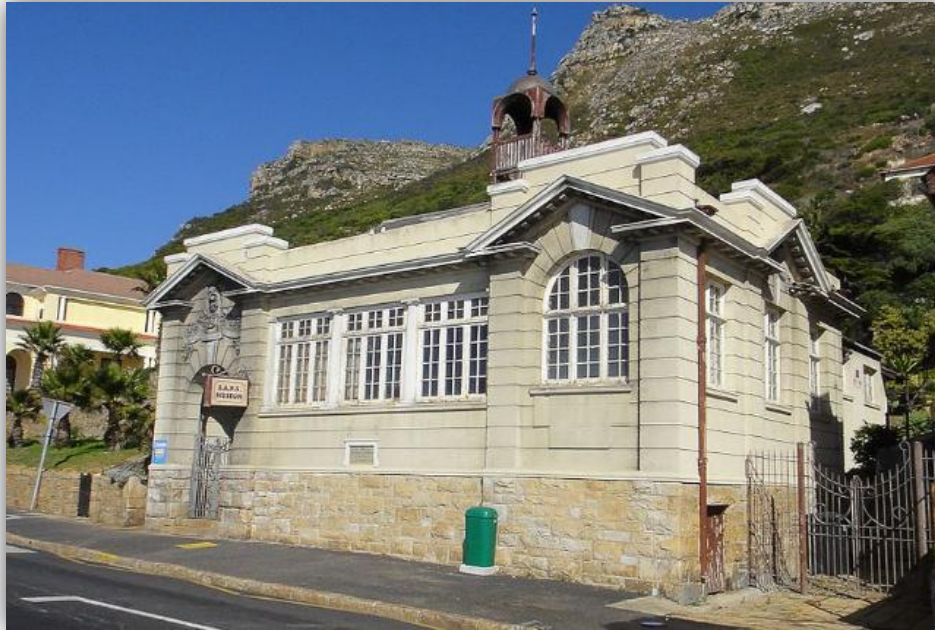


Skeletal Report:

Remains discovered at the SAPS Museum, 186 Main Road,
Muizenberg, Western Cape

(HWC permit number 110810TG12 and SAHRA permit number BGG13/01/00186)



Prepared for Heritage Western Cape

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Executive Summary

This report describes the rescue excavation and exhumation of historic burials that were accidentally disturbed by construction workers during trenching activities at the Old South African Police Service Museum, 186 Main Road, Muizenberg (GPS Co-ordinates: 34.11073 S 18.46684 E). The initial remains were discovered on 12 December 2012 and excavated on 3 January 2013, under Heritage Western Cape (HWC) permit number 110810TG12. Further test trenching around the original skeleton exposed two further burials on 12 January 2013 and these were excavated on 22 and 23 January after another permit had to be applied for through the South African Heritage Resources Agency (SAHRA) (permit number BGG 13/01/00186)

On inspection by local police and a heritage archaeologist and consultant, Dr Ute Seeman, the initial (first) burial was presumed to be prehistoric, based on the assumed burial position. On excavation, the burial position differed to what was originally expected, and the remains were deemed to be historic. These remains are thus protected under Section 35 of the National Heritage Resources Act, rather than the Inquest Act No 58 of 1959 as they were historic and not of a forensic nature. A second permit had to be applied for from a different Governmental body – SAHRA who deals with the historic burial sites as HWC (dealing with prehistoric burials) were not prepared to extend the original permit to include the two subsequent burials found.

Two forensic anthropologists from the University of Cape Town, along with Dr Ute Seeman and her assistant, have excavated the skeletal remains of three historic burials under the request of HWC and SAHRA. No remnants of a coffin or any other identifying artefacts were found associated with the first remains; however the two subsequent burials yielded coffin remnants as well as clay pipe fragments.

Further test-trenching was carried out in the surrounding area, and no further burials were discovered.

Anthropological assessments of these remains have concluded that the remains are historic, and that of all were male individuals of various ages at the time of death, and likely of European ancestry. These remains are currently housed at the Forensic Anthropology Laboratory at the Department of Human Biology, Faculty of Health Sciences, University of Cape Town.

1. Introduction and Background

This report contains the excavation process and anthropological evaluation of the historic burials situated on the premises of the Old South African Police Service (SAPS) Museum, 186 Main Road, Muizenberg (Figures 1a and 1b). The discovery was made by construction workers whilst renovating the Old SAPS Museum (Figure 1a), approximately 10cm under the cement slab floor.

The police (SAPS) were contacted by the contractors, Holm Jordaan Architects and Urban Designers at the site (c/o Mr Reinier Visser) following the discovery, who then contacted Dr Ute Seemann, a heritage archaeologist and consultant. She, in turn, contacted Professor Alan Morris and Dr Jacqui Friedling at the University of Cape Town, as the burial was considered to have no forensic significance. After consultation with Heritage Western Cape (c/o Ms Jenna Lavin) Dr Friedling recommended that she, along with Belinda Speed, Dr Ute Seemann and Andrea van Onselen excavate the remains.

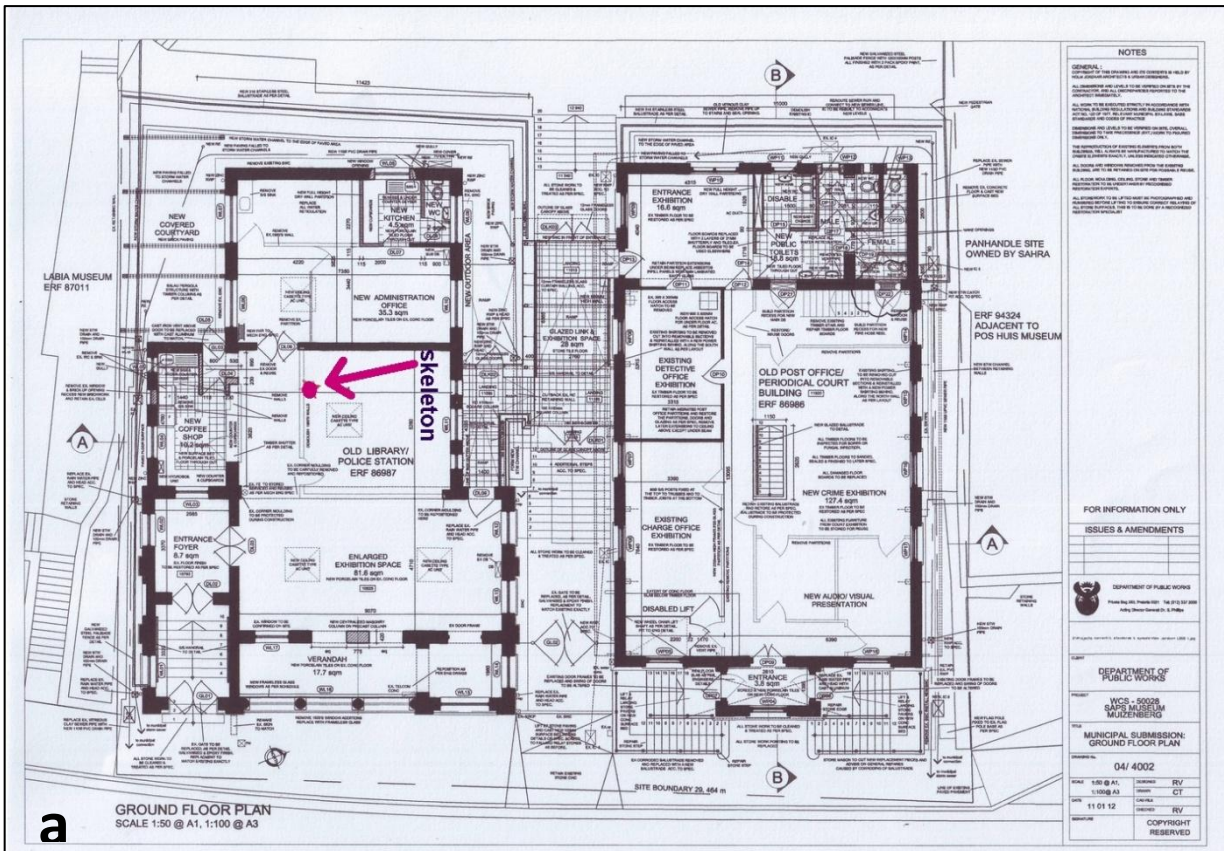


Figure 1a: Location of the burial on the property plans the Old SAPS Museum, 186 Main Road, Muizenberg



Figure 1b: Geographical location of the historic burial at 186 Main Road, Muizenberg

2. Methods

On 3 January 2013, Dr Jacqui Friedling, Dr Ute Seemann, Belinda Speed and Andrea van Onselen acted as representatives for HWC to excavate the first skeletal remains, accidentally unearthed by contractors at the Old SAPS Museum, 186 Main Road, Muizenberg.

Upon arrival at the site, measurements were taken of the area disturbed by contractors. The area measured 0.8 metres in length, 0.8 metres wide and approximately 0.2 metres deep (Figures 2 and 3). The burial was found to be in its original position, with the exception of the skull and left upper limb, which had been placed on the surface. This indicates disturbance during the work in the area by the contractors. At the end of the initial excavation, the surrounding area where this burial was found was test trenched and examined for any additional burials or any other archaeological evidence that may be present on site. Two further burials were located but these were more formal burials in coffins. These subsequent burials were excavated on 22 and 23 January after the new SAHRA (c/o Troy Phili) permit had been applied for and granted. This had to be done as the original burial proved to be historical and HWC only deals with prehistoric burials.

Upon exposure it was discovered that all the skeletons were wet due to the frequent dampening down of the floor to reduce the amount of dust that the construction workers were exposed to. This resulted in the exhumed material being very fragile and had to be left to dry in the Forensic Laboratory at the University of Cape Town for at least 2 weeks before any cleaning of the soil and reconstruction of the skeletal elements could be attempted. The cleaning was then done in stages as the surrounding soil dried and could be gently brushed away to fully expose the skeleton.

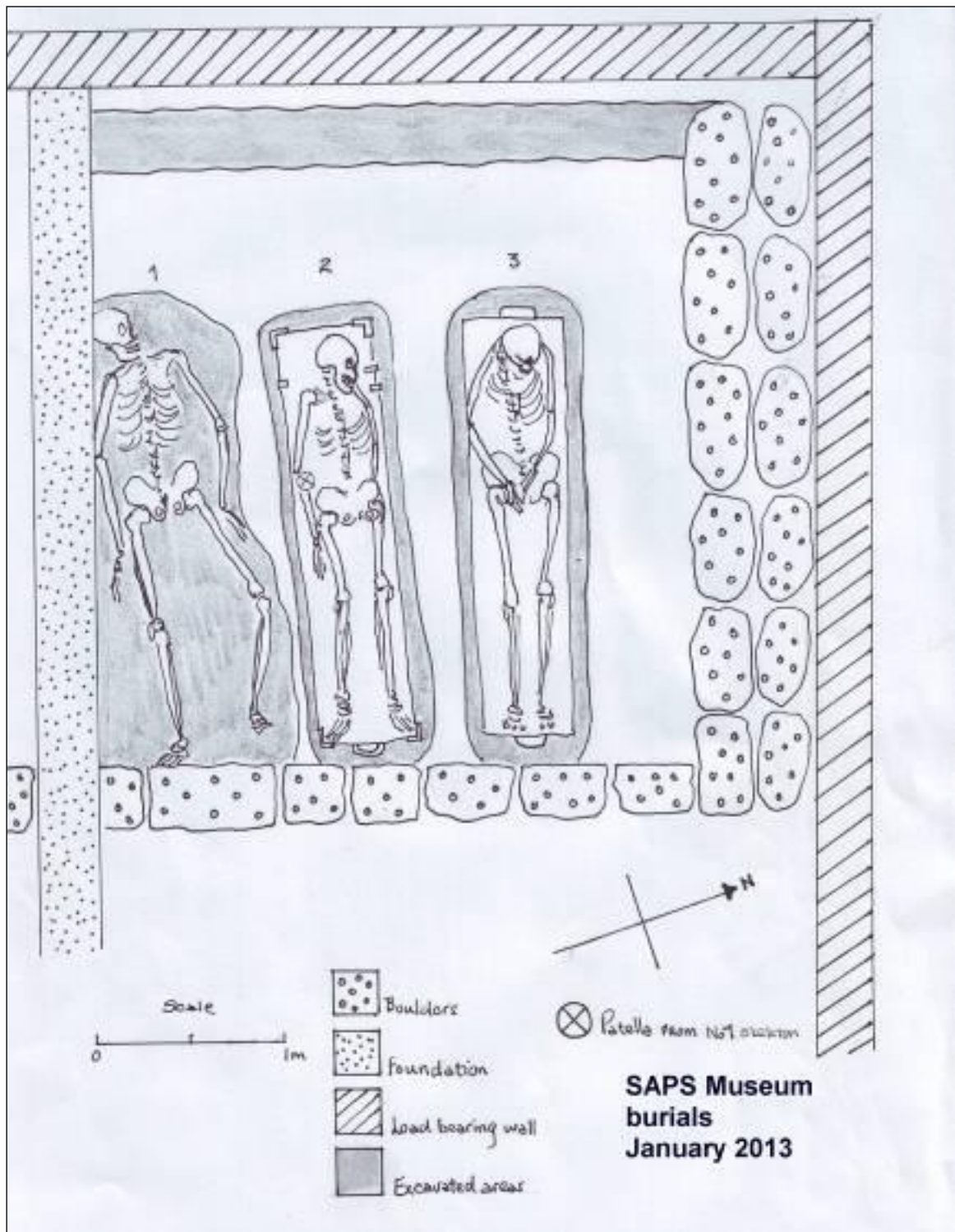


Figure 2: Drawing of the 3 burials recovered from left to right as they were discovered. Note – Burial 1 is without a coffin and had the best preservation while Burials 2 and 3 were in coffins (Drawing courtesy of Dr Ute Seemann and Andrea van Ontselén)



Figure 3: Individual 1 - disturbed burial site before excavation. Fragments of the skull and left upper limb are exposed on the surface

3. Results

Anthropological and cultural data of the recovered individual were recorded and analysed in the field and in the laboratory. These data are presented and discussed below.

3.1: Individual 1

3.1.1. Burial Style (Figure 4)

The body was lying outstretched, on its back, in an East-West direction. The upper and lower limbs deviated quite substantially from the midline of the body, thus deviating slightly from the usual 'Christian' curial style. This was deemed to be an informal burial especially as no coffin or coffin remnants were found associated with it.



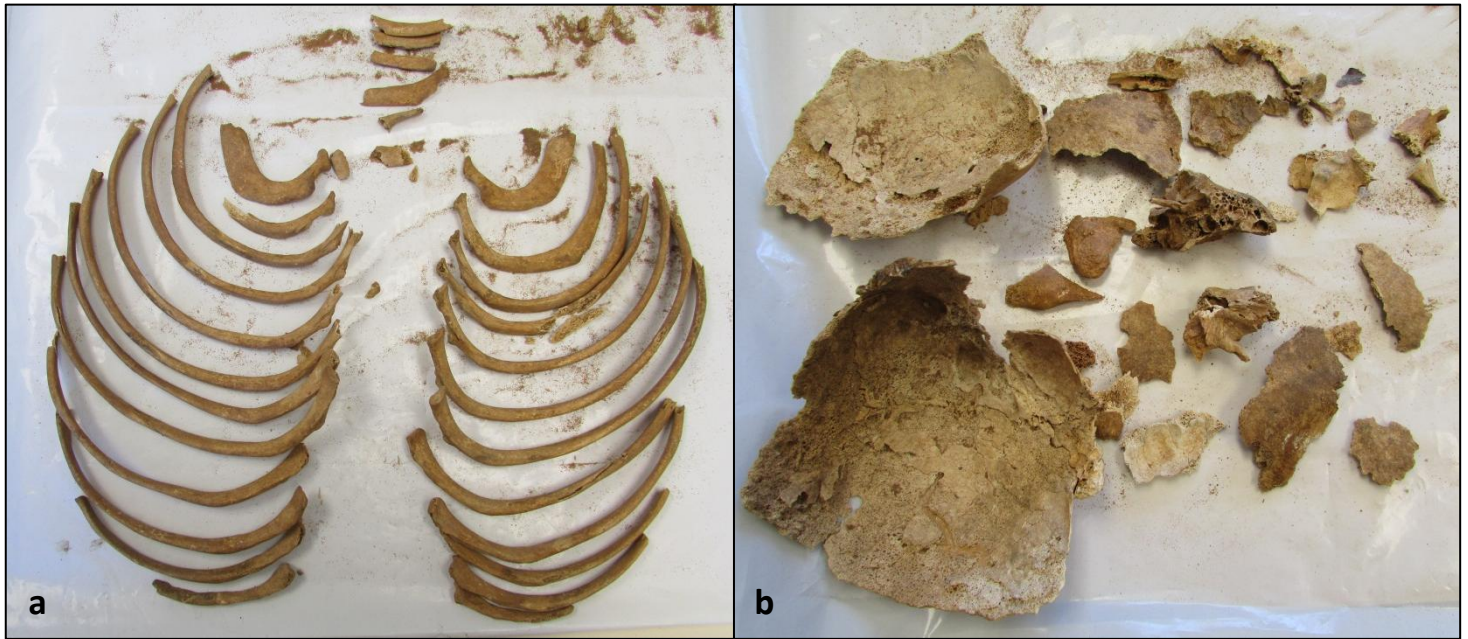
Figure 4: Individual 1 burial after excavation. Fragments of the skull and left upper limb have been removed, but all other bones left *in situ*. The 'informal' style of the burial can be seen, by the outstretched limbs.

3.1.2. Preservation and Condition (Figures 5a, 5b and 6)

There is a nearly complete skeleton of a single individual (Figure 4). Bone preservation is good *in situ*, but the remains became quite fragmented on removal from the soil. This is presumably due to the moisture content of the soil as the contractors continually wet the soil in the area to keep the dust content in the air quite low. All bones are present, except for 2 right side tarsals, as well as all metatarsals and phalanges of the right foot.

Decomposition is complete, and there is no sign of remaining soft tissue on the bones. The bones show no taphonomic influences which would indicate exposure to the above-ground elements, suggesting that decomposition took place completely under-ground. The bones are not greasy, nor is there any odour of decomposition. There is also no sign of animal activity on the bone.

The state of preservation and decomposition of the bones, as well as information gathered regarding the history of the building in which these remains were found, suggests a time of death at least 100 years ago, but is likely to be historic (less than 350 years). The burial had remained undisturbed since the original floor was laid as the soil was clean and pristine with only sea shells found with the burial. The surrounding retaining and supporting walls were of a concrete mixture of the early 1900's including natural rock of the surrounding areas.



Figures 5 (a) Ribs (and rib fragments); (b) Cranial fragments.



Figure 6: Individual 1 remains in the laboratory after cleaning

3.1.3. Demographic Profile

The osteological data recording standards from Isçan *et al.*, (1984), Buikstra and Ubelaker (1994), Walker (2008) were used to estimate sex and age at death for this individual.

3.1.3a Sex Estimation

Estimation of sex was performed using the pelvis, cranium, mandible and long bones. In general, the remains of this individual were large and robust. In the cranio-facial features included a large mastoid process, large nuchal crest and occipital region, prominent glabella, and rounded orbital margins were observed. Chin-shape was fairly square. The pelvis showed a J-shaped greater sciatic notch. Due to the above-mentioned features, and the large size and robust nature of the skeleton as a whole, it is estimated that this individual is male.

3.1.3b Age at death

All adult dentition is erupted and all teeth are in occlusion. Epiphyseal union at all the joints are complete. This indicates an individual older than 25 years at death.

The pubic symphysis face of this individual was most similar to Phase III of the Suchey-Brookes pubic symphysis casts (22 – 43 years) with an average of about 33.5 years. The 4th ribs correlate most closely with rib phases M IV (26 – 32 years) and M V (33 – 42 years) of the Isçan Rib Phase charts with an overall average of about 34 years.

Thus, estimation of age is between 26 and 43 years, but most likely in the range of 30 – 40 years.

3.1.3c Health and Lifestyle

In order to assess the lifestyle and health status of this individual, morphological signs of pathology were examined on the dental and skeletal.

- *From the dentition:*

This individual had full and complete adult dentition present in both the mandible and maxilla at the time of death, with the exception of the ante-mortem loss of the right upper 1st Molar. Some enamel hyperplasia was evident on many of the teeth, indicating growth insult(s) during the laying down of the enamel during tooth formation. The teeth presented with slight to moderate wear (according to Brothwell, 1981) (Figure 7). There was no sign of carious lesions on any of the teeth, although the right upper first Molar was lost ante-mortem, and mesial drift of the second and third molars in this region has occurred. There was also a moderate amount of dental calculus on both the mandibular and maxillary teeth.

Pipe-smokers' wear is evident on the dentition. This is caused by habitual pipe smoking, with a pipe made of an abrasive substance (such as clay), causing a very specific, and circular wear pattern on the teeth from clenching the pipe stem between the teeth (Figure 7).

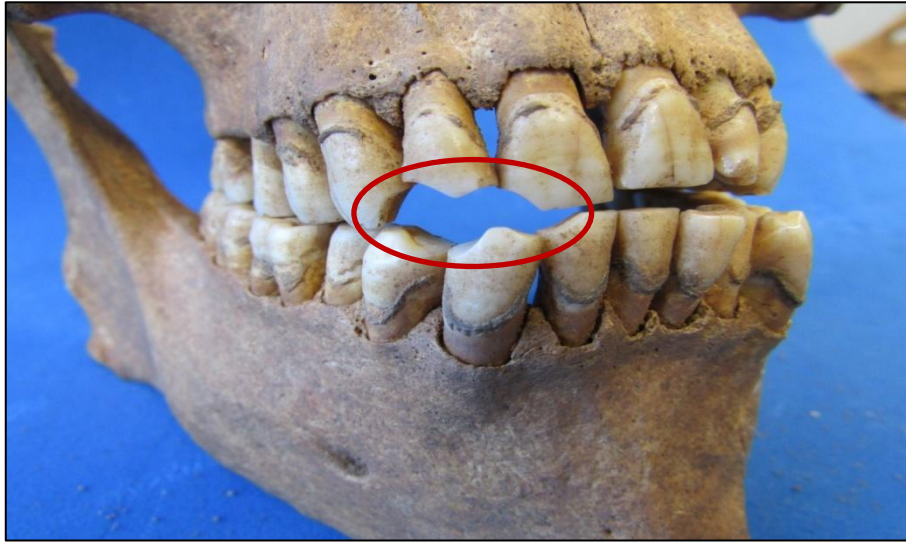


Figure 7: Pipe-smokers' wear indicated by red circle.

- *From the skeleton:*

Non-specific lesions were found on the posterior side of the medial portion of the left and right clavicles (Figure 8a and 8b).

A similar type of lesion could be seen on the occipital portion of the skull, as well as on the inside table of the cranial vault (Figure 9a). This was also seen on the right Iliac fossa (Figure 9b).

A bone lesion on skeletal material is often rare. An individual must have had a persistent infection for a period of at least 6 months before it starts manifesting on the bone itself. Often different diseases will have different lesions on soft tissue but present similar lesions on bone, making the illness / disease difficult to identify. These lesions on this individual's skeleton could indicate a possible long-term on-going infection at the time of death.

Schmorl's nodes were also evident on many of the lower lumbar vertebrae (Figure 10). These are a herniation / protrusion of the intervertebral disc in the adjoining surface of the vertebral body often leading to inflammation. This invasive protrusion is association with necrosis (death of bone tissue and cartilage) of the vertebral body. Schmorl's nodes can be caused by either hard physical labour, vitamin D deficiency or some form of trauma or infection.

Reconstructing stature for this individual using the Feldesman and Lundy (1990) equation (Femoral Length * 3.745) yields a stature of approximately 1.91 metres. Thus a tall individual and probably not from the local population.

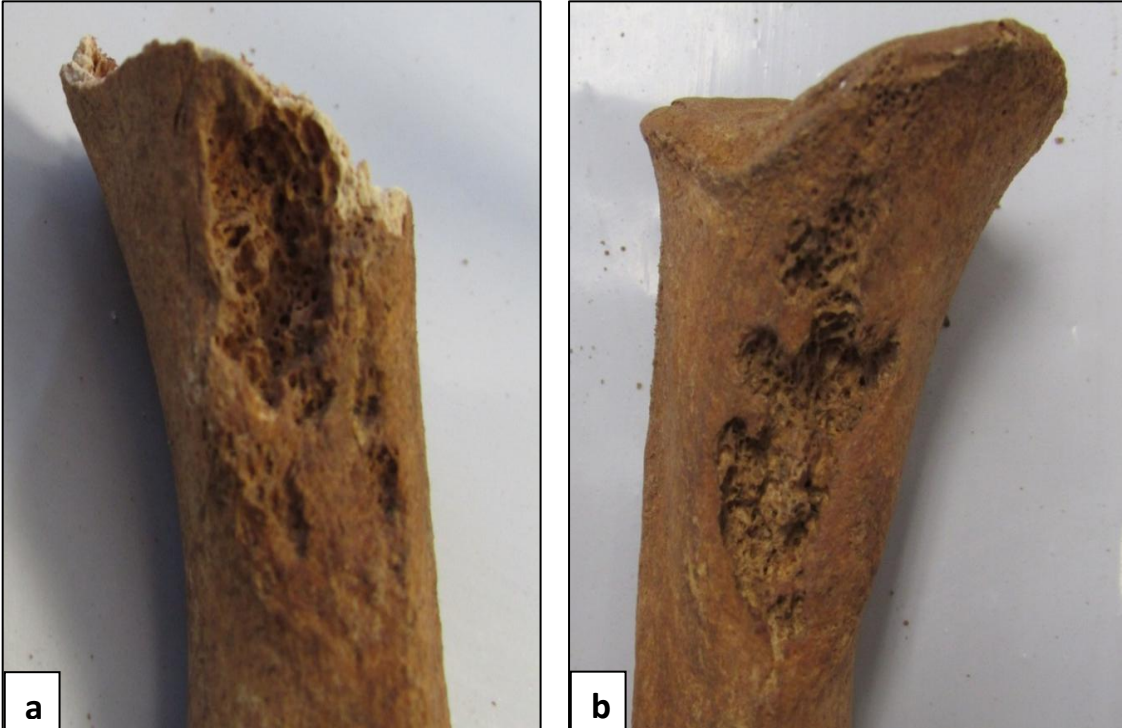


Figure 8a: Non-specific lesions (possibly due to infection on the (b) posterior portion of the medial ends of the left and right clavicles,

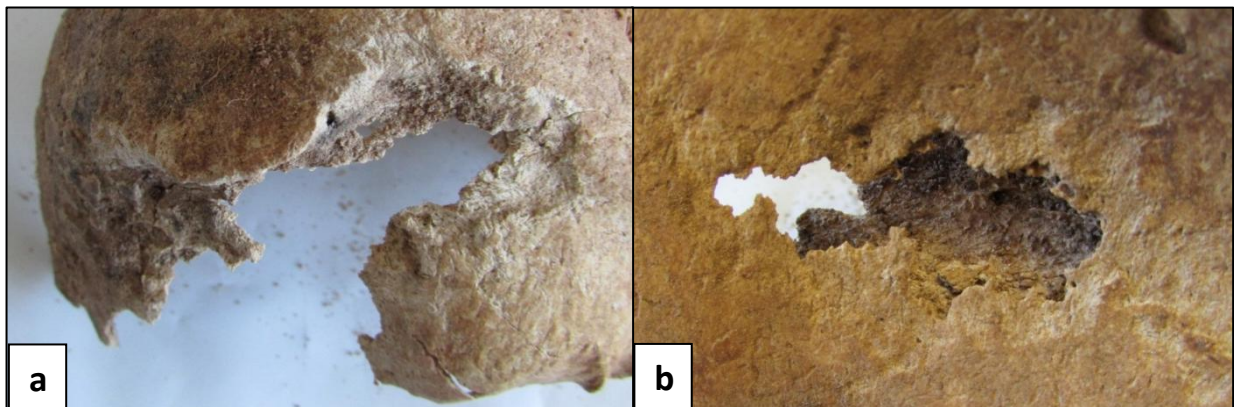


Figure 9a: Non-specific lesions due to infection on occipital bone of the cranium and (9b) right iliac fossa.



Figure 10: An example of the Schmorl's nodes visible on the lower Lumbar vertebrae

3.1.4 Population affinity

Race identification from a single individual is often a difficult task. This was exacerbated by the initial damage to the cranium before excavation.

The facial and cranial morphological features were most consistent with someone of Caucasoid / European genetic ancestry.

3.1.5. Cause of Death

No evidence of cause of death could be identified from the skeletal remains, besides the non-specific lesions on the clavicles, ilium and occipital bone. This could be a potential cause of death but due to the non-specific nature of these lesions, no further conclusions can be made.

3.1.6 . Associated Clothing and Cultural Remains

There was no clothing, cultural remains and/or coffin found to be associated with the burial. Some animal bones (sheep, chicken and fish) were found associated with this burial.

3.2: Individual 2

3.2.1. Burial Style (Figure 11)

The coffin was lying in an East-West direction. This was deemed the usual 'Christian' style burial. This burial was thus more formal burial than the first individual especially as coffin remnants with coffin nails and handles were found associated with it. The individual is lying on their back with their wrists flexed over their pelvis.



Figure 11: Individual 2 was found buried in a coffin

3.2.2. Preservation and Condition (Figure 12)

There is a nearly complete skeleton of a single individual (Figure 12). Bone preservation appeared to be good *in situ*, but the remains became quite fragmented on removal from the soil. This is presumably due to the moisture content of the soil as the contractors continually wet the soil in the area to keep the dust content in the air quite low. The coffin wood also absorbed and retained a lot of moisture leaving the environment where the skeletal material was constantly wet. This made the excavated extremely brittle and fragile upon excavation (Figure 13).

Decomposition is complete, and there is no sign of remaining soft tissue on the bones. The bones show no taphonomic influences which would indicate exposure to the above-ground elements, suggesting that decomposition took place completely under-ground. The bones are not greasy, nor is there any odour of decomposition. There is also no sign of animal activity on the bone.

Once again, from the state of preservation of the bones, as well as information gathered regarding the history of the building in which these remains were found, time death is at least 100 years, but is likely to be historic (less than 350 years). The burial had remained undisturbed since the original floor was laid as the soil was clean and pristine with only sea shells found with the burial. The surrounding retaining and supporting walls were of a concrete mixture of the early 1900's including natural rock of the surrounding areas.



Figure 12: Individual 2 *in situ* once coffin lid was removed



Figure 13: Individual 2 skeletal remains dried and cleaned in the lab

3.2.3. Demographic Profile

The osteological data recording standards from Isçan *et al.*, (1984), Buikstra and Ubelaker (1994), Walker (2008) were used to estimate sex and age at death for this individual.

3.2.3a Sex Estimation

Estimation of sex was performed using the pelvis, cranium, mandible and long bones. In general, the remains of this individual were fairly robust. In the cranio-facial features included a medium mastoid process, prominent glabella, and rounded orbital margins were observed. Chin-shape was fairly square and slightly flared gonial region present. The pelvis showed a J-shaped greater sciatic notch and acute subpubic angle. Due to the above-mentioned features, it is estimated that this individual is male.

3.2.3b Age at death

All adult dentition is erupted and all teeth are in occlusion. Epiphyseal union at all the joints is complete. This gives an age of above 25 years at death.

The pubic symphysis face of this individual was most similar to Phase IV of the Suchey-Brookes pubic symphysis casts (23 – 57 years) with an average age of about 40 years. The

4th ribs correlate most closely with rib phases M 6a (43-55 years) of the Isçan Rib Phase charts with an average age of 49 years. Estimation of age is between 40 -50 years at death.

3.2.3c Health and Lifestyle

In order to assess the lifestyle and health status of this individual, morphological signs of pathology were examined on the dental and skeletal.

- *From the dentition:*

This individual had full and complete adult dentition present in both the mandible and maxilla at the time of death. The teeth presented with moderate to heavy wear with dentine visible on many teeth. Some carious lesions were found on the left and right mandibular 2nd molars and the right 3rd molar. There was also a moderate amount of dental calculus on both the mandibular and maxillary teeth.

Pipe-smokers' wear is evident on the dentition (Figure 14). This is caused by habitual pipe smoking, with a pipe made of an abrasive substance (such as clay), causing a very specific, and circular wear pattern on the teeth from clenching the pipe stem between the teeth.

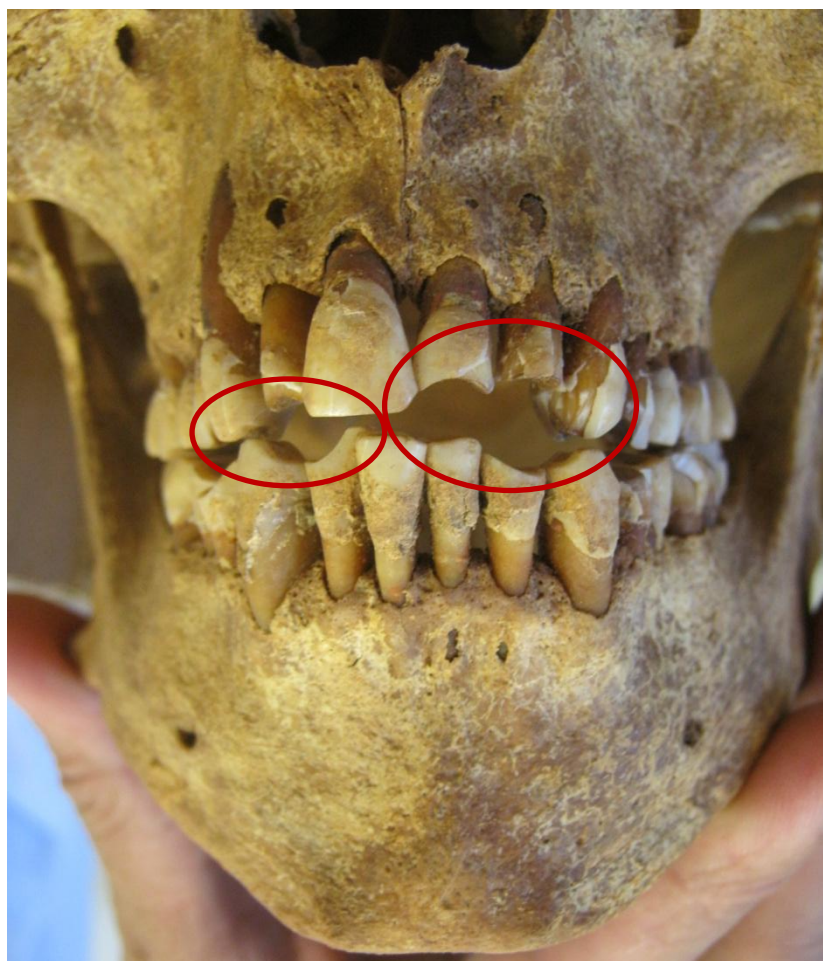


Figure 14: Pipe smoker's wear indicated by the red circles for Individual 2

- *From the skeleton:*

This individual had had his nose broken ante mortem (Figure 15). The nasal bones had healed with a slight distortion.

His toes had also been broken and healed ante mortem (Figure 16a).

The right thumb showed some periosteal lesions (Figure 16b). A bone lesion on skeletal material is often rare. An individual must have had a persistent infection for a period of at least 6 months before it starts manifesting on the bone itself. Often different diseases will have different lesions on soft tissue but present similar lesions on bone, making the illness / disease difficult to identify. These lesions on this individual's skeleton could indicate a possible long-term on-going infection at the time of death.



Figure 15: Ante mortem healed nasal bone fracture



Figures 16a: Healed fractures on toes



Figures 16b: Right thumb showing periosteal lesion

Osteophytic growth was evident on the vertebral bodies and the patella. This usually occurs in individuals above 40 years of age who lead hard and/ or active lives.

Reconstructing stature for this individual using the Feldesman and Lundy (1990) equation (Femoral Length * 3.745) yields a stature of approximately 1.77 metres. This is about an average height.

3.2.4 Population affinity

Race identification from a single individual is often a difficult task. This was exacerbated by the water damage and subsequent fragility of the skull after excavation. The original *in situ* photographs had to be used to assist with this assessment.

The facial and cranial morphological features were most consistent with someone of Caucasoid / European genetic ancestry.

3.2.5. Cause of Death

No evidence of cause of death could be identified from the skeletal remains.

3.2.6. Associated Clothing and Cultural Remains

There were no clothing remnants found. However, cultural remains in the form of clay pipe fragments and the coffin was found associated with this burial.

Some sea shells and animal bones (fish) were also found associated with this burial.

3.3: Individual 3

3.3.1. Burial Style

The coffin of Individual 3 was lying in an East-West direction. This was deemed the usual 'Christian' style burial. This burial was thus more formal burial than the first individual but

the same as Individual 2, especially as coffin remnants with coffin nails and handles were found associated with it (Figure 17).

The individual is lying on their back with their arms flexed at the elbow and crossed over their abdomen.



Figure 17: Individual 3 found buried in a coffin

3.3.2. Preservation and Condition (Figures 18 and 19)

There appears to be a nearly complete skeleton of a single individual (Figure 18). Bone preservation of this individual was the worst of the three individuals found even *in situ* and was very fragmented on removal from the soil. This is presumably due to the moisture content of the soil as the contractors continually wet the soil in the area to keep the dust content in the air quite low. The coffin wood also absorbed and retained a lot of moisture leaving the environment where the skeletal material was constantly wet. This made the excavated extremely brittle and fragile upon excavation. Most of the skeleton appears to be present with part of the maxilla missing due to poor preservation (Figure 19).

Decomposition is complete, and there is no sign of remaining soft tissue on the bones.

The bones show no taphonomic influences which would indicate exposure to the above-ground elements, suggesting that decomposition took place completely under-ground. The bones are not greasy, nor is there any odour of decomposition. There is also no sign of animal activity on the bone.

From the state of preservation and decomposition of the bones, as well as information gathered regarding the history of the building in which these remains were found, time

death is at least 100 years, but is likely to be historic (less than 350 years). The soil was clean and pristine with only sea shells found with the burial.



Figure 18: Individual 3 *in situ* after coffin lid removal



Figure 19: Individual 3 after cleaning in the lab

3.3.3. Demographic Profile

The osteological data recording standards from Isçan *et al.*, (1984), Buikstra and Ubelaker (1994), Walker (2008) were used to estimate sex and age at death for this individual.

3.3.3a Sex Estimation

Estimation of sex was performed using the pelvis, cranium, mandible and long bones. In general, the remains of this individual were fairly robust. In the cranio-facial features included a medium mastoid process, prominent glabella, and rounded orbital margins were observed. Chin-shape was fairly square and slightly flared gonial region present. The pelvis showed a J-shaped greater sciatic notch and acute subpubic angle. It is estimated that this individual is male.

3.3.3b Age at death

All adult dentition is erupted and all teeth are in occlusion. Epiphyseal union at all the joints is complete. This gives an age of above 25 years at death.

The pubic symphysis face of this individual was most similar to Phase IV of the Suchey-Brookes pubic symphysis casts (23 – 57 years) with an average age of about 40 years. The sternal rib ends were too fragile and crumbled even *in situ* to do any ageing.

The tooth occlusal surfaces are worn even the 3rd molars which are last to erupt giving an age up to 40 years. Estimation of age is between 35 - 40 years at death.

3.3.3c Health and Lifestyle

In order to assess the lifestyle and health status of this individual, morphological signs of pathology were examined on the dental and skeletal.

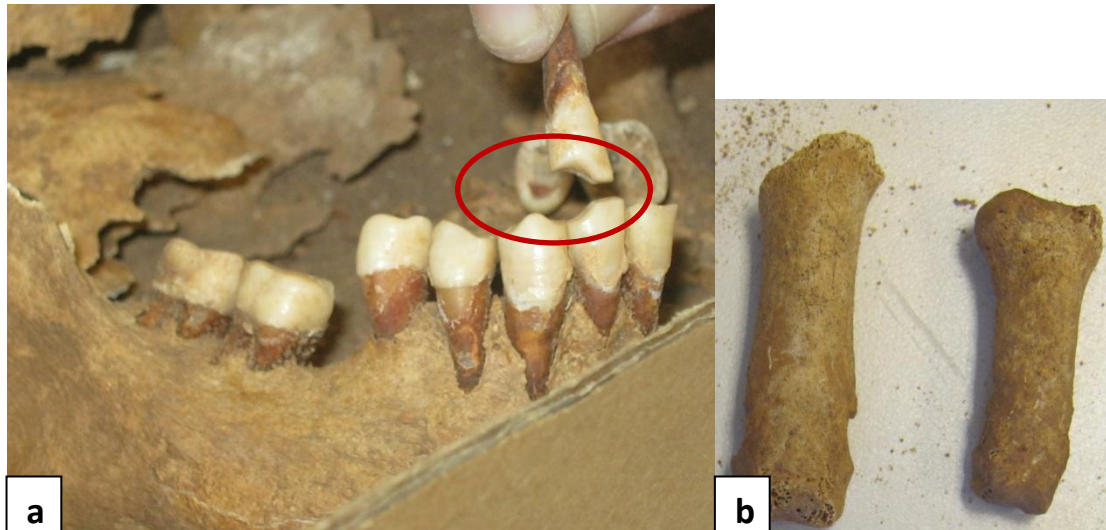
- *From the dentition:*

This individual had most of their adult dentition present in both the mandible and maxilla at the time of death. Those missing include the mandibular right 1st molar and the left 3rd molar. The teeth presented with moderate to heavy wear with dentine visible on many teeth. There was also a moderate amount of dental calculus on both the mandibular and maxillary teeth.

Pipe-smokers' wear is evident on the dentition (Figure 20a). This is caused by habitual pipe smoking, with a pipe made of an abrasive substance (such as clay), causing a very specific, and circular wear pattern on the teeth from clenching the pipe stem between the teeth.

- *From the skeleton:*

The skeletal material was too badly preserved even in situ to be able to see any changes that could confidently be attributed to health and lifestyle except for the pipe smoker's wear that is seen on "reconstruction" of the appropriate area as well as some ante mortem healed fractures of some left hand fingers (2nd and 3rd proximal phalanges) (Figure 20b).



Figures 20a and b: a) reconstructed pipe smoker's wear b) healed fractures of the toes

Reconstructing stature for this individual using the Feldesman and Lundy (1990) equation (Femoral Length * 3.745) yields a stature of approximately 1.69 metres. This is an average height.

3.3.4 Population affinity

Race identification from a single individual is often a difficult task. This was exacerbated by the water damage and subsequent fragility of the skull after excavation. The original *in situ* photographs had to be used to assist with this assessment.

The nasal bridge was sharp and the shape of the cranial could possibly point to someone of Caucasoid / European genetic ancestry.

3.3.5. Cause of Death

No evidence of cause of death could be identified from the skeletal remains.

3.3.6. Associated Clothing and Cultural Remains

There were no clothing remnants found. However, cultural remains in the form of clay pipe fragments and coffin wood and hardware was found associated with this burial. Some animal bone was also found associated with this individual.

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Acknowledgements

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