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FINAL REPORT ON THE FIRST PHASE OF ARCHAEOLOGICAL RESCUE EXCAVATIONS OF ACCIDENTALLY EXPOSED HUMAN SKELETAL REMAINS AND OTHER ARCHAEOLOGICAL MATERIAL AT THE LAFARGE AGGREGATES QUARRY IN POLOKWANE, LIMPOPO PROVINCE

For:

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REPORT: **APAC012/20**

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Field Work conducted: ***November 2012*** Report: ***November 2012***

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I HEREBY DECLARE THAT I AM AN INDEPENDENT SPECIALIST APPOINTED BY THE CLIENT ON A CONSULTANCY BASIS

SUMMARY

During August 2012 Lafarge Mining SA (Pty) LTD (Lafarge) informed Anton Pelser of the discovery of unknown human skeletal remains at their Polokwane Aggregates quarry during routine quarrying work. The finds were reported first to the SAPS, who removed the skeletal remains (of at least 5 individuals), but soon realized that these remains were not of recently deceased individuals. Lafarge SA then contacted Anton Pelser and requested that a site visit be undertaken to investigate the discoveries and to recommend a way forward.

A site visit was conducted during the 24th of August 2012 during which it was discovered that the remains possibly belong to a previously unknown Iron Age site and that there was other cultural material (including possible Eiland facies pottery and Late Iron Age pottery as well) present at the site also. The recommendation was then made that the remaining human remains (of which there were a number) should be rescued together with the exposed cultural material and already removed skeletons and that a SAHRA permit should be applied for. Lafarge then also requested Anton Pelser to conduct an Archaeological Impact Assessment for future expansion of the quarry. This was done during September 2012, during which a number of other sites, features and artefacts were also identified.

A permit was applied for and issued by SAHRA at the end of October 2012 and the formal rescue and archaeological investigation of the site commenced during the 2nd week of November. Over and above the already removed human skeletal remains rescued by Lafarge and the SAPS, the fragmented and more complete remains of another possible 16 individuals were removed during this week. Cultural material recovered from the site included Iron Age pottery, faunal remains, late 19th/early 20th century historical objects, as well as Stone Age tools and flakes – an indication that the site was occupied for a very large time-period. Further evidence of Eiland occupation of the site was found in in situ hut floors and cattle dung deposits in the disturbed section of the site. Subsequent desktop research has obtained evidence that limited archaeological work was conducted on a site close to the quarry during 1980/81 by archaeologist Jannie Loubser as part of a larger archaeological study in the then Pietersburg area. The information contained in his study will be utilized to interpret the results of the 2012 work at the site.

The human skeletal remains were taken for forensic-archaeological analysis and the final results of this work are presented in this report. This document represents a report on the results of this first phase of investigations.

The SAHRA permit under which this work was conducted has a Cased ID of 636, Permit ID of 144 and Reference Number of 9/2/253/0027. The permit is valid until 30/11/2013.

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A REPORT ON THE FIRST PHASE OF ARCHAEOLOGICAL RESCUE EXCAVATIONS OF ACCIDENTALLY EXPOSED HUMAN SKELETAL REMAINS AND OTHER ARCHAEOLOGICAL MATERIAL AT THE LAFARGE AGGREGATES QUARRY IN POLOKWANE, LIMPOPO PROVINCE

INTRODUCTION

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A site visit was conducted during the 24th of August 2012 during which it was discovered that the remains possibly belong to a previously unknown Iron Age site and that there was other cultural material (including possible Eiland facies pottery and Late Iron Age pottery as well) present at the site also. The recommendation was then made that the remaining human remains (of which there were a number) should be rescued together with the exposed cultural material and already removed skeletons and that a SAHRA permit should be applied for. Lafarge then also requested Anton Pelser to conduct an Archaeological Impact Assessment for future expansion of the quarry. This was done during September 2012 (APAC012/08), during which a number of other sites, features and artefacts were also identified. Site 3 (the main quarry site with exposed remains) and Sites 7, 8 and 9 were to be investigated. Last mentioned 3 are actually find spots where further exposed skeletal remains were identified. It was later discovered that the soils heaps where these remains are located comes from the main area where quarrying work was conducted and is therefore not in situ any more.

A permit was applied for and issued by SAHRA at the end of October 2012 and the formal rescue and archaeological investigation of the site commenced during the 2nd week of November. Over and above the already removed human skeletal remains rescued by Lafarge and the SAPS, the fragmented and more complete remains of another possible 16 individuals were removed during this week. Cultural material recovered from the site included Iron Age pottery, faunal remains, late 19th/early 20th century historical objects, as well as Stone Age tools and flakes – an indication that the site was occupied for a very large time-period. Further evidence of Eiland occupation of the site was found in in situ hut floors and cattle dung deposits in the disturbed section of the site. Desktop research has obtained evidence that limited archaeological work was conducted on a site close to the quarry during 1980/81 by archaeologist Jannie Loubser as part of a larger archaeological study in the then Pietersburg area. The information contained in his study will be utilized to interpret the results of the 2012 work at the site.

This document represents a report on the results of this first phase of investigations.

AIMS

The aims of the Archaeological Rescue Investigation of Iron Age related human skeletal remains and other archaeological material from the site of the Lafarge Aggregates Quarry in

Polokwane (the site of the old Pietersburg Quarry on Weltevreden 746LS) were the following:

(a) to rescue any exposed and disturbed human skeletal remains (including those already recovered by the SAPS and Lafarge), on the four sites (three of these find spots) identified

(b) to recover and investigate any possible exposed cultural material and archaeological features on the site to help with the interpretation of the site and the human remains and also to provide a relative date for the Iron Ag and later utilization of the site

(c) the detailed and expert analysis of the cultural material recovered during the excavations including the human skeletal remains

(d) the drafting of a detailed report on all the findings and recommendations on the way forward (including the reburial of the human remains) and finally,

(e) the proper curation of the cultural material in a recognized institution up to the expiry of the current permit in November 2013. In this case (as per permit regulations) the material will be temporarily lodged at the Ditsong Museum of Cultural History in Pretoria, after which it will be lodged at a suitable location in Polokwane.

METHODOLOGY

The methodology comprised the following:

Background Research – This included research on the prehistory (archaeology) of the area, as well as the history of the farm and the site in order to put the finds into a bigger context

Photographic - Photographs of the site and area were taken, while individual objects and features were also photographed for recording purposes. It included photographs of the excavations and features/material uncovered.

Mapping

GPS coordinates of all the sites and features was taken in order to put it on a map of the area, while a basic map of these finds was produced using a handheld Garmin 550 GPS device.

Archaeological Investigations and Rescue of material

The archaeological investigations comprised the mapping and marking of all exposed human skeletal remains and cultural material and then the physical recovery of these remains. Basic excavations were conducted to remove partially covered and more in situ remains as well.

Analysis & Documentation/Curation of cultural material

All the skeletal remains and cultural material recovered was documented photographically and analyzed in detail. The human skeletal remains were given to a forensic archaeologist for

detail analysis. The material was bagged and numbered as per Museum requirements for curation purposes.

ARCHAEOLOGICAL & HISTORICAL BACKGROUND

The Lafarge Aggregate Quarry in Polokwane is located on portions of the farm Weltevreden 746LS, in Limpopo, and is the location of the old Pietersburg Municipal Quarry. A large portion of the area at and surrounding the quarry has been disturbed or destroyed by quarrying activities in the past and recently, and as a result very little of the original topography and vegetation still exist. Only a few small sections of the bushveld vegetation and granite hills and outcrops are still present. Past and recent expansion of the quarry has impacted on the heritage of the area, resulting in the disturbance of earlier Iron Age sites and burials. It was the accidental discovery of human skeletal remains that warranted a recent archaeological assessment of the area, as well as the rescue investigation of exposed human skeletal remains and other archaeological material during November 2012.

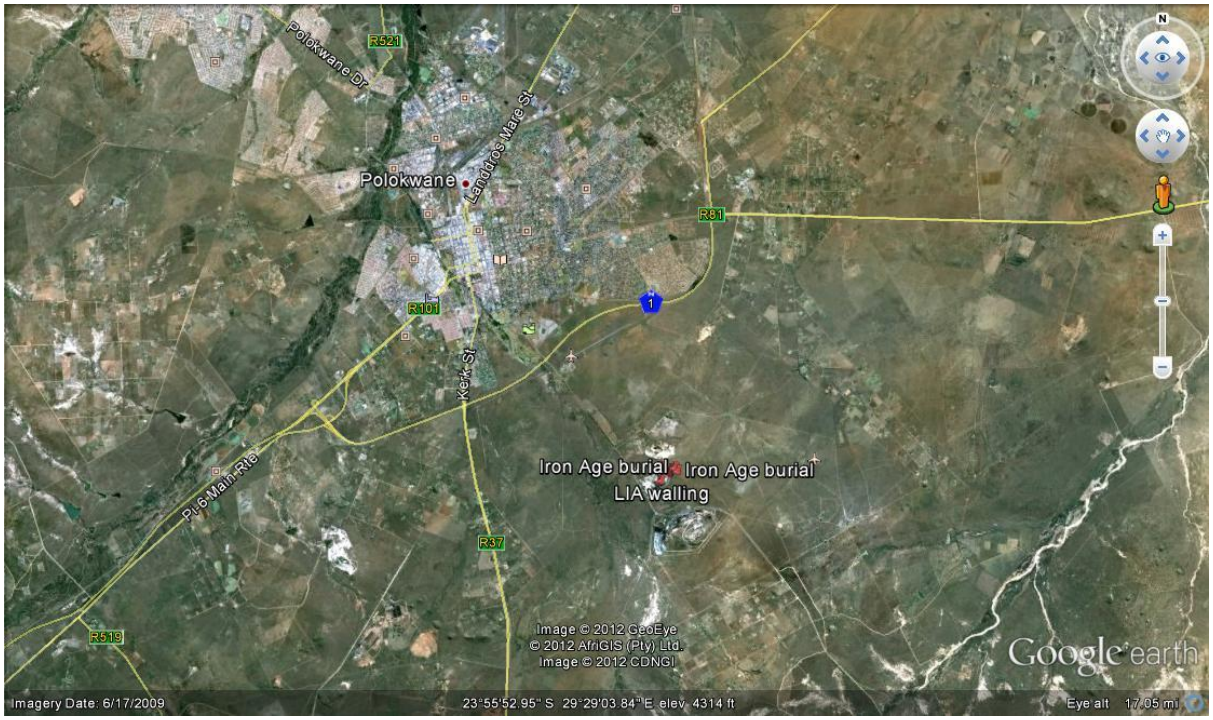

Figure 1: Google location of the site (Google Earth 2012 – Image date 6/17/2009).

Figure 2: View of location of sites investigated and identified during AIA (Google Earth 2012- Image date 6/17/2009).

Figure 3: View of the quarry from the site where most of the remains were recovered.

Figure 4: View of Site 3 where the investigation & rescue work focused on mostly.

Figure 5: View of dumped soil (from main site area) where more remains were identified (Sites 7, 8 & 9).

Figure 6: Small sections of the original granite hill are still found here.

Figure 7: Very small sections of the original vegetation (Bushveld) still exists.

Over and above the main site (so-called Site 3) where human skeletal remains and other archaeological material were exposed, a number of other sites are also present in the area of the quarry. This include evidence of earlier quarrying – possibly during the 1950's, a fenced-in and marked section of Iron Age stone walling and other find spots (Sites 7-9) where human remains and other material was identified. During discussions with quarry management it became clear soil and stone heaps where last mentioned are located comes from the main area of the quarry expansion and the material is therefore not in situ.

Archaeological material recovered during the rescue investigation include (over and above the human skeletal remains) decorated & undecorated pottery, faunal (animal bone) remains, glass beads, metal bangles, some historical (late 19th /early 20th century) objects, as well as Early to Later Stone Age tools. In terms of the archaeological context of the site, desktop research conducted in the process of compiling this report has revealed that the area has been archaeologically investigated (albeit in a limited fashion) as part of a larger study in the Polokwane (then Pietersburg) area during the early 1980's.

In his 1981 Masters Dissertation on the Ndebele Archaeology of the Pietersburg Area Jannie Loubser discusses the ethnogaphy, archaeology and history of the region (this information will not be discussed here) in broad terms, but of importance to this 2012 study is the fact that one of the sites he excavated (very limited however) is related to and located very close to the sites Pelser and his team investigated in 2012 and from which the human remains and cultural material was rescued from. It must also be stated that Loubser's archaeological work focused only on the most recently dated sites (stone walled) of between AD1600 and AD1900, although he also touches on the earlier Stone Age archaeology and Eiland phase of the Iron Age – evidence of which we also found during the 2012 fieldwork.

Loubser's site 2329CD 14 (p.140-155) seems to be related to and very close to the sites we investigated during 2012. The site is located adjacent to the Municipal Quarry and the hill/koppie (since then mostly quarried away) is called Witkop or Nthabamhlophe. According to his informants at the time the northern base of the koppie was inhabited at various stages by different Ndebele chiefs such as Lepovo, Mabusa and Nrimbha. According to the information recent Ndebele and Koni also lived on the base before AD 1913 (Loubser 1981: 140). The archaeological investigations conducted by Loubser focused on the stone walled components (three different types). A fairly small excavation trench (12 square meters) were dug in the so-called central cattle enclosure, which, even at the time, was seemingly disturbed through quarrying activities (exposing cattle dung, skeletons and grain baskets according to Loubser). It is very possible that the section of stone walling fenced-in and marked at the quarry formed part of the stone walled settlement and that it was preserved as a result of his work conducted at the time.

The cultural material recovered by Loubser in 1981 is very similar to that the team found in 2012. It included both decorated and undecorated pottery (his Styles 2 and 3), historical porcelain and glass (incl. glass beads), metal bangles & beads, grinding and rubbing stones, faunal remains and Stone Age tools (p.146-155). The decorated pottery belongs (according to Loubser) to the Eiland facies of the Iron Age (Style 2) dating to around AD1000-AD1300 (Loubser 1981: 156; Huffman 2007: 227), and the Letaba facies (Style 3) dating to around AD1600 – AD1840 (Loubser 1981: 158; Huffman 2007: 267). The porcelain, glass and other historical artifacts date to the time of the appearance of Europeans in the area after the 1850's.

The first Europeans to move through this area were the Voortrekkers (under Trichardt & Van Rensburg) who moved through the area around 1836 (Bergh 1999: 14). The town of Pietersburg (Polokwane) was established officially in 1886 (Bergh 1999: 20). During the Anglo-Boer War (1899-1902) a number of skirmishes were fought around the area, while there was also a Concentration Camp for Boer Women and Children in Pietersburg at the time (Bergh 1999: 54). The farm Weltevreden (on which the site is located) was originally granted to one Petrus Willem Geyser in December 1864 (according to a 1904 map) and was

officially surveyed on behalf of the government in December 1904 (Chief Surveyor General Map 103D4501). Although no evidence for the date of the original establishment of the quarry (it was a municipal quarry prior to being worked by other companies before Lafarge) was found it has been indicated in discussions with quarry staff that it could date to around the 1950's.

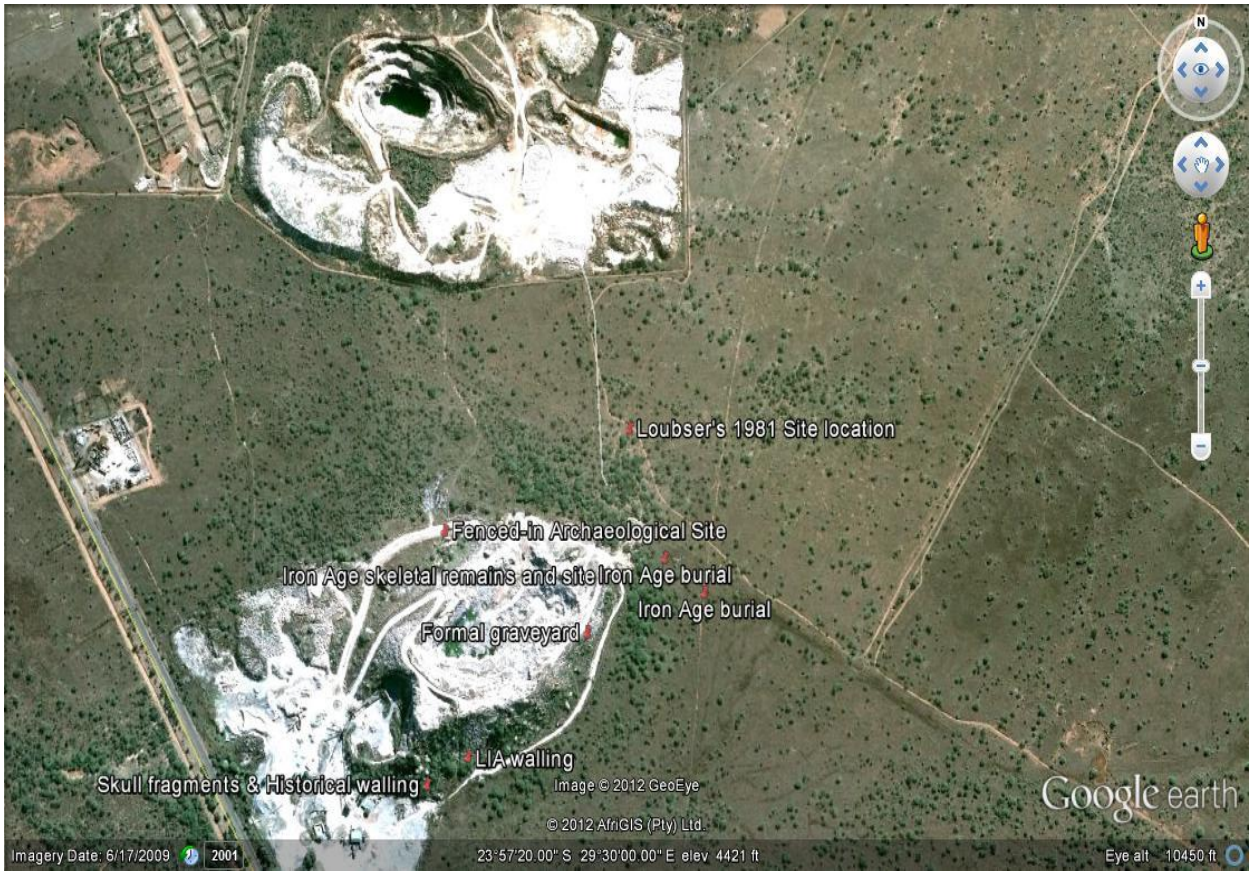

Figure 8: Aerial view of area & sites. Note the location of Loubser's 1981 site (Google 2012 – Image date 6/17/2009).

Figure 9: Fenced-in archaeological site on the property.

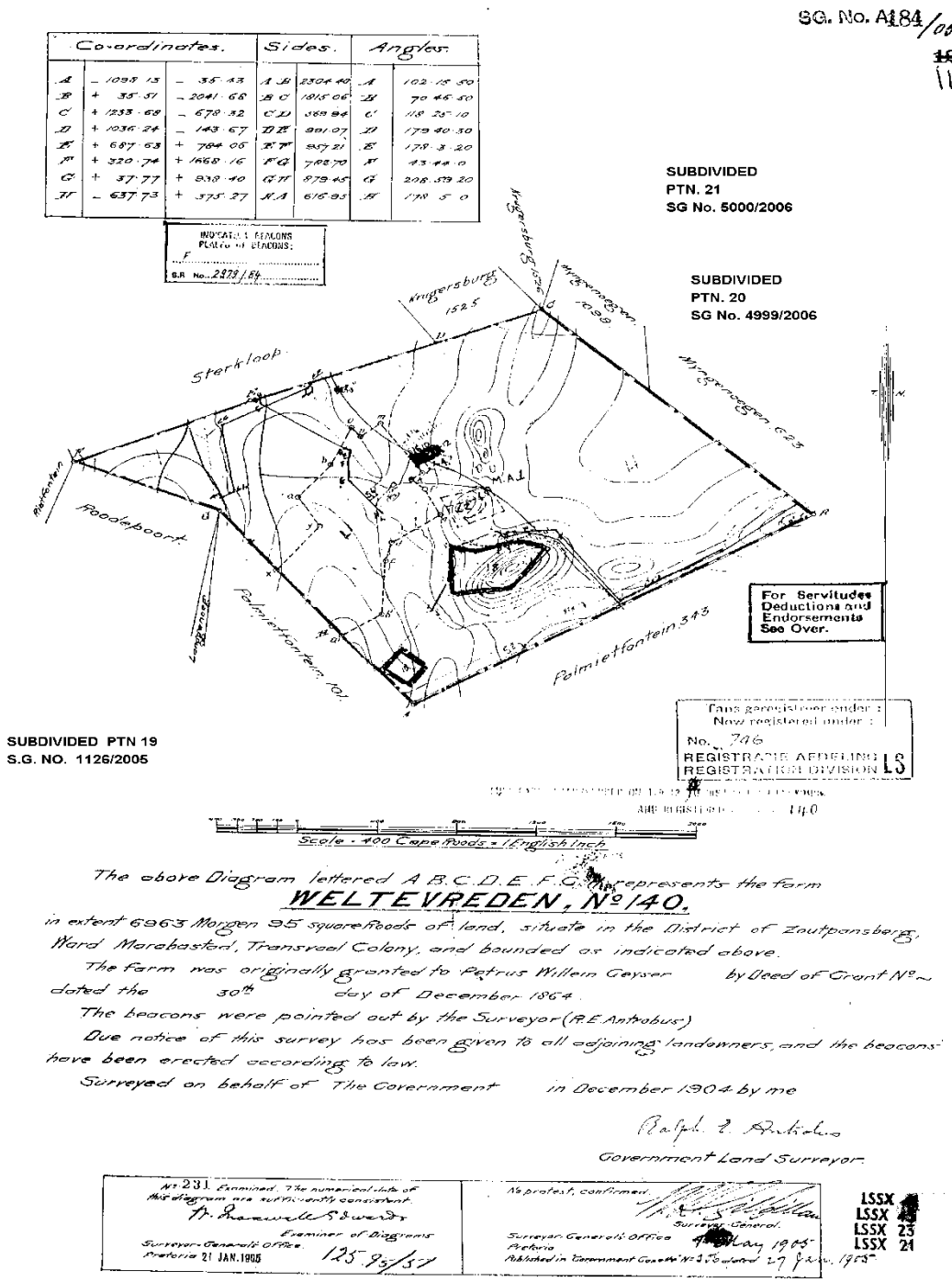

Figure 10: 1904 map of Weltevreden. The koppie shown with the black square is the one where the Lafarge quarry is located (CSG 103D4501).

ARCHAEOLOGICAL INVESTIGATIONS

The archaeological investigations conducted at the Lafarge quarry during November 2012 was basically a rescue of completely exposed human skeletal material, while also comprising limited excavation of partially exposed and in situ remains and the collection of other cultural material (pottery, faunal remains, stone tools and historical objects) from the surface of the area. In situ deposits were also photographically documented, while a basic map of the

distribution of material over the surface of the main site was done using a handheld GPS device.

Mapping

The mapping was done in the following manner. A GPS coordinate was taken at each locality (to provide a basic location for each site). On Site 3 (the main site where most of the material was found) each individual object (human skeletal part, pottery, other) and concentrations of material (including more in situ and complete skeletons) were marked with a metal peg. Individual objects and concentrations were then also photographed before further work was undertaken. A GPS coordinate was taken at each individual locality in order to produce a distribution map for the exposed human skeletal and other cultural remains.

Figure 11: Photo showing extent of Site 3.

Figure 12: Close-up of some of the metal pegs indicating positions of individual objects and concentrations of material.

Figure 13: Closer view of one of the individual locations.

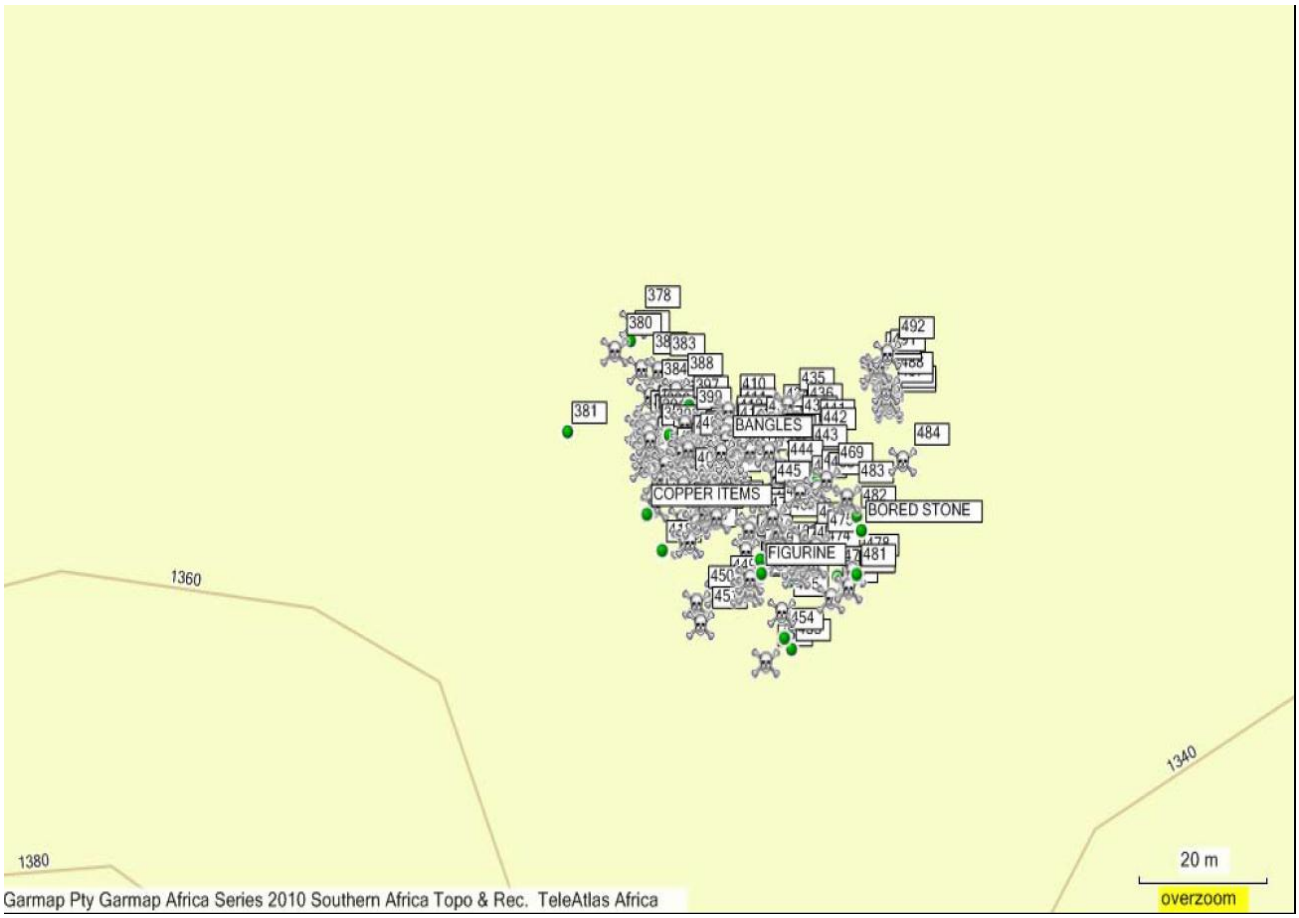

Figure 13: Basic map showing distribution of material on Site 3. The skulls indicate human remains (individual pieces and larger concentrations), while the green dots are other objects and concentrations of cultural material (Map Source 2010).

Figure 14: Aerial view of Site 3 showing distribution of human skeletal and other cultural remains (Google Earth 2012).

Rescue Investigations

The Site 3 area that was investigated and contained the scattered remains (both human skeletal and other cultural material) and more concentrated and partially in situ burials measured nearly 1600 square meters. It is however envisaged that the archaeological site and deposit is much larger. The scattered remains found on the soil and stone heaps (Sites 7, 8, 9) are not in situ and is more than likely also associated with Site 3.

Between 5 and 7 individuals are represented by the skeletal remains recovered by Lafarge and the Polokwane SAPS during the initial discovery of the site during quarrying operations. These remains have been collected and were provided to a Forensic Anthropologist for detailed analysis together with the other human skeletal remains recovered during the formal archaeological rescue investigations.

Figure 15: One set of rescued remains kept in storage by Lafarge.

Figure 16: Another set of remains in Lafarge storage.

During the investigations the so-called Site 3 the scattered remains of at least 14 individuals (more or less depending on the results of the forensic analysis) were recovered from the site. This included scattered individual skeletal parts, as well as more complete and partially in situ burials. The perceived individuals were labeled as A1, A2, A3, etc.

Over and above human skeletal remains a fairly large number of both decorated and undecorated pottery fragments, animal (faunal) remains, metal artifacts (bangles, beads, buttons), porcelain, glass (including beads), wooden fragments and even fragments of cloth and animal hair (remnants of cow hide burial wrapping) were recovered. A fairly big number of Stone Age tools (Early to Later Stone Age) and Iron Age stone objects (bored stone, grinding/rubbing stone) were also recorded.

The remains of at least 5 individuals were recovered from the soil heaps and Sites 7, 8 and 9. It is envisaged that there could be more individuals located here, and recommendations regarding mitigating this situation will be provided at the end of this document. Pottery was also recovered from here.

Results

In this section we will discuss the individual finds and more complete and partially in situ burials recovered from Site 3 and those from Sites 7, 8 and 9. The cultural material (artifacts) will be discussed in more detail in the next section.

At current count (based on the collection of individual skeletal parts and partially in situ and more complete skeletons around 18 individuals are represented by the remains rescued in November. This excludes those recovered previously by Lafarge. Thirteen of the seventeen was found on Site 3, with the other 5 recovered from the Sites 7, 8 & 9 area. It has to be mentioned that the minimum number of individuals (MNI) could be less once the forensic analysis has been completed, as many of the scattered pieces could belong to other individuals that are more complete or partially in situ. Of the 13 from Site 3 seven are partially in situ (in position) and more complete and these will be discussed in some detail below. Of the 4 from the other area only two are more complete and worth discussing. The other three are represented by fragmented or single skeletal parts. Those from Site 3 were named and numbered as A1, 2 etc. and those from Sites 7, 8 & 9 as B1, 2, etc.

Individual **A1** was a fragmented skeleton (less than 50% complete) found partially in situ. Some of the individuals other remains were found scattered around the area of the burial, including the skull and teeth. Based on the partial skeleton it seems as if the individual was buried on its side in a semi-flexed or fetal position, with its head to the south. No cultural material was found with this individual, but a preserved finger or toe nail was recovered.

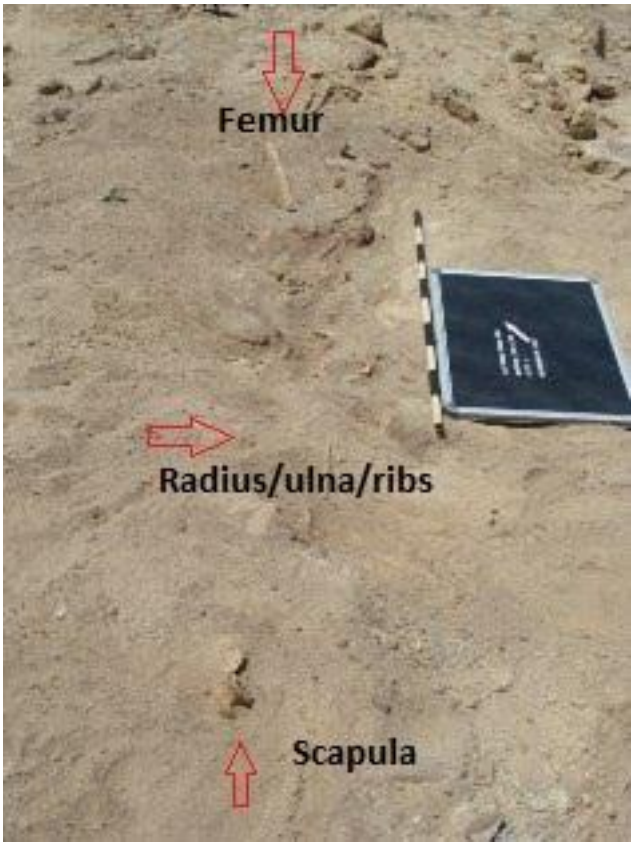

Figure 17: A1 with skeletal parts visible indicating possible burial position/style.

Figure 18: Fingernail & vertebrae from A1.

A2 is one of two of the partially intact burials that contained numbers of grave goods. The skeletal remains were very fragmented in not complete and comprised some vertebrae, ribs, longbone fragments and phalanges. A number of copper bangles (see discussion on cultural material), fragments of coiled metal (iron) bangles, pieces of cloth and small fragments of the

cattle hide in which the individual was probably wrapped for burial, were recovered. Two of the copper bangles were found a few meters away from the burial and these were most likely displaced during the quarrying work. The burial position was also more than likely on the side in a fetal position.

Figure 19: Coiled metal bangles around skeletal remains A2.

Figure 20: Copper bangles and cloth A2.

Figure 21: Close-up of copper bangles and cloth.

Figure 22: Remnants of cattle hide in A2.

Figure 23: Partial skeletal remains from A2.

A3 consisted of the partially complete skeleton of an adult individual, including a femur, ribs, vertebrae, pelvis fragments and scapula. This semi-intact burial was located after some loose fragments of skull and other bones were recovered from the surface around the location and when the area was more thoroughly investigated the still embedded remains were found. The burial position could not be determined, and the burial contained no grave goods.

Figure 24: Partially exposed remains of A3.

A10 was one of the most interesting of the partially complete and in situ burials found, even though the skeletal remains were not complete and it had been disturbed by the quarry operations. The partial remains were those of an adult individual that turned out to be female. It comprised some longbones, ribs, vertebrae, phalanges, skull fragments and scapulae. It seems as if the person was buried on her right side in the fetal position. Her left side had been

disturbed and washed away (the remains were on a slight slope between boulders) and other remains found in the vicinity could be part of this individual.

What made this burial so important, and indicated that the person was a female, was the fact that the fairly intact remains of an unborn fetus was found with the remains – close to where the pelvis would have been. This individual therefore died during the pregnancy. There were also a number of different grave goods with the remains. It included solid copper bangles, coiled iron bangle fragments and a range of glass beads. The copper bangles are similar to those found with A2.

Figure 25: Burial A10.

Figure 26: Close-up of remains of fetus at A10.

Figure 27: Remains of fetus after removal.

Figure 28: Copper bangles and glass beads from A10.

Of further interest is the recovery of the remains of at least two other infants (of different ages) in the area very close to **A10**. Although obviously difficult to prove it is possible that these two children (**A12 & A13**) could be related to the A10 individuals. However, both these individuals are represented by fragmented remains only, with only A12 partially in position.

Figure 29: Partially in situ remains of young infant (A12).

A11 represented the nearly complete remains of an adult individual located on the surface of the site between large boulders (probably the remnants of the original granite koppie). The remains were not in position. The individual is probably male as nodules of vitrified cattle dung was found here. Men were traditionally buried in the cattle kraals.

Figure 30: The scattered remains of A11.
Note the ashy soil and boulders).

As mentioned earlier the remains of at least 5 individuals were recovered from the area termed Sites 7, 8 & 9. This section comprises a large area where soil and rocks from the area of Site 3 (main quarry expansion) that were dumped here. The remains are therefore not in situ, and it is possible that many more individuals could be present here, Other cultural

material found here include pottery, faunal remains and pieces of hut clay that originates from the partially intact site located on Site 3 and adjacent (see more on this later).

B1 and **B2** is represented by individual bones only (femurs and others), while **B5** is represented by a femur and mandible (with some teeth) fragment. **B3** and **B4** are more complete however. B3 is represented by partial skeletal parts including a skull, teeth, longbones and phalanges. B4, although not articulated and scattered, is a nearly complete skeleton recovered from one of the soil heaps in this area. Some decorated pottery was found in the same vicinity as this individual.

Figure 31: B1 remains.

Figure 32: B2 femur.

Figure 33: Remains of B3.

Figure 34: B3 skull.

Figure 35: Location of B5.

Figure 36: Some of the B5 remains embedded in the soil heap.

Other cultural material and archaeological deposit was also recorded and will be discussed in more detail in the section on the Cultural remains found at the site. This included not only pottery, but also stone tools (ESA to LSA), a bored stone, upper grinding and rubbing stones, a piece of a clay figurine and historical material including glass and metal buttons.

Figure 37: Clay figurine (possibly part of clay oxen).

Figure 38: Upper grinding stone.

Figure 39: Decorated pottery on the site.

Figure 40: Bored stone found on the site.

Figure 41: Layer of river pebble visible in wall of quarry expansion area. Some stone tools were found here.

Figure 42: Wall (eastern section) of quarry expansion section. It is believed that most of the remains found originate from here.

Figure 43: Hut floor visible in exposed trench.

Figure 44: Ash, dung and cultural material layer. It is around 1m thick and contains pottery, hut floors, faunal remains, etc.

Discussion of Cultural Material

A fairly large amount of cultural material (mainly pottery) was recovered from both the general surface of the site and as mentioned earlier together with some of the burials. The main aims with the collection of cultural material from the surface was to help with the interpretation of the history and archaeology of the site, providing a relative date of occupation and utilization of the site and area and to contextualize the human skeletal remains and burials within a broader archaeological and historical time-frame.

Stone Age material

A number of stone tools, including large (ESA) handaxes and smaller flakes, cores and scrapers (MSA/LSA) were recovered from the surface of the site. The context of the tools has been destroyed with the quarrying, but it is possible that there was a small shelter located close by (on the original koppie) where MSA/LSA hunter-gatherers would have sheltered. Water would have been available (there is evidence of a river/stream bed in the stratigraphy of the site) and the river pebbles would also have been used for making the stone tools. Animals would have kept close to these water sources and therefore hunting would have been relatively easy. The availability of water would of course also have been one of the main reasons for the later and more permanent Iron Age occupation of the site.

During his excavations at the site in 1981, Loubser also recovered some Stone Age material from the site (p.152). Early Stone Age (so-called Acheul) sites and tools (typically large handaxes) are known to occur northwest of Polokwane (Bergh 1999: 93). Middle Stone Age tools (of the so-called Pietersburg Industry) are known from a site called Grace Dieu north of Polokwane, as well as other sites in the Limpopo (Bergh 1999: 94). Although detailed analysis of the Stone Age material from the Lafarge site did not form the focus of this study it is clear that prehistoric human utilization of the site and area could possibly date back to nearly 2 million years ago. A basic sequence for the South African Stone Age (Lombard et.al 2012) is as follows:

Earlier Stone Age (ESA) up to 2 million – more than 200 000 years ago

Middle Stone Age (MSA) less than 300 000 – 20 000 years ago
Later Stone Age (LSA) 40 000 years ago – 2000 years ago

It should also be noted that these dates are not a neat fit because of variability and overlapping ages between sites (Lombard et.al 2012: 125).

Figure 45: Stone Age tools from the site.

Other stone objects from the site

Only two other stone objects were recovered from the surface of the area and include an upper grinding stone or rubbing stone (for smoothing the plaster on the floors or walls of clay built huts) and a bored stone. There has been many explanations regarding the function and age of these bored stones in southern African archaeology over many decades and the recovery of one at Lafarge is certainly significant although the objects' original location and context cannot be determined.

There are some suggestions that bored stones could have been used as weights for wooden and/or iron hoes by agropastoralists, but this function has not been established beyond doubt. They are also associated with ancestral ritual in both early hunter-gatherer societies of southern Africa and more recent agropastoralist communities. It has been demonstrated that bored stones represent certain general cosmological principles for these various peoples. In the San shamanistic world-view it probably represented the vortex or hole that most shamans have to enter before they can successfully communicate with the spiritual realm. Ethnographic accounts support this concept that bored stones of various types were used as communication channels to the spirit world and that they were sometimes placed at entrances to this realm, such as waterholes and caves, to ensure successful communication between the secular and metaphysical spheres. According to Goodwin (1947) agropastoralists probably imitated the bored stones of the San as a result of multileveled contact and then apparently continued the use of these artifacts after losing contact with the San. It is further hypothesized that the ritual importance placed on bored stones by agropastoralist communities may stem from their own cosmological associations with holes, including creation myths, fertility rites

and rain-making. The most recent indication of spiritual significance was documented in 2002 when a visit was paid to the Tswana speaking villagers of Makwate, located in the Tuli Block of southeastern Botswana. The village headman, Mr Willem Bafidile, stated that the bored stones were not manufactured by humans but were made by Modimo (God) long ago while the rocks were still soft. When presented with the stone, he turned westwards towards the graveyard of the village and told us that both men and women used the stones to look over the graves of the ancestors to see into the spirit world. A visit was also paid to the local healer, Mr Dinyalo Lathang. At his homestead the possible use of the bored stones found in the area referred to by him as Lentswel a Badimo (stone of the ancestors), was discussed. He confirmed that the stones were made by Modimo. However, according to him they were made for the use of the ancestors, who looked through the hole at the people down in the village. It is noteworthy that both informants stated that the stones were not made by the local people and that they were made very long ago (before they could remember). In both cases the stones were not considered to be of any practical use but were seen as a channelling device between the people of the village and their ancestors (Lombard et al. 2003: 80-82).

Figure 46: Upper grinding stone or rubbing stone from the site.

Figure 47: Bored stone from Site.

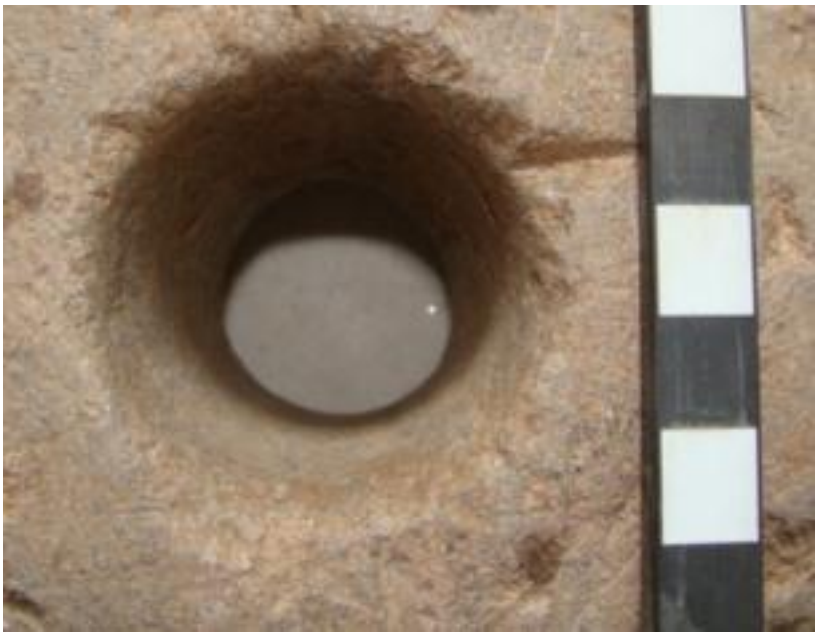

Figure 48: Close-up of hole of bored stone.

Pottery

The largest portion of the cultural material sample collected from the site was Iron Age pottery (both decorated and undecorated). Although the biggest percentage of the pottery sample is undecorated and undiagnostic, some decorated pieces were recovered, as well as rim shards.

Loubser also recovered pottery during his limited 1981 excavations at the site and classed the pottery into Styles 2 and 3 and Plain pottery (Loubser 1981: 146-151). During the 2012 investigations at the site similarly decorated pottery were recovered. According to Loubser

Style 2 pottery is similar to the Eiland facies of the Iron Age (and dating to between AD850 and 1200), while Style 3 belongs to the Letaba facies of around the 1700's (1981: 158).

The analysis of the pottery from the site provided the following information. A total of 183 undecorated body pieces and 7 undecorated rim shards were recovered, while there were only 12 decorated body pieces and 12 decorated rim sherds. It was difficult to determine the minimum number of vessels represented, while reconstructing vessel shape/profile and type was also problematic due to the fairly fragmented nature of the sample and the small size of most of the pieces. However there seems to be both pots and bowls, including ones used for cooking (burnt black), storage (water, cereals) and drinking (beer, water). A range of decoration types were identified, including bands of fine herringbone incisions in combination with red ochre burnish, combstamping, ladder stamping and hatched bands. It was not possible to really determine decoration motif and layout or position of the decoration on the vessels, although for the rim shards with decoration these were normally below the rim and on the body/shoulder.

Based on the types of decoration present it is however possible to at least indicate that the pottery most likely belong to both the Eiland and Letaba facies. This is similar to what Loubser indicated for the site. According to Huffman both types of pottery occur in the Polokwane area. The Eiland facies (of the so-called Kalundu Iron Age Tradition) contains fine herringbone and ladder stamping, sometimes in combination with red ochre, and dates the site (early phases) to between AD1000 and AD1300 (Huffman 2007: 227-229), while the Letaba type pottery (with hatched bands, red ochre and black graphite for example) dates to between AD1600 and AD1840 (Huffman 2007: 267-269). Last mentioned will coincide with the final phases of Iron Age settlement at the site prior to the arrival of the first Europeans.

Figure 49: Undecorated pottery rims from the area.

Figure 50: Decorated rims from the Lafarge quarry area. Both Eiland and Letaba facies are represented.

Figure 51: Decorated body pieces found.

Other pottery/clay objects

Three other clay objects were recovered from Site 3 and the larger area. This included a piece of a possible clay spindle whorl, part of a clay figurine (oxen?) and one half of a small toy pot. Loubser found a similar object at the site in 1981 (Loubser 1981: 151).

Figure 52: A toy pot fragment, part of a clay oxen & section of possible spindle (bottom of picture).

Faunal remains

Only a relatively small sample of bone was recovered from the surface of the site to indicate that this category of material is available on the site. Mainly identifiable remains were sampled, and although detailed analysis of this material will not be undertaken for this phase, it is envisaged an archaeozoological study will be undertaken once the planned 2nd phase of detailed archaeological research is completed on the site.

Loubser indicated in his 1981 study of the site that cattle, sheep/goat and impala was present in the faunal sample he recovered (Loubser 1981: 153). His excavation at the site was very small and it is probable that the species range that will eventually be identified will be much larger, with both domesticated and non-domesticated animals represented.

Figure 53: Faunal sample collected at the site.

Metal objects

The largest part of this sample came from two of the more in situ burials (A2 and A10) at Site 3. Seven solid copper bangles were found with A2, while three smaller (but similarly solid copper bangles) ones were recovered from A10 (the female individual with fetus). Both burials also produced rusted and conglomerated pieces of coiled metal (iron) wire bangles, and two small copper earrings were found with burial A10.

Two buttons were also found on the surface of the site. The one (a brass button) has the wording **T.Birch & Co. Johannesburg** embossed on it. This company still exists today, and is one of the oldest outfitting and tailoring businesses in South Africa and opened up in Port Elizabeth in 1860. They expanded to Grahamstown in 1864 and has become the designers and official robe makers to most of the tertiary institutions as well as courts and churches in the country (www.fireflyafrica.blogspot.com). A similar button was found in 2007 by Pelser in an excavation of a Late Iron Age stone walled settlement near Brits (Madibeng). The context of the button was a known historical missionary structure dating to the late 19th century, and located within the stone walled settlement (Pelser 2007: 18).

Figure 54: Rusted and conglomerated coiled iron wire bangles from Burial A2.

Figure 55: Solid copper bangles from A2.

Figure 56: Copper bangles from Burial A10.

Figure 57: Copper earrings from Burial A10.

Glass beads

A fairly large number of glass beads of different sizes and colours were recovered from the surface of Site 3, while a collection of different beads (originally strung together) was recovered from Burial A10. Once again a detailed analysis was not undertaken, but these beads are typical of the Iron Age (specifically the Later Iron Age) and besides being used for personal adornment were used a trade items and usually came from Europe and India. They are further evidence of the later Iron Age and historical component of settlement at the site.

Loubser found similar beads at the site during 1981 (p. 155).

Figure 58: Glass beads from the surface of Site 3. Similar beads were found at the site in 1981.

Figure 59: Glass beads from Burial A10.

Figure 60: Close-up of the same beads.

Miscellaneous objects from the investigations

This category included pieces of recent historical glass bottles, decorated porcelain, a bakelite handle of a cutthroat razor, as well as pieces of clothing and part of a leather shoe from the surface of the site. Fragments of clothing, wood, reed matting and remnants of the cattle skin in which the individual was buried were recovered from Burial A2. It is uncertain if the wood might represent a home-made coffin. Reed mats are sometimes still used today to kneel on during burials and the mat is then sometime interred with the deceased individual. Most of these objects are again evidence of the last phase of settlement at the site. A piece of vitrified cattle dung was also collected.

Figure 61: Vitrified cattle dung from the site.

Figure 62: Leather shoe fragment.

Figure 63: Glass and porcelain, as well as clothing fragment and razorblade handle from the surface of the area. The two buttons discussed earlier are visible as well.

Figure 64: Wood, cattle skin (top centre), wound fibre, cloth and piece of woven reed mat from Burial A2.

Figure 65: Close-up of wound plant fibre.

Figure 66: Close-up of woven reed mat fragment.

Human Skeletal Remains

For the results of the Forensic Analysis of the human skeletal remains please see Appendix 1 - EXPERT REPORT ON HUMAN SKELETAL REMAINS

CONCLUSIONS AND RECOMMENDATIONS

In conclusion it is possible to say that the Archaeological Rescue Investigation of the exposed human skeletal remains, partially in situ burials and disturbed archaeological deposit has been completed successfully.

The remains of at least 28 individuals (MNI) are represented by the skeletal parts, although this number could be slightly less. We believe however that there might be many more burials present at the site, while an unknown number of individuals are more than likely covered in the soil and stone heaps dumped to the east of the main site.

Over and above the human remains other cultural material were also recovered. This include both decorated and undecorated pottery, faunal remains, stone objects (both Stone Age and later Iron Age), metal objects (Iron Age and historical), glass beads and other historical artifacts (buttons, clothing fragments, porcelain and glass bottle fragments). The artifacts indicate that the site was utilized and occupied for a long period of time, stretching from the Early Stone Age to the more recent historical age. The pottery found at the site dates to both the Eiland facies (AD1000 to AD1300) and Letaba facies (AD1600 to AD8140) of the Iron Age. This makes the site fairly significant, as few sites are normally found with this long continuous stretch of occupation. Although the site has been disturbed to a large degree by the quarrying expansion work, sections of the site are still intact, and this needs to be properly investigated before it gets totally destroyed. The sites' final stages of occupation have previously been studied to a limited degree by Jannie Loubser (1981) as part of a larger archaeological study of Ndebele Archaeology of the Pietersburg Area, and as settlement stronghold of a number of known earlier Ndebele chiefs and also recent Ndebele and Koni

inhabitants before 1913 detailed archaeological research at the site becomes of even more significance. It is our believe that a thorough archaeological study of the site will play a major role in our understanding of the archaeology and history of the specific site (Nthabamhlope), larger region and that it will make a contribution to our knowledge-base of southern-African archaeology.

Prior to the investigations commencing, and as part of the permit requirements by SAHRA, the possibility of reburying the remains at the site after forensic analysis was discussed, as well as the erecting of an Information Plaque/display at the plant. Lafarge indicated their willingness to pursue these possibilities. After the rescue investigations had indicated the importance of the site, preliminary discussions with the management of the quarry was conducted and it is clear that further work at the site should be seriously considered. In light of this the following is therefore recommended:

1. that the remnants of the archaeological site be excavated and investigated in more detail
2. that the soil and stone heaps (removed from the main site) be properly cleaned and investigated for the presence of more human remains and cultural material
3. that all the human remains be reburied at the Lafarge Aggreggate Quarry in Polokwane in an area that will not be developed in future
4. that a Memorial, as well as Information Plaque, for the burials and the archaeology and history of the site be erected once the research has been completed
5. that a display of cultural material recovered from the site be developed at the site as part of a Site Museum

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APPENDIX 1 – EXPERT REPORT ON HUMAN SKELETAL REMAINS

Report on the physical anthropological analysis of human remains inadvertently discovered during blasting activities at Lafarge Aggregates Quarry, Polokwane.

Submitted by

A. Meyer

21 November 2012

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1. Analytical methods

The human remains recovered were in a complete state of skeletonization and presented commingled remains of an unknown number of individuals. Generally the preservation was poor, with minimal representation of complete skeletal elements. Most of the skeletal remains were recovered from a disturbed context, yet site numbers were allocated by the archaeologists where concentrations of skeletal material could be observed.

The first step in the physical anthropological analysis was to determine the MNI (minimum number of individuals). The commingled remains had to be sorted and paired as far as possible to determine the MNI represented by the major skeletal elements. The skull, long bones (humerus, radius, ulna, femur, tibia and fibula), and pelvis were selected for this process. These bones are the most diagnostic in terms of their demographic features and are also more often preserved in cases like these.

Each skeletal element was sided and counted to obtain a rough estimate of the MNI it represented. Then a process known as visual pair matching was followed by which morphological characteristics such as muscle attachments and overall size were used to pair bones from the same individual. This technique can only be employed for similar skeletal elements and accuracy is reduced when dissimilar remains such as a fibula and an os coxa (Snow 1948; Ubelaker 2002; Byrd and Adams 2003; L'Abbé 2005) are compared. Pathology and healed trauma may also alter bone morphology to such an extent that this technique cannot be applied with accuracy. In addition to visual pair matching, taphonomic changes observed on the commingled skeletal remains were used in order to match the skeletal elements presenting the same taphonomic features (Snow 1948; Ubelaker 2002; Byrd and Adams 2003; L'Abbé 2005). This method was somewhat hampered by the fact that most of the skeletal elements became scattered over a large area at roughly the same time. Exposed skeletal elements from different individuals were therefore exposed to the same external factors over the same period of time resulting in similar taphonomic changes which made distinguishing between individuals problematic. In the cases where skeletal elements were recovered by the archaeologist the site location was taken into account. Therefore skeletal elements from different sites which could not

be obviously matched using the above mentioned techniques were documented as separate individuals.

In addition to the visual pair matching each skeletal element was assessed for its demographic characteristics (the individual's approximate age at death, sex and ancestry). The skull is the most diagnostic skeletal element and here it was used to determine age, sex and ancestry. The humerus, pelvis, femur and tibia was also used to determine the age and sex of the individual whereas the radius, ulna and fibula could only be used to determine an adult versus juvenile age. Skeletal elements with similar demographics could therefore be matched.
Both juvenile and adult remains were recorded in this manner.

The analysis of the remains entailed a standard physical anthropological analysis and the "*Standards for data collection from human skeletal remains"* by Buikstra and Ubelaker (1994) was used as a basis for this analytical procedure.

1.1. **Estimation of age at death**

The estimation of age at death was determined for both juvenile and adult remains where possible. The juvenile remains were assessed by looking at the sequence of tooth eruption (Scheuer and Black 2004) and the degree of epiphyseal closure (Scheuer and Black 2004; Baker *et al.* 2005). For infants and foetuses the three primary areas of the vertebrae (Scheuer and Black 2004) as well as long bone lengths (Hoffman 1979) were used in combination with dental development and epiphyseal closure to determine approximate age.

Adult age at death was determined based on the dental eruption of the 3rd molar (Krogman and Íşcan 1986) and the degree of epiphyseal closure (Scheuer and Black 2004; Baker *et al.* 2005). The morphological changes in the surface of the pubic symphyses were also scored where possible (Brooks and Suchey 1990). The degree of cranial suture closure (Acsádi and Nemeskéri 1970), the presence of any degenerative changes in the skeletal elements suggestive of older adult age (Krigman and Íşcan 1986), and overall dental wear (Brothwell 1981; Hillson 1998) were also used. The latter two methods are highly variable and easily influenced by

factors such as occupation and diet and were therefore not used on their own as a definite determinate.

1.2. Determination of sex and ancestry

Non-metric characteristics of the pelvis and the skull were used (Krogman and Íşcan 1986; Loth and Íşcan 2000) to determine sex, whereas non-metric characteristics of the skull (Krogman and Íşcan 1986; Íşcan *et al.* 2000) were used to determine ancestry. As for metric assessment of sex single long bone measurements were obtained and compared to known standards where possible (Loth and Íşcan 2000). Due to the fragmented and commingled state of the remains no other techniques could be used here.

2. Results

Each skeletal element that was assessed will be discussed in terms of the MNI identified as well as the associated demographic profile of each individual where possible.

2.1. Cranial remains

The cranial remains were matched and sorted and represented at least 16 individuals. Due to the diagnostic value of the cranial remains each skull, representing a single individual, was briefly discussed in terms of its demographic profile.

2.1.1. **Individual 1**

This individual was represented by the fragmented remains of the skull and mandible. These remains were originally recovered by the SAPS.

2.1.1.1. **Age**

The upper and lower third molars were in complete occlusion suggesting an adult age. The first, second and third molars all showed extensive occlusal wear with some dentine exposure suggestive of an older adult individual. Cranial sutures were mostly open with minimal bridging occurring around the coronal, sagittal and occipital sutures which is suggestive of someone of middle adult age. Due to the poor preservation of the remains the only age estimate that could be provided here was an adult age, possible middle adult between the ages of 35-50 years at the time of death.

2.1.1.2. **Sex**

The morphological features observable on the skull and mandible were consistent with those associated with male individuals. The forehead was sloped and presented

with a prominent glabella and supraorbital margins. The orbital margins were rounded and the nuchal crest well defined. The mandible was square shaped and presented with a prominent mental eminence. This individual was therefore classified to be male.

2.1.1.3. **Ancestry**

The morphological features observable on the skull was consistent with someone of African (possibly South African black) ancestry as represented by a wide nasal opening and guttered nasal sills. This individual was therefore determined to be of African ancestry.

2.1.2. **Individual 2**

This individual was represented by an almost complete skull and mandible and was recovered from site 9 B1. The only cranial dimensions that were missing were the right temporal bone and the foramen magnum.

2.1.2.1. **Age**

The third molars were in complete occlusion and showed occlusal wear consistent with an older adult individual. The cranial sutures showed a relative degree of closure with the coronal suture being almost completely obliterated. This individual was therefore estimated to have been of older adult age (possibly 50+) at the time of death.

2.1.2.2. **Sex**

The morphological features observable on the skull included a flat straight forehead, sharp orbital margins, no prominent glabella or supraorbital margins, small mastoid processes and a rounded mandible with a very slight mental eminence. These features are synonymous with female characteristics and therefore this individual was classified as female.

2.1.2.3. **Ancestry**

The morphological features observable on the skull were consistent with that of individuals of African ancestry (possibly South African black). The skull presented with some prognathism, a long and low skull, a wide nasal opening and guttered nasal sills. This individual was therefore classified as African.

2.1.3. **Individual 3**

The remains were represented by a complete skull without the mandible and were originally recovered by the SAPS.

2.1.3.1. **Age**

The upper third molars were in complete occlusion, but showed no signs of occlusal wear. This is suggestive of someone of young adult age and older than 18 years. The cranial sutures closure was almost non-existent suggesting someone of younger adult age. The spheno-occipital synchondrosis was not fused suggesting an age

younger than 27. A final age estimate of 18 to 25 years was provided for this individual.

2.1.3.2. **Sex**

The morphological features observable included a sloped forehead, a prominent glabella and supraorbital margins, rounded orbital margins, a prominent nuchal crest and medium sized mastoid processes. These characteristics suggest a male sex for this individual.

2.1.3.3. **Ancestry**

The skull presented with some prognathism, square shaped orbits, a long and low skull with a flat sagittal contour, a wide nasal opening and guttered nasal sills. These characteristics are synonymous with individuals of African ancestry and as such this individual was classified as African (possibly South African black).

2.1.4. **Individual 4**

The remains representing this individual consisted of a complete skull without a mandible. The skull was originally recovered by the SAPS.

2.1.4.1. **Age**

The upper third molars were not recovered although the condition of the alveolar bone seemed to suggest that the third molars were in complete occlusion suggesting an adult age. The upper first and second molars presented with some occlusal wear and some dentine exposure suggesting a possible middle adult age. The cranial sutures showed minimal closure suggesting a young to middle adult age. The spheno-occipital synchondrosis could however be observed and seemed to have been fused although damage to this area had occurred during the discovery process. A final age estimate of a middle adult age (possibly 30-50 years) was therefore provided here.

2.1.4.2. **Sex**

The morphological features observable in the skull presented as a straight and flat forehead, no glabella and smooth supraorbital margins, sharp orbital margins, and almost no nuchal crest. These characteristics suggest a female sex for this individual.

2.1.4.3. **Ancestry**

The skull presented with some prognathism, a long and low skull with a flat sagittal contour, a wide nasal opening and guttered nasal sills. This is synonymous with features associated with individuals from an African) possibly South African black) ancestry.

2.1.5. **Individual 5**

Individual 5 was represented by an occipital and frontal bone and teeth originally recovered by the SAPS.

2.1.5.1. **Age**

The teeth were not found in association with the maxilla or mandible, but did not seem to match any of the other individuals recovered by the SAPS. Therefore the teeth and cranial bones were matched as one individual. The third molar that was present presented with root tips that were not completely fused at the apex. This suggests complete development and complete eruption of the third molar have not yet taken place at the time of death. This suggests an age younger than 18 years at the time of death. It should however be noted that eruption times for the third molars may be later for some individuals. The only other observable measures for age was the cranial sutures which seemed to be completely open. Poor preservation however hampered further estimations. The only age estimate that could therefore be given here was a possible teenage to young adult age (possibly 16-25 years).

2.1.5.2. **Sex**

The only observable feature that could be used to determine sex was the occipital bone and tooth size. The occipital bone presented with a relatively prominent nuchal crest whereas the teeth were moderate to large in size. This is normally more suggestive of someone of male sex and therefore this individual was assigned to be possibly male.

2.1.5.3. **Ancestry**

Due to the limited cranial elements present ancestry could not be determined.

2.1.6. **Individual 6**

The remains of individual 6 were represented by the frontal and parietal bones, the right temporal bone and portions of the foramen magnum. These bones were originally recovered by the SAPS and could not be matched to any of the other individuals recovered by the SAPS.

2.1.6.1. **Age**

The only diagnostic feature that could be observed was the spheno-occipital synchondrosis which was completely fused suggesting an age older than 27 years at the time of death. The only age estimate that could therefore be given here was an adult age.

2.1.6.2. **Sex**

Due to the incompleteness of the remains sex could not be determined here.

2.1.6.3. **Ancestry**

Due to the incomplete nature of the remains ancestry could not be determined.

2.1.7. **Individual 7**

This individual was represented by the occipital bone, the left and right parietal bones, a portion of the frontal bone and a portion of the right temporal bone

recovered from site 2 A11. A left temporal bone recovered from site 3 A10 was however matched to this individual.

2.1.7.1. **Age**

Due to the fragmented nature of the remains the only age estimate that could be provided here was an adult age.

2.1.7.2. **Sex**

The only cranial feature that could be observed was the occipital bone which presented with a prominent nuchal crest suggestive of a male individual. This individual was therefore tentatively assigned to be male.

2.1.7.3. **Ancestry**

Due to the incomplete and fragmented state of the remains ancestry could not be determined.

2.1.8. **Individual 8**

The remains of individual 8 was represented by portions of the left and right maxilla, a portion of the right temporal bone, right mandible, right orbit and left zygomatic bone. Teeth were also recovered and included maxillary and mandibular teeth. These remains were recovered from site 3 A5. The right portion of a mandible with associated teeth recovered from the surface area at site 3 was matched to the remains recovered from site 3 A5.

2.1.8.1. **Age**

The upper right third molar was not in full occlusion with most of the crown still situated well within the alveolar bone. This suggested a possible teenage age younger than 18 years at the time of death. None of the second and first molars showed any signs of occlusal wear which further indicated a younger age for this individual. According to the normal eruption times for permanent teeth this individual can be estimated to be between the ages of 14-17 years at the time of death.

2.1.8.2. **Sex**

The morphological features observable on the cranial remains were suggestive of someone of female sex as represented by the small teeth, small mastoid processes and sharp orbital margins. It should however be kept in mind that these characteristics can also be a factor of adolescent age. This individual can therefore only tentatively be classified as female.

2.1.8.3. **Ancestry**

Due to the incompleteness of the remains ancestry could not be determined here.

2.1.9. **Individual 9**

The remains of individual 9 were represented by a right maxilla, zygomatic bone and orbit. Some maxillary teeth were also recovered. The site origin for these remains was not recorded.

2.1.9.1. **Age**

Due to the incompleteness of the remains the only age estimate that could be provided here was an adult age.

2.1.9.2. **Sex**

Due to the incompleteness of the remains sex could not be determined here.

2.1.9.3. **Ancestry**

The only morphological feature that could be observed was the nasal sills which were guttered suggesting a possible African ancestry (possibly South African black ancestry).

2.1.10. **Individual 10**

The remains of individual 10 were represented by a left and a portion of the right temporal bone, and the left and right parietal bones. These remains were recovered from site 3 A7.

2.1.10.1. **Age**

The only age estimate that could be provided here was a possible adult age based on the cranial remains present and their degree of cranial fusion.

2.1.10.2. **Sex**

The only observable features that could be used to determine sex was the mastoid processes which seemed quite large. Large mastoids are more often associated with male individuals. This individual can therefore only tentatively be assigned as male.

2.1.10.3. **Ancestry**

Due to the incompleteness of the remains ancestry could not be determined.

2.1.11. **Individual 11**

The remains of this individual included two portions of the frontal bone recovered from site 3 A3 and a right parietal bone and a portion of the right mandible recovered from site 3 A1.

2.1.11.1. **Age**

The only age estimate that could be provided here was an adult age based on the complete eruption of the permanent teeth and the occlusal wear and dentine exposure on all the teeth suggestive of a middle to older adult.

2.1.11.2. **Sex**

The only diagnostic feature that could be observed was the presence of a slight mental eminence which is more characteristic of male individuals. The incompleteness of the remains however hampers and indefinite determination of sex here.

2.1.11.3. **Ancestry**

Due to the incompleteness of the remains the ancestry for this individual could not be determined.

2.1.12. **Individual 12**

The remains of individual 12 consisted of a portion of the left parietal bone, the right temporal bone, the right zygomatic bone and the left mandible. Maxillary and mandibular teeth were also recovered. All the remains were recovered from site 3 A1.

2.1.12.1. **Age**

The upper right third molar could be observed and was in full occlusion suggesting an adult age. The upper and lower first and second molars presented with some occlusal wear and dentine exposure suggesting a possible middle adult age. Due to the incompleteness of the remains the only age estimate that could be provided here was an adult age.

2.1.12.2. **Sex**

Due to the incompleteness of the remains sex could not be determined here.

2.1.12.3. **Ancestry**

The only diagnostic feature that could be observed was the nasal sills which were guttered. This characteristic is more often associated with individuals of African ancestry and therefore this individual can tentatively be classified as African.

2.1.13. **Individual 13**

The remains consisted of parietal bone fragments, a left temporal and portion of the left frontal and zygomatic bones as well as a small portion of the right temporal bone. These remains were recovered from site 9 B4.

2.1.13.1. **Age**

Due to incompleteness and fragmented state of the remains the only age estimate that could be given here was an adult age.

2.1.13.2. **Sex**

The morphological features that could be observed included a sloped forehead, rounded orbital margins and large mastoid processes. These characteristics are synonymous with male individuals and therefore this individual was classified as male.

2.1.13.3. **Ancestry**

Due to the incompleteness of the remains ancestry could not be determined.

2.1.14. **Individual 14**

This individual was represented by the right frontal, parietal and temporal bones and a portion of the left parietal bone. Associated mandibular and maxillary teeth were also recovered. These remains were recovered from site 9 B4.

2.1.14.1. **Age**

The upper third molars were present and presented with slight occlusal wear suggesting an adult age. Unfortunately due to the incompleteness and fragmented state of the remains the only age estimate that could be provided here was an adult age at death.

2.1.14.2. **Sex**

The morphological features of the skull included a flat and straight forehead, slightly sharp orbital margins and a lack of a prominent glabella or supraorbital margins. These characteristics are more often associated with females and therefore this individual was classified as female.

2.1.14.3. **Ancestry**

The only diagnostic morphological feature that could be observed was the interorbital breadth which was wide and suggestive of an African ancestry. Due to the incompleteness of the remains no other features could be observed and a possible African ancestry was provided for this individual.

2.1.15. **Individual 15**

The remains of this individual included a left and right maxilla and associated teeth as well as a left frontal and parietal bone. These remains were recovered from site 9 B4.

2.1.15.1. **Age**

The upper third molars were in complete occlusion and presented with significant occlusal wear suggestive of an older adult age. Unfortunately no other techniques could be used here due to the incomplete nature of the remains. The only age estimate that could be given here was an adult age (possible middle to old adult age).

2.1.15.2. **Sex**

The only morphological features that could be observed were a sloped forehead and rounded orbital margins. This is synonymous with male individuals and therefore this individual was classified as possible male.

2.1.15.3. **Ancestry**

The only feature that could be used to determine ancestry was the nasal opening which was quite wide and the nasal sills which were guttered. This suggests a possible African (possibly South African black) ancestry for this individual.

2.1.16. **Individual 16**

This individual was represented by a single right temporal bone recovered from site 3 A10 and could not be matched to any of the other individuals.

2.1.16.1. **Age**

Due to the incompleteness of the remains age could not be determined here. Possible associated postcranial remains recovered from the same site seem to suggest an adult age.

2.1.16.2. **Sex**

The only feature that could be used to assess the sex was the mastoid process which was very small and therefore indicative of a female individual. Postcranial remains found in possible association with the temporal bone also seems to indicate a female sex. The presence of foetal remains (aged around 24-26 weeks prenatal) in the vicinity of this individual's abdomen however confirms a female sex.

2.1.16.3. **Ancestry**

Due to the fragmented and incomplete state of the remains ancestry could not be determined.

2.2. **Postcranial remains**

The postcranial remains used to determine the MNI and demographics where possible included the humerus, ulna, radius, pelvis, femur, tibia and fibula. Each skeletal element is presented in a table format indicating the individual, recovery site, bone side and then demographics where possible.

Table 1: Humerus

F=female M=male A=adult J=juvenile

1=present -=not present/unknown *=possibly

Individual	Site	Right	Sex	Age	Site	Left	Sex	Age
1	9B4	1	M	A	9B4	1	M	A
2	SAPS	1	-	J(16-18)	SAPS	1	-	J(16-18)
3	-	-	-	-	SAPS	1	-	A
4	-	-	-	-	SAPS	1	M	A
5	-	-	-	-	SAPS	1	F*	A
6	SAPS	1	F	A	-	-	-	-
7	SAPS	1	-	A	-	-	-	-
8	-	-	-	-	3A1	1	F*	A
9	-	-	-	-	3A10	1	F	A
10	-	-	-	-	3	1	M*	A
11	3A2	1	-	A	-	-	-	-
12	-	-	-	-	3A9	1	-	A*
13	-	-	-	-	3A12	1	-	J(6 months)
14	3A13	1	-	J(3-4)	-	-	-	-
15	3A6	1	-	J(4-5)	-	-	-	-

16	3A5	1	-	J(8-9)	-	-	-	-

Total: 16 individuals
3 males
4 females
9 unknown sex

5 juveniles: 16-18 years
8-9 years
4-5 years
3-4 years
6 months

Table 2: Ulna

F=female M=male A=adult J=juvenile

1=present -=not present/unknown *=possibly

Individual	Site	Right	Sex	Age	Site	Left	Sex	Age
1	9B4	1	-	A	9B4	1	-	A
2	-	-	-	-	SAPS	1	-	A
3	SAPS	1	-	A	-	-	-	-
4	-	-	-	-	SAPS	1	-	A
5	-	-	-	-	SAPS	1	-	A
6	SAPS	1	-	A	-	-	-	-
7	3A2	1	-	A	-	-	-	-
8	3A1	1	-	A	3A1	1	-	A
9	3A10	1	-	A	-	-	-	-

Total: 9 individuals

Table 3: Radius

F=female M=male A=adult J=juvenile

1=present -=not present/unknown *=possibly

Individual	Site	Right	Sex	Age	Site	Left	Sex	Age
1	SAPS	1	M*	A	SAPS	1	M*	A
2	SAPS	1	-	A	-	-	-	-
3	SAPS	1	-	A	-	-	-	-
4	SAPS	1	-	A	-	-	-	-
5	SAPS	1	-	J(16-18)	-	-	-	-
6	3	1	-	A	-	-	-	-
7	-	-	-	-	3A2	1	-	A
8	3A1	1	-	A	3A1	1	-	A
9	3A10	1	-	A	-	-	-	-
10	-	-	-	-	3A3	1	-	A
11	9B4	1	-	A	9B4	1	-	A

Total: 11 individuals
1 male
10 unknown sex (one juvenile between 16-18)

Table 4: Pelvis

F=female M=male A=adult J=juvenile

1=present -=not present/unknown *=possibly

Individual	Site	Right	Sex	Age	Site	Left	Sex	Age
1	SAPS	1	M	A(35+)	SAPS	1	M	A(35+)
2	SAPS	1	F	A(35+)	-	-	-	-
3	-	-	-	-	SAPS	1	M	A(35+)
4	-	-	-	-	SAPS	1	M	A(30-50)
5	SAPS	1	M	A(30-50)	-	-	-	-
6	-	-	-	-	SAPS	-	-	A
7	SAPS	1	F*	A(35+)	-	-	-	-
8	SAPS	1	-	A	-	-	-	-
9	9B4	1	M	A(30-50)	-	-	-	-
10	-	-	-	-	9B4	1	-	J(3-4)
11	3	1	-	J(9-10)	-	-	-	-
Total: 11 individuals 5 males 2 females 4 unknown sex (two juveniles between 3-4 and 9-10)								

Table 5: Femur

F=female M=male A=adult J=juvenile

1=present -=not present/unknown *=possibly

Individual	Site	Right	Sex	Age	Site	Left	Sex	Age
1	SAPS	1	M	A	SAPS	1	M	A
2	SAPS	1	M	A	SAPS	1	M	A
3	SAPS	1	M	A	SAPS	1	M	A
4	SAPS	1	M*	J(16-18)	-	-	-	-
5	SAPS	1	M*	A	-	-	-	-
6	SAPS	1	F*	A	-	-	-	-
7	SAPS	1	F*	A	-	-	-	-
8	-	-	-	-	SAPS	1	-	A
9	SAPS	1	-	A	-	-	-	-
10	SAPS	1	-	A	-	-	-	-
11	SAPS	1	-	A	-	-	-	-
12	3A2	1	-	A	-	-	-	-
13	9B4	1	M*	A	9B4	1	M*	A
14	3	1	-	A*	3	1	-	A*
15	3A13	1	-	A	-	-	-	-
16	-	-	-	-	3A11	1	-	A
17	7B1	1	M	A	-	-	-	-
18	3A3	1	M*	A	-	-	-	-
19	-	-	-	-	3A4	1	M*	A

20	-	-	-	-	9B3	1	F	A
21	3A1	1	F	A	3A1	1	F	A
22	-	-	-	-	8B2	1	M*	A
				Total: 22 individuals 10 males (one juvenile between 16-18) 4 females 8 unknown sex				

Table 6: Tibia

F=female M=male A=adult J=juvenile

1=present -=not present/unknown *=possibly

Individual	Site	Right	Sex	Age	Site	Left	Sex	Age
1	3A11	1	F	A	3A11	1	F	A
2	SAPS	1	F	A	SAPS	1	F	A
3	SAPS	1	M	A	SAPS	1	M	A
4	SAPS	1	M	A	SAPS	1	M	A
5	SAPS	1	F*	J(14-17)	SAPS	1	F*	J(14-17)
6	-	-	-	-	SAPS	1	F	A
7	SAPS	1	-	A	-	-	-	-
8	-	-	-	-	SAPS	1	-	A
9	Unknown	1	F*	A	-	-	-	-
10	SAPS	1	F*	A	-	-	-	-
11	-	-	-	-	9B3	1	M*	A
12	8A11	1	-	A	-	-	-	-
13	9	1	-	J(16-18)	-	-	-	-
14	3	1	-	A*	-	-	-	-
15	9B4	1	-	A	9B4	1	-	A
16	3A1	1	-	A	-	-	-	-
				Total: 16 individuals 3 males 6 females (one juvenile between 14-17) 7 unknown sex (one juvenile between 16-18)				

Table 7: Fibula

F=female M=male A=adult J=juvenile

1=present -=not present/unknown *=possibly

Individual	Site	Right	Sex	Age	Site	Left	Sex	Age
1	SAPS	1	M*	A	SAPS	1	M*	A
2	SAPS	1	M*	A	-	-	-	-
3	SAPS	1	M*	A	-	-	-	-
4	-	-	-	-	SAPS	1	-	A
5	-	-	-	-	SAPS	1	-	J(14-17)
6	-	-	-	-	3A10	1	-	A

7	SAPS	1	-	A	-	-	-	-
8	7B1	1	-	A	-	-	-	-
9	9B4	1	-	A	9B4	1	-	A
Total: 9 individuals 3 males 6 unknown sex (one juvenile between 14-17)								

3. Discussion of results

3.1. **MNI**

A MNI of 16 were obtained for the cranial remains whereas the postcranial presented an MNI (adult and juvenile) of between 9 (ulna and fibula) and 22 (femur).

When considering the total number of adult and juvenile remains for all skeletal elements a MNI of **28** was obtained.

3.2. **Age**

3.2.1. Juveniles

Seven juveniles were identified amongst the remains of approximately 28. Of these 7 juveniles two were estimated to be teenagers between 14-17 and 16-18 years, one between 8-9 years, two toddlers of 4-5 years and 3-4 years, one baby of approximately 6 months, and a foetus of between 24-26 weeks prenatal.

3.2.2. Adults

The remaining 21 individuals were all of adult age ranging between young adult (18-30), middle adult (30-50) and old adult (50+). The majority of the remains could however only be classified as being of adult age at death due to the poor preservation and incompleteness of the skeletal remains.

3.3. **Sex**

Not all the remains could be sexed, either due to their young age, limited skeletal elements present, or due to poor preservation. Of the remains that could be assigned a sex a maximum of 10 males and 6 females could be identified.

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APPENDIX 2 – SAHRA PERMIT

Lafarge Mine, Polokwane, Limpopo Province

Our Ref: 9/2/253/0027

Enquiries: Mariagrazia Galimberti
Tel: 021 462 4502
Email: mgalimberti@sahra.org.za
CaseID: 636

Date: Wednesday October 24, 2012

Page No: 1

Letter

In terms of Section 35(4) of the National Heritage Resources Act (Act 25 of 1999)

Attention: Mr Anton Pelser
APelser Archaeological Consulting
P.O. Box 73703
Lynwood Ridge
0040

Archaeological impact assessment and request to rescue five or more archaeological skeletons exposed at the Lafarge Mine close to Polokwane exposed during mining activities

Dear Mr Pelser,

the SAHRA APMHOB permit committee has received and revised the application for a rescue excavation of at least eight burials at Lafarge Mine in the Limpopo Province.

Many thanks for settling the application fee for the permit.

Decision:

Although the Phase 1 Archaeological Impact Assessment was not complete, SAHRA APM unit and the APMHOB permit committee agreed with the issuing of the permit.

While the Ditsong Museum has currently been identified as the repository for the human remains, the archaeologist must ensure that re-burial for the exhumed skeletons must be organised in proximity of the mine. Re-burial in a municipal cemetery may also be considered.

Should you have any further queries, please contact the designated official using the case number quoted above in the case header.

Yours faithfully

Mgalimberti

Mariagrazia Galimberti
Heritage Officer: Archaeology
South African Heritage Resources Agency

Colette Scheermeyer
SAHRA Head Archaeologist
South African Heritage Resources Agency

ADMIN:

Lafarge Mine, Polokwane, Limpopo Province

Our Ref: 9/2/253/0027

Enquiries: Mariagrazia Galimberti
Tel: 021 462 4502
Email: mgalimberti@sahra.org.za
CaseID: 636

Date: Wednesday October 24, 2012

PermitID: 144

PERMIT: Excavation, Collection

In terms of Section 35(4) of the National Heritage Resources Act (Act 25 of 1999)

Permit Holder:
Mr Anton Pelser
APelser Archaeological Consulting
P.O. Box 73703
Lynwood Ridge
0040

Site: Site 3 Lafarge mine, Polokwane (Site 3 Lafarge, Site 7 Lafarge, Site 8 Lafarge, Site 9 Lafarge) approximately at 23° 57' 26.82" S, 29° 29' 58.38" E

This permit is issued for the recovery of human remains and cultural material at Sites 3, 7, 8 and 9 on Farm Weltevreden 746 LS.

1. If the permit holder is not to be present on the site at all times then the heritage authority must be provided with the names and qualifications of the authorised representatives.
2. Adequate recording methods as specified in the Regulations and Guidelines pertaining to the National Heritage Resources Act must be employed. Note that the position of all excavations and objects collected must be marked on a plan of site.
3. This permit also allows for the collection of human fragments identified at Site 5.
4. A standard site record form and the cultural remains may be lodged temporarily with the Ditsong Museum in Pretoria, however, within the expiration of this permit, the record form and the cultural remains must be moved to a suitable repository in the Limpopo Province.
5. The exhumed human remains may temporarily be housed at the Ditsong Museum in Pretoria, however after the necessary forensic analyses have been undertaken, and within the time limit of this permit, the human remains must be re-buried in a suitable location chosen in collaboration with the heritage agency.
6. A final report on the results of the excavations and analyses must be submitted to the heritage authority issuing this permit on or before the 30th of November 2013.
7. Reprints of all published papers or copies of theses and/or reports resulting from this work must be lodged with the heritage authority.
8. If a published report has not appeared within three years of the lapsing of this permit, the report required in terms of the permit will be made available to researchers on request.
9. It is the responsibility of the permit holder to obtain permission from the landowner for each visit, and conditions of access imposed by the landowner must be observed.
10. It is the responsibility of the permit holder to fill in excavations and protect sites during and after excavation to the satisfaction of the heritage authority and the landowner.
11. The heritage authority shall not be liable for any losses, damages or injuries to persons or properties as a result of any activities in connection with this permit.

Lafarge Mine, Polokwane, Limpopo Province

Our Ref: 9/2/253/0027

Enquiries: Mariagrazia Galimberti
Tel: 021 462 4502
Email: mgalimberti@sahra.org.za
CaseID: 636

Date: Wednesday October 24, 2012
Page No: 2

PermitID: 144

This permit is valid from **25/10/2012 to 30/11/2013.**

Mariagrazia Galimberti
Heritage Officer: Archaeology
South African Heritage Resources Agency

Colette Scheermeyer
SAHRA Head Archaeologist
South African Heritage Resources Agency

Additional Info:

Please note that this permit may be suspended should an appeal against the decisions be received by SAHRA within 14 days from the date of the permit. SAHRA may not be held responsible for any costs or losses incurred in the event of the suspension or retraction of this permit.