FINAL CONSOLIDATED REPORT

Exploratory excavations and exhumation of an unknown cemetery at Du Preezhoek, Fountains Valley, Portion 383 of the farm Elandspoort 357 JR, Pretoria, Gauteng

Prepared by:
Johan Nel on behalf of Archaic HPM

Prepared for:
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Project type			Exploratory/test excavations & Grave/Burial Exhumations
Authors			Johan Nel - Archaic HPM, Department of Anthropology & Archaeology, UP
SAHRA permit numbers			80/06/08/014/51 & 80/06/11/012/51
Project code			ARC2006/004
Project name			Exploratory excavations and grave relocation, Du Preezhoek
Report type			Final Consolidated Report
Project duration			5 months (July-December 2006)
Report date			31 July 2007
Client			Bombela Civils Joint Ventures
Province:			Gauteng Province
Magisterial district:			City of Tshwane Metropolitan Municipality
1: 50 000 Map number (or SAN chart):			2528 CC
Latitude and Longitude:			S 25°45'50.3" E 28°11'40.6"
Recording method:			Garmin Etrex Legend GPS
Farm name & number:			Portion 383 of Elandspoort 357 JR
Erf/suburb:			Du Preezhoek, Fountains Valley
Town/Nearest Town:			Pretoria
Reviewed	**Name**	**Date**	**Comments**

Executive Summary

Purpose
This report is submitted on behalf of Archaic HPM as requisites for permits (80/06/08/014/51 & 80/06/11/012/51) issued to Archaic HPM by the South African Heritage Resources Agency (SAHRA). The report covers the period of July to December 2006, reflecting the findings of exploratory excavation, and the subsequent exhumation of eleven graves, at Du Preezhoek, Pretoria. The projects were requested by Bombela Civils Joint Venture in terms of a specialist Addendum to the Heritage Impact Assessments (HIA's) conducted for the Gautrain Rapid Rail Link (GRRL) between Pretoria Main Station and Hatfield Station.

Findings
- The exploratory excavation was conducted to ascertain and validate the possibility of.
- Although information obtained through literature and archival sources regarding the original Du Preezhoek Cemetery alludes to the exhumation and relocation of the cemetery to the Church Street West Cemetery, Pretoria, during 1885 to 1893, evidence of possible cemetery remains was located during the HIA.
- The GRRL passes through or over this area, and impacts indirectly upon the site.
- The exploratory excavations subsequently revealed evidence of eight definite burials, four evidenced by human remains, two by coffin remains, and two by clearly defined grave pits.
- During the exhumation process three additional graves were uncovered.

Recommendations
- A detailed process of social consultation was to be implemented;
- Exhumation of the graves, in any, were to take place;
- Analyses of the remains were to be undertaken to ascertain the age, race, and sex of the individuals, as well as possible causes of death;
- Relocation of the remains to Du Preezhoek in Church Street West cemetery;
- Erection of memorial stones at the original and the relocated sites.

Stakeholders
- City of Tshwane Metropolitan Municipality
- Bombela Civils Joint Venture
- The Du Preez family

Table of Contents

Table of figures

General site and project details

Project details

a. Type of report

This report is an Addendum to previous Heritage Impact Assessments done for the Fountains Valley/Du Preezhoek areas, Pretoria, by a number of heritage resource management companies.

This report is submitted in terms of the SAHRA permit requirements for permit numbers 80/06/08/014/51 and 80/06/11/012/51. As such it is a compilation of two consecutive and complimentary projects undertaken by Archaic HPM on behalf of Bombela Civil Joint Ventures. The report is divided into three parts, i.e. general information – Part 1; exploratory excavations – Part 2; exhumation – Part 3.

b. Type of development

The development of transport infrastructure for the Gautrain Rapid Rail Link (GRRL) to the east and south-east of the Pretoria Main Station will have an indirect impact on the site. Servitude roads will be made to service the construction and later maintenance of the GRRL.

c. Rezoning and/or subdivision

The area has been rezoned for public transport infrastructure as determined by the

d. Client information

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e. Terms of reference

The following documents were used as terms of reference for this project, as well as all applicable acts and provincial regulations.

Bruwer, J., Martinson, W., Naudé, M., Paine, H., & Raath, H. April 2003. Supplementary volume 2 of the Addendum to the draft Environmental Impact Assessment report for the proposed Gautrain Rapid Rail Link between Johannesburg, Pretoria and Johannesburg International Airport. *Heritage impact Assessment of the recommended route alignment for the proposed Gautrain Rapid Rail Link Project. Final Report*. Bohlweki Environmental (Pty) Ltd. Vorna Valley.

De Jong, RC, Bakker, KA. 8 April 2004. *Heritage Scoping Report: Erf No. 2300, Pretoria Township.* Submitted to Felehetsa Environmental (Pty) Ltd. Cultmatrix CC. Queenswood, Pretoria.

De Jong, RC. 13 July 2006. Letter of appointment: Heritage Impact Assessment and test excavation at Du Preezhoek (sic) cemetery. Cultmatrix cc. Queenswood Pretoria

Nel, J. 11 July 2006. Proposal and Scope of Work: Excavation of du Preezhoek Cemetery, Fountains Valley, Pretoria, Gauteng for Cultmatrix cc. Archaic HPM, Pretoria.

Unknown. 3 January 2006. *Heritage Impact Assessment of Gautrain route variants, Tshwane, Gauteng Province, South Africa.* Assessment and report by eThembeni Cultural Heritage for Felehetsa Environmental (Pty.) Ltd. Ashburton, Pietermaritzburg.

All relevant legislative requirements were met according to the National Heritage Resources Act (No. 25 of 1999), especially the stipulations in Section 35, and all SAHRA minimum standards have been followed.

f. Project background

During a Heritage Impact Assessment conducted on the proposed Gautrain Rapid Rail Link route, evidence of what may have been part of the original Du Preez family cemetery (early pioneers who settled in the Pretoria area ca.1840) cemetery was found (De Jong & Bakker, 2004). An archaeological assessment was requested as an Addendum to the HIA, in order to ascertain whether this site is indeed part of the old cemetery, and if so, whether any burials still existed. Although the site will not be impacted upon directly by the Gautrain RRL, a decision was made to excavate the area to establish beyond doubt whether the site does form part of the original cemetery. An exploration permit was obtained from the South African Heritage Resources Agency (SAHRA) (permit no. 80/06/08/014/51) to conduct an exploratory excavation.

The purpose of the test or exploration excavation was threefold. The primary objective was to ascertain whether any subsurface evidence of graves, i.e. visible grave pits, could be ascertained. The secondary objective was to verify as far as possible whether the graves, if present, had been disturbed and/or exhumed previously. The third objective was to validate or refute the claims that this site is/was part of the original Du Preez cemetery, and if not to propose other hypotheses regarding the site at the hand of the excavated and documentary evidence. A separate, but complementary aim is to determine the significance of the site, and to recommend and implement a heritage management plan for the site, to be presented to the client and the city council.

On conclusion of the exploratory excavations, during which the presence of at least eight graves was established, an application for an exhumation permit (National Heritage Resources Act No. 25 of 1999, Section 36) was made. The permit was obtained in December 2006 (permit no. 80/06/11/012/51).

Site details

a. General description

The site is located on land owned by the Tshwane Metropolitan Council, however the Gauteng Provincial Government Department of Public Transport, Roads and Works may accord the Gauteng Transport Infrastructure Act (No. 8 of 2001), Sections 20 and 56, act as owner and give permission in terms of access and work done on such properties. Full mandate has been given to Bombela Civils Joint Venture (Bombela Consortium).

The site is located immediately north (approximately 1.5m) of the present train bridge spanning the Apies River and Nelson Mandela Avenue on the western bank of the river, in the south-eastern corner of what is known as Du Preezhoek. A green, steel picket fence is erected on the western and southern sides, with a granite border on all four sides. The area covered by the site is approximately 16m north-south and 3m east-west. The eastern border lies on the edge of the Apies River canal, approximately three meters above the water level. The site was overgrown with shrubs and grass, and littered with rubbish. The Tshwane Metro was requested to clean the site to enable a more detailed description.

Several pieces of slate, possibly of one or more headstones have been found, as well as a loose, square piece of granite. A granite base was found on the western side of the site, with a low three-sided steel frame or fence about 2 meters to the north of that. The entire site is covered in loose black gravel, of the type associated with road surfaces. The south-eastern corner of the border runs perpendicular to a steel staircase and footbridge around western buttress of the railway bridge.

Figure 1: General view of site and clearing in progress

b. Geographical details

Site name: Du Preezhoek (DPH)
Property details: Portion 383 of the farm Elandspoort 357 JR
Magisterial district: Pretoria
Province: Gauteng
1: 50 000 Map number: 2528 CC
GPS co-ordinates: S 25°45'50.3"E 28°11'40.6"
(Garmin E-Trex, accuracy 5 meters)

c. Site maps

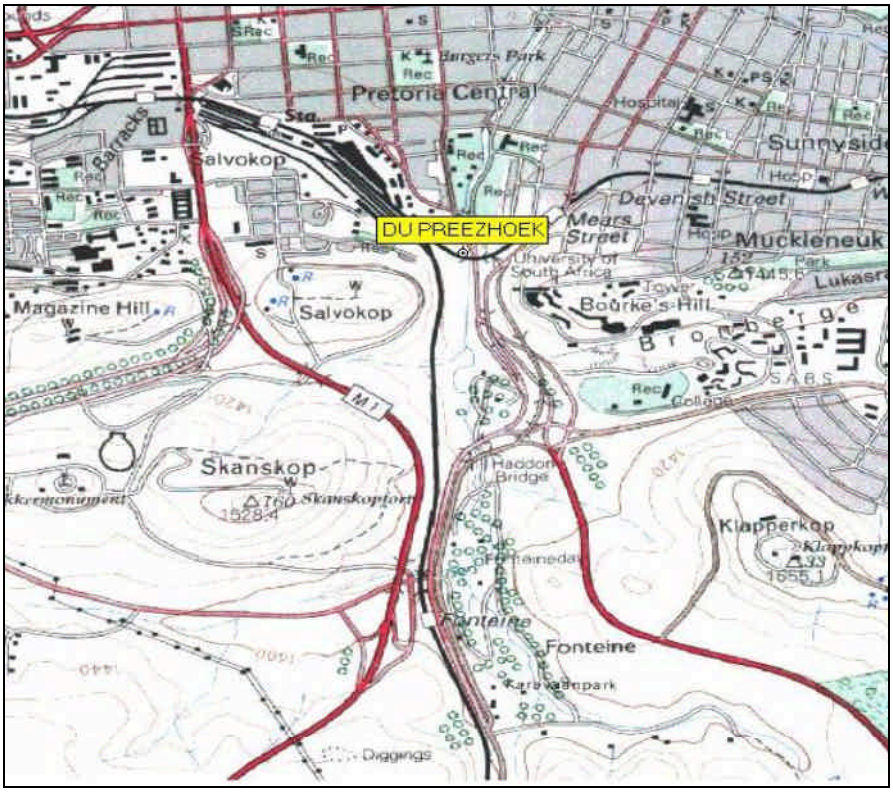

Figure 2: 2528CC 1:50 000 orthographic map

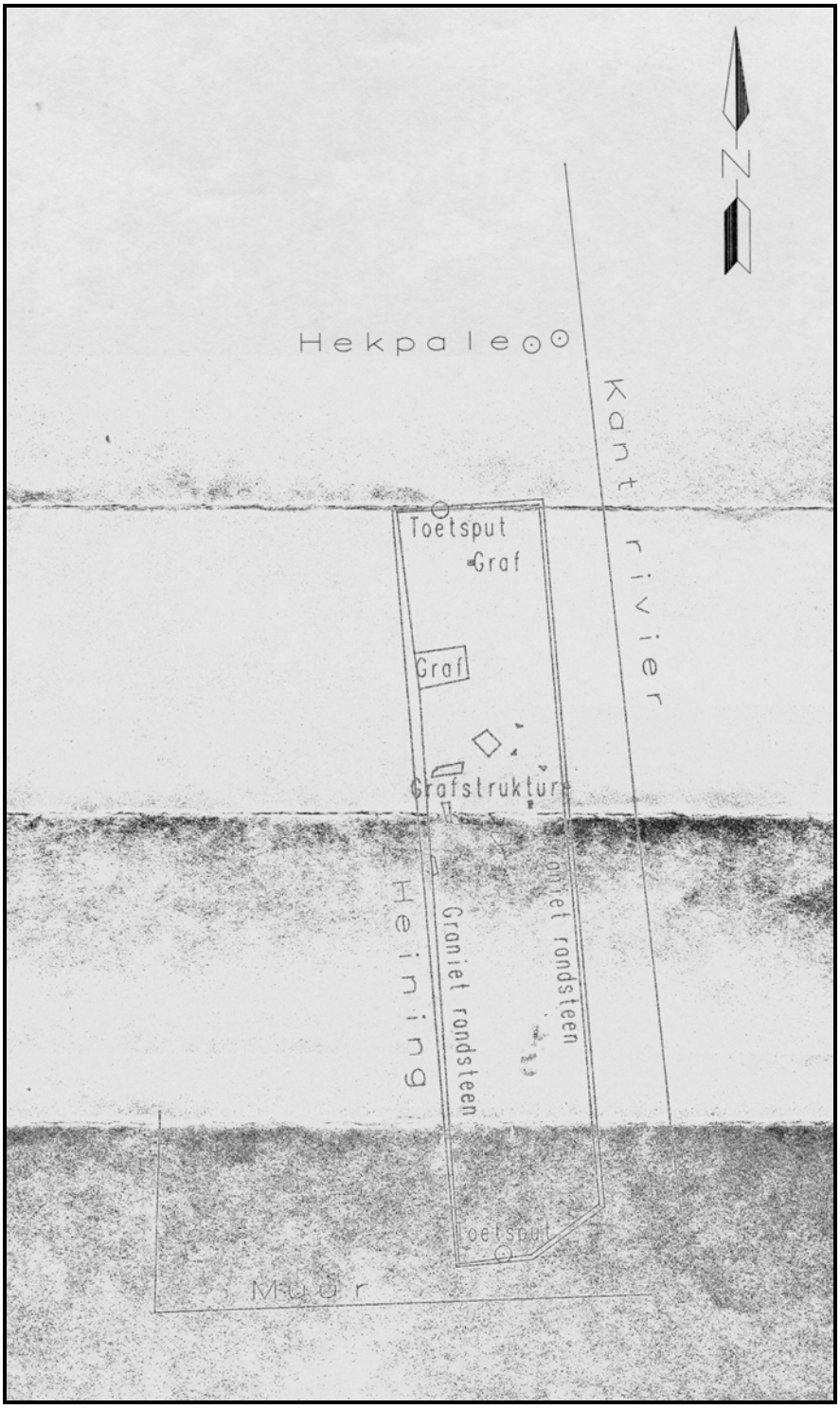

Figure 3: Sketch map of site

d. Background and literature review to the history of the site

This area is of historical importance in the founding history of Pretoria. Jan "Diknek" du Preez was one of the first European residents of what would become Pretoria, arriving in the vicinity in the 19th century. He was a member of the Volksraad, and actively involved in Pretoria's early formation.

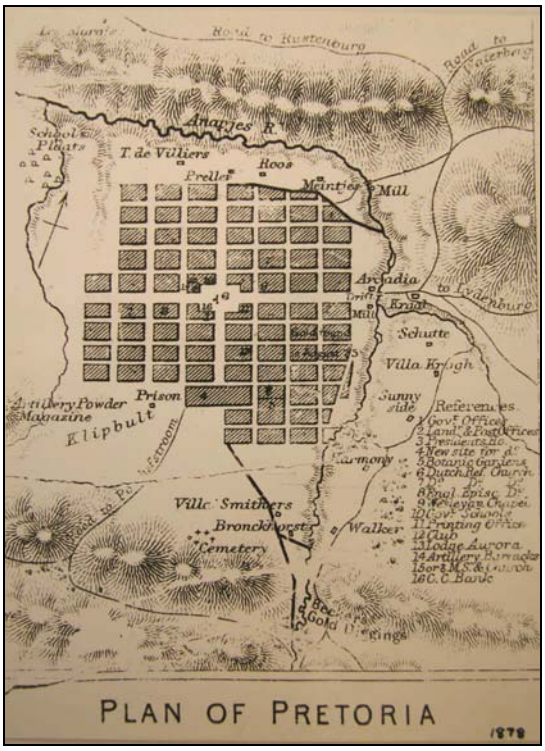

Figure 4: 1879 map of early Pretoria

Du Preez finally settled on land next to the Apies River in 1840, purchasing portions of the farm Elandspoort (Engelbrecht, 1955). His property extended along the river, where he had built at least two residences. This area was subsequently named Du Preezhoek after him. Jan du Preez married Maria Magdalena van der Walt, a daughter of Field Cornet Andries van der Walt. He remarried the widow Emmerentia Steyn, following Maria's death in 1881. According to various accounts, a family cemetery was situated close to the western bank of the Apies River, where the remains of the Du Preez and some of the Van der Walt families were buried.

From 1879 to 1893 construction on the railway from Pretoria to Delagoa Bay was underway by the Nederlandsch Zuid-Afrikaanse Spoorweg Maatskappij (NZASM) (De Jong, et al., 1988). At the hand of several sources, it is known that the Du Preez family cemetery was exhumed and relocated to Church Street West Cemetery, in a section which today is known as Du Preezhoek, when the NZASM Bridge over the Apies River at Fountains Valley was constructed between 1890 and 1893 (Andrews & Ploeger, 1989; Stadsraad van Pretoria, 9 November 1992).

However, no complete records exist confirming that all graves from the Du Preez cemetery have been relocated. According to some accounts there are/were still scattered gravestones visible, in a poor state of preservation, although this could be

the remains of headstones and grave dressings left behind after the relocation. The exact location of the Du Preez family cemetery has never been established. No evidence was found during archival and literature studies.

During the building of the Pretoria Station at approximately the same time as that of the bridge (ca. 1879 – 1893), another cemetery was relocated to Du Preezhoek, viz. the Old Railway cemetery situated at the foot of Salvo Kop (previously known as Time Ball Hill and Signal Hill) (Laubscher, September 1993). The exact date of this relocation is unknown. However, according to certain accounts it appears to have taken place not later than 1902. Various important historical figures of Pretoria during that time were interred there, amongst others Robert Lys and his family. This has given rise to some confusion regarding the actual location of the Du Preez family cemetery, as well as its importance. In the Heritage Scoping report submitted by Cultmatrix cc. (De Jong & Bakker, 2004) it is stated that Lys, Skinner and various other persons were interred in the Du Preez cemetery. At present, relocated remains from both the Du Preez family cemetery and the Old Railway cemetery are interred in the Du Preezhoek section at Church Street West cemetery.

Other conflicting accounts have been encountered. In an interview with Dr. Willem Punt, a certain Mr. Budke, a grandson of Jan du Preez, stated that the Du Preez cemetery was relocated after the Anglo-Boer War (1899-1902). This would imply that the cemetery was never impacted upon by the building of the bridge. Mr. Budke also states that there was (at the time of the interview in 1942) a small fenced cemetery where a younger sister of his and distant relative of the Du Preez, and a child surnamed van der Werf was interred. This cemetery was supposed to be on the bank of the Apies River, very close to the bridge (Punt, 1951: 4-6).

Exploratory excavation

Methodology

In order to determine whether any graves were present, a test trench of 150cm was excavated along the length of the site (see survey map). This trench was excavated at first in arbitrary spits of 10cm, where after natural layers in the matrix were observed. After each layer was excavated the exposed area was documented and all features and cultural material noted.

The matrix was screened to retrieve any artefacts, objects or other material that may have been associated with possible burials. Standard archaeological methods were employed throughout the excavation (Hester, 1975; Humphreys, 1986; Joukowsky, 1980).

All objects and features were recorded in situ and detailed plan sketches and documentation kept. For recording and archival purposes high-resolution digital colour (taken with a Canon EOS 20D) and black and white film photos were taken, of each object, layer and feature uncovered.

The methods employed during excavation aimed to recover all available material evidence relating to the site and to record the three-dimensional context of the site. All information and finds are presented in this report.

The excavation methods employed exposed in situ artefacts, objects and features associated with the site. The focus was on accurate and complete documentation (Nienaber, 1997). The archaeological method, including extensive test trenching to prevent damage to possible human remains, was employed. All surface features were cleaned and documented. Cultural material was catalogued. All observations regarding construction, materials and characteristics of the surface features were documented.

After removal of the surface features, details regarding possible burial pits were ascertained through excavation and observation of differences in the matrix. Any indications of the presence of burial pits were documented. The moment evidence of a burial pit or human remains was encountered, the test excavation was ceased. The extent of the burial pit was documented and the test trench filled.

Description of excavation and associated cultural material

a. Surface features (refer to sketch map of site)

Feature 1:

An iron 'grave fence' usually associated with burials, located 335cm from the northern granite curb (base line) and immediately next to the western curb. This fence was 120cm long, 75cm wide and 48cm high (from surface). The sides consisted of flat, steel bars through which round steel rods were looped in pairs, divided by a steel rod with a spear head finial. The corners were of square steel bars, with fleur-de-lis finials. Three sides were still intact, the western side being broken.

Figure 5: detail of feature 1

Feature 2:

A sandstone base (possibly for a slate headstone), located 700cm from the base line and 44cm from the western curb. The feature was carved in rectangular sections, forming a two tiered "step pyramid", measuring 60cm in length, 25cm in width and 23 cm in height. A join for the headstone was observed and measured 35cm by 6cm.

Figure 6: Detail of feature 2

Feature 3:

An upright slate slab, slanted to the north, located 900cm from the base line and 7cm from the western curb. The stone was 60cm high (from the surface); dimensions were 60cm wide and 11cm thick.


Figure 7: Detail of feature 3

Features 4 – 6:

Various pieces of large slate slabs and one piece of sandstone slab lying on surface, possibly parts of headstones. One slab had an inscription carved or scratched into its surface; D P KILIAN 2191952.

Figure 8: Detail of scratched initials on feature 4

Figure 9: Detail of feature 4

Figure 10: General view of features 4 to 6

b. Layers

Layer 1; 10cm – 20cm

The first spit was excavated to an approximate depth of 10cm to 20cm. This spit consisted of granite gravel (10mm average) throughout the site. Black plastic sheeting was found immediately below the gravel. No cultural material was found layer that could be positively associated with the graves. However, some pieces of slate was found, which may be pieces of broken headstones.

Figure 11: Detail of layer 1

Layer 2; 10cm – 20cm

The second layer was also excavated to an approximate depth of 10cm to 20cm. Large quantities of whole and broken red clay bricks were found in concentrations of the test pit, most notably at 110cm from the base line. Some pieces of ceramic sewerage pipe and porcelain toilet cistern were also recovered.

Gravel was also found in this layer up to approximately 700cm from the base line, having filtered through the plastic or migrated due to disturbance. After approximately 700cm the layer became culturally sterile. At the extreme end (1500cm – 1800cm) of the test trench another concentration of brick was found.

Figure 12: Detail of large stone slab in layer 2

Also present within layer 2 were two very large pieces of slate. The first was located at 145cm from the base line, 36cm from the western curb, and 33cm wide. The second was found at 230cm from the base line, 28cm from the western curb and 67cm wide. These slate pieces were similar to the stone used to pave the foundations of the old NZASM Bridge, approximately twenty to thirty meters to the south of the site.

In layer 2 two pieces of cranium (which could not be identified to species level due to the size of the specimen) were found at a depth of 30cm below the surface. The pieces were associated with the iron 'grave fence' (feature one) and was found within this feature at the approximate level of its feet or supports.

Figure 13: Detail of layer 2

Layer 3; ~50cm

This layer was excavated to a depth of approximately 50cm below level 2. The soil type was fine turf and black clay, possibly indicating that this layer may be the original top soil layer, later covered with rubble and bricks, and capped with gravel. Very little cultural material was found in this layer, and no visible grave pits could be discerned. Fragments of a blue castor oil bottle were found at feature 1, approximately 40cm below the surface.

Figure 14: Detail of sandstone base in layer 3

Two parts of a sandstone base (feature 7) was found in layer 3 at a depth of 27cm, located 430cm from the baseline. An animal skeleton was found in close proximity and just below these stones. The bones were found at a depth of 56cm and located 450cm from the baseline.

Figure 15: Detail of layer 3

Layer 4; ~50cm

A second test trench was excavated within the confines of the first, larger trench. The trench measured 50cm wide and was 7m long, at a depth of approximately 50cm. This trench uncovered skeletal remains and pieces of coffin, at fairly regular intervals at approximately 100cm apart. Six definite graves were found, and two grave pits. Three more graves may exist towards the south, but the excavation did not continue there due to a large tree and roots in the area. After each set of remains was found, the location was documented and the excavation filled.

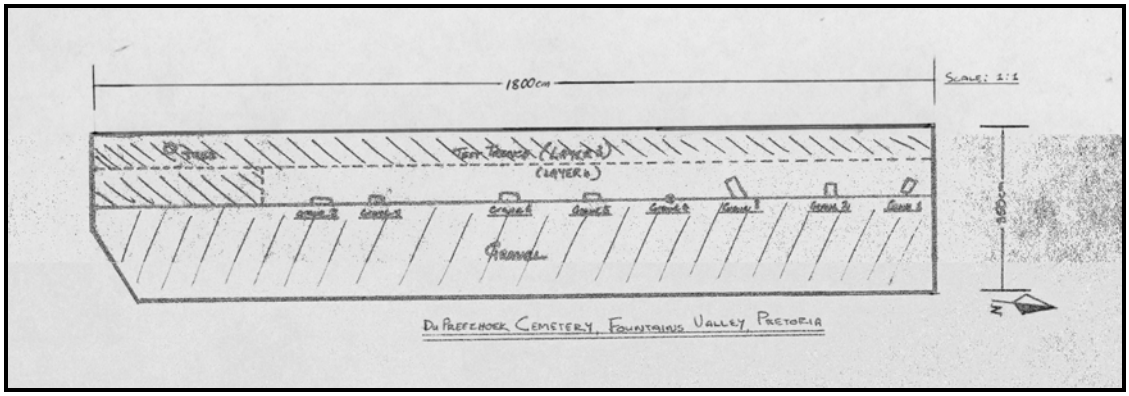

Figure 16: Detail sketch of layer 4

c. Burials

Burial 1

Corrugated tin sheeting located 55cm from north-east corner of trench, 110cm below surface, oriented east-west. Ulna, radius and os coxa exposed. Preservation good.

Figure 17: Detail of feature 5

Figure 18: detail of grave 1

Burial 2

Located 220cm from north-east corner of trench, 135cm below surface. Two femora exposed. Preservation good.

Figure 19: Detail of grave 2

Burial 3

Located 420cm from north-east corner of trench, 140cm below surface. Two femora exposed. Preservation good.

Figure 20: Detail of grave 3

Burial 4

Skull fragments found in profile 560cm from north-east corner of trench, 85cm below surface. Preservation fair.

Figure 21: Detail of grave 4 in excavation profile wall

Burial 5

Coffin fragments and nails located 730cm from north-east corner of trench, 125cm below surface.

Figure 22: Detail of grave 5

Burial 6

Coffin fragments and nails located 910cm from north-east corner of trench, 110cm below surface

Figure 23: Detail of grave 6

Burial 7

Grave pit located 1090cm from north-east corner of trench, 100cm below surface

Figure 24: Detail of grave 7

Burial 8

Grave pit located 1310cm from north-east corner of trench, 100cm below surface.

Figure 25: Detail of grave 8

Interpretation / discussion of findings

The findings indicate that the cemetery was disturbed at various stages in the past. The most recent evidence of some form of disturbance is the gravel capping on top of black plastic sheeting present throughout the site. This capping may have taken place during one of several events: the building of the Apies River canal during the 1930's; the building of the modern train bridge and its abutments during the 1950's, or the building of Nelson Mandela Drive during the late 1990's. The more likely events will be either during the construction of the train bridge, or the road.
The actual design and placement of the bridge's western abutment would indicate that it was done to conserve something, being built at right angles to the site (refer to sketch map). The capping could therefore be measures of protecting the remains of the cemetery. Although no information regarding the existence of this site could be found in literature sources or development plans for the bridge, it is known that the original Du Preez cemetery, as well as another smaller cemetery, was in this vicinity. Another factor regarding this is that the cemetery's granite border aligns perfectly with the lines of the abutment, and may indicate that the border was laid after the construction of the bridge.

Further evidence of disturbance is indicated by the surface features. At least three definite objects associated with grave dressings were found, i.e. the steel 'burial fence', a sandstone base, and a large black slab of slate, as well as various bits of broken slate. The occurrence of these surface features at first seemed to substantiate the historical claims that the cemetery had been exhumed and relocated during the construction of the NZASM-bridge between 1887 and 1893, and that these were the discarded remains of some of the grave dressings.

This notion seemed to be confirmed when the first spit was excavated through the gravel. Large quantities of presumably locally made red brick were uncovered beneath the plastic sheeting. These bricks would have been used as grave dressing in lieu of granite or slate slabs covering the graves. There was no specific arrangement in the accumulation of the brick, other than it being concentrated more or less in three areas. However, bricks were encountered throughout the test trench, and again seemed to indicate that the site had previously been disturbed and probably excavated. The occurrence of another sandstone base 27cm below the surface (refer to layer 3) was further evidence.

The large pieces of slate found was at first assumed to be discard from the old NZASM-bridge's construction. The stone was of the same type used to pave the bridge's archways. During further excavation it became apparent that the slabs were placed deliberately in rectangular shapes approximately 150cm apart. This was the first evidence found that could indicate undisturbed burials. However, at a depth of approximately 30cm below the surface, pieces of cranium were found in association with the iron 'grave fence' (feature 1). Although formal identification was not possible due to size, the fragments looked sufficiently human to conclude that at least one grave was disturbed and most probably exhumed and relocated.

Throughout the test trench (at an average depth ranging from 50cm to 100cm) no significant cultural material was found, other than the features mentioned already. No visible grave pits could be discerned either, the soil being a homogenous black turf throughout. In order to conclude the excavation, a narrow trench (50cm wide) was excavated within the existing test trench, to ascertain whether a sterile soil layer existed and at which depth it would occur.

This secondary test trench uncovered corrugated tin sheeting in the north-western corner of the trench. The sheeting was documented and then removed. Roughly 15cm beneath the level of the tin, human remains were found comprising of both femora and pelvic bones. The second trench was extended to the width of the original trench and excavated to the same level as where the tin was uncovered.

In this manner more remains were uncovered. None of which showed any distinct surface evidence, other than the iron 'grave fence', which seemed to have been disturbed as well. No noticeable grave pits were observed either. Neither sandstone bases uncovered could be associated directly with any of the burials, the bases not aligning with remains.

In total eight burials have been identified, either through actual human remains exposed, or through the remains of coffins or soft depressions in the otherwise hard turf. All the burials evidenced by human remains indicate that the individuals were very young. The preservation seemed to be fair, considering the soil type and proximity of the burials to the Apies River. Each burial was documented and mapped, after which the excavation was filled in. No burial was disturbed other than the initial excavation, and no material was removed.

A peculiarity regarding the graves is the depth of burial. All eight burials were found at a maximum depth of 150cm or less. This may indicate that the burials took place at a time when the soil was dry and hard, thus difficult to excavate.

e. Recommendations in terms of exploratory excavations
Based on the results of the preliminary exploration excavations it is recommended that application to exhume, analyse and relocate the remains be made in accordance with Section 36 of the National Heritage Resources Act No. 25 of 1999. Taking into account that the evidence seems to indicate that the remains are those of young children, and that they are of unknown descent, it is necessary to analyse the remains through physical anthropological techniques, which will be undertaken by the Department of Anatomy, University of Pretoria. This would provide some substantiating evidence as to the age, sex and race of the individuals.

Based on the location of the graves, and available oral, archival and historical accounts, the assumption is made that the buried individuals has to some extent links with the Du Preez family. As such, a second recommendation is made to re-inter the individuals in what is known as the Du Preezhoek section in the Church Street West cemetery. Due to limitations imposed by this cemetery regarding space, a further recommendation is to re-inter the individuals in separate coffins, but in one grave with one monument or headstone indicating their previous location and other information as deemed necessary.

A third recommendation is to demolish the existing site completely. This is recommended for a number of reasons: a) the site is continually vandalised, damaged, and no maintenance is done; b) the removal of any object and/or structure associated with a cemetery or burials will pre-empt any future claims of there being a cemetery in the area, thus leading to unnecessary conflict with various parties; c) the client also wishes the remains of the cemetery to be removed due to a perceived impact by the Gautrain Rapid Rail Link route.

A final recommendation is that the client will erect at cost a suitable low-maintenance monument at the site stating that the site was the location of the original Du Preez family cemetery, subsequently disturbed and relocated by three successive railway developments, in 1887-1893, 1950's and 2006. The location of the relocated graves will also be mentioned.

Exhumation

Social consultation

Press releases were published in *Die Beeld* and *The Pretoria News*, and site notices have been placed at the site on 29 September, and remained in effect for 14 and 60 days respectively, according to the stipulations in the National Heritage Resources Act No. 25 of 1999.

No person or community replied in terms of the press releases and site notices. However, during consultation with the city council as to reburial of the remains, a Mr. Antoon du Preez was identified as a representative of the *Du Preezhoek Begraafplaas* trust. At that time he was in discussion with the City of Tshwane Metropolitan Municipality regarding the Du Preezhoek section in the Church Street West cemetery.

Mr. du Preez was contacted and a meeting held on the 30th of November 2006. A letter requesting permission for the exhumation, analyses and relocation of the remains was delivered to him on the 1st November 2006. He supplied written permission on the 2nd November 2006, as well as signing the Request for Exhumation forms (refer to Annexure A: Social Consultation).

It was agreed that the remains could be re-interred in one or two graves in the Du Preezhoek section of the Church Street West Cemetery. A plaque and memorial stone would also be erected at the original site and the relocated graves respectively. A sum was also allocated per grave to the Du Preezhoek Trust for upkeep and maintenance of the Du Preezhoek section of the Church Street West cemetery. All the costs relating to the exhumation, analyses, and re-internment was covered by Bombela Civils Joint Venture.

Methodology

The methods employed during exhumation aimed to recover all the remains, to minimise damage to the remains, to record the three-dimensional context of the remains and to preserve and respect the dignity of the buried individual. All evidence that might allude to the events leading to the death of the individual and circumstances regarding the event were recorded and interpreted. The information gathered was presented in a technical report.

The excavation methods employed accomplished the in situ exposure of the burial and associated artefacts (Nienaber and Steyn, 1999). The focus was on accurate and complete documentation (Nienaber, 1977). Various methods for the excavation of graves have been proposed by different authors (Hester, 1975; Joukowsky, 1980; Krogman and Iscan, 1986; Morse, 1978) and all stress the need for adequate workspace around the exposed remains and a systematic approach to the removal of individual bones. The archaeological method, including extensive test trenching to prevent damage to the remains, was employed. This approach was largely similar to that of forensic archaeology where buried body cases are concerned. The approach was adapted for each situation since graves vary in shape, size, depth and content (Nienaber, 1999). The methods used in forensic archaeology are discussed by Steyn, et al (2000).

After the removal of the surface features the extent of the burial pit was ascertained through excavation and observation of differences in the matrix. After the indications of the presence and characteristics of the burial pit were documented, the in-fill was excavated to expose the human remains and associated cultural materials. Removal of the matrix of the burial pit was accomplished through the test-trench approach whereby a narrow trench (25-30 cm wide) is excavated with a trowel to a depth of between 15 and 20 cm in the lower third of the burial pit (in this instance the lower third usually constituted the eastern side of the grave). This area is chosen since it is most likely that the femurs of the skeleton occur in this part of the grave. Since the femur is a robust bone, it is usually not easily damaged through excavation. If no indications of the presence of human remains are observed in the test trench the remaining in-fill matrix, down to the depth of the test trench, was removed with a shovel. The removed matrix was carefully screened to retrieve any possible cultural artefacts associated with the burial. This process was repeated until indications of the presence of human remains were observed.

As soon as human remains were encountered, care was taken to leave as much of the skeleton as possible covered in order to protect the remains from damage by excavation and to preserve the integrity of the context of the skeletal elements and possible associated cultural remains. The extent and characteristics of the burial pit were now documented and the workspace was assessed and enlarged if not sufficient. This was only done after documentation of the features of the burial pit and without sacrificing any vital information.

The excavation then continued with the aim of ascertaining the extent of the skeletal remains and the location of the different skeletal elements. As soon as the location and extent of the skeleton was established, a trench was dug around the remains so

that the skeleton was enclosed in a low pedestal of matrix. The remains were then uncovered, starting from the middle and working outwards. This method again ensures the minimum disturbance of the remains and associated cultural materials. As soon as the skeleton was uncovered, it was documented in situ, removed, and packed for analysis, where this was required. A further test trench of 15 cm deep was dug in the area directly underlying the location of the remains to ensure that all possible remains and artefacts were found and recovered.

Description of graves and remains

Grave DPH/001

Dressing dimensions												
Headstone	Height:	N/A	Slab	Length:	N/A	Grave pit	Length:	112cm	Grave/coffin:	Depth:	14cm
	Width:	N/A		Width:	N/A		Width:	N/A		Length:	118cm
	Thick:	N/A		Height:	N/A		Depth:	173cm		Width:	44cm

Condition of remains															
None		Poor		Fair	*	Good		Excellent		Soft tissue					

Damage to the remains included vegetation (i.e. roots) and soil damage. The remains were buried in clay soil. The coffin was mostly fragmented and disintegrated.

Dressing description and inscription details

No grave dressing was associated with the remains. Refer to "Description of excavation and associated cultural material" p.18.

Description of remains

A corrugated iron sheet was found covering the remains.
The remains were orientated east/west, facing south/east. The body was extended on its back with the lower mandible on the chest. The arms were extended along its sides, hands folded over the pelvis. The legs were extended eastwards.
Preservation of the remains was fair: all long bones were present and whole, except the right radius which was broken in half. The skull was fractured and very brittle.
Cultural material associated with the remains included one copper button, metal plates at the head and foot of the coffin, coffin nails, and pieces of coffin wood. The coffin had disintegrated completely.
Measurements: Length (EW): 107cm; Width (pelvis): 21cm; Height (skull): 10cm

Figure 26: Detail of grave DPH 01

Grave DPH/02

Dressing dimensions											
Headstone	Height:	N/A	Slab	Length:	N/A	Grave pit	Length:	123cm	Grave/coffin:	Depth:	N/A
	Width:	N/A		Width:	N/A		Width:	N/A		Length:	N/A
	Thick:	N/A		Height:	N/A		Depth:	182cm		Width:	N/A

Condition of remains														
None		Poor		Fair	*	Good		Excellent		Soft tissue				

Damage to the remains included vegetation (i.e. roots) and soil damage. The remains were buried in clay soil. The coffin was poorly preserved, with wood fragments and nails recovered. The left side of the body had extensive root damage. A large tree root was situated immediately right and above the remains.

Dressing description and inscription details

No grave dressing was associated with the remains. Refer to "Description of excavation and associated cultural material" p.18.

Description of remains

The remains were orientated east/west, facing east. The body was extended on its back, with the lower mandible resting on the chest. The humerii were extended along the torso, with the left ulna and radius bent at the elbow and resting on the pelvis. The right ulna was bent upwards at the elbow, resting on the abdomen/torso; the right radius on the lower abdomen. Both legs were bent extended, and angled slightly to the left.
The preservation was fair. All long bones were present, although only the shafts of the left radius and ulna remained.
Cultural material associated was coffin nails and wood. Five copper pins were found: 1 pin at the right knee; two pins at the pelvis; two pins lodged in the ribs.
Measurements: Length (EW): 62cm; Width (pelvis): 20cm; Height (skull): 10cm

Figure 27: Detail of DPH 02

Grave DPH/003

Dressing dimensions											
Headstone	Height:	N/A	Slab	Length:	N/A	Grave pit	Length:	123cm	Grave/coffin:	Depth:	6cm
	Width:	N/A		Width:	N/A		Width:	N/A		Length:	77cm
	Thick:	N/A		Height:	N/A		Depth:	122cm		Width:	23cm

Condition of remains														
None		Poor		Fair	*	Good		Excellent		Soft tissue				

Damage to the remains included vegetation (i.e. roots) and soil damage. The remains were buried in clay soil. The coffin was mostly fragmented and disintegrated.

Dressing description and inscription details

No grave dressing was associated with the remains. Refer to "Description of excavation and associated cultural material" p.18.

Description of remains

The remains were orientated east/west, facing east. The body was extended on its back. The skull separated at the sutures, with the occipital part lying at the top of the coffin, and the cranium, face and lower mandible resting on the proximal end of the right humerus and clavicle. The left humerus was extended next to the torso, with the left ulna, radius and carpals resting on the upper abdomen. The right humerus was also extended along the torso, with the radius, ulna and carpals resting on the pelvis. Both legs were extended along the length of the coffin, with a large piece of slate covering the lower tibiae, fibulae and feet. The right femur was broken mid-shaft.
Preservation was fair to medium: all bones seemed to be present, including the vertebrae and ribs.
The only cultural material associated was pieces of coffin wood and nails.
Measurements: Length (EW): 75cm; Width (pelvis): 21cm; Height (skull): 3.5cm

Figure 28: Detail of DPH 03

Grave DPH/004

Dressing dimensions												
Headstone	Height:	N/A	Slab	Length:	N/A	Grave pit	Length:	N/A	Grave/coffin:	Depth:	N/A
	Width:	N/A		Width:	N/A		Width:	N/A		Length:	N/A
	Thick:	N/A		Height:	N/A		Depth:	85cm		Width:	N/A

Condition of remains															
None		Poor	*	Fair		Good		Excellent		Soft tissue					

Damage to the remains included vegetation (i.e. roots) and soil damage. The remains were completely fragmented.

Dressing description and inscription details

No grave dressing was associated with the remains. Refer to "Description of excavation and associated cultural material" p.18.

Description of remains

The remains were orientated east/west. The body was probably extended on its back. The skull was disintegrated and brittle. Of the long bones, only the shafts of the right humerus and left femur, and fragments of the right ulna and radius were present. Some rib fragments and unfused vertebral discs were present.
Preservation was extremely poor.
Cultural material only included some nails and coffin pieces.
Measurements: Length (EW): 42cm; Width (pelvis): N/A; Height (skull): N/A

Figure 29: Detail of DPH 04

Grave DPH/05a

This grave was immediately to the north and under DPH/05b (originally DPH/05), and was not uncovered during the exploration excavations. Both graves were buried in a similar manner with possible metal cladding of the coffin. Three cartridges were found associated with the graves, although it is unknown with which specific grave. Two cartridges may have been fired, and one was unspent, possibly from a Martini Henry rifle.

Dressing dimensions											
Headstone	Height:	N/A	Slab	Length:	N/A	Grave pit	Length:	146cm	Grave/coffin:	Depth:	10cm
	Width:	N/A		Width:	N/A		Width:	136cm		Length:	182cm
	Thick:	N/A		Height:	N/A		Depth:	321cm		Width:	60cm

Condition of remains													
None		Poor		Fair		Good	*	Excellent		Soft tissue			

Damage to the remains included vegetation (i.e. roots) and soil damage. The remains were buried in clay soil. The coffin was fairly well preserved, with large pieces of wood and metal plates recovered from the coffin lid.

Dressing description and inscription details

No grave dressing was associated with the remains. Refer to "Description of excavation and associated cultural material" p.18.

Description of remains

The remains were orientated east/west, facing south. The body was extended on its back, with the skull turned towards the right shoulder. Both humerii were extended along the torso, with the ulnae and right radius, and both sets of carpals folded across the chest. The distal end of the left radius lay on the lumbar vertebrae. Both legs were extended along the length of the coffin.
Preservation was fair to medium: all bones seemed to be present, including the vertebrae and ribs.
Cultural material associated was pieces of coffin wood, nails, handles, metal plates, as well as two bullets, possible from a Martini Henry rifle.
Measurements: Length (EW): 168cm; Width (pelvis): 52cm; Height (skull): 10cm

Figure: 30: Detail of DPH 05a

Grave DPH/005b

This grave was immediately to the south and under DPH/05a. The remains of this grave was found during the exploration excavations, and originally numbered as DPH/05. Both graves were buried in a similar manner (see DPH/05a). These remains were possible buried at the same time in either two very close graves, or one double grave.

Dressing dimensions											
Headstone	Height:	N/A	Slab	Length:	N/A	Grave pit	Length:	130cm	Grave/coffin:	Depth:	14cm
	Width:	N/A		Width:	N/A		Width:	137cm		Length:	180cm
	Thick:	N/A		Height:	N/A		Depth:	322cm		Width:	52cm

Condition of remains															
None		Poor		Fair		Good	*	Excellent		Soft tissue					

Damage to the remains included vegetation (i.e. roots) and soil damage. The remains were buried in clay soil. The coffin was fairly well preserved, with large pieces of wood and metal plates recovered from the coffin lid.

Dressing description and inscription details

No grave dressing was associated with the remains. Refer to "Description of excavation and associated cultural material" p.18.

Description of remains

The remains were orientated east/west, facing south. The body was extended on its back, with the skull turned towards the right shoulder, with the lower mandible resting on that shoulder. Both humerii were extended along the torso, with the left ulna and radius on the pelvis, both broken mid-shaft. The right ulna and radius were extended along the body with the carpals on the proximal end of the right femur. Both legs were extended along the length of the coffin.
Preservation was fair to medium: all bones seemed to be present, including the vertebrae and ribs.
Cultural material associated was pieces of coffin wood, nails, handles, metal plates. Three cartridges, possible from a Martini Henry rifle, a small silver button and copper pins also found.
Measurements: Length (EW): 170cm; Width (pelvis): 37cm; Height (skull): 13cm

Figure 31: Detail of DPH 05b

Grave DPH/006

Dressing dimensions											
Headstone	Height:	N/A	Slab	Length:	N/A	Grave pit	Length:	130cm	Grave/coffin:	Depth:	N/A
	Width:	N/A		Width:	N/A		Width:	69cm		Length:	N/A
	Thick:	N/A		Height:	N/A		Depth:	312cm		Width:	N/A

Condition of remains															
None		Poor		Fair		Good	*	Excellent		Soft tissue					

Damage to the remains included vegetation (i.e. roots) and soil damage. The remains were buried in clay soil.

Dressing description and inscription details

No grave dressing was associated with the remains. Refer to "Description of excavation and associated cultural material" p.18.

Description of remains

The remains were orientated east/west, facing south. The body was extended on its back, with the skull turned towards the right shoulder. The cranium was approximately 15cm above and to the right of the C1 vertebra. Right humerus, ulna and radius extended along body, with the carpals on proximal end of right femur. The left humerus along torso, with the ulna and radius angled towards pelvis, resting the left carpals on the pelvis. Both legs were extended along the length of the coffin. The left tibia and fibula were to the left of the distal end of that femur.

Preservation was fair to medium: all bones seemed to be present, including the vertebrae and ribs.
Cultural material associated was coffin nails and two copper buttons.
Measurements: Length (EW): 173cm; Width (pelvis): 44cm; Height (skull): 12cm

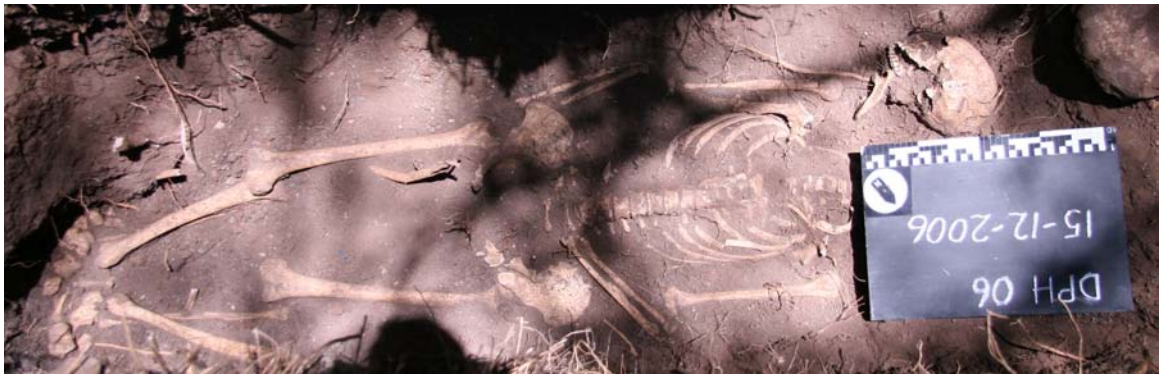

Figure 32: Detail of DPH 06

Grave DPH/007

Dressing dimensions											
Headstone	Height:	N/A	Slab	Length:	N/A	Grave pit	Length:	125cm	Grave/coffin:	Depth:	6cm
	Width:	N/A		Width:	N/A		Width:	53cm		Length:	60cm
	Thick:	N/A		Height:	N/A		Depth:	254cm		Width:	20cm

Condition of remains														
None		Poor		Fair		Good	*	Excellent		Soft tissue				

Damage to the remains included vegetation (i.e. roots) and soil damage. The remains were buried in clay soil. The coffin was poorly preserved, with wood fragments and nails recovered.

Dressing description and inscription details

No grave dressing was associated with the remains. Refer to "Description of excavation and associated cultural material" p.18.

Description of remains

The remains were orientated east/west. The body was extended on its back, with the skull turned up. None of the cranial sutures were fused, disarticulating the separate skull bones. The humerii was extended along the torso, with both radii and the left ulna over the abdomen. The right ulna had disintegrated almost completely. Both legs were bent to the left at the knees. The majority of the bones were intact, except for the right ulna and carpals and tarsals. The vertebrae were unfused. The preservation was medium to good, considering the age of the individual and the surrounding soil.
Cultural material associated was pieces of coffin wood and wood. A safety pin was found at the left scapula, and a possible pacifier in the pelvic region.
Measurements: Length (EW): 49cm; Width (pelvis): 18cm; Height (skull): 4cm

Figure 33: Detail of DPH 07

Grave DPH/008

Dressing dimensions											
Headstone	Height:	N/A	Slab	Length:	N/A	Grave pit	Length:	130cm	Grave/coffin:	Depth:	12cm
	Width:	N/A		Width:	N/A		Width:	N/A		Length:	170cm
	Thick:	N/A		Height:	N/A		Depth:	266cm		Width:	60cm

Condition of remains															
None		Poor		Fair		Good	*	Excellent		Soft tissue					

Damage to the remains included vegetation (i.e. roots) and soil damage. The remains were buried in clay soil. The coffin was poorly preserved, with nails and handles recovered.

Dressing description and inscription details

No grave dressing was associated with the remains. Refer to "Description of excavation and associated cultural material" p.18.

Description of remains

The remains were orientated east/west, facing south/west. The body was extended on its back, with the skull angled towards the right shoulder, and the lower mandible on the cervical vertebrae. A flat slab of slate was located beneath the skull. The humerii were extended along the torso with both humerii and ulnae bent at the elbows and resting on the lower torso. Both legs were extended along the length of the coffin. Two metal screws pierced the left os coxa. The preservation was good.
Cultural material associated was pieces of coffin wood, nails and handles.
Measurements: Length (EW): 160cm; Width (pelvis): 46cm; Height (skull): 11cm

Figure 34: Detail of DPH 08

Grave DPH/009

Dressing dimensions											
Headstone	Height:	N/A	Slab	Length:	N/A	Grave pit	Length:	94cm	Grave/coffin:	Depth:	4cm
	Width:	N/A		Width:	N/A		Width:	N/A		Length:	96cm
	Thick:	N/A		Height:	N/A		Depth:	140cm		Width:	21cm

Condition of remains														
None		Poor	*	Fair		Good		Excellent		Soft tissue				

Damage to the remains included vegetation (i.e. roots) and soil damage. The remains were very brittle and fragmented. The coffin was poorly preserved, with only wood fragments and nails recovered.

Dressing description and inscription details

No grave dressing was associated with the remains. Refer to "Description of excavation and associated cultural material" p.18.

Description of remains

The remains were orientated east/west. The body was most probably extended on its back. None of the cranial sutures were fused; the separate skull bones were very fragmented. The left humerus was extended along the torso, with the left ulna and radius angled at the elbow towards the abdomen. The left os coxa was visible, as well as both femora, tibiae and fibulae. The legs were angled slightly to the right; the left leg was straight, with the tibia and fibula broken mid-shaft; the right leg was bent to the right at the knee. Only the long bone shafts remained. The skeleton was very brittle and fragmented. Milk teeth were found in the chest area. The vertebrae were unfused. It appeared as if the remains lay on its right side.
The preservation was very poor. Extensive root and soil damage affected the remains.
Cultural material associated was pieces of coffin wood and nails.
Measurements: Length (EW): 64cm; Width (pelvis): 13cm; Height (skull): 3cm

Figure 35: Detail of DPH 09

Grave DPH/010

Dressing dimensions											
Headstone	Height:	N/A	Slab	Length:	N/A	Grave pit	Length:	135cm	Grave/coffin:	Depth:	20cm
	Width:	N/A		Width:	N/A		Width:	65cm		Length:	58cm
	Thick:	N/A		Height:	N/A		Depth:	148cm		Width:	26cm

Condition of remains															
None		Poor		Fair		Good	*	Excellent		Soft tissue					

Damage to the remains included vegetation (i.e. roots) and soil damage. The remains were buried in clay soil. The coffin was poorly preserved, with wood fragments and nails recovered.

Dressing description and inscription details

No grave dressing was associated with the remains. Refer to "Description of excavation and associated cultural material" p.18.

Description of remains

The remains were orientated east/west, facing east. The body was extended on its back, with the skull collapsed. None of the cranial sutures were fused, disarticulating the separate skull bones. The lower mandible was lying on the chest. The humerii were extended along the torso, with both radii and ulnae folded over the abdomen. Both legs were extended. The vertebrae were unfused. None of the long bone epiphyses were fused. The preservation was good, considering the young age of the individual and the surrounding soil.
Cultural material associated was corroded metal nails and two pins located on infant's chest.
Measurements: Length (EW): 49cm; Width (pelvis): 16cm; Height (skull): 5cm

Figure 36: Detail of DPH 10

Conclusion / discussion

According to most archival and historical sources, the Du Preez family cemetery was exhumed and relocated to Church Street West cemetery before 1893. Although it is assumed that the entire cemetery was relocated, the exact location of the cemetery has never been ascertained. The uncertainty surrounding the Du Preez cemetery and the Old Railway cemetery further confuses the issue. The mention of another, smaller cemetery by Mr. Budke in 1942, also raises the question whether the site may in fact not be part of the Du Preez cemetery, but a completely separate cemetery. No information regarding the dates of death of the individuals in this smaller cemetery could be obtained, nor could any reference be found as to whether this cemetery had been relocated.

As mentioned previously, the design and placement of the modern train bridge abutment seems to indicate that it was specifically built around some existing structure or feature. This would in all probability be the site in question. Based on the evidence, it is assumed that the site is then the cemetery mentioned in the 1942 interview, which would not have been impacted upon during the construction of the NZASM-bridge.

All sources agree that the original cemetery contained the remains of the du Preez and van der Walt families, their relations by marriage, and at least some of their descendants. The account of Mr. Budke in 1942 mentioning the van der Werf child and a younger sister of his having been buried at a cemetery close to the (NZSAM) train bridge substantiates this.

Further research regarding the exact relation between the individuals interred and the du Preez and van der Walt families is necessary, which will entail a detailed process of community participation and social consultation. However, in terms of the available evidence all the burials are associated with the du Preez/van der Walt families, even though they may not have been interred in the 'official' Du Preez family cemetery. The remains will thus be considered to be related to these families until further information may substantiate or refute this assumption.

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Annexure A: Social Consultation Documents

Archaic Heritage Project Management

www.archaic.co.za

1 November 2006

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HenAn Enterprises CC
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Pretoria-West
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Dear Mr. de Preez

Exhumation and relocation of unknown graves from Du Preezhoek, Fountains Valley

As per our conversation on Monday 30 October 2006, we intend to exhume and relocate eight unknown graves from Du Preezhoek, Fountains Valley, to the section known as Du Preezhoek in Church Street West cemetery.

According to all available accounts the affected graves are those of descendants of Johannes Petrus du Preez (Jan "Diknek"), originally from the farm Elandspoort 357 JR. We have been unable to identify any of the graves other than superficial references in some sources. However, we are convinced that the cemetery has bearing on your family, since you are a direct descendant of Johannes Petrus du Preez.

We undertake to exhume to remains with all respect accorded to such a venture. The remains will be submitted to the Department of Anatomy, University of Pretoria, for physical anthropological analyses in order to ascertain the sex, age, race and probable causes of death, as well as identification of each individual where possible. The remains will be reburied at Church Street West at the conclusion of the analyses. We propose a single grave for all the remains due to limitation of space available in the cemetery. A memorial stone will be erected at the original site, marking the area as that of the original du Preez family cemetery. A headstone will also be erected at the grave in Church Street West cemetery.

Please reply with a letter granting us permission to undertake the exhumation, analyses and relocation of the affected burials. We also request you to sign the attached permission forms for each burial.

Thanking you in this regard.

Yours sincerely,

Johan Nel
Manager – Archaic HPM

Du Preezhoek Begraafplaas

Posbus 49156, Hercules, 0030 **E Pos:** adpreez@mpsa.co.za

Trustees:
Jan Antonie (Antoon) du Preez Sel. 082 571 3662
Antonie du Preez Sel. 082 365 1252
Andries Petrus Jacobus (Dries) du Preez Sel. 073 238 4101

2 November 2006

Mr Johan Nel
Archaic HPM
979 Crots street
Rietfontein

Dear Mr. Nel

Exhumation and relocation of unknown graves from Du Preezhoek

I herewith grant you the permission to undertake the exhumation with the conditions and without any cost to the family, as stated in your letter dated 1 November 2006.

We thank you for the effort that you have made to identify the remains as to be part of this family and the relocation thereof.

Yours sincerely,

J A (Antoon) du Preez
for Du Preez Family

REQUEST FOR EXHUMATION

Grave Number: DFH01

Project: ARC2006/2

Herewith I, J.A du Preez ID No. 5605245012084 acting as a representative of the family of the deceased, and with the full knowledge and approval of all family members, request the exhumation and re-internment of the remains of **Unknown Individual** (full names and surname of the deceased where possible).

Sex of deceased:	Unknown
Date of death:	Unknown
Relation to deceased:	Family descendant
Age at death:	Unknown
Cause of death:	Unknown
Re-internment at:	Du Preezhoek, Church Street West cemetery, Pretoria

We request that the graves be relocated to a local cemetery as they are directly impacted upon by the development of the property where they are currently situated.

I declare that this request was not made under duress.

Signed [signature] at Pretoria on this 2 nd day of November 2006.

Comments:

REQUEST FOR EXHUMATION

Grave Number: DFH02

Project: ARC2006/2

Herewith I, J.A du Preez ID No. 5605245012084 acting as a representative of the family of the deceased, and with the full knowledge and approval of all family members, request the exhumation and re-internment of the remains of **Unknown Individual** (full names and surname of the deceased where possible).

Sex of deceased:	Unknown
Date of death:	Unknown
Relation to deceased:	Family descendant
Age at death:	Unknown
Cause of death:	Unknown
Re-internment at:	Du Preezhoek, Church Street West cemetery, Pretoria

We request that the graves be relocated to a local cemetery as they are directly impacted upon by the development of the property where they are currently situated.

I declare that this request was not made under duress.

Signed [signature] at Pretoria on this 2 nd day of November 2006.

Comments:

REQUEST FOR EXHUMATION

Grave Number: DFH03

Project: ARC2006/2

Herewith I, J.A du Preez ID No. 5605245012084 acting as a representative of the family of the deceased, and with the full knowledge and approval of all family members, request the exhumation and re-internment of the remains of **Unknown Individual** (full names and surname of the deceased where possible).

Sex of deceased:	Unknown
Date of death:	Unknown
Relation to deceased:	Family descendant
Age at death:	Unknown
Cause of death:	Unknown
Re-internment at:	Du Preezhoek, Church Street West cemetery, Pretoria

We request that the graves be relocated to a local cemetery as they are directly impacted upon by the development of the property where they are currently situated.

I declare that this request was not made under duress.

Signed [signature] at Pretoria on this 2 nd day of November 2006.

Comments:

REQUEST FOR EXHUMATION

Grave Number: DFH04

Project: ARC2006/2

Herewith I, J.A du Preez ID No. 5605245012084 acting as a representative of the family of the deceased, and with the full knowledge and approval of all family members, request the exhumation and re-internment of the remains of **Unknown Individual** (full names and surname of the deceased where possible).

Sex of deceased:	Unknown
Date of death:	Unknown
Relation to deceased:	Family descendant
Age at death:	Unknown
Cause of death:	Unknown
Re-internment at:	Du Preezhoek, Church Street West cemetery, Pretoria

We request that the graves be relocated to a local cemetery as they are directly impacted upon by the development of the property where they are currently situated.

I declare that this request was not made under duress.

Signed [signature] at Pretoria on this 2 nd day of November 2006.

Comments:

REQUEST FOR EXHUMATION

Grave Number: DPH07

Project: ARC2006/2

Herewith I, J.A. du Preez, ID No. 5805245012086, acting as a representative of the family of the deceased, and with the full knowledge and approval of all family members, request the exhumation and re-interment of the remains of **Unknown Individual** (full names and surname of the deceased where possible).

Sex of deceased:	Unknown
Date of death:	Unknown
Relation to deceased:	Family descendant
Age at death:	Unknown
Cause of death:	Unknown
Re-interment at:	Du Preezloet, Church Street West cemetery, Pretoria

We request that the graves be relocated to a local cemetery as they are directly impacted upon by the development of the property where they are currently situated.

I declare that this request was not made under duress.

Signed: _____ at Pretoria on the 2nd day of November 2006.

Comments: _____

REQUEST FOR EXHUMATION

Grave Number: DPH06

Project: ARC2006/2

Herewith I, J.A. du Preez, ID No. 5805245012086, acting as a representative of the family of the deceased, and with the full knowledge and approval of all family members, request the exhumation and re-interment of the remains of **Unknown Individual** (full names and surname of the deceased where possible).

Sex of deceased:	Unknown
Date of death:	Unknown
Relation to deceased:	Family descendant
Age at death:	Unknown
Cause of death:	Unknown
Re-interment at:	Du Preezloet, Church Street West cemetery, Pretoria

We request that the graves be relocated to a local cemetery as they are directly impacted upon by the development of the property where they are currently situated.

I declare that this request was not made under duress.

Signed: _____ at Pretoria on the 2nd day of November 2006.

Comments: _____

REQUEST FOR EXHUMATION

Grave Number: DPH05

Project: ARC2006/2

Herewith I, J.A. du Preez, ID No. 5805245012086, acting as a representative of the family of the deceased, and with the full knowledge and approval of all family members, request the exhumation and re-interment of the remains of **Unknown Individual** (full names and surname of the deceased where possible).

Sex of deceased:	Unknown
Date of death:	Unknown
Relation to deceased:	Family descendant
Age at death:	Unknown
Cause of death:	Unknown
Re-interment at:	Du Preezloet, Church Street West cemetery, Pretoria

We request that the graves be relocated to a local cemetery as they are directly impacted upon by the development of the property where they are currently situated.

I declare that this request was not made under duress.

Signed: _____ at Pretoria on the 2nd day of November 2006.

Comments: _____

REQUEST FOR EXHUMATION

Grave Number: DPH06

Project: ARC2006/2

Herewith I, J.A. du Preez, ID No. 5805245012086, acting as a representative of the family of the deceased, and with the full knowledge and approval of all family members, request the exhumation and re-interment of the remains of **Unknown Individual** (full names and surname of the deceased where possible).

Sex of deceased:	Unknown
Date of death:	Unknown
Relation to deceased:	Family descendant
Age at death:	Unknown
Cause of death:	Unknown
Re-interment at:	Du Preezloet, Church Street West cemetery, Pretoria

We request that the graves be relocated to a local cemetery as they are directly impacted upon by the development of the property where they are currently situated.

I declare that this request was not made under duress.

Signed: _____ at Pretoria on the 2nd day of November 2006.

Comments: _____

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Forensic Anthropological Report of the Skeletal Remains from Du Preezhoek.

PREPARED BY:

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July 2007

Contents:

1. BACKGROUND OF SITE

In November 2006 the contents of 11 graves were excavated by Archaic HPM following the CRM (Cultural Resource Management) work in the Fountains Valley area in Pretoria. This area is to be developed for the Gautrain Rapid Rail Link between Pretoria Main Station and the Hatfield Station. This area was also known as Du Preezhoek, named after the first owner of the farm Elandspoort namely Johannes Petrus or Jan (Diknek) du Preez (20 Jan. 1828 – 4 Feb. 1899). In 1848 Jan (Diknek) du Preez purchased a portion of the farm Elandspoort from the Bronkhorst family (Engelbrecht,1955). The cemetery in question is situated on the banks of the Apies River and was named the Du Preezhoek Cemetery. The cemetery is said to hold the remains of the Du Preez and the Van der Walt families, related by marriage. The burials are thought to have taken place between 1948 and 1890. The cemetery only contained the remains of these 11 individuals, although, according to sources more individuals were buried in the same cemetery. According to several sources the Du Preez family cemetery was exhumed and relocated to the Church Street West Cemetery, in a section today known as Du Preezhoek, due to the building of the NZASM Railway bridge over the Apies River at Fountains Valley between 1890 and 1893 (Andrews & Ploeger, 1989; De Jong, et al, 1988; Stadsraad van Pretoria, 9 November 1992).

2. METHODOLOGY

The skeletal remains were sent to the Department of Anatomy at the University of Pretoria to be analyzed, using standard forensic anthropological techniques. The remains were all in a stage of complete skeletonization and their preservation varied. The remains were cleaned and broken bones were reconstructed where possible using adhesive. Each individual's age, sex, ancestry and stature were determined using morphological characteristics and measurements of the relevant bones. Any observable trauma and pathology on bones were recorded and possible causes discussed.

In the analysis of the skeletons, standard anthropological techniques and measurements were used. South African data were used as far as possible and available for the determination of demographic characteristics. In the case of juvenile remains only the age can be assessed due to the lack of secondary sex characteristics and comparable juvenile skeletal data available to determine other demographic characteristics. Age at time of death was determined using the development of deciduous and permanent dentition using the chart of tooth formation and emergence for Native American children from Ubelaker (1999). Furthermore, the degree of epiphyseal closure was determined using data from Webb and Suchey (1985), as well as the fusion of the three primary ossification centers of the vertebrae by Scheuer and Black (2000).

In terms of adult skeletal remains various demographic features could be assessed including age, sex, ancestry, and stature. Age in adults was determined by using a variety of methods. These include the following: the changes of the sternal ends of ribs (Íscan and Loth 1993); the degenerative changes in the pubic symphyses (Brooks and Suchey 1990); cranial suture closure (Nemeskéri 1970 as quoted by Krogman and Íscan 1986); and the auricular surface changes (Lovejoy et al 1985).

The sex was determined by observing various morphological characteristics associated with either males or females (e.g., Krogman and Íscan 1986; Íscan and Loth 2000). Furthermore, osteometric analysis of the bones was done and measurements compared to standardised data and discriminant functions as provided by Krogman and Íscan (1986), Steyn and Íscan (1998), and Patriquin et al. (2003). For ancestry, the various morphological characteristics of the skull as given by Íscan et al. (2000) were assessed, also including data by De Villiers (1968) and Iscan & Steyn (1999).

The ante-mortem statures of adult individuals were determined by using formulae for South African Caucasoids as developed by Dayal (2003). Trauma and pathology were observed using data from Hilson (1998), Ortner (2003) and others.

3. RESULTS

Each individual skeleton will be discussed here in terms of its demographic features as assessed during the forensic anthropological analysis. Measurements used are included.

Skeleton DPH 01

Preservation

The remains of DPH 01 is fully skeletonised with relatively good preservation overall. The cranium and some areas of the mandible are very poorly preserved to such an extent that reconstruction and measuring of the skull were not possible, except for the nose breadth as indicated in Table 1. The long bones are all intact, except for the fibulae, with measurements given in Table 1 (Buikstra and Ubelaker 1994). There is some damage to the vertebrae, ribs and pelvis.

Age

The age as indicated by the dentition was 7 years ± 24 months, with the complete eruption of the first permanent molar and the complete shedding of the first and second deciduous incisors and the early eruption of the first and second permanent incisors. The individual was younger than 10 years, as could be seen from the fact that the three parts of the os coxae (ilium, ischium and pubis) had not fused at all (Scheuer and Black 2000). With regards to the development of the vertebrae, all three primary centers (centra and two neural arches) of all the vertebrae had fused and indicated an age older than 5 years. The final estimation of age at death therefore was between 7 and 8 years.

Due to the young age and damage to the remains, no information regarding sex or race could be obtained.

Dentition

The maxillary teeth present as well as the stages of development are as follows: the permanent right and left second molars are present within the alveolar process, but have not yet erupted. The permanent right and left first molars have erupted behind the deciduous right and left second molars, with the presence of the deciduous right and left first molars. The deciduous right and left canines are present with the eruption of the permanent right and left central and lateral incisors.

The mandibular teeth present and the stages of development are as follows: the permanent right and left second molars are present within the alveolar process but have not yet erupted, with the eruption of the permanent right and left first molars. The deciduous right and left, first and second molars are absent with a closed alveolar process. The deciduous right and left canines as well as the right and left central and lateral incisors are absent. The permanent right and left canines are present within the alveolar process, while the permanent right and left central and lateral incisors are in the process of eruption.

Dental pathology

Dental pathology was observed with a carious lesion on the deciduous upper left second molar and the absence of the deciduous lower right and left molars with no visible indication of the presence of the permanent lower right and left, first and second premolars. Further analysis is still in process and will include X-ray analysis.

Pathology

No signs of disease and trauma were observed.

Skeleton DPH 02

Preservation

The remains of DPH 02 are relatively well preserved and consist of the cranium, mandible, long bones, pelvis, ribs, and vertebrae.

Age

The age of this individual as indicated by the dentition is 2 years ± 8 months with the initial eruption of the deciduous second molars but not the complete eruption of all the deciduous teeth. The metopic suture and the anterior fontanelle of the skull are fused which indicates an age of older than 2 years. The primary ossification centers of the vertebrae the neural arches are fused but are not fused to the centra and therefore it can be assessed that the individual is older than 2 years but younger than 6 years. The final age estimation therefore is between 2 and 3 years. The long bone measurements are shown in Table 1.

Due to the young age and damage to the remains, no information regarding sex or race could be obtained.

Dentition

The maxillary teeth present as well as the stages of development are as follows: the permanent first right and left molars are present within the alveolar process, but have not yet erupted. The deciduous right and left, first molars have erupted along with the deciduous right and left canines. The deciduous right and left second molars have not erupted completely. The deciduous right and left, central and lateral incisors are present and completely erupted, with the presence of the permanent right and left lateral incisors in the alveolar bone.

The mandibular teeth present and the stages of development are as follows: the permanent right and left first molars are present, but have not yet erupted, with the presence of the deciduous right and left first molars. The deciduous right and left second molars are present, but have not completely erupted. The deciduous right canine is present with the deciduous left canine and the deciduous right and left central and lateral incisors being lost post-mortem.

Dental pathology

No dental pathology was observed.

Pathology

No pathology or trauma was observed.

Skeleton DPH 03

Preservation

The remains of DPH 03 are relatively well preserved and consist of a cranium, mandible, long bones, pelvis, ribs, and vertebrae.

Age

The age of this individual as indicated by dentition is 1 year ± 4 months with the eruption of the deciduous first and second incisors and initial eruption of deciduous first molars. The lower thoracic to upper lumbar vertebrae show fusion of the neural arches and indicate an age of 12 to 16 months, but the open neural arches of the upper lumber and cervical vertebrae indicate and age younger than 2 years. The final age estimate is therefore 1 year ± 3 months. Long bone measurements are shown in Table 1.

Due to the young age and damage to the remains, no information regarding sex or race could be obtained.

Dentition

The maxillary teeth present as well as the stages of development are as follows: the permanent right and left first molars have mineralized within the alveolar bone, but have not yet erupted. The deciduous right and left first molars, and the deciduous right and left central and lateral incisors are present and completely erupted. The deciduous second right and left molars have not yet erupted, with the initial eruption of the deciduous right and left canines.

The mandibular teeth present and the stages of development are as follows: the permanent right and left first molars have mineralized within the alveolar bone, but

have not yet erupted. The deciduous right and left first molars, and the deciduous right and left central and lateral incisors are present and completely erupted. The deciduous right and left second molars have not yet erupted. The deciduous right and left canines are in a stage of initial eruption.

Dental pathology

No dental pathology was observed.

Pathology

No pathology or trauma was observed.

Skeleton DPH 04

Preservation

The remains of DPH 04 are very badly preserved with almost none of the remains intact. The remains comprise of mainly the two halves of the mandible with fragmented pieces of the cranium and long bones.

Age

The tympanic bone is still open and the two halves of the mandible are separated. This indicates that this individual is younger than 6 months and the final age estimate can be given as 6 ± 3 months.

Due to the young age and damage to the remains, no information regarding sex or race could be obtained.

Dentition

All deciduous teeth have mineralized but none have erupted and are all without roots.

Dental pathology

No dental pathology was observed.

Pathology

No pathology or trauma was observed on the remains.

Skeleton DPH 05.a

Preservation

The remains of DPH 05.a is completely skeletonised with somewhat poor preservation. The remains comprises of an almost complete skeleton with some ribs, metacarpals, carpals, metatarsals, tarsals, and phalanges missing.

Age

The dental development of this person indicates that the individual was older than 18 years of age with the development of the third permanent molars (Ubelaker, 1999). The epiphyseal closure indicates that this person is older than 25 years of age with the complete fusion of the medial ends of the clavicle as well as the fusion of S1 and S2 of the sacrum (Webb and Suchey 1985). The sternal ends of the ribs were found to be between phase 5 and 6 which indicates an age of 33 to 43 years for phase 5 and 44 to 59 years for phase 6 (Íscan and Loth 1993). The pubic symphyses (Brooks and Suchey 1990) were not used in the determination of age due to damage and poor preservation of this area. The cranial suture closure was also used and this yielded an age of between 30 to 60 years (Krogman and Íscan 1986). Finally, the auricular surface further indicated an age of 30 to 39 years (Lovejoy et al. 1985). The final age estimation given to this individual is between 30 and 40 years.

Sex

The morphological characteristics observed from the skull indicate both male and female characteristics. The presence of relatively well-developed supraorbital margins and marked muscle lines and protuberances on the occipital area indicate characteristics usually associated with a male. Small to medium mastoid processes and a round to pointed chin shape, however, illustrate female characteristics. The pelvis, on the other hand, present noticeably female characteristics with a rounded or circular pelvic brim or inlet and the presence of auricular sulcus on both os coxae usually associated with the process of giving birth. In terms of the morphological

characteristics of the pelvis therefore the remains of this individual are clearly female. The osteometric analysis further confirms the sex of this individual being female with cranial and mandibular measurements provided in Table 2.

Ancestry

The morphological characteristics as observed from the skull shows attributes associated with Caucasoid ancestry with an orthognathic facial profile and narrow nasal opening with sharp nasal margins. The metric analysis also indicates Caucasoid ancestry with measurements like the cranial- and nasal index falling within the mentioned ancestry category (Table 2).

Stature

The ante-mortem stature was determined by using the length of the left humerus, see Table 2 (Dayal 2003). The stature of this individual was calculated as being 153.4 ± 3.38 cm which is quite short for an individual of Caucasian ancestry.

Dentition

All the teeth are present with the exception of the lower right second premolar. The permanent third upper and lower molars present, but have not yet erupted. Dental pathology includes exposed dentine on the upper and lower, right and left first molars; dental calculus on almost all the teeth except the upper and lower central and lateral incisors; a small carious lesion on the lower right third molar and overall wear on the upper right and left second molars towards the buccal sides of the teeth as well as the upper right and left, first and second premolars, also on the buccal sides (Hilson, 1998; Ortner, 2003). The upper right third permanent molar shows genetic variation due to its abnormal small size, whereas the upper left third permanent molar were either lost early

Pathology

Pathology observed in the skeleton includes Schmorl nodes to the centra of the lumbar vertebrae as well as osteophytic lipping of the lower thoracic and lumbar vertebrae (Ortner, 2003) with small osteophytes. Furthermore, the lipping of the proximal ends of the ulna and radius as well as the femur and calcaneus indicates that this individual engaged in hard physical work. No signs of trauma were observed on the remains.

Conclusion

Skeleton DPH 05.a was a Caucasoid female individual between the ages of 30 to 40 years with a stature of about 153.4 ±3.38 cm. Some degenerative changes to the spine were observed as well as dental pathology.

Skeleton DPH 05.b

Preservation

The remains of DPH 05.b are fully skeletonised with relatively good preservation. The remains include an almost complete skeleton with some ribs, metacarpals, carpals, metatarsals, tarsals, and phalanges missing.

Age

To determine age various regions of the skeleton are assessed. The dental development of this person indicates that the individual is older than 12 years with the eruption of the second permanent molar, but younger than 18 years with the third permanent molar still to erupt (Ubelaker 1999). The epiphyseal closure indicates that this person is between 12 and 16 years with open epiphyses at the proximal ends of the right and left humerus, proximal ends of the right and left tibia, and the very recent uncompleted fusion of the proximal ends of the right and left femur as well as the distal ends of the right and left humerus and tibia. (Webb and Suchey 1985). The final age estimation given to this individual is between 12 and 16 years.

Sex

The morphological characteristics observed from the skull represent both male and female characteristics. These characteristics include a relatively large supraorbital torus with a somewhat sloped forehead, usually associated with males. Other characteristics include small mastoids and a gracile occipital area with no defined muscle lines and protuberances, usually associated with females.

The pelvis mainly illustrates female characteristics with wide sciatic notches, oval pubic brim or inlet, and the presence of a possible auricular sulcus on both os coxae. The osteometric analysis further substantiates this diagnosis with cranial and mandibular measurements given in Table 2. Nevertheless, the final diagnosis cannot be given with complete certainty due to the young age of the individual and the appearance of both male and female characteristics at such a young age. The final diagnosis therefore is that the remains from this individual may tentatively be identified as that of a female.

Ancestry

The skull was damaged, but the nasal margins were sharp with a narrow nasal opening and an arched sagittal contour (Caucasoid characteristics). No discriminant functions could be done on the skull and pelvis due to damage to the skull and open epiphyses on the os coxae. With reference to the morphological characteristics this individual most probably is of Caucasian ancestry.

Stature

The antemortem stature could not be determined due to the open epiphyses on the long bones.

Dentition

All the teeth are present, with the exception of the third molars, which are still unerupted. Dental pathology includes exposed dentine on the lower permanent right and left first molars; carious lesions on lower permanent right and left second molars and small carious lesions on the upper permanent right first premolar and first molar. Enamel hypoplasia on the lower permanent central and lateral incisors as well as the right and left canines, stretching across the whole lingual surface of the teeth (Hilson 1998; Ortner 2003), was observed.

Pathology

Pathology observed to the skeleton includes Schmorl nodes to the centra of the lumbar vertebrae as well as possible subperiosteal bone growth on the left and right radius and ulna, and left and right tibia that could have been caused by chronic infection, scurvy, or an overall poor diet (Ortner, 2003). No trauma was observed on the remains.

Conclusion

The remains of skeleton DPH 05.b are that of a possible Caucasoid female individual between the ages of 12 and 16, although diagnosis of sex and ancestry are tentative due to the individual's young age. The dental and skeletal pathology suggests that this individual must have been repeatedly ill as a young child with the presence of enamel hypoplasia on the teeth. The subperiosteal bone growth also indicates poor health which may have been due to chronic infection or dietary deficiencies.

Skeleton DPH 06

Preservation

The remains of DPH 06 are fully skeletonised and relatively well preserved. The remains comprise of an almost complete skeleton with some ribs, metacarpals, carpals, metatarsals, tarsals, and phalanges missing.

Age

The third molars had erupted, indicating an age of older than 18 years (Ubelaker, 1999). All epiphyses are closed, as is the synchondrosis spheno-occipitalis. The sternal ends of the ribs are in phase 5, which indicates an age of 33 to 43 years (Íscan and Loth 1993). The pubic symphyses, however, fall into phase 6 indicating an age of 42 to 87 years (Brooks and Suchey, 1990). The cranial suture closure was also used and this yielded an age of between 30 to 60 years (Krogman and Íscan, 1986). Finally, the auricular surface further indicates an age of 40 to 50 years (Lovejoy et al, 1985). The final age estimation given to this individual is between 35 and 50 years of age.

Sex

The morphological characteristics observed from the skull indicate that this individual was female. The skull presents a vertical forehead, with small, almost absent supraorbital tori, small mastoids, and no marked muscle lines or protuberances on the occipital area. The pelvis also indicates that this person was female with the os

coxae presenting wide sciatic notches, an oval pelvic brim or inlet, and the occurrence of an auricular sulcus on both of the os coxa. The latter characteristic also indicates that this individual had given birth to more than one child throughout her life. The final estimation therefore is that the remains of this individual are female.

Ancestry

The morphological characteristics of the skull (orthognathic facial profile, narrow nasal opening and sharp nasal margins, a high and narrow facial structure) indicate that this person is of Caucasoid ancestry. Osteometric analysis (see Table 2 for cranial and mandibular measurements) also indicate Caucasoid ancestry with the cranial, orbital and nasal indices falling within the above mentioned ancestry category.

Stature

The antemortem stature was determined by using the physiological length of the left femur (Table 3) (Dayal 2003). The stature of this individual was calculated as being 165.7 ± 2.40 cm. This stature is relatively short to medium for a female individual of Caucasian ancestry.

Dentition

All the teeth from the maxilla and mandible are present with only the lower right third molar having been lost ante-mortem. Dental pathology includes exposed dentine, severe dental caries of the lower left second and third permanent molars with smaller caries visible on some of the other teeth (Hilson 1998; Ortner 2003).

Pathology

No pathology or trauma was observed on these skeletal remains.

Conclusion

The remains of skeleton DPH 06 are that of a Caucasoid female individual between the ages of 35 and 50 years with a stature of 165.7 ± 2.40 cm. She had at least one child. Advanced dental decay indicates poor oral health or a diet rich in carbohydrates.

Skeleton DPH 07

Preservation

The remains of DPH 07 are poorly preserved with almost none of the remains intact. The remains comprise of mainly the two halves of a mandible with a relatively intact cranium and severely fragmented long bones.

Age

The open metopic suture indicates that this individual is younger than 2 years. The tympanic bone is still open and the two halves of the mandible are separated which indicates that this individual is younger than 6 months. The final age estimate therefore can be given as between birth and 6 months. Long bone measurements are available in Table 1.

Due to the young age and damage to the remains, no information regarding sex or race could be obtained.

Dentition

All deciduous teeth have mineralised but none have erupted and are all without roots.

Dental pathology

No dental pathology was observed.

Pathology

No pathology or trauma was observed.

Skeleton DPH 08

Preservation

The remains of DPH 08 are completely skeletonised with good preservation. The remains comprise of an almost complete skeleton with some ribs, metacarpals, carpals, metatarsals, tarsals, and phalanges missing.

Age

The dental development indicates an age older than 18 years since the third permanent molars had completely erupted (Ubelaker 1999). All long bone epiphyses and the synchondrosis sphenoocipitalis are closed. The sternal ends of the ribs are in phase 5, which indicates an age of 33 to 43 years (Íscan and Loth, 1993). The pubic symphyses (Brooks and Suchey 1990) could not be used due to damage in this area. The cranial suture closure was also used and this yielded an age of between 30 to 60 years (Krogman and Íscan 1986). Finally, the auricular surface further indicated an age of 35 to 39 years (Lovejoy et al. 1985). The final age estimation given to this individual is between 35 to 50 years of age.

Sex

The morphological characteristics observed from the skull and pelvis indicate that this individual is female. The skull show clear female characteristics with a small to almost absent supraorbital torus, vertical forehead, small mastoid processes, and a pointed chin shape. The pelvis also show female characteristics with an oval pelvic brim or inlet, wide sciatic notches, and the presence of an auricular sulcus on both os coxa, which may indicate that this individual had at least one child. Osteometric analysis (see Table 2 for cranial measurements) further indicates that this individual was female.

Ancestry

The ancestry of this individual was determined to be Caucasoid with some morphological characteristics from the skull indicating Caucasoid ancestry. This includes a relatively high skull height, high face height, relatively narrow face breadth, medium nasal breadth, with the general appearance of the skull being high and wide and the facial profile bordering between orthognathic and prognathic.

Nevertheless, this individual also represented some morphological characteristics from the skull associated with Negroid ancestry for instance some lateral projection of cheeks, somewhat smoothed lower nasal margin, and rectangular orbital openings. Therefore the final diagnosis was determined using osteometric analysis (see Table 2 for cranial measurements). Cranial indices were calculated and compared to data from De Villiers (1968). The cranial index was 78.4 (mesocranial), the orbital index 122.2, the upper facial index 48.8, the nasal index 46.6 and the total facial index 85.0. Discriminant functions were also calculated (Íscan and Steyn 1999) with the following results: skull and mandible (Function 1, accuracy of 94%) -1.426 indicating Negroid ancestry; Function 3 (accuracy 92%) -0.677 indicating Caucasoid ancestry; Function 2 (accuracy 82) 1.456 also indicating Caucasoid ancestry. A final diagnosis of Caucasoid was made.

Stature

The antemortem stature was determined by using the total skeletal height as developed by Fully (1956). Refer to Table 3 for post-cranial measurements. The stature of this individual was calculated as being 163.8 ± 2.015 cm which is quite short for a female individual of Caucasoid ancestry.

Dentition

All of the teeth from the maxilla and mandible are present. Dental pathology includes exposed dentine on upper and lower permanent right and left first molars as well as on the upper and lower permanent right and left canines and central and lateral incisors; dental caries on the upper permanent right second molar, the upper permanent left third molar, and the lower permanent left second and third molars. Dental calculus is observed on upper and lower, right and left second premolars as well as the first molars. Enamel hypoplasia is visible on the upper and lower permanent central incisors. Signs of periodontal disease are present in both the maxilla and mandible (Hilson 1998; Ortner 2003).

Pathology

Pathology observed on the skeletal remains includes the lipping of the proximal ends of the humerus, ulna, femur and tibia, indicating that this individual engaged in hard physical work. Furthermore, signs of subperiosteal bone growth on the tibia and cranium along with the occurrence of periodontal disease may indicate that this

person suffered from scurvy, but probably not sufficient enough to be the cause of death (Ortner 2003).

Conclusion

The remains of skeleton DPH 08 are that of a Caucasoid female individual between the ages of 35 and 60 years with a stature of 163.8 cm. This individual was chronically ill and may have suffered from scurvy as observed from the dental- and skeletal pathology. Enamel hypoplasia indicates that this individual was often ill as a growing child and the dental caries suggest either poor dental hygiene or a diet high in carbohydrates or a combination of the two.

Skeleton DPH 09

Preservation

The remains of DPH 09 are fully skeletonised with relatively poor preservation. The remains comprise of a fragmented skull and long bones with very poor preservation of the ribs and vertebrae. Measurements are provided in Table 1.

Age

The age of this individual as indicated by dentition is approximately 9 months with the eruption of the central and lateral upper and lower incisors. The neural arches of all the vertebrae show no fusion, which indicates an age of younger than 12 months. The final age estimate is therefore 9 months ± 3 months.

Due to the young age and damage to the remains, no information regarding sex or race could be obtained.

Dentition

All deciduous teeth have mineralised with the beginning of the eruption of deciduous central and lateral incisors.

Dental pathology

No dental pathology was observed.

Pathology

No pathology or trauma was observed.

Skeleton DPH 10

Preservation

The remains of DPH 10 are fully skeletonised with relatively good preservation. The remains comprise of a cranium, mandible, long bones and poorly preserved ribs and vertebrae.

Age

The tympanic bone is still open and the two halves of the mandible are separated. This indicates that this individual is younger than 6 months. The final age estimation is between birth and 6 months.

Due to the young age and damage to the remains, no information regarding sex or race could be obtained.

Dentition

All deciduous teeth have mineralised but none have erupted and are all without roots.

Dental pathology

No dental pathology was observed.

Pathology

No pathology or trauma was observed.

4. CONCLUSION

The remains recovered from the Du Preezhoek Cemetery comprise of the skeletonised remains of 11 individuals. Three of these individuals were found to be adult females between the ages of 30 and 60 years. All three these individuals gave birth to at least one or more children as indicated by the presence of a prominent auricular sulcus and other scars on the os coxae. A fourth individual was determined to possibly be a teenage girl between the ages of 12 and 16 years. Of the seven remaining individuals, one was a child of between 7 and 8 years whereas the others were all infants ranging between birth and 3 years. It is interesting that no adult males were found, which may suggest that they have been buried in other areas or that this part of the cemetery and the individuals buried there were not relocated.

No possible causes of death could be determined, with no traumatic evidence visible on the skeletal material. Pathology observed on the remains indicates that some individuals most probably suffered from Scurvy, a Vitamin C deficiency disorder caused by a diet lacking vitamin C enriched foods like fresh fruits and vegetables. Nevertheless, the scurvy observed on the skeletal remains could not be attributed as being the cause of death. The deterioration of the immune system due to the lack of vitamin C could, however, have made the individuals susceptible to infections, which may have caused death. Other possible causes for subperiosteal bone growth, other than scurvy, could be infections or overall poor health (Ortner 2003). The remains of two of the adult female individuals indicate that the adults engaged in hard physical work, as represented by the lipping of the proximal ends of the humerus, radius and ulna, and the femur and tibia, and calcaneus.

Dental remains from these individuals also indicate poor oral hygiene and a diet rich in carbohydrates. This diet may be linked to the appearance of scurvy in two of the individuals where vitamin C containing vegetables or fruit could not be obtained for consumption, either due to famine or poor socio-economic status.

All individuals were of Caucasoid descent, supporting the documentary information that they were most probably members of the Du Preez and Van der Walt families. Nevertheless, other possible scenarios are being explored as indicated by some

factors observed on the skeletal remains, such as health and the possible separate burial or neglect of reburial during the building of the NZASM Bridge. This may indicate that these individuals could have been “bywoners” on the Du Preez farm, with domestic workers most probably having been buried in a separate area.

5. TABLES

Table 1: **Cranial and long bone measurements of juveniles from Du Preezhoek**

Long bone lengths were measured without epiphyses
All measurements taken in millimetres
* indicates right side

Cranial measurements	DPH 01	DPH 02	DPH 03	DPH 04	DPH 07	DPH 09	DPH 10
Skull length			164				
Skull breadth			133				
Nose breadth	1	1					
Long bone measurements							
Humerus	190	120	99		68	105	63
Radius	136	*92	*81				*50
Ulna	148	*99	81				*57
Femur	262	158	138		77		73
Tibia	206		108		67		64
Fibula							

Table 2: Cranial and mandibular measurements of the adult human skeletal remains recovered from Du Preezhoek (Buikstra and Ubelaker 1994)
All measurements taken in millimetres

Cranial Dimension	DPH 05.a	DPH 05.b	DPH 06	DPH 08
Maximum length	183		178	186
Maximum breadth	142		141	141
Bizygomatic breadth	134			127
Basion-bregma	144		147	154
Cranial base length	115		137	135
Basion-prostion length	109			136
Maximum alveolar breadth	59	60		60
Maximum alveolar length	56			58
Upper facial height	70			62
Total facial height	120		116	108
Minimum frontal breadth	116	103	95	116
Nasal height	49		50	45
Nasal breadth	24	18	24	21
Orbital breadth	36		34	27
Orbital height	32		32	33
Biorbital breadth	91		98	88
Interorbital breadth	24	26	22	22
Total sagital arch	146		111	133
Circumference	515		510	505
Foramen magnum length	33		33	32
Foramen magnum breadth	28		28	25
Mastoid length	30	28	25	30
Sympheseal height	37	33	29	30
Body height	39	30	29	27
Body thickness	10	9	10	9
Bigonial diameter		88	89	83
Bicondylar breadth		104	113	117
Minimum ramus breadth	35	31	26	30
Maximum length mandible	111	69	72	98
Projection ramus length	62	55	70	97
Projection corpus length	82	37	59	79
Mandibular angle	109º	123 °	149.5°	121°

Table 3: **Post-cranial measurements of the adult human skeletal remains recovered from Du Preezhoek (Buikstra and Ubelaker 1994)**

All measurements taken in millimetres

Dimension	DPH 05.a	DPH 05.b	DPH 06	DPH 08
Clavicle				
Maximum length	141	136	143	134
Sagital diameter at midshaft	13	14	12	12
Vertical diameter at midshaft	8	10	8	8
Scapula				
Height				143
Breadth				91
Humerus				
Maximum length	288	310	317	305
Epicondylar breadth	56	55	58	59
Maximum vertical diameter midshaft	41	47	44	42
Maximum diameter midshaft	18	20	20	20
Minimum diameter midshaft	17	17	16	19
Radius				
Maximum length	224	230	233	218
Sagital diameter at midshaft	10	12	10	11
Transverse diameter at midshaft	13	15	16	16
Ulna				
Maximum length	244	254	264	241
Dorso-volar diameter	13	13	12	14
Transverse diameter	12	16	16	15
Minimum circumference	38	38	38	4
Sacrum				
Anterior straight length				112
Anterior straight breadth		109	125	116
Os coxa				
Height	194	207	211	207
Iliac breadth		130	159	170
Pubis length		75	97	
Ischium length		65	90	70
Femur				
Maximum length		451	462	438
Bicondylar length		450	456	432
Epicondylar breadth		89	81	73
Maximum diameter of head	42	46	49	43
Anterior-posterior subtroch. diameter	31	31	25	33
Transverse subtroch. Diameter	29	38	27	26
Anterior-posterior diameter midshaft	27	26	26	30
Transverse diameter midshaft	25	27	24	25
Circumference at midshaft	84	89	81	87
Tibia				
Maximum length		380	356	350
Maximum proximal epiphyseal breadth		72	74	608
Maximum diameter nutrient foramen	29	33	28	35
Transverse diameter nutrient foramen	20	24	21	24
Circumference at nutrient foramen	88	96	80	101
Physiological length		366	341	340
Fibula				
Maximum length		358	346	338
Maximum diameter at midshaft	13	13	14	18

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