

**OLD BETHLEHEM FARM 153
DWARS RIVER VALLEY, DRAKENSTEIN
STRUCTURAL & RESCUE INVESTIGATIONS DURING
WINE-CELLAR RENOVATIONS 2012**

JANUARY 2013



WINE-CELLAR PRIOR AS FOUND IN 2010



THE RENOVATED WINE-CELLAR (Vos Nov. 2012)

**Report prepared for
RESIDE PROPERTIES (PTY) LTD**

**H. N. VOS (BA, MA Arch., US)
Historical Archaeologist & Consultant
ARCape Consultancy PO Box 379 Stellenbosch 7599**

CONTENTS

EXECUTIVE SUMMARY	1
1. INTRODUCTION	3
2. GOALS OF REPORT	3
3. THE RENOVATED WINE-CELLAR 18-19 th century	6
3.1 Front Wing: Interior Rooms ABC	6
3.1.1 Rooms B/C : Remnant wall foundations	6
3.1.2 Room B: Trench stratigraphy	12
3.2 Rear T-Wing: Interior Rooms DE	14
3.3 Cement Backyard (east): Trench stratigraphy	15
3.4 Soil Backyard (west): Rescued artefacts	18
3.4.1 Artefacts 18 th century	18
3.4.2 Artefacts 19 th century	19
3.5 Conclusion	19
4. FLAT-ROOFED STORES, SOUTH: TRENCH ARTEFACTS	22
4.1 Location	22
4.2 Interpretation	22
5. REFERENCES	24

RBethCellarDavies1.doc

EXECUTIVE SUMMARY

The dilapidated Wine-Cellar (late 18-19th century) at Bethlehem farm, Drakenstein, was stabilized and renovated under the supervision of CT Architect Elisabeth Davies. Drainage trenches within the T-Cellar exposed the old floor levels consisting of compacted crushed fired brick. A dividing wall (Rooms B/C) with solid stone foundations indicated a separate Domestic / Storage Room C, with traces of a hearth against the rear wall C3. The Rear wing had a thick layer of broken mudbrick which served as a base for the upper floor (demolished).

At the back of the Homestead (1770s) and Southern Stores (1900s) a deep irrigation trench exposed a scatter refuse dump of the late 18th century. It was dated by means of the Chinese porcelain fragments. The potential of a larger refuse dump is great within this vicinity and care should be taken of any activities in the farmyard area.

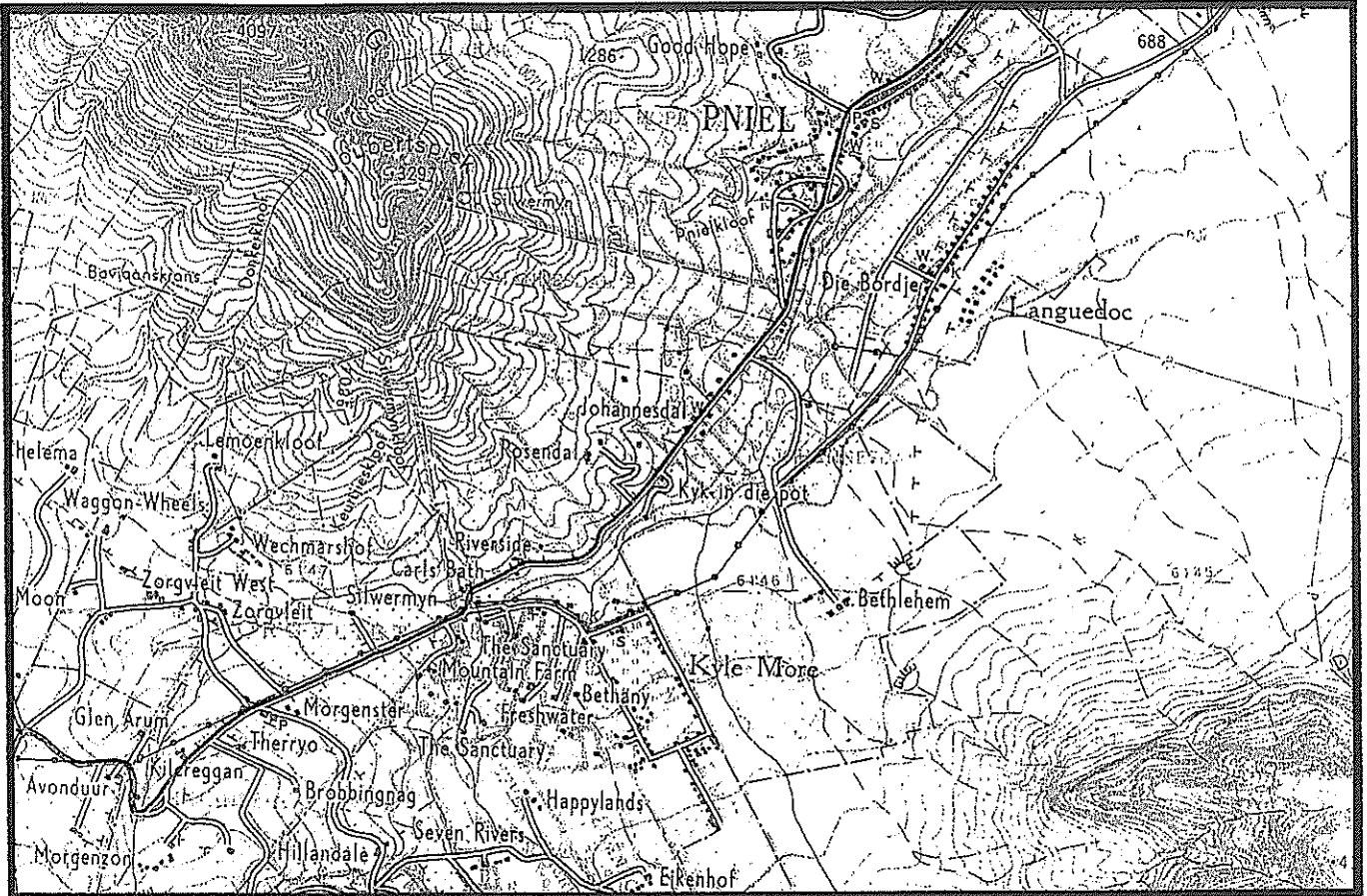


FIG.1 Bethlehem farm (No.153) is situated south of Pniel, next to Kylemore in Klein Drakenstein. Of the three buildings the cellar is on the far left (SG Map 3318 DD, Stellenbosch 1978).

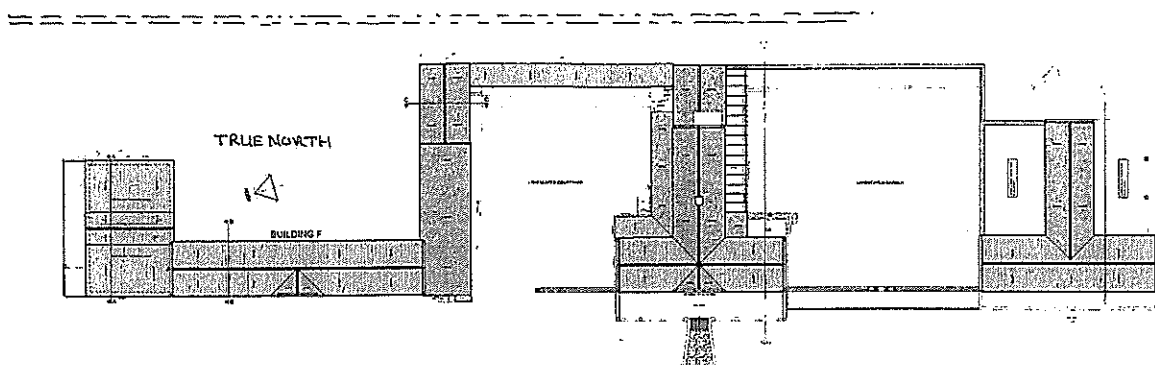


FIG.2 Site plan of the linear Bethlehem farmyard, with the Cellar on the far right (west). Note the approximate position of the 100 cm deep pipe trench south of the farmyard (Dennis Moss Partnership 2011).

1. INTRODUCTION

In 2011 a full report on the structures of the old farmyard of Bethlehem (Farm 153) was submitted to *Reside Properties* (Vos 2011). Since then all of the buildings have stood derelict (no occupation) while the farm was rehabilitated. This included the removal of invasive vegetation, erection of fencing for horse paddocks and the installation of irrigation piping, i.a. behind the farmyard (**FIG.1**).

At the back of the farmyard, a deep trench was machine-dug, from west to east towards the streamlet perimeter. We had no prior knowledge of this irrigation trench. A scattering of some 18th century artefacts were encountered just south of the Flat-roofed Stores during an inspection on 29.9.2011 (**FIG.2**). These *Trench artefacts* and other out-of-context finds at the back of the Wine-Cellar were collected under HWC Archaeological Permit No. 2011/03/005 (valid till 25.3.2014).

The Architect Elizabeth Davies of Cape Town was appointed by the client to renovate the Wine-Cellar due to its poor state of preservation, high water penetration and bulging walls (since a decade earlier) (see Vos 2011:92-140). Under her direction and supervision, with the approval of HWC, the stabilization, waterproofing and general upgrading were successfully concluded in late 2012 (**FIG.3**).

2. GOALS OF REPORT

1. The documentation of the Wine-Cellar in respect of constructions on the interior and artefacts on the exterior.
2. The documentation of an Irrigation trench and scattered dump artefacts behind the Southern Stores Building and Homestead.



1. View towards the old Cellar and the T-wing on the right (look NE)
(Vos 2011).

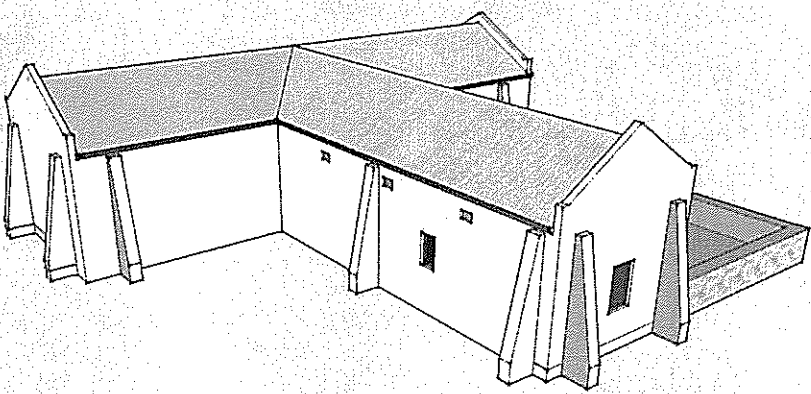
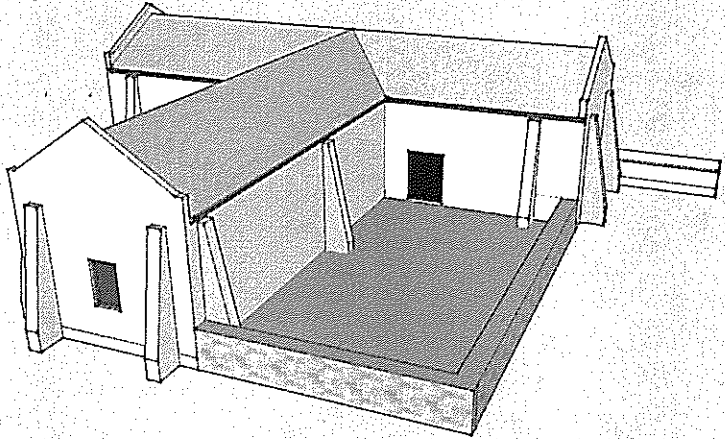
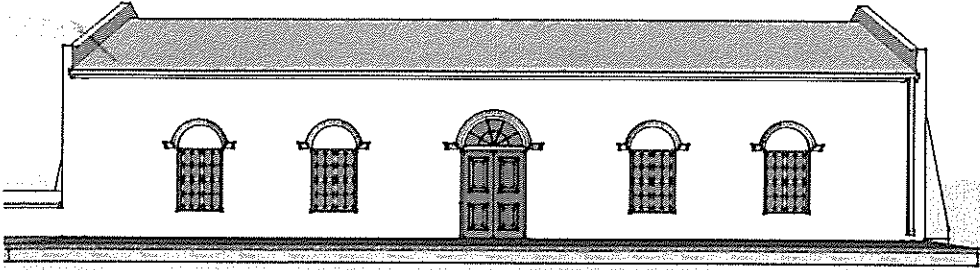


FIG.3 Elevation and 3-D constructions of the Wine-Cellar as proposed after the completion of the Renovations of 2012 (Architect E. Davies, 2011).

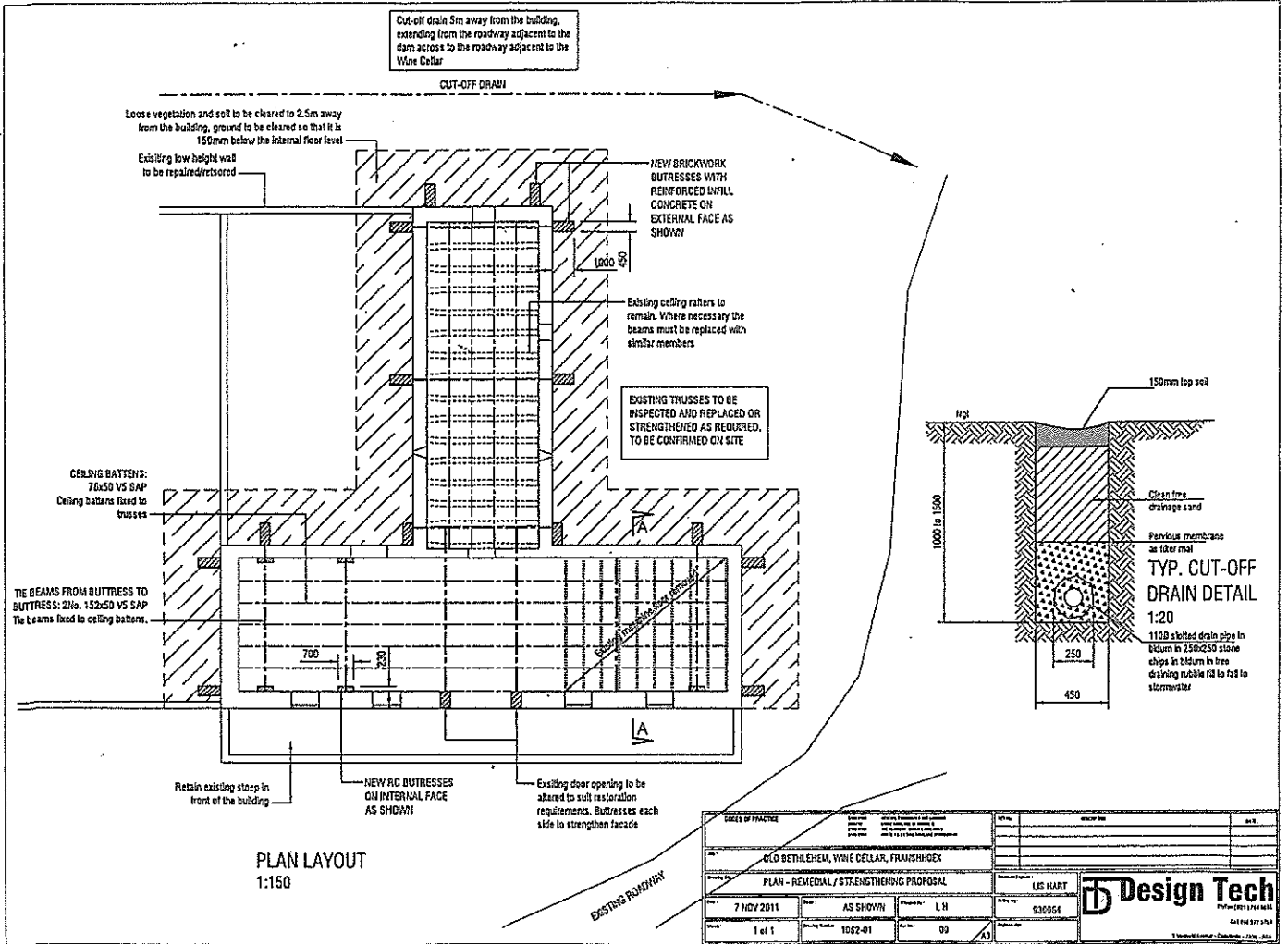


FIG.4 Proposal by the Consulting Engineers of how i.a. the buttresses would stabilize the ruinous building (Design Tech 2011).

3. THE RENOVATED WINE-CELLAR 18th -19th century

Architect Davies, the engineers and the contractor finalised their renovations of the Wine-Cellar during December 2012 (FIG.4). At the request of the architect I investigated the site on 27.11.2012 and documented the finds (FIG.5).

3.1 FRONT WING: INTERIOR ROOMS ABC

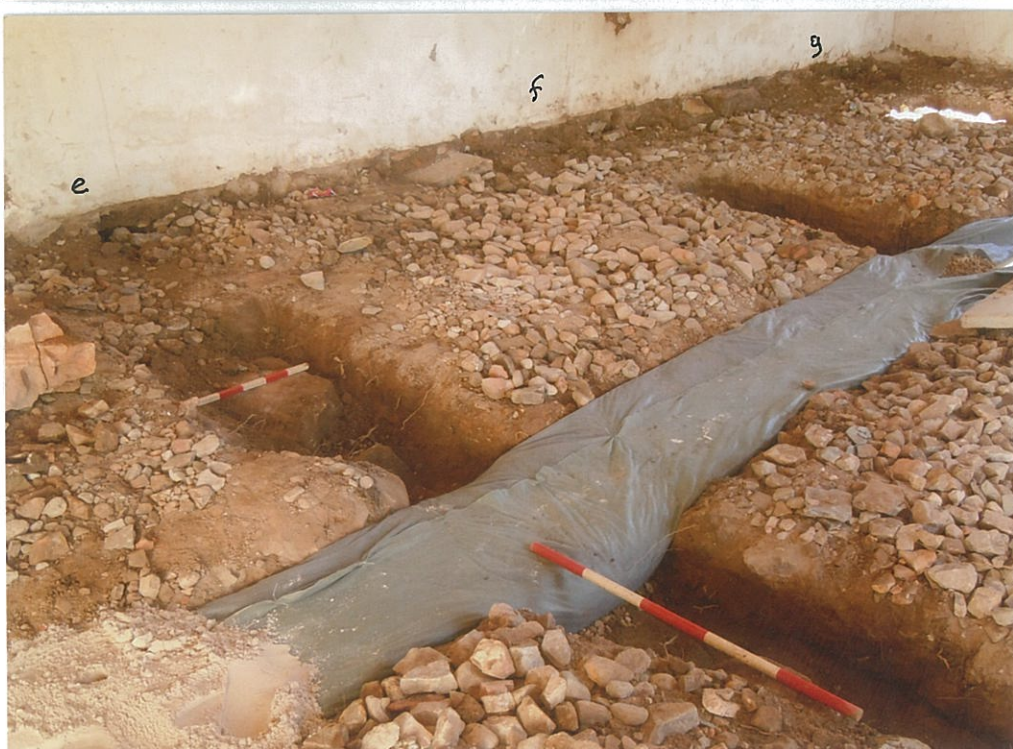
Drainage trenches of about 40 cm deep traversed the building's clay surfaces. Many were already filled in with coarse gravels enveloped in grey biden cloth, acting as a pervious mat. Nonetheless, the floor stratigraphy was still partially visible and the remnants of a demolished stone foundation were documented.

3.1.1 Rooms B/C: Remnant wall foundations

The central drainage trench (east-west) along the length of the front wing, and a transverse *Trench e* exposed partially some stones of a demolished wall, which divided Rooms B/C.



2. View towards Room C with a central trench (already filled) two trans-verse open trenches. The area of the blackened stones is marked "Hearth" (look W).



3. Similar view of Room C, but close-up of the remnant stone foundations in Trench e (scales 50 cm, 100 cm)(look SW).

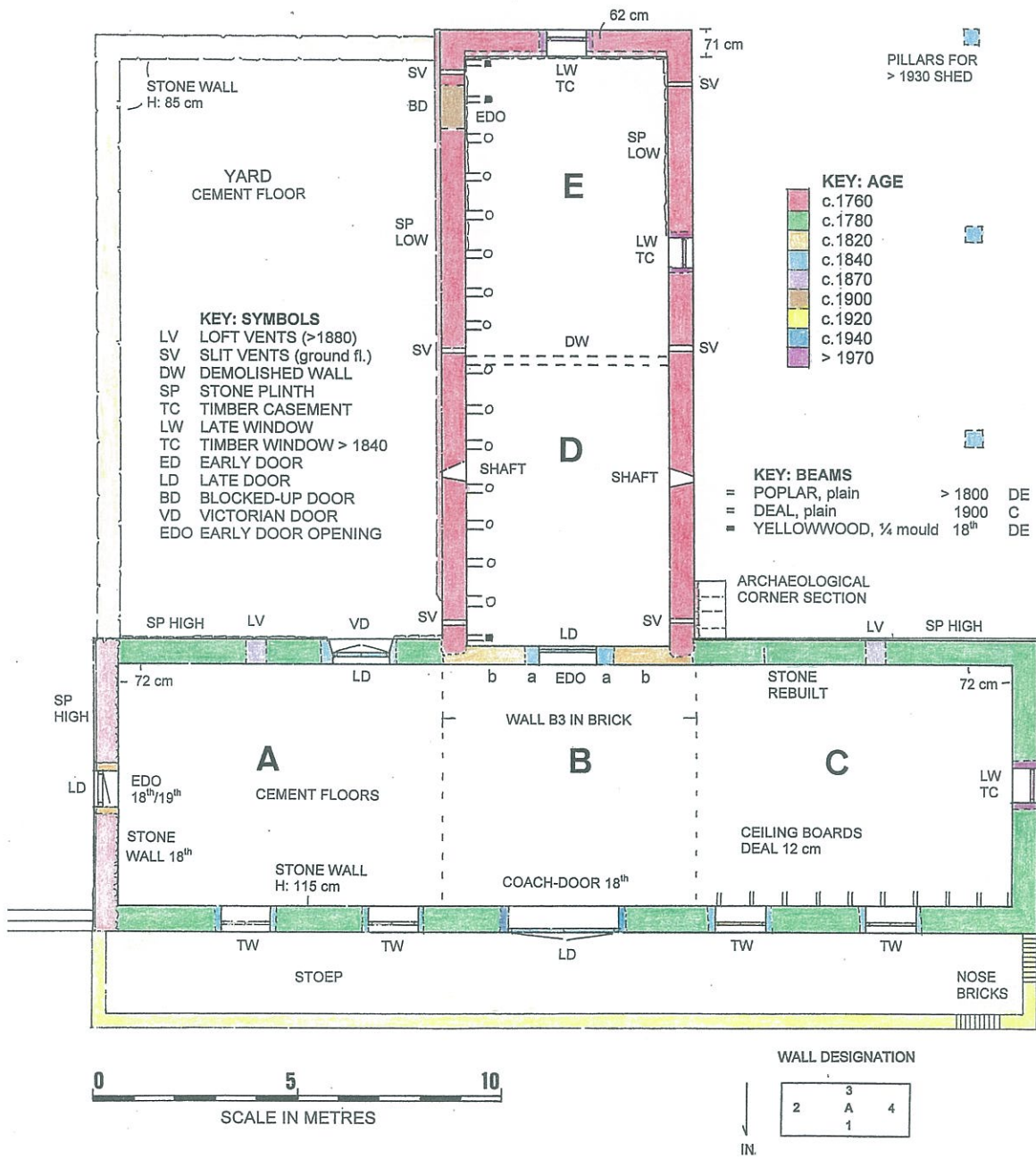


FIG.5.1 Site plan of the Wine-Cellar as was found prior to renovations of 2012. Numerous details of the structure are incorporated (*Dennis Moss Partnership 2011, Vos 2011:93*).

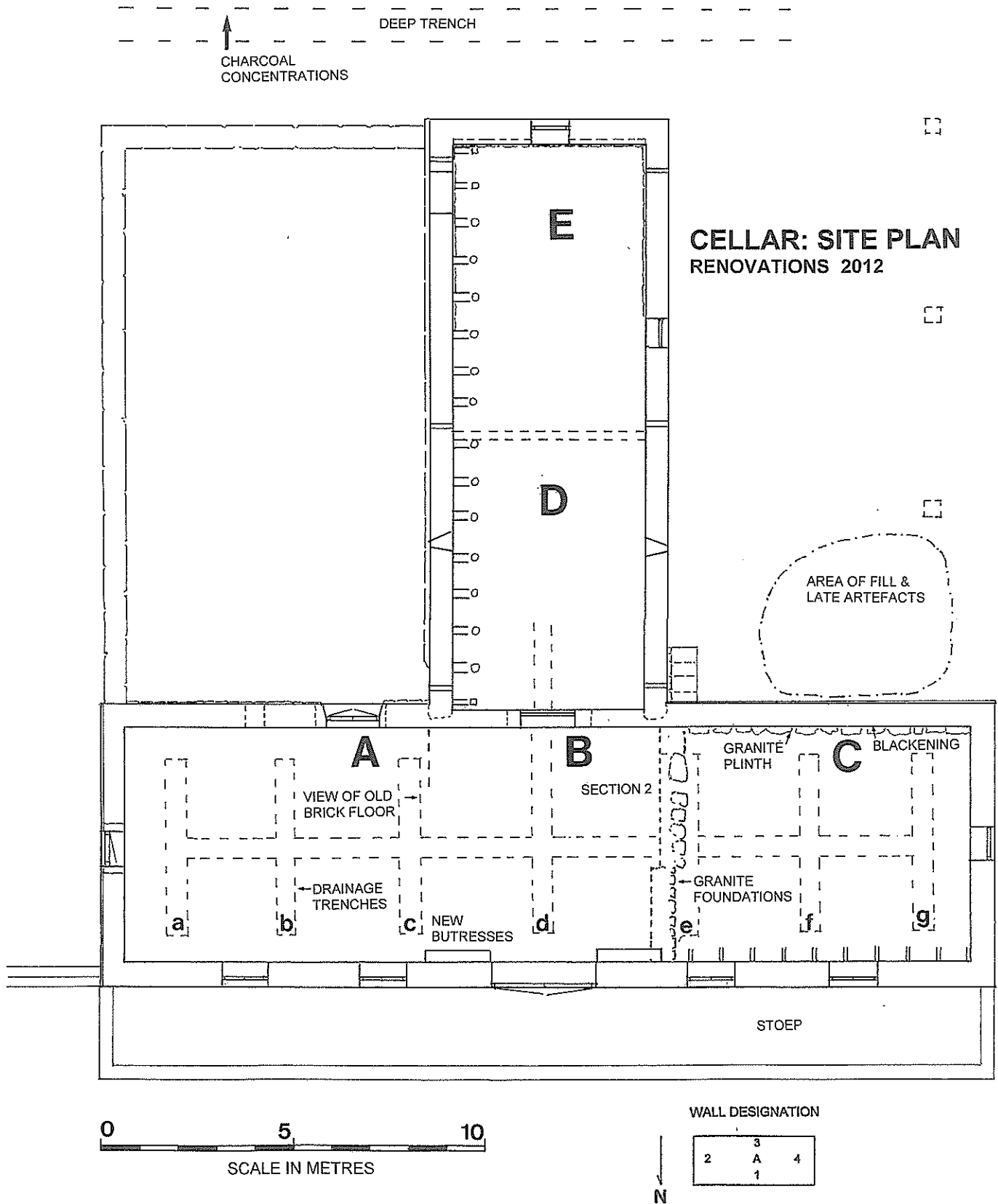


FIG.5.2 Groundplan of the Cellar showing the position of the demolished wall B/C (Trench e), the drainage Trench c with its floor layer, the southern trench at back (yellow clay stratigraphy) and yard area of Fill with 18/19th century artefacts (Vos 2013).



4. View of Rooms B/C, with the entrance of the T-wing on the left. Note the large granite block moved out of context by the labourers (look S).



6. View along dividing wall, looking N along Trench e. Note the 20cm kink in the wall, traced via stones at the surface. Shortly afterwards the trenches were filled with stone (scales 50 cm, 100 cm).



5. Close-up of Section 1 foundations. The trench is about 30 cm deep with *in situ* clays at the base (scales 50 cm, 100 cm)(look E).

A peculiarity was that the granite stones did not form a straight line. About 240 cm from the inside of the front façade wall (B1), a definite change of about 20 cm rerouted the demolished wall to the rear wall B3.

Both of the demolished walls were built in granite and some sandstone, with widths of about 50-60 cm. The depth of the foundation could not be determined (restricted by space and workers' deadlines). The large size of the stones indicates a substantial foundation to carry a wall reaching to eaves height. Substrata of a yellowish clay with charcoal specs were conspicuous.

Only a minute fragment (c.5mm) of window glass was recovered *in situ* next to the stone foundation above the clay matrix. It was very thin (1mm) and greenish in colour, typical of the 18th century. It indirectly indicates the presence of windows and the age of the building.

Interpretation

The dividing wall B/C lies not exactly in line with the walls of the rear T-Wing (Rooms DE). This also confirms that the two Cellar wings were not built simultaneously but at different stages.

At the rear wall C3 a small portion of above-ground foundation stone wall shows definite signs of exposure to protracted fire and heat, indicative of an earlier hearth. I thus conclude that Room C could have been utilized as a multi-purpose room; probably serving as a domestic purpose and as storage space for equipment. Such functions were common for 18th century outbuildings. Rooms A & B would then have formed the main area for Cellar activities (i.a. grape storage and pressing, grape gestation). The secure Rooms DE of the rear wing would then have been used for the storage of wine casks and barrels.



7. View towards Room C façade, with Trench e on the right (look W).



8. View from Room C towards Rooms AB on the interior. Note the new ceiling beams and the buttress on the left. The two men on the right are standing near Trench c, which is recorded in the following photos (look E).



9. View of Rooms AB (look W) with the entrance to the T-wing on the left. In front is Trench c, showing the stratigraphy of the old floor of crushed brick (scales 50 cm, 100 cm).

c

3.1.2 Room B: Trench stratigraphy

Most of the trenches were filled in or in the process of being enclosed. At **Trench c**, a small section was cleaned, showing the stratigraphy of the earlier floor of the Cellar. The cement floor (2-4 cm) of the mid 20th century was already removed (2012) and a layer of gravels levelled on the surface, to be covered in concrete the next day.

A fairly level surface of crushed brickwork formed the earlier Cellar floor, which is quite common for barns or Cellars. The brickwork consists of low-fired chunks of orange brick, which would give it some impermeability to rising damp. The compacted floor rested a few cm lower down on a hard, yellow clay layer with numerous black charcoal specs.

My first impression was that the latter represents an earlier surface with signs of fire charcoal on top. It was surprising to find that the charcoal continued in the clay layer for another 10 cm! When I discovered the same yellow layers and charcoal in the back wing and at a rear trench on the exterior, my suspicions were confirmed that it actually represents an *in situ* clay matrix of millennia earlier. More on this later.



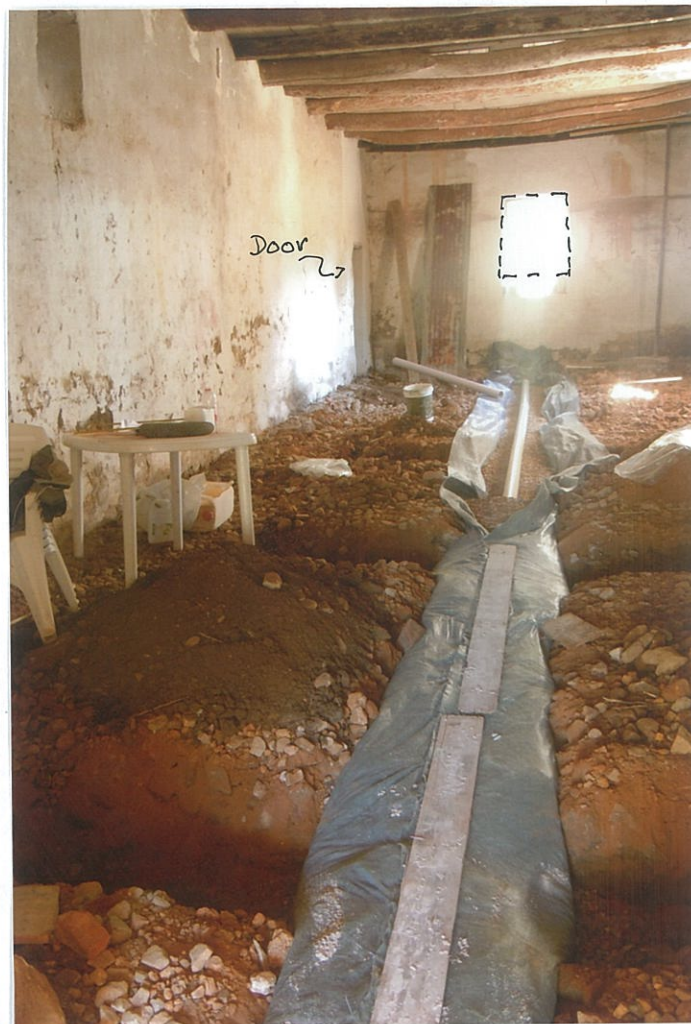
10. Close-up of Trench c (Room A/B) with the stratigraphy:
1. Recent stone gravels (2012)
 2. Removed cement floor (1950s)
 3. Soil substrata (20th c)
 4. Layer of compacted fired brick, the original floor (18th c)
 5. Yellow clayey soils imbedded with charcoal specs (look^W)
(scales 50 cm; 60 cm in 20 cm divisions)



12

11. View southwards in the T-wing (Room DE) along the central trench, enclosed in biden cloth. Right at the end (next to window) is the old door opening.

12. An old door is repositioned in the earlier opening. Below is the last drainage trench with the yellow clays at base.



11



13. Opposite view in the T-wing (look N), with the entrance opening towards the front wing. Note the old poplar beams (early 19th) still in position.

3.2 REAR T-WING: INTERIOR ROOMS DE

A network of drainage trenches were being filled in with crushed stone enveloped by cloth. In all the open trenches brown clayey soils were visible, lying on top of very hard yellow clays, again filled to some depth with charcoal specs and nodules, the original *in situ* clays of the area. On closer inspection, the brown soils consisted of a matrix of unfired mud-bricks which served as a substratum for an earlier floor, but since destroyed by the cement floor (removed 2012).

The earlier door opening (enclosed with brick c.1890s) at wall E2, was rightfully opened up again and fitted with an appropriate 18/19th century door.



14, 15. In Rooms DE a small trench was cleared (look W). Its base was scraped to expose the yellow clay bed and nodules of black charcoal. They represent the *in situ* clays of millennia ago (scales 50 cm, 100 cm).

3.3 CEMENT BACKYARD (EAST): TRENCH STRATIGRAPHY

The back courtyard on the eastern side of the Cellar is enclosed by a low stone wall of early 1900s. The area was probably used in the production, storage and drying of the fruit industry.



16. View of the eastern enclosure yard. The cement floor has been removed to be replaced with cast concrete. Note the position of the stabilizing buttresses (look N).

17. An earlier view of the backyard (look S).



At the rear of the Wine-Cellar a deep trench for drainage and a wall were dug. Directly behind the low stone wall of the eastern yard, the soil stratigraphy was exposed (FIG.2). Note the 18-20th century upper clayey soils and brown surface. Lenses of 18th century brick indicate the period when the Cellar was built. Immediately below the brick pieces stretch the yellow clays, studded with charcoal specs. It is now evident that these thick clay deposits date millennia earlier. The Cellar was dug into these sloping clay banks, which were used as sun-dried bricks that were fired orange and shades of cream.



18. Directly at the rear of the T-wing (Room E), a trench was dug into the clay slope. A new stone wall would inhibit any flow of water to reach the Cellar (look SW). This trench continues to the east, as seen in the next photos.

19. View of the trench (110 cm deep) behind the eastern enclosure of the courtyard of the Cellar. Sharp contrasts of light and shadow obscure detail (look S).





20. Close-up of above sections where the stratigraphy is as follows:

1. Grass and upper soil.
2. Clayey yellow soils (iron rich sediment)
3. Filled-in portion with stones / brick specs
4. *In situ* yellow clays with concentrations of charcoal nodules and specs (look S).



21. Close-up view of the sidewall of the Trench where its yellow clay composition and charcoal imports are evident (look S) (scale 100 cm).

3.4 SOIL BACKYARD (WEST): RESCUED ARTEFACTS

During the renovations, the accumulated soils on the western side of the T-Wing were manually excavated to just below the stone plinth to facilitate water drainage away from the building. The labourers collected a number of objects as they cleared the fill against the backwall of Room C.

3.4.1 Artefacts 18th century

Only two broken artefacts were found. They include a black-green, bottle rimtop of the early 18th century, representative of the so-called onion-shaped bottles. At the Cape bottles were highly prized and reused over many decades. A rim portion of a coarse (South Provincial) Chinese dish / plate represents the porcelain imports to the far reaches of the Cape. Both these finds indicate the Cellar's age of the 18th century.



22. On the western side of the T-Cellar, directly behind Room C, a large amount of fill was dug out by labourers to attain the earlier levels. Within the brown soils a number of artefacts were found.

23. Close-up of the two 18th century artefacts: Bottle top and Chinese porcelain dish fragments (scale 10 cm).



3.4.2 Artefacts 19th century

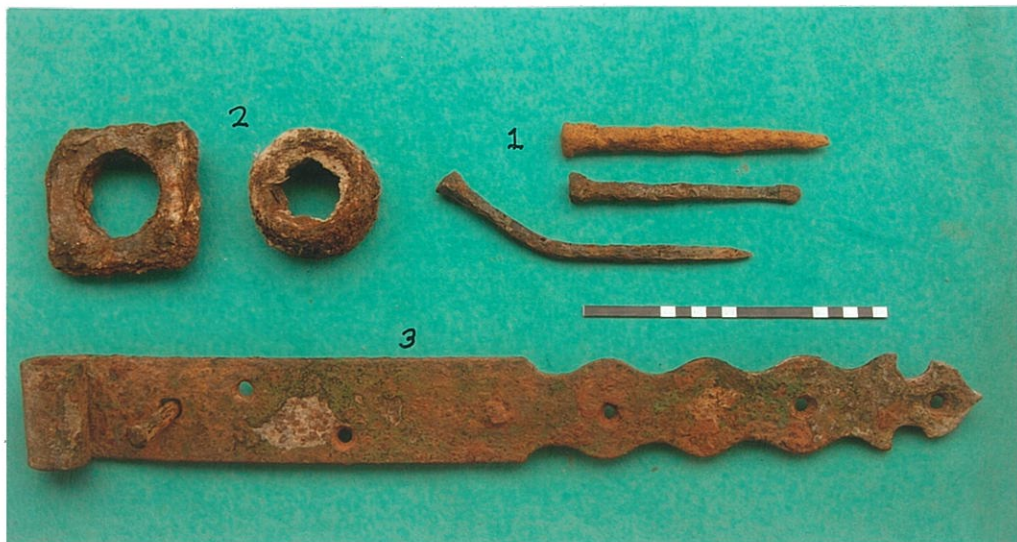
A few iron pegs / nails date to the late 18th or early 19th century. The English dark green bottle is typical of the second half of the 19th century, when wine was commonly bottled. Only broken bottles are found in functional contexts. Another light green bottle base dates to the 1890s or early 1900.

A few fine-grained earthenware ceramics of British origin indicate a somewhat domestic use. Their low number may also indicate out of context deposition. Milk glass objects are very fragmentary and date to about 1900.

The few metal gears / objects are indicative of mechanization of farm implements since the late 19th century. The most significant find is due to its completeness and is an iron straphinge of decorative outline. It was once painted green and dates to c.1880. In all likelihood it functioned as one of 4 straphinges of the double entrance doors of the cellar.

3.5 CONCLUSION

The Wine-Cellar developed in two stages, a Front wing and a Back wing, both of the 18th century. The Front wing contained a separate Room C, divided by means of a high wall, with probably a central door. Domestic use of this area is confirmed by blackened stones at a low level against wall C3, indicating a hearth. Some domestic artefacts corroborate this conclusion. A compacted floor of broken fired brick formed the original surface for both cellars. The building was devastated by at least one or two fires during the 19th century. The yellow clay substrata with charcoal specs are *in situ* and dates to millennia earlier.



24. Artefacts from the western side next to the Cellar (scale 20 cm).
1. Iron pegs (18th / 19th century)
 2. Iron machinery (late 19th)
 3. Iron straphinge with green paint adhering (c.1900)



25. Contextual artefacts included (scale 10 cm):
1. Dark wine bottle (British) (mid-late 19th)
 2. Base of small wine/beer bottle (do.)
 3. Marine glass base of bottle (British) (late 19th to 1900)
 4. Base of clear glass flask (20th)
 5. Dark green bottle top (early 18th)
 6. Chinese porcelain rim of plate (18th)
 7. B & W English fine-grained earthenware fragments (dish lid, plates) Willow pattern (late 19th to early 20th)
 8. Plain English *fge* portion of plate (late 19th)
 9. Milk glass fragments of ointment jars (c.1900)

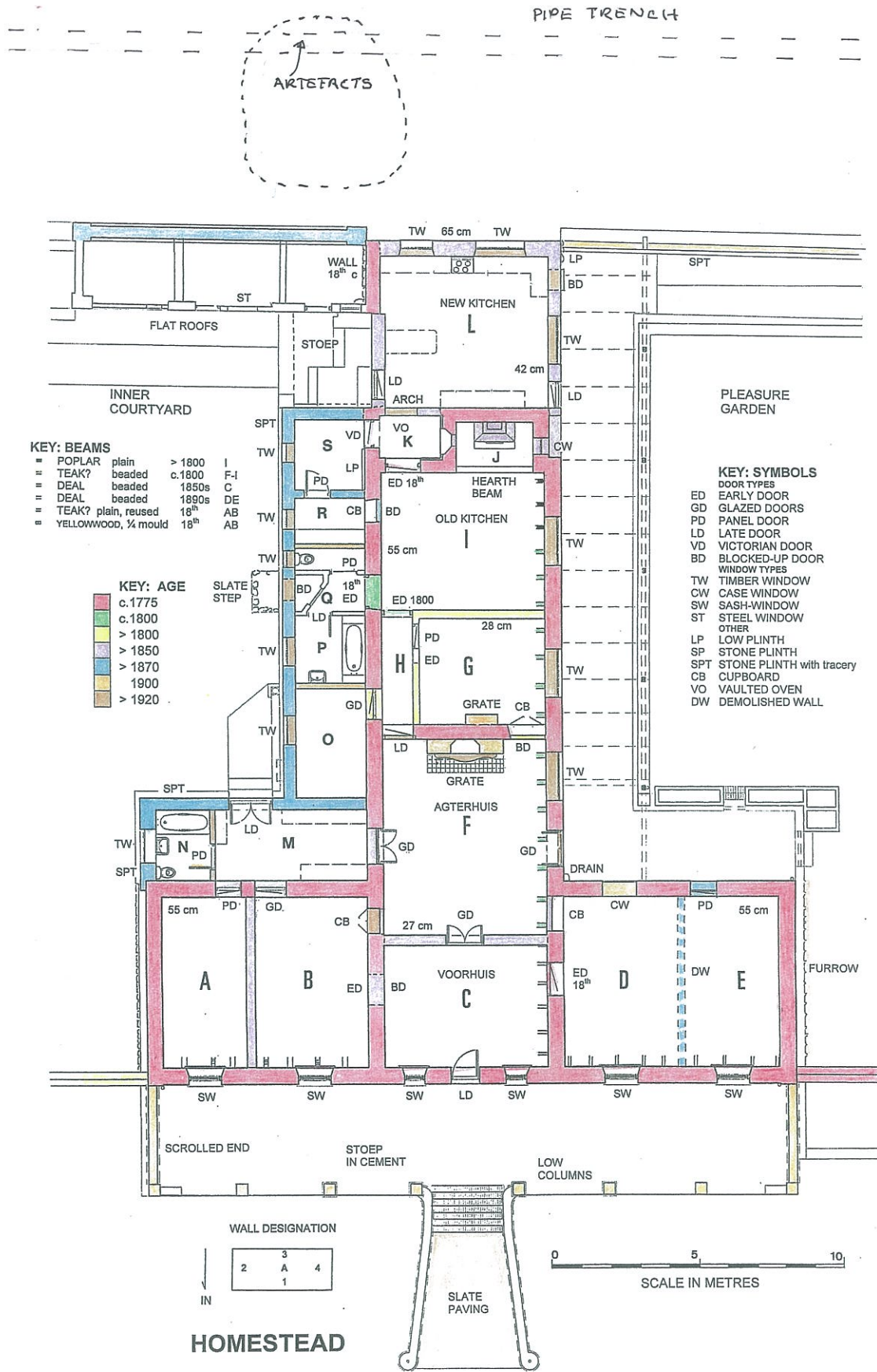


FIG.6 Site plan of the Homestead and Southern Stores, with the irrigation trench and site of refuse scatter (18th c) at the back (DMP 2011; Vos 2011:23).

4 FLAT-ROOFED STORES, SOUTH: TRENCH AND DUMP

4.1 LOCATION

During my visit of 26.9.2011, the architect and I investigated a trench for an irrigation pipe and cables, situated just south of the farmyard complex (see **FIG.6**).

On the surface heaps of clay we saw a concentration of a number of 18th century ceramics, as well as some bone splinters and charcoal. Along the vertical trench side a lens of brick specs and some artefacts indicated the layer for the source of these artefacts. The clays of the long hilly slope have crept over the early deposit over the years.

The ceramics represent Chinese porcelain of the third quarter of the 18th century. They formed part of a rubbish dump of scattered refuse originating from the near-by Kitchen of the Homestead.

4.2 INTERPRETATION

The Chinese ceramics include the finer quality of porcelain of North Provincial China. They would have formed part of the general food service articles of the household of the 1770s. The present location is merely an outlier of a greater scatter-dump of kitchen refuse. Care should be exercised when any digging activity is undertaken in this area and within the farmyard near the old kitchen. The Recommendation is to call the archaeologist in the *planning stages* to investigate pro-actively any farmyard site.



28. Some of the Chinese ceramics (imbedded in clay), part of the surface finds (scale 50 cm). The potential of a larger scatter of a refuse dump is likely.



26, 27. At the rear of the farmyard, about 5-6 metres from the back building line, a narrow irrigation trench for a blue pipe cut through clay sediments and refuse of an earlier 18th century dump. The 1 m scale is positioned where a few of the ceramics were concentrated (look NE).





29. View towards the rear of the Homestead and modern kitchen on far left. The area of potential refuse is indicated (look NW) (Vos 2011).

30. Close-up of the stratigraphy of the trench. Note the lens of river stones and associated Chinese artefacts (look SE).



5. REFERENCES

VOS, H.N.

2011 Old Bethlehem Farm 153, Dwars River Valley, Drakenstein. Structural and archaeological investigations & assessment of the farmyard buildings since the 18th century. Report prepared for *Reside Properties*, Johannesburg. *ARCape Consultancy*, PO Box 379, Stellenbosch.

DAVIES, E.

2011 Old Bethlehem Wine Cellar: Motivation for HWC (4.11.2011) (9pp).