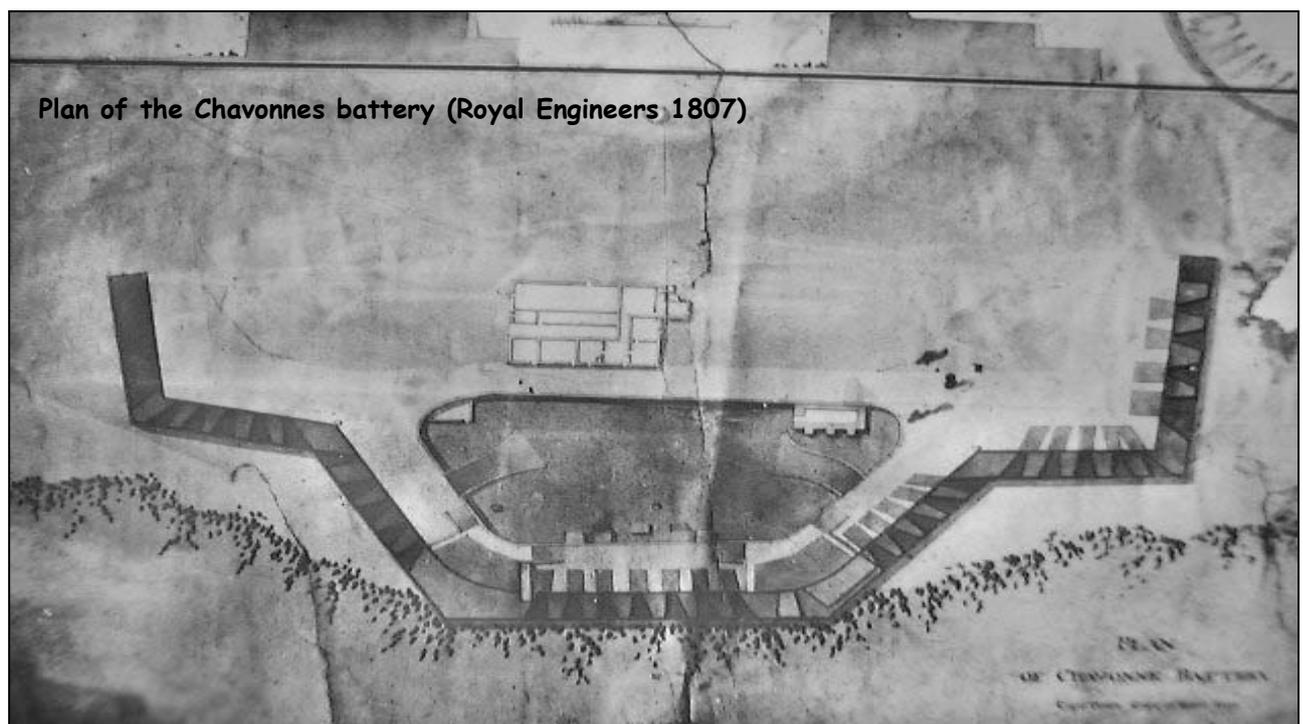
- a) The Chavonnes Battery was built on a promontory of land (the most seaward extent of the Signal Hill ridge) in the early 18th century.
- b) The construction of the Alfred Basin and Cut from 1860 onwards. This involved excavating a deep basin and channel into the Malmsbury shale and using the resulting rubble to reclaim land from the sea. During this time the battery was filled in with rubble and partially demolished. The Clock Tower jetty was built and the coastline was advanced by pouring rubble fill into the sea.
- c) Railways and cargo sheds were built on the reclaimed land, which formed the north east wharf of the Alfred Basin.

¹ Revel Fox and Partners 1995. Unpublished conservation study of the Clock Tower Precinct, V&A Waterfront.

d) The cargo sheds were largely demolished or adapted to suit the needs of the Concentra factory. Construction of the factory involved sinking columns to support the brick and steel framed structure. A thick concrete floor was thrown over the coarse rubble fill to support machine and boiler mountings. Although plans are in progress to demolish the factory and develop the site, the factory was largely operational at the time of the archaeological investigation.

1.2 Historical Background

The Chavonnes Battery, originally known as the *Waterkasteel*, *Waterpas* or *Mauritius Battery* was built between 1714 and 1725 at the instigation of Mauritz De Chavonnes, a professional soldier who was at that time Governor of the Cape. He was concerned that the Castle did not provide adequate protection of the west side of Table Bay and ordered the construction of the *Waterkasteel* on a small rocky promontory overlooking the bay.² Escalating political tension in Europe resulted in the building of more defenses in later years. By the mid-18th century a sea wall, five batteries and a fort defended Woodstock beach while the massive Imhoff Battery strengthened the Castle defenses. The Roggebaai Battery, Chavonnes Battery and Amsterdam Battery protected the west side of the bay, while other smaller gun emplacements were built at Muizenberg, Hout Bay and Simonstown. By the time that the British took over the Cape in 1795 after the Battle of Muizenberg, Cape Town was a



² Zeeman, U. Forts and Fortifications of the Cape Peninsula. Unpublished MSC Thesis, Department of Archaeology, U.C.T.

heavily fortified city.³ Apart from the Castle, a fragment of the Amsterdam Battery and portion of the French Lines in Woodstock comprise the only visible remains of the city's early defenses.

Eye witness accounts described the Chavonnes Battery as being the most formidable of the Table Bay fortifications. Mentzel⁴ wrote " *Close to the shore there is an elevation of about 50 feet above sea level where a house has been built that has been portioned into three sections. The first is occupied by the post holder, a sergeant in uniform, the second by a corporal and nine men from the castle, who are daily posted on duty at the battery: the last is a lock-up for the hard labour prisoners who have been sentenced to be flogged and branded; they are chained in couples and work all day in the Company Garden... Upon the reef of rocks in front of the house but below the rise, a battery of 15-16 guns has been planted. Under the gun platforms are several vaulted casements. The guns of the battery are trained horizontally upon the sea, hence they are very dangerous to enemy ships*".

A report on the state of forts and batteries⁵ prepared by the British authorities in 1809 describe the Chavonnes Battery as a "formidable sea battery in good order, in which are stationed one Captain of Artillery and 40 Rank and File. In this work is a magazine containing 1592 rounds of ammunition for service of the battery, besides a quantity of powder in the charge of the ordinance stock keeper. There are two furnaces for heating shot. The mounted guns are on wooden platforms out of repair, and it is the opinion of the commanding engineer that it would be useful to go to the expense of laying new platforms." The armaments installed at the battery consisted of 12, 36-pounder cannons, 16, 18-pounder cannons, 2, 18 inch and 1, 10 inch English mortars. By 1812 some of the gun platforms had been repaired and new wood was ordered from Plettenberg Bay for the repair of others.



By mid-19th century the Chavonnes Battery had been put to a number of uses. Besides serving a military role, it was used as an isolation and convalescent wing of the old Somerset Hospital. Crews and passengers of ships stricken with contagious illness (such as small pox) were confined to the battery until they were considered fit.⁶ Initially prisoners who were put to work on the breakwater and harbour were incarcerated at the battery until the breakwater prison was complete.⁷ When the Chavonnes Battery was handed over to the Government for harbour building activities in 1861 it

³ Hart, T.J.G. 1998. Initial Heritage Impact Assessment of Culemborg. Unpublished report prepared for Crowther Campbell and associates cc.

⁴ Mentzel, O.F. 1784. A Geographical and Topographical description of the Cape of Good Hope. Cape Town: The Van Riebeeck Society.

⁵ VC 214. Report on the state of forts and batteries and field ordinance...composing the ordinance establishment of the Cape Colony.

⁶ Laidler, P.W and Gelfand, M. 1971. South Africa. Its Medical History. Cape Town: Struik.

⁷ Petersen, S.T. 1978 "the development of Table Bay Harbour 1860 -1870. A study of the breakwater and the inner and outer basins of the Alfred Docks. Unpublished Honours thesis. Dept of History UCT.

was still operational. A royal salute was fired from its ramparts as Prince Alfred tipped the first load of rubble into the sea for the construction of the breakwater. Petersen⁸ describes how the battery was partially dismantled in 1862 and the stone was pushed into the sea to form the basis of the south pier on which the clock tower now stands. Existing maps of the Alfred Basin indicate that the barrack building and southerly parts of the battery would have been destroyed during the excavation of the basin, while the northern section which contains the battery itself was covered with fill. Thereafter a complex of cargo stores and early railway lines was built on the newly reclaimed land.

The Chavonnes Battery was the first major defensive facility other than the Castle built by the Dutch East India Company. It was maintained throughout the period of the Dutch occupation of the Cape. The British appreciated its strategic importance after their take over and went to some lengths to maintain the battery in working order until it was decommissioned in 1861. Its final operational act was to fire the Royal Salute heralding the construction of the harbour complex now known as the Victoria & Alfred Waterfront.

1.3 Some events associated with the Chavonnes Battery

Etienne Barbier, a French soldier in the employ of the DEIC, arrived in the Cape in 1735. After promotion to sergeant, his principal task was guarding the convicts imprisoned at the Chavonnes Battery. Barbier, who was considered to be a man of tempestuous personality, uncovered what he perceived to be petty corruption among certain officials and eventually laid formal charges. The result of this was his imprisonment in the *Donker Gatt* of the Castle until he eventually managed to escape into the country. During this time he brought further grievous accusations against the government involving mismanagement, fraud and corruption of justice. After sowing insurrection among the peasant farmers of the colony he was declared an outlaw by the government. Barbier continued to be a major headache for the DEIC at the Cape until he was captured in 1738 and incarcerated at the Castle. He was tried and found guilty of treason, after which he was put to death by mutilation and disembowelment. Portions of his body were displayed on stakes set up along the most public roads of the colony. A detailed account of the events that surround the Barbier Rebellion, has been recently published by Nigel Penn.⁹

It appears that the battery saw action at least once during its existence. Jose Burman describes an incident that took place in 1781 that involved an unidentified ship coming into Table Bay.¹⁰ On the suspicion that this was a British spy ship, the cannon at the Chavonnes Battery were readied for action and the Port Captain of the time went out to investigate. When it became apparent that the ship was not prepared to co-operate, a pre-arranged signal was sent and the battery opened fire. The Port Captain was held captive by the foreign ship in the hopes that this would dissuade the Chavonnes Battery gunners from continuing the bombardment. Despite this, the engagement was successful and the foreign ship (identified as a Danish vessel spying for the British) was captured.

⁸ Petersen, S.T. 1978. The development of Table Bay Harbour 1860 -1870. A study of the breakwater and the inner and outer basins of the Alfred Docks. Unpublished History Honours thesis. UCT.

⁹ Penn, N. 1999. Rogues, Rebels and Runaways. David Phillip Publishers.

¹⁰ Burman, J. Bay of Storms. Pretoria: Human and Rousseau.

2. STAGE 1

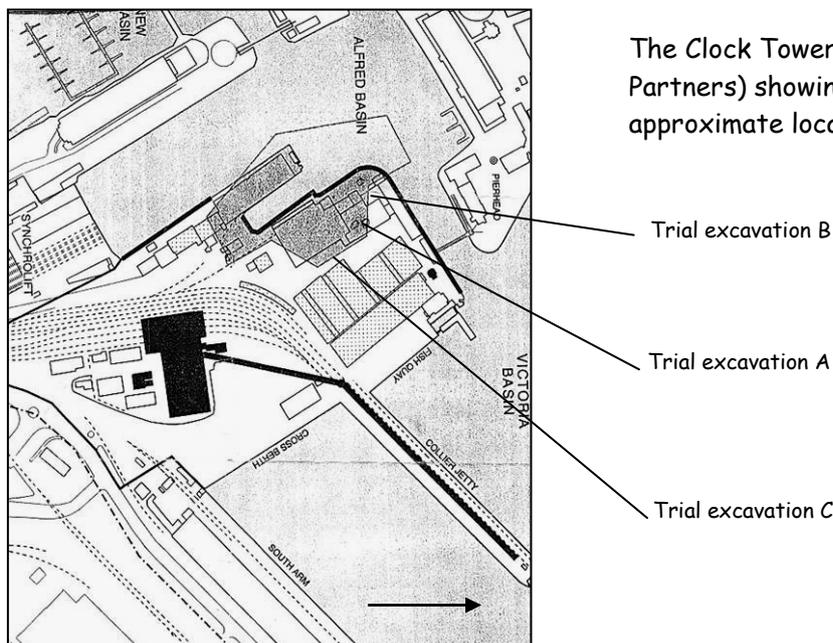
2.1 Method

The excavation program was carried out in conjunction with archival research to obtain contemporary plans of the structure, illustrative material and an indication of its historical significance. In addition to this, we examined standing structures on the site for evidence of early fabric or other features of potential historical significance.

The positions of the three trial excavations were based on an overlay plan of the Chavonnes Battery prepared for V & A Waterfront by Revel Fox and Partners.

Excavation A was positioned in the interior of the Concentra factory in the lobster trap Room. Our objective was to test the depth of the fill in what we assumed to be the courtyard area of the battery.

Excavation B was positioned in a disused room of the boiler house complex towards the north west side of the factory. The overlay plan indicated that one of the side walls of the battery lay under this area. Our objective was to intercept the wall to confirm its presence, condition and orientation.



The Clock Tower Precinct (source Revel Fox and Partners) showing what was believed to be the approximate location of the Chavonnes Battery.

Excavation C was located outside the North East side of the factory. The overlay plan indicated that the front wall of the main rampart stood in this area. Our aim was to establish if any part of this remained.

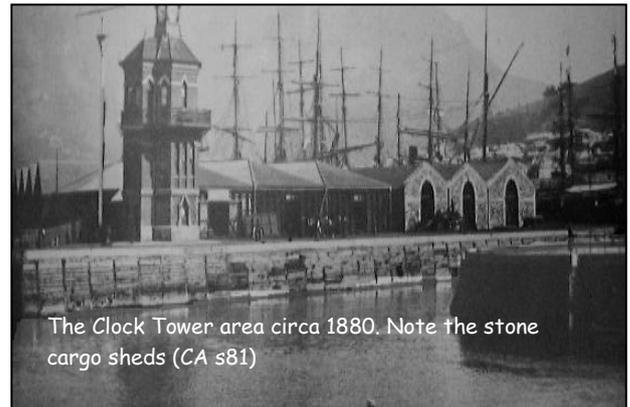
2.2. Findings

2.2.1 Standing structures

While the main focus of this assessment has been the Chavonnes Battery, our observations on the site, supplemented by historical texts, has revealed that there are a number of features that are of historical significance.

2.2.1.1 Concentra Factory

After the construction of the Alfred Basin, a number of large cargo stores were built in the area. These consisted of single story structures made from blue shale with arched openings. Many of these have since been demolished. An inspection of standing structures on the site has shown that most of the ground floor of the east side of the Concentra factory is made up of a large cargo store (Queens Cargo store) built circa 1880. The arched openings are still visible, as are the thick shale walls and granite moldings. In later years the roof of the cargo store was removed and two steel and concrete floors added to house parts of the factory. The western half of the plant containing the boiler rooms, coal bunker and the fishmeal plant (adjacent to the entrance to the basin) were built in 1949.



2.2.1.2 Railway tracks

The alignment of the railway tracks in the Concentra precinct is particularly significant. The Cape Town Harbour and Dock Company appointed its first railway engineer in 1855 (William George Brounger). A plan of 1859 shows the alignment of rails along the Alfred Basin which are shown to join with the Salt River - Wellington line. This line, which was completed in 1864 and eventually reached Victoria Falls shortly after the turn of the century, was the single most powerful device facilitating the economic and political development of South Africa and her neighbours.¹¹ Although the permanent way material is not original (the early gauge of 4' 8.5" was changed to 3' 6" after 1878), the alignments of the tracks in the Clock Tower Precinct essentially marks the starting point of Southern African railway history.

2.2.1.3 Cannons

Cannons (5) of varying caliber have been positioned for use as bollards in the clock tower precinct. It is likely that these were salvaged from the Chavonnes Battery. More cannons may be buried in the rubble fill within the courtyard and outside the battery.

2.2.2 Buried Structures

2.2.2.1 Excavation A

Excavation A penetrated the concrete floor of the lobster room, continued through a modern coarse rubble fill and reached a second concrete skin at 700 mm. Thereafter the excavation was continued to a total depth of 3700 mm (water table). The bulk of the deposit consisted of a soil and rubble fill which, judging by the few artefacts it contained, dates to the mid-19th century and earlier. At a depth of 3500 mm we found fragments of rubble (lime plaster and shale) consistent with VOC period structures.

¹¹ Hart, T.J.G. 1998. Heritage resources assessment of the Hex River Pass railway. Unpublished report prepared for Ninham Shand Consulting Engineers.

2.2.2.2 Excavation B

Removal of between 400-600 mm of concrete in the disused annex to the boiler house revealed two stone walls covered with fill material immediately under the concrete. One of these walls (the southern) is considered to be a footing of one of the 19th century cargo sheds. The other is carefully constructed and plastered with lime mortar. The remains of iron eye bolts are still set into the fabric. At the base of the wall is a shale floor (1200 mm below top of wall) which has suffered some disturbance as a result of the positioning of the later cargo store footing. It too, has iron fixtures set into its base.

We interpreted the find as the top of one of the ramparts of the battery. The wall, which we have located, is probably the inside skin of one of the ramparts. This was separated from the outside wall by a sand-clay fill. It is expected that further investigations will show that the outer rampart wall continues downwards to a depth of 3000 mm or more.

The location of the walling has shown that the overlay map is correct in broad terms but not precise enough to act as a guide for accurate positioning of trial excavations.



2.2.2.3 Excavation C

Excavation C on the outside of the Concentra factory produced no evidence of the front wall of the battery apart from a small amount of fabric included in the rubble that was consistent with the 18th century. What was very noticeable was that the fill in what we assume to be the courtyard of the battery was very different to that on the outside. The exterior excavation had to be limited in depth to 1700 mm as the fill consisted of coarse un-compacted rubble, this collapsed frequently posing a danger to members of the team. We think that the coarse rubble fill was dumped on the seaward side of the battery. A sandy fill like that found in the interior would have been washed away by wave action.

As yet the location and condition of the front wall is not known as excavation C was inconclusive. We were unable to dig deeply or widely enough and the presence of numerous services precluded mechanical excavation. It is possible that upper portions of the wall may have been demolished, or the data indicated on the overlay plan are inaccurate.

2.3 Conclusion of Stage I

The study has demonstrated that portions of the Chavonnes Battery still exist, buried in 19th century fill around and under the Concentra factory. The rear portions of the battery were destroyed by excavation of the Alfred Basin. It is expected that aspects of the side ramparts, the central courtyard and its interior features, may remain. The status of the front rampart is as yet unclear. This site represents the remains of South Africa's largest and earliest gun emplacement and as such, is of high historical value. After firing the salute heralding the first steps towards construction of the harbour, the remaining parts of the battery appear to have been included into the fill which now makes up part of the reclaimed land of the Clock Tower precinct.

Besides the Chavonnes Battery, there are other aspects of the site that are of interest. These include the first rail alignments in the country and the remnants of a 19th century cargo store that make up the ground floor of the eastern half of the Concentra factory.

2.4. Recommendations

2.4.1 Cargo Store in Concentra factory

Removal of plaster and examination of fabric of the eastern side of the factory will give some idea as to the extent and quality of preservation of this feature. Some or all of this fabric (cleaned up and restored) could be incorporated into a new development. This would enhance the historic character of the area.

2.4.2. Railway track

Some railway track should be retained as this is of genuine historical significance. Some form of signage to indicate the importance and meaning of the rail alignments would further create a focus on interest in the precinct.

2.4.3 The Chavonnes Battery

The most critical issue to be faced by interested and affected parties, is the future of the remains of the Chavonnes Battery. It is most desirable that surviving aspects of this structure should be retained and conserved within the future development. In order to achieve this:

a) We need to determine as accurately as possible the extent of the battery. This will help us narrow down the areas for investigation and facilitate the general planning process. It is suggested that Ground Penetrating Radar (GPR) may be able to assist us in this process.

b) A large scale Phase 2 archaeological investigation is warranted. We need to expose the entire remains of the battery. This can be speeded up by judicious use of mechanical excavators where appropriate. Once this is done we can make decisions as to what aspects of the battery can be conserved. It will be necessary to make a good plan and photographic record of the remains before/if any decisions are made to demolish any part.

c) An immediate problem is access to critical parts of the Concentra factory that are still in use. This will need to be addressed. Ideally, excavation of the site will be much easier once the factory has been vacated and/or demolished. Excavation can begin immediately in the open area to the east of the building, within the boiler house annex, the west fishmeal plant and alley, and potentially in parts of the lobster room, adjoining garage and workshop (if Concentra are amenable).

d) Excavation of the site through the floors of the Concentra prior to demolition will result in exposure of features that will have to be protected once demolition begins. Exposed material and walls will have to be sand-bagged or backfilled to protect them from falling debris. A further phase of work will probably be necessary after demolition to open areas that were previously inaccessible.

e) A final aim should be to incorporate as much of the historical site as is reasonably possible within any new development. It is hoped that this will satisfy all parties involved and add further focus and interest to the Waterfront.

3. STAGE 2

3.1 INTRODUCTION

Having established that remains of the Chavonnes Battery were buried under the Concentra Factory, it became critical to be able to provide the client with knowledge of the extent of the archaeological site. Plans for the re-development had to be adjusted to mitigate against potential damage to the underground remains. Furthermore the client had expressed interest in incorporating a suitable portion of the battery into an open display that would add texture to the development precinct. The ACO was immediately commissioned to undertake a Phase 2 archaeological investigation to explore the extent of the battery as far as was possible within the inactive areas of the factory. Despite the physical constraints on the study, this operation has been extremely successful with the result that we now understand the layout of the site and have produced enough information to inform the development process.

When we started Stage 2 we had no idea of the condition or extent of the remains but hypothesised that the section of wall found in Excavation B was the rear inner “skin” of a large earth-filled wall consistent with workmanship associated with military structures. We did not know of the extent of the battery, or what aspect of the battery we had located in the boiler room annex. We were still guided by the overlay plan produced by Revel Fox and Partners that predicted that the front rampart lay on the exterior of the seaward side of the Concentra Factory.

3.2 Method

3.2.1 Ground Penetrating Radar

Since time constraints were a critical factor in terms of the planning process, we took a decision to try remote sensing methods as guide to locating trial excavations. Consultants were brought in to conduct a ground penetrating radar survey of the site. This involved sweeping a series of transects within the factory (where possible) and outside to the north east and south east. Poor results were obtained from within the factory due to interference from steel components in the fabric of the building, which confused the signals. Indications of sub-surface features were obtained from the alley between the red brick building and the factory while the scans outside produced mixed results. An anomalous reading was obtained some 12-14m off the north east side of the factory, while only services were identified on the south east side.

On completion of the GPR survey, a digger-loader was brought onto site to test the area where we thought that the GPR survey had produced reliable results. Features that were thought to be walls proved to be service trenches. Although the hardware was able to distinguish features below the surface, there was no way that these could be positively identified.

3.2.2 Excavation

The GPR survey of the site proved to be unreliable, which meant that laborious physical excavation was necessary to establish the layout of the battery. All the excavations within the factory buildings involved removal of thick layers of concrete and old machine mountings. Extensive use was made of hydraulic jackhammers, diamond concrete cutters and mechanical excavators to remove the overburden. In order to obtain the kind of broad layout information about the battery that was needed, we opened large excavations in as many areas as we could within the factory precinct. New excavations were opened in the red-brick factory, the alley between the red-brick factory and Concentra, as well as in the railway access area. Excavation B was expanded and a new excavation was opened adjacent to the lobster room within the factory. Diagram 1 (Appendix A) indicates the location of the relevant excavations in and around Concentra.

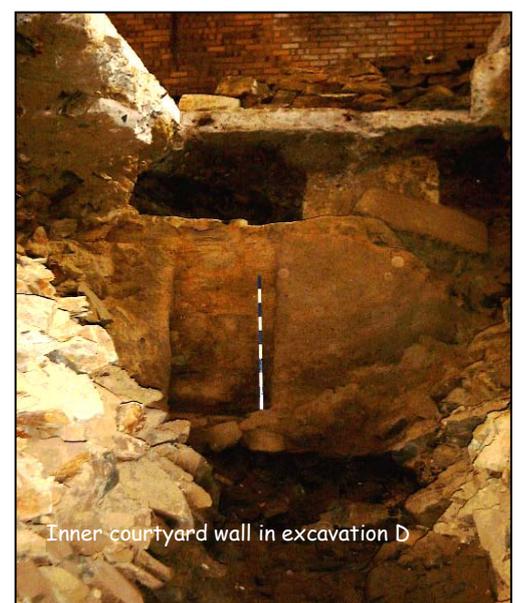
3.3 Results

3.3.1 North east exterior (Stage 1 excavation C)

A series of four large trenches were excavated from the north east wall of the Concentra Factory out across the road into the open area. These were positioned to check anomalous readings obtained from radar survey and test the projected position of the front wall of the Chavonnes Battery. All four trenches contained coarse un-compacted rubble fill, which extended to below the depth of the watertable. Included within the fill were a number of large slabs of shale with plaster adhering, fragments of plaster and the occasional old brick. Besides these fragments of building rubble from the 1860 fill, no evidence of any intact structures were found. The most telling feature of these excavations is that the fill extended below sea level. Historic records indicate that the front wall of the Chavonnes Battery was built just above sea level. This implied that the location of the wall was further to the south west, on what would have been higher ground before the reclamation.

3.3.2 Excavation D (Red brick building)

An extensive area of concrete floor within the disused red brick fishmeal factory was lifted so that we could check whether the inner skin wall (previously located in excavation B),



extended across the alley into this area. The deposit here consisted of a coarse shale rubble fill characterised by numerous voids and very little soil matrix. The stones were “unpacked” by hand until a beach deposit and bedrock was reached at a depth of 3m. A short length of carefully constructed stone wall was found at the south end of the trench while several slabs of dressed shale were found on wave worn bedrock on roughly the same alignment of the inner wall located in excavation B.

The standing section of wall was later identified as part of the inner courtyard wall of the battery (Diagram 2). Initial indications are that considerable damage was done to aspects of the battery during the excavation of the nearby Alfred Basin shortly after 1860. The sandy fill of the front wall was removed along the edge of the cut and replaced with a coarse rubble fill.

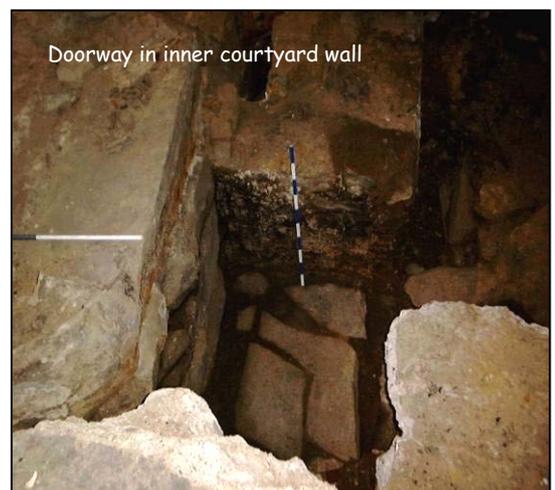
3.3.3 Excavation B continuation (Boiler room annex)

We extended excavation B hoping to reveal more of the inner skin and any features associated with it. Our reasoning behind this was to attempt to relate features with those indicated on historical documents, thereby providing a point from which we could establish our location in terms of the remaining portions of the battery. We needed to follow the walling which we had found during stage 1 and extend the excavation into the alley. This meant that we had to demolish the wall and coal bunker that separated the boiler room and annex. Reinforced concrete bases in both the floor and coal bunker caused considerable difficulties. A large hydraulic jackhammer was eventually brought onto site to solve these problems.

Extending the excavation into the alley allowed us to make several critical observations, which when combined with other evidence played a key role in interpreting the layout of the site. Our excavations revealed that:

a) Substantial remains exist which relate to the cargo sheds that were built after 1870. The construction style of these walls is very different to those of the battery in that they are crude and massive. The foundations are not plumbed and lack any plaster. In contrast, the walls of the battery are very carefully finished and plastered. The shale blocks used are smaller for handling by one or two individuals during construction. Despite the robust character of the cargo shed wall footings, their impact on the older remains of the Chavonnes Battery was minimal. The cargo shed walls had been carefully built over and around the battery walls in what may have been a conscious attempt to conserve the remains. Some damage had been done to the flagstone floors where cargo shed foundations penetrated deeper into the substrate.

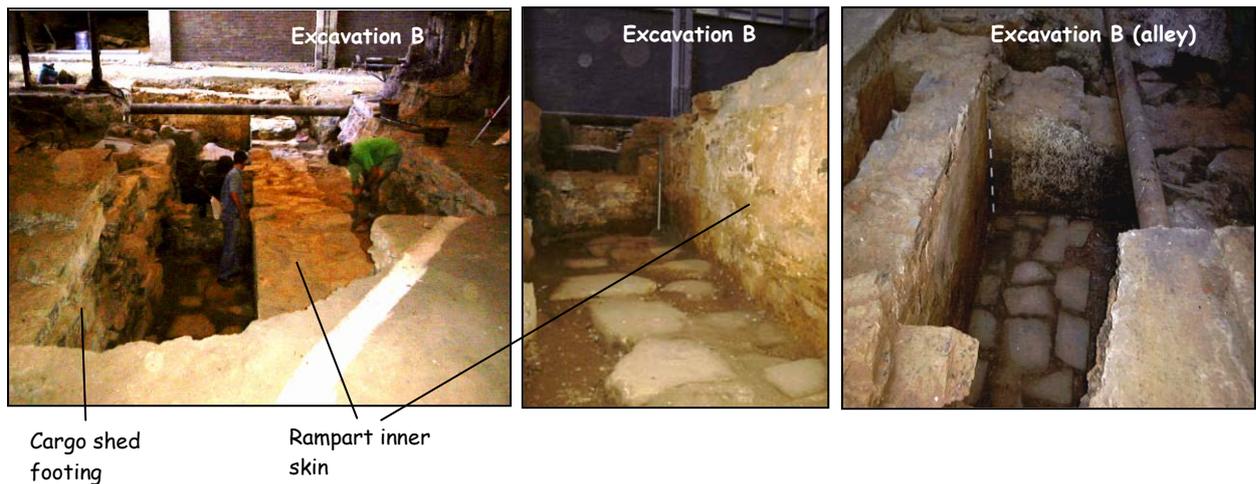
b) The excavation revealed that there is wall running parallel to what we have described as the rear skin wall. This has been termed the inner courtyard wall. Furthermore, there is a small dividing wall separating the area between the two walls into "rooms". The inner courtyard wall has been punctuated by an opening, which we suspect was a doorway into one of the rooms. In the alley, the inner courtyard wall contains yet another opening, which may have been the base of a large window or arch. We hypothesise that the "rooms" that we have located between the interior skin wall



and the courtyard interior wall are the remains of the vaulted casements that are mentioned in the historical records. These rooms would have been vaulted structures that were included within the main front wall of the battery.

c) A heavy dividing wall was found at the north west end of the excavation in the alley. This has the effect of being the "end wall" of one of the rooms. The interior side of the wall was plastered while the exterior acted as containment for a clay fill, which we believe marks the north west interior corner of the front rampart. This observation later proved to be an important benchmark that helped us determine the approximate location of the south east rampart.

d) There is evidence that iron or steel fittings were set into the walls and shale floors of the battery at regular intervals. As yet the purpose of these is unknown. The fittings themselves are highly oxidized, and in many instances are beyond conservation.



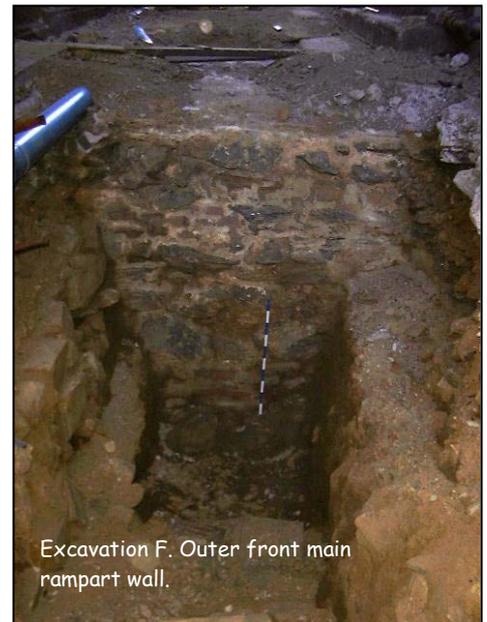
3.3 4 Excavation E (Green floor workshop behind lobster room)

A large excavation was positioned within the Concentra factory in the workshop room behind the lobster trap room. Our objective was to test whether the wall alignments located in excavation B in the boiler room annex continued in a south easterly direction under the factory. Considerable difficulty was experienced in removing a double thickness of concrete floor as well as several reinforced concrete machine mountings attached to a second concrete floor about 1m below surface. Removal of the second concrete floor produced immediate evidence that the inner skin wall continued from the Boiler room annex under the floor of the factory. Further excavation showed that it was in good condition with the plasterwork intact. Furthermore it shared the same characteristics as that in excavation B, with iron fittings in the plasterwork and a flagstone floor at its base.

Excavation E provided us with a greater opportunity to extend our observations in a north easterly direction. As in excavation B, the seaward side of the inner skin wall contained a fill. This consisted of a clay capping under which lay beach sand and pebbles brought in by the builders of the Chavonnes Battery to make up the thickness of the wall. We followed the fill as far as we could in a northerly direction but were unable to locate the outside skin of the wall as this would have involved breaking more concrete and potentially demolishing the wall that separated the workshop from the lobster trap room. What was becoming evident at this point was that the full thickness of the wall exceeded 8m.

3.3.5 Excavation F (North east end of alley)

The next plan of attack to locate the elusive front skin of the wall involved concentrating our efforts in the alley - the only area of the site where we could open a full southwest-northeast section. Continuation of excavation B in the boiler room annex had already demonstrated that the inner skin of the wall continued across into the alley so we were hopeful that the outer wall would continue across as well. The tarmac in the alley was removed. Underlying this was 150mm of concrete reinforced with wire and lengths of railway line. Underneath this lay a thin rubble layer followed by the clay and sea sand fill with which we had become familiar with in excavations B and F. We located the top of the front skin immediately as it consisted of a solid mass of shale and lime plaster just below the rubble layer. Once the outer edge was located, we used the mechanical excavator to dig a ramped trench down to bedrock and revealed the full remaining extent of the outer wall of the front rampart.

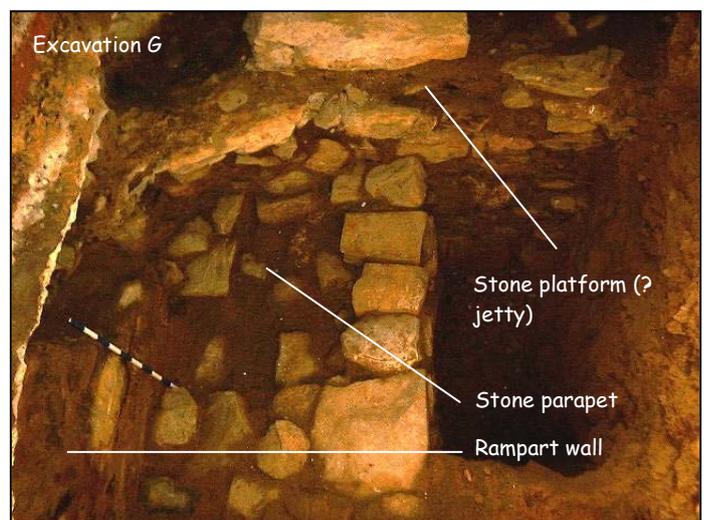


The outer skin is no less than 4m thick and appears to be solid. It was built directly onto bedrock. The front face is somewhat angled and massively constructed. Numerous repairs have been made to its face with Dutch and British brickwork. Although it would appear that some of the top portions of the wall have been demolished in the past, the remaining structure is in excellent condition and represents the most visibly spectacular aspect of the site to date. In total the rampart together with the earth fill is 12.5m thick at this point.

3.3.6 Excavation G (Red brick building)

A second excavation was opened in the red brick building to check whether the front wall had been preserved in this area. Location of the target area in the red brick building was a straightforward matter as we had already located the front wall in the adjacent alley.

A large slab of concrete was removed in the redbrick building to allow for an investigation of the presence/absence of the front wall. The fill area contained a number of very large stones (up to 500 kg) which had to be broken into manageable fragments to be removed. The top of the main front wall was found immediately under the two layers of concrete under the factory floor. It soon became apparent that it had undergone some partial demolition and modification to accommodate some very heavy stone structures, which we believe relate to the building of the Clock Tower jetty (South pier) circa 1862. A crudely constructed stone parapet had been built against the outer wall of the battery. A further massive built wall had been carefully bonded



into the fabric of the battery wall projecting towards the Clock Tower. This has its foundations on bedrock, which is about 4000mm below the surface at this point.

Not only have the excavations in the redbrick room produced evidence of the front battery wall, but there is also strong evidence of a second layer of history - the use of the battery wall by early engineers to facilitate the construction of the Alfred Basin. Historical records have provided evidence that stone from the battery wall was used to build the south pier. We are certain that excavation G has intersected the point at which the South pier joined the front wall of the battery.

3.3.6 Excavation H (Railway line)

We had successfully established the north east-south west dimension of the battery with the discovery of the front rampart wall, inner skin and rear courtyard walls. We still did not have any information that would inform us of the south east-north west dimension (the remaining length of the battery under the Concentra factory). Dimensions of old British Royal Engineers Plans (1806-1807) were overlaid on up-to-date plans of the precinct and the archaeological material that had been located to date. This enabled us to determine a potential target area in the railway line area where we could sink some trial excavations.

Excavation in this area posed a number of difficulties as the identified target area lay directly in a portion of the alley used by Concentra for bringing in bunker coal and loading and unloading fish meals products. This meant that we had to do the work in such a way as to keep disruptions to Concentra's operation to a minimum. Our initial strategy was to dig a series of small trial excavations in between the railway sleepers to check for the presence of the wall and the character of the sub-surface fills. The restricted space and day time interruptions due to Concentra activities prompted a change of plans and a digger-loader was brought in after hours to assist with an evening excavation. The target area we had identified proved to be accurate, with the wall being located within a few minutes of beginning the work. It is well preserved, about 2.5m thick, and appears to be very similar to that in the alley. The top of the wall is about 300mm below the road surface.

The alignment of the wall was recorded on the adjacent road surface after which the excavation was filled and compacted. A 100mm concrete skin was thrown over the excavation the following day. The project surveyors plotted the alignment so that the real dimensions of the remains could be accurately calculated. This excavation marks the culmination of Stage 2 of the project as it enabled us to make what we believe is a firm prediction of the sub-surface extent of the battery which can now be used to further the planning process.

3.4 Description of the existing remains

The historical records have shown that the Chavonnes Battery was a large fortification. The front and side ramparts were some 190m in length while the rear perimeter wall incorporated virtually the full extent of the area of the Alfred Basin. About 70% of the battery was demolished after 1860 with the construction of the harbour, nevertheless the surviving remains constitute one of the largest portions of DEIC fabric remaining in Cape Town. In addition, the find represents the earliest known still existing DEIC battery in the world. The site is therefore of international significance and can be awarded a "grade1" rating in terms of the heritage grading significance criteria of the National Heritage Act of 1999.

As far as we have established, the surviving remains of the battery consist of a substantial length of the main rampart wall and a portion of the eastern side rampart. The full thickness of the wall is preserved as are remains of chambers within the walls and aspects of the central courtyard. The barracks and magazines were destroyed after 1860. Diagramme 3 shows those portions of the Chavonnes Battery identified during the excavation programme.

3.4.1 Rampart wall

The rampart wall consisted of a front and rear stone "skin". The front skin is a massive structure of solid Malmsbury shale and lime plaster. The base, which is well over 5m thick, has its foundations on bedrock just above sea level. As yet we do not know the full height of the front as a portion of it has been "skimmed off". We anticipate that some 2m of stonework including the embrasures have been lost. The area between the front and rear skins was filled with beach sand and cobbles, and then covered with a red clay capping. This area formed the platform on which the wooden gun platforms and cannons were positioned. As yet, it is not clear what type of surfacing was used on the parapet and platform as this was also lost. The inner skin wall is a carefully built shale wall 1.10m thick. Mud mortar was used for binding the shale stonework, while shell lime plaster was used on the exteriors. The archaeological excavations showed that rooms had been built along the interior length of the front rampart. These are probably the vaulted casement rooms mentioned in the historical texts.

3.4.2 Vaulted casement rooms

The single room which we have exposed (excavation B) was one of several vaulted casement rooms. The room was paved with a shale floor, plastered and whitewashed on the interior. Access to the room was from a doorway in the rear courtyard wall, which appears to have been punctuated with doors and windows to the casement rooms. The roofs of the rooms are missing. We suspect that these took the form of brick or stone vaults that were covered with a fill that had the effect of including the rooms within the front rampart.

3.4.3 Courtyard

The rear courtyard was a sunken open feature. The rampart was accessed via two flights of stairs, the remains of which will hopefully be exposed in the future Stage 3 excavation. Most of the courtyard has been demolished, but we anticipate that further flooring will be revealed once we are able to open up more of excavation B. Initial indications are that the floor of the courtyard was stepped down from the floor level within the casement rooms.

3.4.4 Artefactual material

Although we have found artefacts on the site, we are confident that very few of these actually relate to the Chavonnes Battery itself. Virtually all the deposit we have excavated to date consists of a secondary fill which was piled over the remains of the battery after 1860. This does contain some artefactual material in the form of bottle fragments, pipe stems and bowls as well as fragments of Oriental and European ceramics. Since this material could have come from any part of Cape Town, we consider it to be a secondary deposition of un-provenienced origin.

4. RECOMMENDATIONS

4.1 Current status

4.1.1 Exposed material

The possibility of adding a focus of interest and further texture to the precinct plan has been appreciated by the client who has not only agreed to conserve the remains in-situ, but is enthusiastic about displaying the find to the public. This has involved substantial discussion and revision of building plans to this end. As yet the extent and layout of the display area is not yet finalised, however it is envisaged that it will incorporate the whole of excavation B, most of the alley and parts of the red brick building. This amounts to a section of the battery incorporating a length of the rampart and fill as well as parts of the inner courtyard area. The proposed plan also involves full exposure of the remaining front wall within the underground levels of the new development.

4.1.2 Demolition of Concentra

Demolition of the Concentra Fish Factory will commence at the beginning of June. In preparation for this, the finds were covered with black plastic underlay and the excavations were filled in with sand and compacted. The fill material will remain in place to protect the finds from falling rubble during demolition and construction. After demolition of Concentra, a third stage (Stage 3) of archaeological work will commence. This will involve monitoring and guiding of bulk earthworks where necessary, and re-excavation and preparation of the display area.

4.1.3 Surveying and recording

A firm of professional surveyors have recorded the spatial layout of the finds using conventional methods and digital photogrammetry. Their work has played a major role in predicting the below surface extent of the Chavonnes Battery. We have taken video footage of the entire excavation procedure, while still photographs were taken using both digital and conventional means.

4.2 The way forward

Once demolition of the Concentra Factory is complete, stage 3 of the archaeological investigation will begin. Aspects of this will have to be done in conjunction with bulk earthmoving and other development activities which means that scheduling of tasks is going to be critical for smooth operation. A possible way forward is indicated below.

4.2.1 Demolition

Monitoring of the demolition of Concentra will not be necessary until such time that the demolition contractors are required to remove any existing foundations. In areas where the battery lies, it is possible that impacts may occur when foundations and floor slabs from the factory are removed. This will have to be carefully monitored to minimise damage. A preferable option would be to leave these intact in the effected areas.

4.2.2 Bulk earth moving

In terms of the proposed precinct plans, the front wall of the battery will be exposed in its entirety. Exposure of the front wall will have to be done under direction of an archaeologist. Similarly bulk excavation of nearby areas should be monitored for artefactual material that occupants of the battery may have disposed of over the front wall. Shipwreck material may also be encountered (see appendix B) and this will have to be documented and rescued.

4.2.3 Exploratory excavation

While we do not advocate excavation of the entire area of the battery that will remain conserved under the new development, it would be important to open some exploratory excavations to check and record the eastern side of the structure and inner yard areas. Since ground levels are higher towards Alfred Basin, we would expect better preservation of a greater height of the side rampart and its associated features. This would be important in terms of understanding the site, and informing the display and any restoration that may take place.

4.2.4 Protection of display area

The identified display area should remain backfilled to protect it until such time it is to be opened for purposes of construction of the display. Although the front wall of the battery is very robust, the courtyard and inner walls are not. The plasterwork is easily damaged while the short period of rain already experienced this winter has had an eroding effect on the mud mortar. It is for the same reason that consideration should be given to displaying the finds under cover. The display area should only be opened up once a secure plan is in place with construction of the display area to take place immediately afterwards or concurrently.

4.2.5 Display

While the ACO does not wish to be prescriptive in terms of the architecture or style of the display that is proposed, there are some principles that need to be followed:

- a) In any attempt at restoration or conservation that may be envisaged, restored areas must be truthfully distinguished from original fabric. Furthermore, any decision to restore must be based on sound historical or archaeological evidence.
- b) The presentation of material within the display must be imaginative yet well researched and of good quality. It is important that it focuses not only on the battery itself, but also on other thematic linkages within Cape history such as *Cape Town defenses*, the *slave route project*, *prisoners* and *linkages with Robben Island*, and *Cape Medical History*. The opportunity could be used to illustrate the development of the docks as well as personalities and events that took place on the site. Even the Concentra factory is one of the layers of history of the site and deserves some form of representation - possibly a section of old concrete floor within the display (?).
- c) Links with other institutions that may be spatially and historically relevant should be identified and explored. These could include institutions such as the William Fehr Collection (Castle), Robben Island Museum, Military Museum and Breakwater Museum.

4.2.6 Archival work

Final year students of archaeology at the University of Cape Town will commence a project to source as much visual and archival material as possible on the Chavonnes Battery. This will do a lot to minimise the "leg work" involved, however an experienced researcher will need to fill any gaps in the study and select those sources of information that are of will be suitable for display purposes. Some information may exist in the Netherlands so approaches will have to be made to contacts in that country to assist further work.

5. PROFESSIONAL TEAM

Principal investigator

Tim Hart

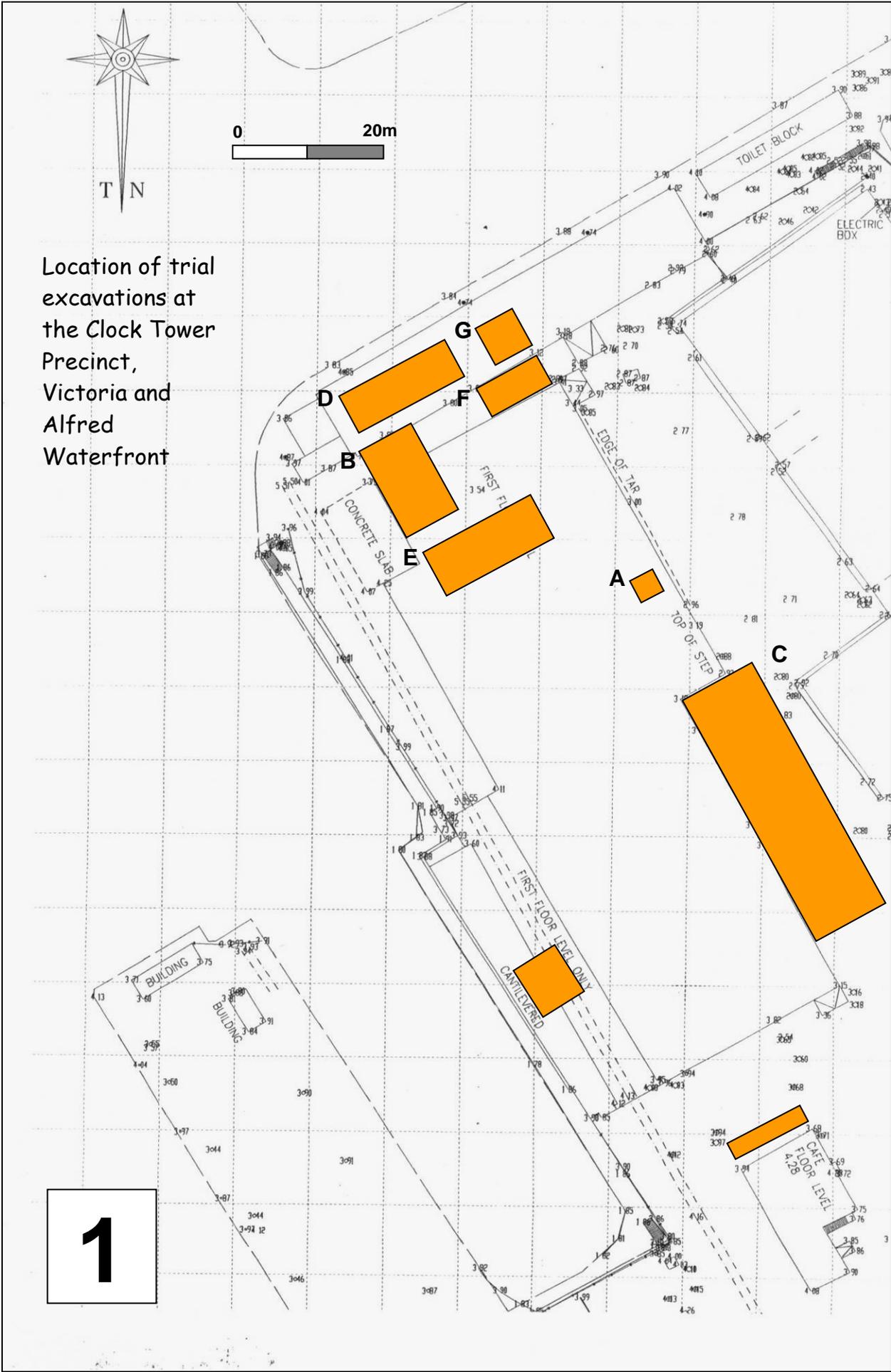
Excavation

Mzuzima Mjikelizo
Peter Nilssen
Jayson Orton
Cathy Naude
Mzwandile Sasa

Archival research

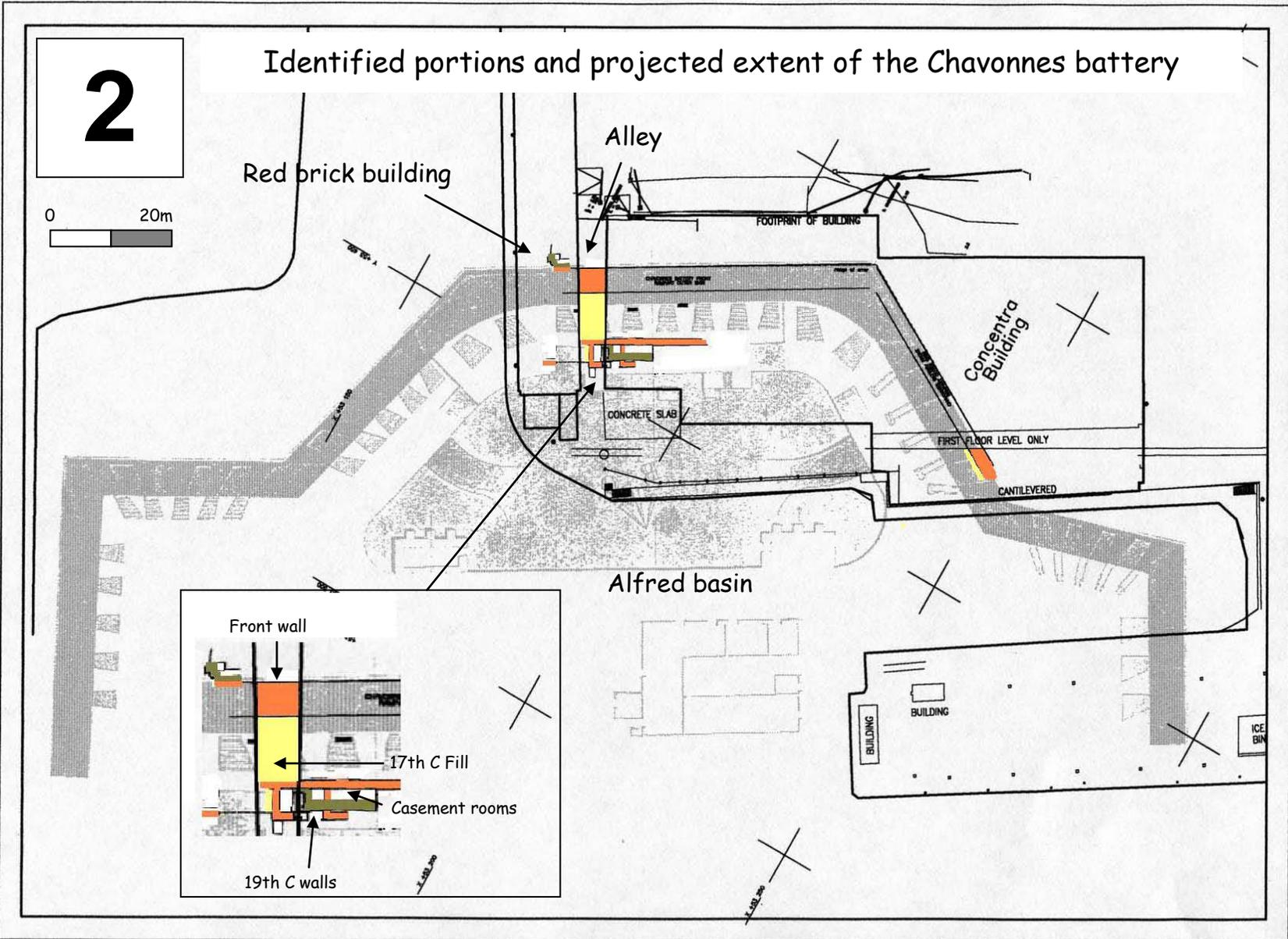
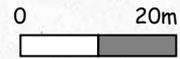
Harriet Clift

APPENDIX A
DIAGRAMS 1-3

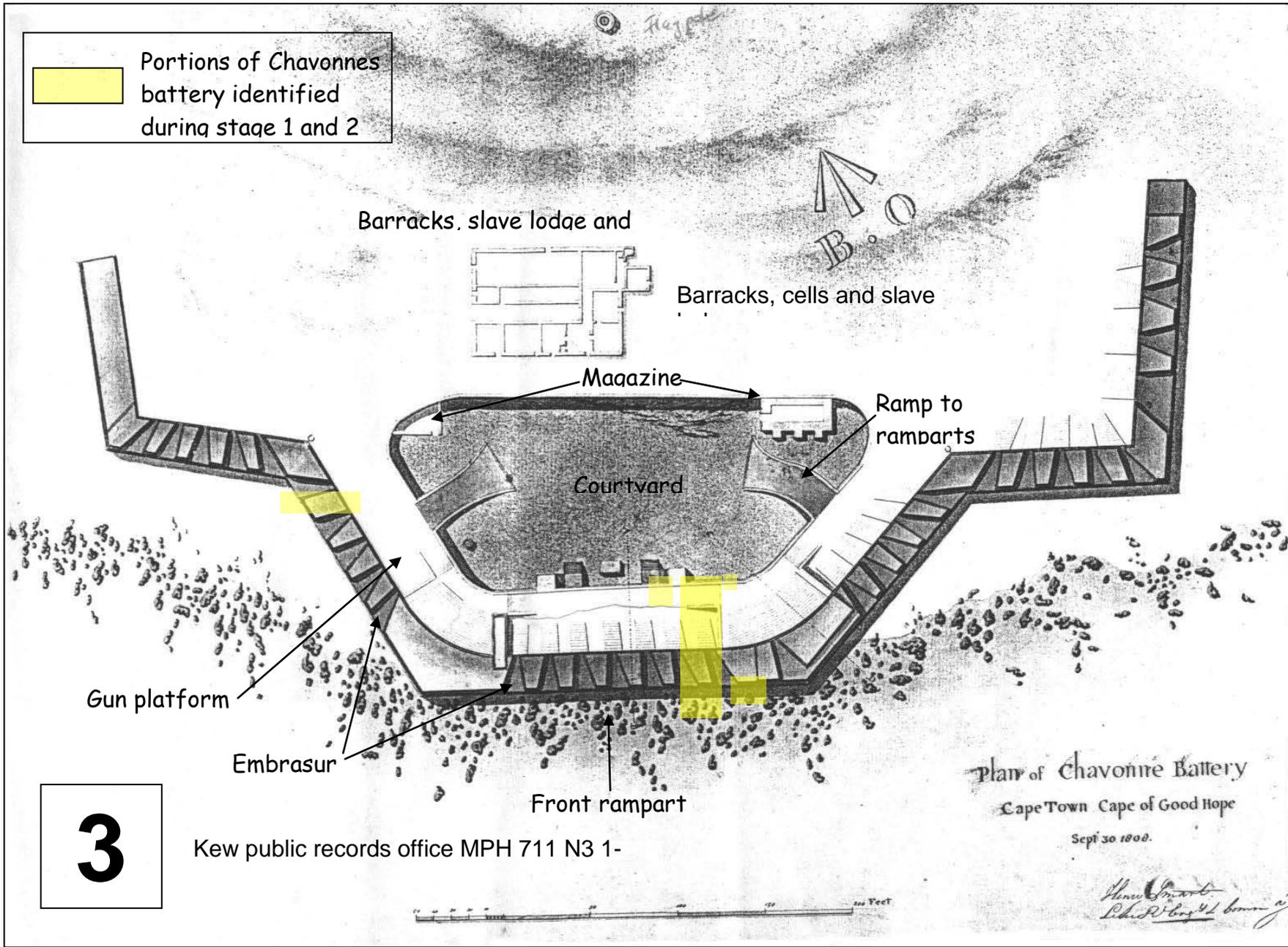


2

Identified portions and projected extent of the Chavonnes battery



Portions of Chavonnes battery identified during stage 1 and 2



Barracks, slave lodge and

Barracks, cells and slave

Magazine

Ramp to
ramparts

Courtyard

Gun platform

Embrasure

Front rampart

Plan of Chavonnes Battery

Cape Town Cape of Good Hope

Sept 30 1800.

3

Kew public records office MPH 711 N3 1-

200 Feet

Henry G. ...
Richard ...

APPENDIX B

Ships wrecked in the vicinity of the Chavonnes Battery

To be added as an appendix to the final report on Chavonnes Battery as prepared by
Mr TJ Hart,
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16 April 1999

Shipwrecks in Table Bay

Gale force north westerly winds in winter and the accompanying storms are estimated to have caused at least 50% of the total recorded shipwrecks in Table Bay. Despite this statistic, little was done until the mid 19th century to safeguard ships in the harbour during the winter months. In the 19th century the situation was such that Lloyds would not give insurance to ships scheduled to dock at the Cape in winter (Newal 1993).

During the VOC period (1652 – 1795) hardly any improvements were made to the harbour. Ships were requested to use False Bay as an alternate harbour during winter. After a particularly severe storm in May 1737, in which the VOC lost 9 ships and their cargoes, a half-hearted attempt was made to build a breakwater at Mouille Point (Newal 1993; Veitch 1994). The breakwater was totally destroyed by 1748.

In 1860 the construction of the breakwater at the site of the Chavonnes Battery was started. The breakwater was not yet completed when the worst storm in history hit Cape Town. The Great Gale of May 1865 probably caused the largest shipping disaster in the history of Table Bay. A large number of these wrecked ships were driven onto Woodstock Beach (Knox-Johnston 1989, Veitch 1994).

Alfred Basin was officially opened in July 1866. The construction and completion of Victoria Basin at the end of the 19th century effectively isolated the research area from the greater Table Bay harbour. Ships wrecking in Table Bay after 1899 would therefore have no impact on the research area.

The dredging of Alfred Basin in the 1930's did produce a significant amount of 17th and 18th century bottles and porcelain, some of which were still intact. This material has apparently been housed in the South African Cultural History Museum (Durden 1992b).

The Shipwreck Database housed at the National Monuments Council (NMC) formed the main source of information regarding ships wrecked in Table Bay. This list was checked

against the work done by Durden (1992 a, b) and Turner (1997). A list of ships wrecked in Table Bay where no specific location was given, has been included in this report.

Ships wrecked in the vicinity of the Chavonnes Battery - detail

Although there are no recorded shipwrecks in the vicinity of the Chavonnes Battery, a small fire lit by the soldiers at the Battery certainly caused one ship to wreck. During the 18th century, ships were forbidden to enter Table Bay at night. On the evening of 6 May 1740, the captain of the ship *De Visch* saw the guard fire of the soldiers at the Chavonnes Battery and thought it was the Robben Island Beacon. He took his chances and entered the Bay, running aground just off Mouille Point (Burman 1968; Veitch 1994).

The following ships are recorded in the NMC database as having wrecked in the harbour near either the Amsterdam Battery, the Breakwater or the Alfred Dock.

***Conde de Souza* (1842)**

This Portuguese ship is recorded as having wrecked on rocks near the Amsterdam Battery in 1842 (NMC shipwreck database). However, no mention is made of this ship in either Durden (1992a, 1992b) or Turner 1997).

***Industrie* (1818)**

The *Industrie* was a Dutch ship on route from Batavia. It had a cargo of sugar and coffee. A sever North Westerly gale caused the ship to founder while still in anchorage with the cargo still on board. (NMC Shipwreck database; PC 3/1)

***Stag* (17 May 1865)**

The *Stag* was a British ship belonging to Anderson, Saxon and Company. It sunk during the Great Gale of 1865, while helping other distressed ships in anchorage. Of the 14 crewmen on board, only 2 survived (NMC Shipwreck database; CC 3/7/2/1, Veitch 1994)

***Shepherd* (9 August 1874)**

The *Shepherd* was a British barque, commanded by a Captain Armstrong. She was on route from London and carried general cargo. On entering Table Bay at about 5 pm, the vessel ran ashore on the north side of the Breakwater. Although little of the cargo was

saved, none of the crewmen lost their lives (NMC Shipwreck database; PC 3/8; Turner 1997).

Wasp (25 March 1863)

The *Wasp*, a British schooner capsized outside the Breakwater on 25 March 1863, after having turned back in rough weather (NMC Shipwreck database).

China (29 July 1874)

The *China* was an American barque whaler. She heeled on the patent slip, Alfred Dock and wrecked and broke up (NMC Shipwreck database).

Ships wrecked in the greater Table Bay area - list

This list contains ships that are described in the records as having wrecked in Table Bay, with no specific location given.

17th century

Name of ship	Nationality	Date wrecked	Event
Oliphant	Dutch	1656 April 17	
Hogergeest	Dutch	1692 Oct 6	Wrecked

18th century

Name of ship	Nationality	Date wrecked	Event
Namen	Dutch	1722 June 17	Wrecked
Rotterdam	Dutch	1722 June 17	
Standvastigheid	Dutch	1722 June 17	
Saxenburg	Dutch	1729 Sept 1	
Fijenoord	Dutch	1736 July 1	Wrecked
De Buys	Dutch	1737 May 20	
Guardian	British	1789 Dec 24	Abandoned
Erfprins van Augustenburg	Danish	1790 April 12	Wrecked
Helena Louisa		1790 April 12	

Maria	Italian	1790 April 12	
Zeeland	Dutch	1792 May 22	Wrecked
Jefferson	American	1798 May 9	
Oldenburg	Danish	1799 Jan 15	Wrecked
Prize		1799 Nov 5	
Sierra Leone	British	1799 Nov 5	Wrecked

19th century

Name of ship	Nationality	Date wrecked	Event
Hunter	American	1805 March 11	
Charles		1805 Nov 4	
Atlantic	American	1806 Jan 28	Broken up
Abby & Sally	American	1807 Dec 6	
Twee Gysbert	Danish	1808 Dec 18	Condemned
Reliance	American	1809 Dec 16	Broke up
Creole	French	1809 Jan 31	Broken up
Valentine	American	1812 Nov	Broke up
Elizabeth	British	1818	Grounded
William	American	1818	
Peniscowles		1819	
Triangle	British	1822 Aug 11	Broke up
Antelope	British	1822 July 10	Grounded
Good Intent	South African	1822 July 21	
Olive Branch		1822 July 21	
Sun	British	1822 July 21	
Lady East		1824	
Antonio		1824 Aug 4	
Nautilus	British	1826 March 31	
Bride		1828 Aug 20	Grounded
Ada		1828 Jun 14	Grounded
Orange grove		1828 June 15	Grounded
Ellen	British	1830 June 3	Grounded
Pine		1831 July 19	

Cendieu		1831 July 20	Grounded
Emperor Alexander		1835 May 25	Condemned
Falcon		1836 Dec 31	Grounded
Roxburgh Castle	British	1838 July 1	Wrecked
Le Jeune Edward	French	1839 March 1	Abandoned
Anna	Portuguese	1841 Nov 1	Broken up
Hamilton Ross	South Africa	1842 Aug 28	
L'Adolphe Fanny	French	1842 March 11	Condemned
Ann & Mary	British	1843 Aug 23	Grounded
Commandant		1843 Aug 23	
Regular		1843 May 13	
Soudade	Portuguese	1843 Oct 30	Broken up
Josephine		1844 Jan 29	Broken up
Henrequetta		1844 May 2	Broken up
Bella Angela	Portuguese	1844 Sept 10	Broken up
Blackstone	American	1846 Jan 4	Broken up
Aberfoyle		1847 Aug 18	Floundered
Mary	British	1848 Oct 1	
Clarinda		1851 Aug 28	Grounded
Morayshire		1851 Oct 12	Grounded
Bosphorous		1853 Jan 27	Grounded
Canopus		1854	
Australian		1854 April 7	
Dordrecht		1856 Dec 1	
Ellen Rawson	British	1857 June 14	
Fox		1857 June 20	
Fanny & Leoncine		1860	
Deutan	Spanish	1863 Feb 20	Broken up
Libra		1865	
Benjamin Miller		1865 May 17	Grounded

Briton		1865 May 17	Grounded
Frederick Bassil		1865 May 17	Wrecked
Jane		1865 May 17	Wrecked
Maria Johanna		1865 May 17	Grounded
Star of the west		1865 May 17	Grounded
Otago		1867 June 1	
Madagascar		1868 July 1	
Duke of Buccleugh		1870 Aug 10	
Susan Parden		1871	
Founding		1874 Nov 22	Exploded
Oni		1875	
Poonah	British	1882 Feb 17	Wrecked
Panmure		1891 Aug 11	
Broderick Castle		1896	

Conclusion

It must be stressed that while there are no reported shipwrecks in the vicinity of the Chavonnes Battery, the area is archaeologically extremely sensitive. For the duration of the 17th century and most of the 18th and early 19th century the Table Bay harbour consisted of a little more than a few jetties. Ships reported wrecked and sunk in Table Bay could therefore be lying anywhere. According to Dr Bruno Werz, the wave and current action in the Table Bay could also have moved the wrecks from their original wrecking location. Furthermore, ships lying at anchor in the bay would have been throwing their garbage overboard contributing to the archaeological potential of the area.

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