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Report on the excavation of an informal graveyard in the Whitworth Dump

De Beers Mine
Koffiefontein

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BLOEMFONTEIN

REPORT ON THE EXCAVATION OF AN INFORMAL GRAVEYARD IN THE WHITWORTH DUMP, DE BEERS MINE, KOFFIEFONTEIN

(under permit no. 80/02/04/076/81 from
South African Heritage Resources Agency)

BY

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EXECUTIVE SUMMARY

Thirty-eight skeletons were removed under permit from the South African Heritage Resources Agency (Appendix 5), according to the National Heritage Resources Act (NHRA) no. 25 of 1999, from the Whitworth Dump on the Koffiefontein Mines property between April and July 2002. These skeletons had been buried in the mine dump, probably sometime between March and May 1896. It is likely that the informal graveyard contained more skeletons than the 38 removed in 2002, but it was decided to leave that part of the dump, where the rest of the graveyard lay, undisturbed by further mining activity.

The skeletons were removed according to archaeological procedures by a trained team from the National Museum in Bloemfontein. Various specialists undertook studies of the human bones, and the cultural, faunal and insect remains discovered with the skeletons. The results of these investigations, as well as the background history of the burials are reported on here.

The skeletons are those of black mine workers who died during a typhoid epidemic at the mine in the first part of 1896. They were workers for the *Koffyfontein Mines Ltd*, a company which was bought out by De Beers in 1911. Most of the deceased mine workers were buried in a designated area, but it appears that when the epidemic was at its height, the company could not cope with the numbers of graves required and buried some of the deceased workers in graves in the tailings. These latter graves were accidentally uncovered during reworking of the Whitworth Dump in 2002.

The skeletal remains indicate a group of mostly males (the two females are unexpected, and cannot adequately be explained) whose ages range from 14 to 70. There are indications on a few of the skeletons of physical labour, which would be expected of mine workers. The cultural remains do not conflict with a date of 1896, and are therefore supportive of the interpretation placed on the graves. They also provide an interesting aspect of the social conditions of mine workers from that time, something which is not really documented generally.

The National Heritage Resources Act has certain regulations pertaining to burials older than 60 years which are outside a formal cemetery. These include the arrangements for the final destination of the human remains, and the process by which communities who have an interest in the burials must be consulted about the future of the graves (Appendix 5). This report seeks to clarify which community should be consulted about the future of the burials. The miners were migrant workers who came from the Eastern Cape, Northern Cape, Botswana, Lesotho and the

Free State as well as (the now) Mpumalanga, and Mozambique. It is not possible to determine the exact place of origin of the individuals as no records have been preserved. It is also therefore not possible to determine the descendent community which would need to be consulted about the issue of reburial. Failing the identification of a community, the Act makes provision for SAHRA to determine the final resting-place for the remains (Appendix 5, page 7, section 36 (6) (b)). The remains could either be accessioned into the collection of the National Museum in Bloemfontein, or they could be reburied at the mine. SAHRA would make the decision taking recommendations of the mine and the archaeologist into account.

Location of Whitworth Dump Grave site (WDG on map) on 1:50 000 map

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INTRODUCTION

During the course of bulldozing operations at the Whitworth Dump at the Koffiefontein De Beers Mine in April 2002 three skeletons were uncovered. The machine driver, Elias March, recognised the bones as coming from graves (based on his previous experience, see Henderson 2001:6), and reported them to his supervisor. As a result the mine contacted the South African Heritage Resources Agency, who stated that an archaeologist should be contacted. The Mine then contacted David Morris, an archaeologist from the McGregor Museum in Kimberley, who visited the site on 22 April 2002. David Morris then contacted the author of this report and suggested that she proceed further as she had done the archaeological survey of the mine, and as Koffiefontein is in the Free State, any excavated material would have to be accessioned by the National Museum in Bloemfontein if it was not reburied.

The author and two assistants, Sharon Holt and Klaas Mphafi, therefore went out to Koffiefontein on Thursday 25 April to collect the skeletal remains removed during bulldozing, and to excavate the remains of a skeleton still *in situ* (KOF 04). A further three skeletons were uncovered the following day, and the team returned the following week. Excavations eventually concluded on the 9th July, by which time 36 skeletons had been removed, and two other collections of bones from bulldozed skeletons. The skeletons seemed to have been buried in an informal graveyard, of which only a part was excavated. The rest of the graveyard was not excavated, and the decision was taken to leave it undisturbed by further mining operations.

The guidelines to the Act state that every attempt to discover who the skeletons were should be made (Appendix 5). It is for this reason that the historical context of the event is gone into in detail. It was hoped that an extensive search of the records would provide that information, but unfortunately the records which would have provided the information were not kept.

This report is divided into four parts. Part 1 sets the background to the project, Part 2 discusses the historical context of the event, Part 3 deals with the excavations and the descriptions of the skeletons, and Part 4 is the recommendations section. Included as addendums are reports on the skeletal remains and the cultural and other material found with the skeletons by relevant specialists on the various subjects. Some of the information in these specialist reports is worked into the main report in order to give a complete picture of the individual skeletons.

PART I

BACKGROUND

LOCALITY

Koffiefontein in located in the Free State about 135 km west-south-west of Bloemfontein and about 100 km south east of Kimberley (Fig. 1.). The De Beers Koffiefontein mine is located to the west of the town. Mining now takes place underground, but until 1982 it was open cast. The oldest dumps were located around the edges of the kimberlite pipe. Whitworth Dump, where the skeletons were discovered, is on the eastern side of the Koffiefontein Mine pipe (Fig. 2.). A GPS reading taken at the location of the first *in situ* skeleton (KOF 04) was 29° 24' 768"S and 24° 59' 801"E.

THE WHITWORTH DUMP

The Whitworth Dump was about 490 m long, following the curved edge of the circular hole of the mined pipe. The skeletons were found about 120 m from the northern end of the dump, and about 120 m north of the highest point (Figs. 2 & 3). The dump was originally quite high (Fig. 4), with the edge of the portion of the dump north of the 'koppie' at 1220 m above sea level (a.s.l.) where it bordered on the pipe (height information kindly provided by L.E. van Rhyn). The highest point (the 'koppie' on the right in Fig. 5) was 1223 m above sea level (i.e. 3 m higher than the ridge of the dump to the north). The edge of the pipe below the dump was at 1215 m (in Fig. 5 this edge is the white strip below the dump). The dump sloped to the north east, and in the area of the skeletons it was between 1212 m and 1210 m a.s.l. The skeletons were discovered towards the eastern side of the dump, but it is difficult to determine the exact extent of the dump beyond the skeletons towards the east as it is eroded in this area (Fig. 6). However, the contours were still fairly close together (ie the slope was still quite steep) up to about 15m east of the skeletons, with the surface of the dump at this point 1208 m above sea level. The ground surface then sloped away more gradually and at the fence, some 80 m east of the skeletons, was at 1204 m a.s.l. About 140 m away from the skeletons the surface is at 1199 m (measurements taken from map of the Whitworth Dump and graves kindly provided by the Survey Department at the Koffiefontein Mine). The skeletons therefore appear to have been buried roughly about 15 to 30 m in from the edge of the dump.

The dump consisted of the so-called 'yellow-ground'. This is sediment from the top, roughly, 20 to 25 m of the pipe (Fig. 7), and is decayed kimberlite. Beneath this is the 'blue ground' (kimberlite which has not decayed), mining of which only commenced after the Anglo-Boer War (McGill 1991). The skeletons were buried fairly near the base of the dump. It is not possible to determine exactly how much above the historic land surface they were, but it would appear to be no more than about 2 to 3 m (Fig. 8). The dump was only 1.5 to 3 m higher than the depth of the skeletons in the area of the graves (Fig. 9).

The sediment of the dump was homogenous yellow-ground (Fig. 10), and the fact that the in-fill of the graves was also yellow-ground, made it impossible to distinguish the edges of the graves. In a few cases the skeletons were surrounded by softer yellow-ground, and this was noted. The possible outlines of a grave could be traced for burial no. 23. If these were a true reflection of the general size of the graves, it would indicate that the graves were not dug to the standard grave measurements. The standard measurements today are 1.82 m deep, 2.30 m in length and 0.76 m wide (D. Stander, pers. comm.). The depth of the grave for no. 23 is unknown, but the width was 0.43 m and the length 1.65 m, therefore about half the size of normal grave dimensions.

METHOD OF EXCAVATION

It would not have been possible to have moved the ground from the graveyard area by hand with picks and shovels. The area was too large, the skeletons were buried too deep, and the ground was very hard. The excavation therefore proceeded as follows: a bulldozer scraped over a designated strip (Fig. 11), removing layer after layer of ground (we tried to keep the layers as thin as possible). The moment there were any signs of a burial, the bulldozer stopped and the position was marked. Scraping then continued over the rest of the area in the same manner until the bulldozer could no longer move over the area without passing over marked positions. The graves were all at different depths, so it was possible to locate one grave which was lying higher than those around it, and have the others around it undisturbed by the bulldozer. The archaeologists then removed the ground around the marked positions with spades until the first bones became evident. Excavation then proceeded with trowels and brushes. Once we began to understand the layout of the graveyard, we would try to locate graves around those which had been uncovered by the bulldozer, as graves discovered this way were obviously in better condition.

Once the skeleton had been uncovered it was photographed, recorded on a plan of the graveyard, individually mapped and a description written down. Depth measurements were taken, and most of the graves were also surveyed by the Mine's Surveyors. The recording was done in as detailed a manner as possible according to the standards for archaeological excavations. The

skeleton was then removed bone by bone (Fig. 12), and placed in an individual box with its cultural material, if any, and number. These field numbers have been retained throughout the report so that consistency is maintained with the field notes. Permanent numbers will only be allocated to the skeletons if they are to be taken up into a Museum collection.

ANALYSIS

Various specialists were approached to do analyses of the material which had been excavated. The specialist reports are included as Appendices 1, 2, 3 and 4. The skeletal remains were examined by two anatomists from the University of Pretoria, E.N. L'Abbé and M. Loots (Appendix 1). The cultural material was analysed by S. Havenga, curator of the History collection of the National Museum (Appendix 2). L. Rossouw, Quaternary palaeontologist, and N. Avenant, Zoologist, both from the National Museum, examined the animal bones and animal skin respectively (Appendix 3). T. van der Linde, forensic entomologist from the University of the Free State, examined the insect remains, and obtained the report on the beetles which is included as Appendix 4.

The background historical information was researched by the author at the De Beers Archives in Kimberley and the Free State Archives in Bloemfontein. This was considered important in order to establish the historical context of the burials, as this is required by the South African Heritage Resources Agency (Appendix 5, pages 3 and 5). It was also necessary to determine who the people were who had been buried, as this could give an indication of who should be involved in the consultation process (Appendix 5, pages 3 and 9). These issues are dealt with in the recommendations section.

PART II

HISTORICAL BACKGROUND

Part of the project was to establish the date of the burials, what the circumstances were behind the burials, if possible, how many people were buried and who they were. To this end archival research was undertaken at both the De Beers Archives in Kimberley and the Free State Archives, in Bloemfontein.

The Whitworth Dump was the earliest of the mine dumps at Koffiefontein. It was composed of yellow-ground, which meant that the burials had to predate the mining of the blue ground. Large-scale mining of the blue started soon after the end of the Anglo-Boer War in 1902. The burials would therefore have occurred during the first decade of intensive mining of the pipe.

EARLY HISTORY OF THE KOFFIEFONTEIN MINE

The history of the Koffiefontein Mine and Town have been thoroughly researched and published by McGill (1991), and the early history of the mine is drawn from his publication. A brief outline only will be given here as it relates to the background of the burials.

The first diamond at Koffiefontein was found in 1870 (McGill 1991). However it was only in 1878 that claims were laid out at the pipe and put up for allocation by the then owner of the property, S.F.G. Rörich. The mine was proclaimed a public diggings on 28th December 1878. At the end of 1880 a subsidiary of De Beers, The London and Orange Free State Exploration Company Ltd, bought the Koffiefontein and Ebenhaezer farms from Rörich. Although several companies started working the claims in 1881 and 1882, the mine did not prove profitable, and by 1885 all the claims had been abandoned. The mine was declared a public diggings for the second time on 1st December 1889 and 1187 claims were sold. However the two largest companies had ceased operations again by December 1891 in spite of the fact that they had been operating at a profit the previous month, a new compound had been built, and in early 1891 a new waterworks had been erected by the London and Orange Free State Exploration Company. The Volksraad of the Free State was unhappy about the cessation of the work by apparently profitable companies. As a result a law was passed in May 1892 “making it compulsory for claim holders to work their claims to the satisfaction of the Government Inspector” (McGill 1991:12). If the claims were not worked satisfactorily they would revert to the Government. Although a small company, John Armstrong and Company, and W. Reed (referred to as Reed Brothers in OR 57), began working

at the mine during the second half of 1892, the two subsidiary companies of De Beers did not resume operations on the 996 claims under their control. The decision was taken by De Beers to abandon the claims, and in September 1892 they were advertised by the Free State Government. A few of them were taken up (by amongst others D.H. Jacobs and T.G. Osborne), but there was no large-scale work at the mine.

On 7th February 1893 Alfred Moseley arrived in Koffiefontein from London. About 1000 claims were available, and he bought them immediately for 500 sovereigns. Moseley then obtained the approval of the Free State Government to work the mine on a large-scale. The company came into being in May 1893, and was called *the Koffyfontein Mines Ltd*. The company was registered in London, with shareholders in England, Kimberley and the Free State. The Board and head office of the company were in London.

James West, a mining engineer from Kimberley, was appointed manager at the mine before Moseley's return to England. West had to manage the construction of "three head gears with washing plants" and sink a prospecting shaft (McGill 1991:15). By 1894 production was underway.

Alfred Moseley met Walter Whitworth briefly in London in 1894. Whitworth was on his way to South Africa after time spent in the construction of railways in Greece. Moseley gave Whitworth a letter of introduction to James West, although Whitworth hoped to obtain employment on the railways in South Africa. Whitworth eventually went to Koffiefontein on his way to Johannesburg. Through a series of circumstances which are fully described in McGill (1991) and Whitworth (n.d.), West employed Whitworth on the mine as a draughtsman.

Moseley visited the mine in December 1894. Before he left in February 1895 he appointed Whitworth as joint-manager with West. Both West and Whitworth, as well as the compound manager, Saunders, had to send a weekly letter to the Board in London. Whitworth's weekly letters have all been preserved and are in the De Beers Archives in Kimberley. They are an invaluable source of information particularly about the early days of the mine. The letters are mostly addressed to Charles Dodds, who was secretary of the company. Whitworth also wrote frequently to Moseley, and occasionally to C.F. Beaton, who was a shareholder, and who represented the mine in Kimberley. Unfortunately West's and Saunders' letter books were not kept.

By 1896 there were two companies operating on the Koffiefontein pipe. These were the Koffyfontein Mine Ltd (KML), which had 1239 claims, and the Nederlandsche Zuid Afrikansche

Diamantmyn Maatschappy (NZADM) which had 217 claims. The London and Orange Free State Exploration Company (LOFSEC) owned the waterworks, and the land. The other mines had to lease sites for machinery, and floors for depositing the yellow-ground which was mined (Fig. 14), from the LOFSEC. The manager of the NZADM was D.D. Schultz and that of the LOFSEC, Thomas G. Osborne. West was dismissed as joint manager of KML at the end of June 1896, and Whitworth was the sole manager from then on.

INVESTIGATING THE BURIALS

Establishing a date for the burials

Whitworth left an undated manuscript which has been preserved in the De Beers archives in which he describes his early days in Koffiefontein (Whitworth n.d.). On page 15 he wrote: “There were a certain number of enteric cases in the town while in the location and compound there was soon a real epidemic raging. Our accommodation in the Mine hospital was soon flooded and we had patients lying on the floor, while several of the white employees were infected and 3 or 4 deaths occurred. While with the natives we had up to 30 in one day and were overwhelmed by the number of graves required so that we had to put a number of dead natives in very shallow graves which were covered within a few days by tailings from the washing gears.” (Fig. 15).

This seemed to be the account which explained the presence of the graves in the mine dump. Unfortunately, Whitworth provided very few dates in his narrative, but it was possible to determine from the manuscript that the epidemic had occurred in 1896. McGill’s *History* (1991:29) was consulted and he states that the epidemic occurred between March and October 1896, with increasing numbers of deaths occurring during April/May 1896.

Verification for the burials of mine workers in the tailings (later the Whitworth Dump) comes from two independent sources. The earliest mention is in a letter dated 9th April 1896 (GS 444:167) written to the Free State Government secretary by D.H. Jacobs. In it he complains about the Government Inspector in Koffiefontein not doing his job. He asks why the Inspector was not concerned about the safety of the workers on the mine, and the fact that they were dying and were being buried under the tailings (“... en maar onder de tÿ lengs in gestooten worden...” Fig. 16).

The next mention is in the minutes of the meeting of the Directors of the LOFSEC for the 20th May 1896. One of the points discussed was a letter written by the Manager of the LOFSEC to the Directors that the KML “were burying natives in the tailings” (LOFSEC Minute book :227. Fig. 17).

The letter was written by T.G. Osborne on 12th May 1896 (see Fig. 18). Unfortunately the letter or a copy could not be located. The decision was taken at the meeting that a letter should be written to the Government Secretary in Bloemfontein reporting the matter. This letter was duly written (Fig. 19), and the Free State Government requested to "... take steps to stop such practise." (LOFSEC LB:41). However, there seems to have been no written response from the Government Secretary.

It can be safely assumed that at least some of the mine workers had been buried in the tailings by 9th April 1896. One cannot, however, determine how much before the 9th April this took place. The LOFSEC held regular meetings of the Directors. The previous meetings had been held on 6th May and 22nd April. By this time KML was presumably already using the tailings as a graveyard, but the practice was not mentioned in the minutes. The fact that it was already a month after Jacobs' letter when the LOFSEC requested the Free State Government to put a stop to the practise suggests that the burials were not an isolated incident, but that they continued for over a month. The closest date for the burials which can be determined is therefore April/May 1896 (possibly even from the end of March).

The circumstances behind the burials

Conditions at the mine

When the KML took up the abandoned De Beers claims it seems that they also bought some of the buildings on the mine, such as the Reed Brother's sheds (as well as their machinery for washing, OR57). The company also erected a compound for their mine workers, which was designed to hold between 800 and 1000 people (OR57). In December 1895 there were 650 black mine workers on the KML mine (OR58), and by the end of 1896, about 950 (OR59), but it is not clear how many were living in the compound. Labour was obtained from the local 'native settlement' and also from further afield by labour agents. The mine workers recruited by the latter came to Koffiefontein and lived in the mine's compound. The mine was fenced and the compound guarded to prevent the unauthorised departure of mine workers. Illicit diamond dealing was a problem. The company also paid the transport costs of workers from other parts of southern Africa, and the agreements stipulated that the fare had to be refunded if the worker left before three month's service had been completed. The mine therefore also had to control the conditions under which the workers left the service of the mine.

The mine workers had to buy their own food from the compound store. Their wages were low, and in "their efforts to save money to send home the boys[1] came near to starving themselves and

there was consequently a great deal of sickness among them." (Whitworth n.d. :9). It seems that the difficult living conditions and the starvation diet on which they kept themselves weakened the ability of the miners to stave off sickness. Whitworth also comments several times in his letters on the condition of the workers arriving at the mine. Often they had had to walk some distance to the mine, and would arrive starving and weak. Workers who were recruited from the north (as far afield as the 'Portuguese territories') would often have difficulty adjusting to the more extreme climate of the western Free State, and were particularly susceptible to pneumonia.

The LOFSEC had built the waterworks, noted above, in 1891. These consisted of a weir across the river, with a pumping station 3 miles below it and a reservoir. Water was pumped into the reservoir which was used by the mine and the town (Whitworth n.d.). It appears that there was a drought during the first few months of 1896, and the water in the reservoir and river dropped. The reservoir water became unfit for human consumption, and the townsfolk were ordered to obtain their drinking water from wells. At the mine the workers were supplied with drinking water from a spring in the open mine. In spite of these precautions, there was soon an outbreak of 'enteric' in the town, and large numbers went down with it in the location and the compound (Whitworth n.d.:15, Fig. 14). Whitworth had tried to do something about the situation. In a letter to Dodds, dated 2nd February, Whitworth writes: " I believe tho' that a large proportion of the sickness in the Compound is due to the water, which is supplied to us from the river by the Exploration Co, which has not been at all good for the last two weeks, but I have got the manager of the Exploration Co. to have the dam and reservoir cleaned out, and I hope that after this is finished the sickness among the boys will be considerably less." (LB A).

Identifying the epidemic

In his report (as Government Inspector for Koffiefontein) for 1895, A.P. de Villiers notes that there were 31 deaths in the hospital, mostly from pneumonia, between March and December of that year (OR58). It is not known how many of these deaths were of mine workers, as the hospital served the town as well as the mine. On 1st December 1895, Whitworth writes to Dodds that there are "not a very great number on the sick list" (LB A). However, by 26th January 1896, he reports that "during the past weeks we have had a very much larger percentage of boys ill again" (LB A). In his letter of 23rd February Whitworth again mentions that there were a "large number" of workers sick. No deaths are recorded until Whitworth's first letter after his return, from a trip to recruit labour, to Koffiefontein on 19th April 1896, when he recorded that 3 people had died in the previous week, and that there had been "a large number of deaths since I left at the end of February". In the same letter he notes that there are "a large number sick" (LB A). At the end of April he records that "Mr McCay [the new compound manager] informs me that we have lost 26

boys by death during the last 2 months" (LB B:3). From 19th April onwards Whitworth recorded the number of deaths each week. The first week without deaths was the last week in December 1896.

On 3rd May Whitworth notes that there is "no special epidemic as the deaths are from dysentery, pneumonia, scurvy and fever", and according to the doctor, the deaths (more than eight that week) in most cases were because the workers were "in such bad condition". There were seven deaths recorded in the following week with the report given as four from fever, two from pneumonia and one from dysentery (letter dated 10th May). By 17th May Whitworth reported that about 250 of his workers were sick, and that "2 or 3 boys were dying nearly every day until the last day or so" (LB B:26, letter to Moseley). The death rate for that week was 15 of sickness, and two from an accident (LB B:22, letter 17th May to Dodds). The following week there were seven deaths, and most of the workers who were sick were suffering from pneumonia, "the fever having almost died out" (LB B:33, letter 24th May to Dodds). On the 4th June de Villiers, in his monthly report (for May) as Assistant Landdrost, writes that the deaths at the mine were continuing, but that the doctor ascribed most of them to pneumonia as a result of the cold weather (GS 445:105).

It seems that at the time enteric or typhoid was not diagnosed, although Whitworth does refer to the sickness as an 'epidemic' in his letter to Moseley of 17th May (LB B). It is only in September that Whitworth reports deaths from typhoid - five deaths reported on 27th September as being "from our old enemy, the typhoid-dysentery combination" (LB B:390). He goes on to say that "we have not now a single case of this form of illness left". The deaths from then on are mostly ascribed to pneumonia, with dysentery making a reappearance in the middle of November (two deaths) and typhoid at the end of November. Typhoid lingered until the last week in December when no deaths were recorded.

The Koffiefontein Town Council became concerned about conditions at the mine around the beginning of May. They requested de Villiers to ask the District Surgeon from Fauresmith, Dr Fuller, to come to Koffiefontein and give a report. Instead de Villiers asked Dr Caiger from Jacobsdal for a report (see *Events leading up to the Commission* below). The Town Council were unhappy about this, and complained to the Landdrost at Fauresmith (GS 445:109). On 31st May Whitworth mentions (letter to Dodds, LB B:52) that some of the workers had broken out in a severe rash. They were diagnosed with chicken pox, and isolated by doctor's orders. Reports however were circulating in the town that small-pox had broken out at the mine, and de Villiers requested a full report from Whitworth and the doctor. The doctor examined the patients again, and requested a second opinion from Dr Pearse of Jagersfontein. As an outbreak of smallpox was regarded as very serious Dr Pearse was called in. He made a very careful examination and

diagnosed it as “severe chickenpox” and stated that the patients should be properly isolated in a warm place (one had already died). As a result a shed was moved and done up for the patients. This was particularly important in the light of the impending commission. The Koffiefontein Town Council had again requested that Dr Fuller be asked to come to Koffiefontein (GS 445:109, letter dated 4th June), and they registered another complaint against de Villiers when Dr Pearse from Jagersfontein came instead (although Pearse had come at the request of the doctor and not directly of de Villiers). However, it appears that Dr Fuller did visit the mine, as Whitworth reports that he agreed with the diagnosis of chickenpox. He believed that the main causes of the sickness were “chest complaints (viz. pneumonia & bronchitis) & says that what our doctor calls malaria is not malaria” (letter to Dodds 28th June, LB B:97). Fuller was not complimentary about how the local doctor, Dr Tannock, had handled the epidemic and said privately to Whitworth that Tannock “can have had no heart at all not to have made daily flying visits up to the mine during the worst of the epidemic and ... that he has been most careless as regards temperatures, etc” (letter to Moseley, dated 28th June, LB B:104). Whitworth, however, did not believe that “either of them have got to the bottom of what the disease has been”. The deaths remained high for the rest of the year (Table 1), but it would seem that Whitworth considered that the epidemic was over.

Table 1: Numbers of deaths recorded weekly by Whitworth

Weeks	March /April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
1		7	7	12	4	8	9	13	8	3
2	3 (A)	17	7	1	5	9	5	9	5	4
3	3 (A)	7	5	3	12	6	9	6	2	0
4	8+ (A)	5	nr	5	15	9	6	5	3	4
5				3			8		0	
Total Whit.*	(26)	27	19	24	36	32	37 (32)	33	16	11

* total numbers given by Whitworth, in the case of October they do not tally with the other numbers he reported.
nr = exact number not reported

A diagnosis from Jagersfontein

In his letter to Dodds of the 28th June (LB B:97) Whitworth mentions that West had spoken to DeBell, manager of the *New Jagersfontein Mining and Exploration Company* (NJMEC) about “taking over boys from us”. Whitworth did not think that they would be able to get many to go there. However, on 5th July he writes that they had sent 200 men to Jagersfontein on the 2nd July. Many of them were those who had caused the riot. Whitworth adds that “we have done well to get rid of them - as most of them if not always sick, were thoroughly lazy & dissatisfied & no real good for work” (LB B:117). However, this was the start of a long exchange of letters with Jagersfontein.

The men arrived in Jagersfontein on the Friday night. In his letter of 7th July to Solomon, the NJMEC secretary in Kimberley, DeBell writes: “I regret to say that I have been much deceived in the matter of the Koffyfontein boys. In one respect I blame myself, but I have not yet paid anything for these boys. I have consulted Mr van der Post’s [attorney in Fauresmith, see section on *Named individuals in 1896* below] representative in the matter. ... The boys arrived on Friday night & were examined by Dr Pearse on Saturday morning. He at once admitted 15 to the Town Hospital & about 50 others to the Floor Compound Hospital. Instead of matters improving with time, more have succumbed until at present about 50 of them have had to be sent to the Town Hospital. I have had affidavits taken which prove that many came & had been sick before they left Koffyfontein. ... others stated when questioned by me that they were anxious to get away as so many boys were dying at Koffyfontein & wished to come here. It seems almost criminal that these boys should be allowed to leave a place where those in authority know that much sickness prevailed & where numbers die daily.” (Jagersfontein LB 139:171-172)

Unfortunately Dr Pearse’s report has not been preserved, and DeBell does not mention what Pearse diagnosed. However, the claim inspector, W. Wagner, mentions the matter in his weekly report to Brink, the Government Inspector in Jagersfontein. Wagner writes that there were 45 workers in the Floor Compound Hospital, of which 40 were from Koffiefontein (GS 446:137). There were 127 in the Town Hospital of which ten had typhoid fever. Fifty-six others were sick in the compound, 50 of which were from Koffiefontein. Wagner includes a translation of DeBell’s letter to him about the sudden increase in sick workers. In it DeBell states that Pearse is worried that the sickness will develop into typhoid fever (“Dr Pearse is bevreesd dat het op Typheuze Koorts kan uitloopen”). DeBell states that the sickness comes from Koffiefontein, and that it seems that many are dying from the sickness there.

The Jagersfontein mine had been dealing with typhoid fever amongst its workers since the beginning of the year (Table 2). In the week before the Koffiefontein workers arrived there had been two deaths from typhoid fever, and ten were being treated in hospital for the disease. Pearse would therefore be expected to be able to diagnose typhoid immediately.

Wagner was appointed to the Commission of Enquiry in Koffiefontein (see below for details) and so was away from Jagersfontein from the 15th to the 31st of July. There is no report for the week of the 20th July, but Brink sent in a report on the 27th. In the report he states that 72 of the 200 workers from Koffiefontein were still sick (GS 446:176). By the following week only six of the Koffiefontein workers were still being treated (GS 447:13). Wagner reports that these six were still in hospital on 7th August and were suffering from typhoid (GS 447:58).

Table 2: The presence of typhoid at the Jagersfontein mine in 1896 (as recorded by Wagner in GS 443-450).

Month	Nos sick with typhoid	No. of deaths from typhoid	Total no. of deaths
January	44	9	15
February	36	13	16
March	100	6	13
April	134	8	11
May*	24	0	1
June	43	2	9
July**	20	9	26
August	44	5	20
September	12	0	9
October	4	3	15
November	0	2	8
December	42	4	18
TOTAL	503	61	161

* Report for first week missing
**Report for third week missing, but it appears that the figures are included in a later report

In a letter to Solomon on 3rd December DeBell mentions the possibility of getting more labour from Koffiefontein. He writes that "there is now the same sickness at Koffyfontein as among the former lot of boys received from there, viz a sort of typhoid fever." (Jagersfontein LB 139:328).

The verdict

It would seem therefore that the epidemic was typhoid, but that it was not diagnosed so at the time. Moseley seemed convinced of this as well when he wrote to Dodds while Whitworth was ill with typhoid: "The more I look into the recent epidemic amongst the natives the more I am convinced that the whole thing was 'Typhoid Fever' badly neglected through the ignorance and carelessness of Dr Tannock." (letter dated 28th February 1897, LB C:249). By the time Whitworth wrote his reminiscences he was also convinced that the epidemic had been typhoid or enteric (Whitworth n.d.:15).

How many people were buried in the tailings?

It has not been possible to determine how many people died in the epidemic. There is an unfortunate coincidence of situations, and loss of information over the critical months of the epidemic.

Walter Whitworth mentioned details relating to the mine workers in his weekly letters to London. However, he was away recruiting labour in the Eastern Cape for about two months. There is a

gap in his weekly letters with the last letter before the trip dated 23rd February 1896, and the first one after his return dated 18th April 1896. West was in charge of the mine and presumably sent his weekly letter to London, but his letter books have not been kept.

The Free State government had appointed a mine inspector who was supposed to carry out weekly inspections of the mine, and to send in a report. He also had to present an annual report on the mine, which was published. W. Wagner had been appointed claim inspector at Jagersfontein in August 1891 (GS447). Jagersfontein was mined on a larger scale than Koffiefontein, and by a single company. Unlike Wagner, who sent in his weekly report, the inspector at Koffiefontein, A.P. de Villiers, did not seem to be so assiduous in his duties. Part of the reason for this was that, unlike Wagner, de Villiers was also Assistant Landdrost, besides being chairman of the Mining Board, which had been set up in July 1895. The Mining Board received twenty percent of the claims license fees, and from that paid three salaries, of which de Villiers' was one. Koffiefontein did not have a Landdrost at the time, and de Villiers was therefore Assistant Landdrost under the Landdrost in Fauresmith, T.W. van Heerden (who was acting Landdrost in 1896).

On 21 July 1896 H.S. Theron was appointed Mine Inspector at Koffiefontein. He commenced with his weekly reports on 18 August 1896. He also submitted an annual report for 1896, but he only reports on the last five months of the year ("Ik heb de eer aan UEd. een algemeene rapport over de mijnen alhier, in te zenden, loopende over de laatste vijf maanden van het jaar 1896, dat is van den datum mijner ambtsaanvaarding tot 31 December j.l." OR 59). As noted above the epidemic occurred in the first half of the year, for which there are no official figures. It seems that in spite of the fact that A.P. de Villiers continued as Assistant Landdrost until the end of 1896, and therefore received Theron's report every month, he did not give figures for the number of deaths for the first half of the year which could have been included in Theron's annual report. De Villiers must have had the figures if Whitworth's statement that McCay "[gave] notice of all deaths immediately" (LB B, letter to Dodds dated 10th May 1896) was true.

Theron reports that 177 workers died unnaturally during the last five months of the year (OR59), and he presents the figures by category (Table 3). There were an average of 950 black workers on the mine, of which about 800 worked daily. Pneumonia had accounted for the highest number of deaths, particularly during October and November. Theron ascribed the prevalence of pneumonia to the lack of warm clothing, the inadequate housing at the mine and the fact that large numbers of workers came from the north and were not used to the Free State conditions. Diarrhoea was the second highest cause of fatalities. Theron put this down to the bad water which was drunk, and also the manner in which the workers fed themselves.

Table 3. Classification of cause of death amongst workers on the Koffiefontein Mine for August - December 1896 (from Theron, OR59:20).

Cause of death	Number
Pneumonia	85
Diarrhoea (*Buikloop*)	44
Typhoid Fever	14
Malarial fever (*Koorts ziekte*)	11
Tuberculosis	8
Scurvy (*Scheurbuik*)	2
Haemorrhage	3
(*Phthisis Pulmonalis*)	1
(*Phrenitis Coma*)	1
Gangrene of spleen	2
Sunstroke	1
Meningitis	1
Accidents	4
TOTAL	177

It is interesting to compare Theron's figures with those of Whitworth's for the same period (Table 1). Whitworth's total for August to December is 154. Only four deaths were recorded for workers at the NZADM during these five months (the company suspended operations for six months on 8th December 1896 as a result of the shortage of fuel brought about by the lack of transport due to the rinderpest). The difference between Whitworth's figures and those of Theron is thus 19 more deaths recorded by Theron. It is difficult to know to what one can ascribe the difference in figures, but it does cast some doubt on the validity of Whitworth's figures for the first half of the year. Certainly there is a discrepancy between his statement that "we had up to 30 [deaths] in one day" (Whitworth n.d.:15) at the peak of the epidemic, and his statement that "we have lost 26 boys by death during the last 2 months [ie March and April]" (LB B:3), with only a further 27 deaths recorded for May (Table 1), which was the period of the peak of the epidemic.

At present there is therefore no way of determining how many deaths occurred during the epidemic, and therefore how many people might possibly have been buried in the Whitworth Dump.

The identity of the people buried in the tailings

There are two issues of identity which need to be examined here. The first is the identity of the mine workers, who they were and where they were from. The second issue is that of the presence of two females which have been identified (Appendix 1).

Unfortunately none of the records of the day-to-day working of the mine from that period survive apart from the letter books of Whitworth. Registers of the individual workers would have been kept, and a contract was entered into with each worker when he was employed. In fact after the riot in the KML Compound on 18th May (discussed below), one of the charges brought against the mine was that the workers were brought to Koffiefontein under false pretences. However, Whitworth was able to prove that this was not the case (LB B:39-40). Each contract was witnessed by two witnesses as well as McCay, the compound manager.

It seems that each worker was allocated a number, which he wore stamped into a copper plate attached to a leather band or strap around the arm. Coins could also be inserted into the band, and a similar band (but without a number) was found with KOF 30 (see next section). Whitworth placed an order for 1000 of these bands on 17th May 1896, as "our old ones are in very bad condition, leading to a large amount of trouble in checking off the numbers weekly & over the monthly passes & other ways" (letter to Moseley, LB B:29, see also Fig. 135). However, without the registers or contracts it is not possible to identify individual miners.

It is however possible to determine to some degree from where the workers came. A constant theme of Whitworth's letters is the difficulty of obtaining labour, and he often notes from where the labour has come, and where recruiting was taking place. Moseley, West and Whitworth all went on trips recruiting labour in 1895 and 1896. West and Whitworth went to the Eastern Cape, while Moseley was in Johannesburg. They also recruited labour from Kimberley and Vryburg. KML also employed agents to recruit for them. One of the problems which is mentioned more than once is that the workers preferred to go to Johannesburg because the wages were higher. The Free State's laws also did not offer black migrant workers the same degree of protection as those of the Colony (eg the mines in Kimberley).

During the first half of 1896 it seems that a large proportion of the labour came from the Eastern Cape - areas such as East London, Queenstown and King Williamstown. However, there were also Basothos, and workers from as far afield as Botswana (Khama), Mafikeng, Vryburg and the then Pietersburg in the compound. In June the mine also received workers from Komati Poort. It was these up-country workers who seemed to have been so susceptible to pneumonia.

Supporting evidence for an Eastern Cape origin for at least some of the workers comes from the shells found with two of the skeletons, KOF 05 and KOF 30. Both types of shells are found on the Natal coast, and as far west as the Transkei (Appendix 2). They could have possibly been brought to the mine with the workers from the Eastern Cape.

Whitworth also notes in July 1896 that he had reorganised the compound so that the various groups were separated, “so that there will be less fighting”. He lists the different groups as follows: Colonial labourers [who are presumably from the Eastern Cape], Basothos, Shangaans and Myumbu (LB B:124). The Basothos were from Lesotho, where there were many agents recruiting. The Shangaans were from the north east (now Mpumalanga, and Mozambique), but it has not been possible to determine where the Myumbu came from, and it is probable that the term was a local name which is not is use today. It is, however, not possible to tell from the skeletons to which group a person belonged.

Females on the mine

Two female skeletons have been identified amongst those excavated. They are KOF 13 and KOF 17. This identification is quite unexpected, as usually only males are associated with mine work (Figs 20 & 21). No distinction can be drawn between them and the males buried in the graveyard on the basis of cultural material.

It has only been possible to locate two official references to women on the mine. Both of these are in the annual reports (as Government Inspector) submitted by A.P. de Villiers, and are both related. In his report for 1893-94 (OR57), de Villiers writes that the women were being used as ‘runners’ for the diamonds as there was no control over their movements. He suggested that the Government introduced a similar system of carrying passes as the men had to do. He states that women living in the ‘location’ who cannot prove that they have work at the mine (“en niet kunnende aantoonen dat zij verhuurd zijn”) should pay a monthly registration fee (in accordance with Law no. 70). The following year (1894-95) he repeats that he has made certain regulations, which refer to the control of the movement of women (OR58). Women going to the mine have to have a pass (“dat zij ook passen dragen wanneer zij van en naar mijnen (delverijn) gaan.”) and that unemployed women living at the mine have to be registered monthly (“op delverijn wonende”). It would appear from this that there were women living at the mine. Whitworth does not mention women at the mine in any of his letters, nor would it seem that there were women living in the compound. One would have to assume some sort of habitation near the mine buildings. It is still unexpected to find the two female skeletons in the group, however, but the fact that although KOF 13 is on the edge of the graveyard, KOF 17 is near the centre, suggests that they were well integrated into the happenings at the mine.

Attempts to deal with the epidemic and high death rate

Whitworth was trying to improve conditions for the workers on the mine from the beginning of 1896, before the epidemic had reached its peak, and before any recommendations came from the Commission of Enquiry (see below). These attempts were seen in a favourable light by the Commissioners, and probably helped the case of the KML at the Commission.

Accommodation

Whitworth did what he could to improve conditions of overcrowding. An extension was built onto the compound in January 1896 (LB A, letter dated 10th January 1896) and a second compound built later in the year (LB B, letter dated 10th October 1896). The old compound was also renovated (LB C, letter dated 15th November 1896), with new floors put in the rooms, and gravel in the courtyard (OR 59).

On 3rd May Whitworth wrote to Dodds (LB B:3) that he had had one of the disused iron buildings moved up to the compound as a hospital room where it was used to house the really sick workers. At the same time steps had been taken to upgrade the "closet accommodation", as the old closets, although disinfected daily, had become very smelly, besides being too small. A new closet was built outside the compound, to be reached by a passage. It had a concrete floor and could be "swilled out daily". Whitworth was sure that these measures would "bring down our numbers of sick".

Feeding

Whitworth also campaigned for some sort of feeding scheme to be introduced whereby the workers were forced to feed themselves properly. He mentions this in his letter to Dodds of 19th April 1896 (LB A:480-484). He gives several reasons in support of the scheme. In the first instance if the workers were stronger they would be able to work better, which would earn them more money (they worked on a system of payment for measurable work done, and not for a salary), and increased labour would obviously be better for the mine. The mine was also getting a "bad name" because workers could not save money and feed themselves at the same time. When they went back to their homes they spread the word around, and this was making it difficult to recruit labour from areas where they previously had done. The wages were more-or-less the same as at Jagersfontein, but the workers also received free food at the latter which made the difference. KML were also losing their 'best' workers to Jagersfontein as a result. The final reason why it was important to ensure that the workers were eating properly was that part of the reason

for the high sick and mortality rate was that the workers were in such bad physical condition that they were not able to fight the sickness once it had struck them down. Moseley was not in favour of the feeding scheme at first, but gradually came round to it. A feeding scheme based on the loading tickets was finally implemented at the beginning of July 1896 (LB B:125) and was followed by free feeding the following year.

Medical attention

The local doctor who attended to sickness on the mine was Dr Tannock (he was also the District Surgeon). He visited the mine once a week (for which the mine paid him £8 a month), and also attended the serious cases which were sent to the hospital in town. As the numbers of sick workers increased West increased his salary (to £15) so that he would visit the mine twice a week. However, Tannock seems to have been unaware, or deliberately unconcerned, about the seriousness of the situation at the mine, and certainly made no real attempt to bring down the numbers of sick and dying. Whitworth has this to say: Tannock "has not been all he might have been during this epidemic; he has made no flying visits up to the mine to see any bad cases - except his half-weekly visits - although he knew that 2 or 3 boys were dying nearly every day until the last day or so, - and on his telling me that West had almost doubled his salary, I suggested his coming up to the mine 3 times a week, but he said the increase had been given him because of the large increase of sick boys he has had to attend to & he could not come up oftener than twice a week" (LB B:26).

As a result of his dissatisfaction with Tannock's handling of the epidemic, in his letter to Moseley of 17th May (LB B), Whitworth suggested employing "a young medical student - who perhaps had failed in his exam, but still knew enough about drugs and surgery to attend to all minor cases". Only the serious cases needed then to be sent to Tannock at the hospital, and all other cases would receive dedicated attention at the mine hospital. Whitworth argued that besides helping to improve the health of the workers on the mine, it would be cheaper. Moseley reacted by sending out a young man named Farish, who arrived at the end of August.

Farish immediately set to and impressed Whitworth by his dedication and his effective handling of the situation. Although according to Whitworth's figures (Table 5) the death rate did not really decline, it appears that Farish was successful in keeping it under control, and for dealing with most cases of illness. Whitworth was so impressed that he asked the Board to raise Farish's salary from £3 a week (LB B:286) to £20 a month (McGill 1991:30). Even Theron had approving words to say of him: "De medische verpleging in de Hospitalen was ook zeer gebrekkig tot dat de heer Farish hier kwam die niets spaarde verbeteringen aan te brengen" (OR59:21). The hospital

was kept clean, and patients monitored continuously. Tannock was from then on only called upon in severe cases.

Commission of Enquiry

Events leading up to the Commission

Official concern about the high mortality rate started in May 1896. West dismissed one of the overseers, Bullock, at the mine for drunkenness on 3rd May. It appears that Bullock then went into Koffiefontein town and told the chief constable, Bayley, that "any number of boys were dying up at the mine & that not half of the deaths were reported to the Landdrost." (letter from Whitworth to Moseley dated 10th May), a statement which Whitworth states is "utterly false, as McCay has been very prompt in giving notice of all deaths immediately & applying for permission to bury." Bayley reported Bullock's accusations to de Villiers, and as a result, de Villiers asked Dr Tannock to give him a report on the conditions at the mine (GS 445:57). The Koffiefontein Town Council had also asked de Villiers at the beginning of May to request that the District Surgeon from Fauresmith, Dr Fuller, come to Koffiefontein and give his report on the deaths at the mine (GS 445:109). Instead de Villiers asked Dr Caiger, District Surgeon for Jacobsdal, for his opinion. De Villiers and Dr Caiger visited the mine on 9th May (Whitworth, LB 2:14). Dr Caiger sent his report directly to the Government Secretary in Bloemfontein (GS 445:57). According to Whitworth Dr Caiger was perfectly satisfied with the conditions in the compound.

At the same time D.H. Jacobs was agitating against the mine. He held grudges against KML and also de Villiers. These dated back to 1893 when de Villiers had given Jacobs' abandoned claims to Moseley. Apparently Jacobs had left his claims with every intention of returning, and when he did so found that they had been given to Moseley. He had written a long letter with supporting documentation to the government on 9th April 1896 (GS 444:160-175) in which he listed various matters about which he was dissatisfied. Amongst these were the fact that his 4 claims on the mine had been reallocated (he had not paid his licence for six months). He also accused the Government Inspector of not doing his job of overseeing the goings on at the mine, and that the mine was engaging in unacceptable practices including the burying of workers in the tailings (mentioned above), and not paying over money which belonged to deceased miners who had no family to claim it, to the State. It seems that Jacobs' letter had not been delivered owing to the absence of the local government representative (*Raadslid*). A petition (GS 445:40-42, dated 9th May) was therefore circulated to go with the letter in which the Government was asked to accept the letter and appoint a Commission of Enquiry to look into matters at the Koffiefontein mine. The petition was signed by 73 people, including some prominent businessmen in Koffiefontein.

Whitworth's comment on the petition was the following (letter to Moseley, 10th May, LB B:14): "To make matters worse that blithering old idiot Jacobs has been round the town with a petition to say that the doctor is incapable - that he is killing the boys in the Compd & is not fit for his billet & praying for his removal."

On 18th May there was a riot in the KML Compound, during which one of the workers was shot in the thigh, and later died in hospital (Whitworth, letter to Dodds, 24th May 1896 LB B:32-44). The riot was partly the result of unhappiness in the compound at the high mortality rate. Seventeen workers had died the previous week, and a large number were sick. One hundred and twelve new labourers had arrived at the mine from Queenstown the previous week and had been told by labourers already there that they had better escape before they too became sick and died. They therefore tried to leave on the Monday morning (the 18th), but were restrained by the Compound manager, McCay, and the mine guards under Campion. Violence ensued which was only ended when shots were fired after Campion had been knocked to the ground. A group of businessmen in Koffiefontein laid charges against Campion, McCay and Whitworth for attacking the workers, bringing them to the mine under false pretences, and ill-using them. Campion was arrested for culpable homicide (LB B:39). The case was heard from Tuesday afternoon until Friday evening, and ended with sixty-eight of the rioters being found guilty. Only ten were punished, as Whitworth had asked that only the ringleaders should be punished, and the rest were cautioned and sent back to work. Campion, however, had to appear before the Circuit Court in Fauresmith, but was found not guilty on 14th July 1897 (McGill 1991:29). The papers of the case were all sent up to Bloemfontein at the request of the State Attorney (LB B:42).

It would seem that the Free State government had become concerned by all the varying reports which they were receiving about irregularities in Koffiefontein. They therefore decided to appoint a commission. In the government secretary's response to the petition (mentioned above), he states that the government will send a commission of enquiry to Koffiefontein as soon as possible (letter to Jacobs, dated 27th May 1896, GS1547:373). On the 15th June, the government secretary wrote to Wagner to ask him to serve on the commission, together with C.G. Marais and I.W.B. de Villiers (GS1547:438). Whitworth had hoped to get Brink to serve on the commission "as being up on mining matters" (LB B:64, letter dated 7th June), but in spite of a letter from de Villiers to the government secretary suggesting the same thing (GS445:135), Brink was not appointed.

The Commission

On the 3rd of July 1896, the following brief was noted in the letters from the Government Secretary (GS1547:554), addressed to "I.W.B. de Villiers, C.G. Marais en W. Wagner":

“EW, Op last van UhEd de Staatspresident heb ik de eer Uedele Heeren te verzoeken om u te begaan naar Koffijfontein en aldaar te onderzoeken op eene wÿze di U meest geschikt voorkomt naar de volgende aangeleganheden en daarop aan UstEd te rapporternan met zoodanige aanbevelengen als zÿ mocht wenschelÿk beschouwen.

lw -

1stens Toestand van de mijn en compound in verband met de epidemie onder die kleurlingen aldaar.

2dens Oproer onder de kleurlingen en schieten van vier personen

3dens Omtrent de administratie van 20% op claim licentie door de Inspecteur

4dens Omtrent handel met negotie en drank in de Compound

5dens Omtrent zekere claims die beweerd worden als zijnde door de eigenaren aan den Heer D.H. Jacobs gratis gegeven en door hom niet gekregen

6dens Zoodanige verdere zaken van belang voor mijn en dorp die of dan dog der zitting mogen worden voorgedragen of die de Commissie uit eigen beweging meende in belang van ‘s lands dienst te moeten onderzoeken.

Ik het de eer te zÿn

U Eds dW Dienaar

Wd Governments Secretaris

Lÿst van documenten overhandigd aan de Commissie tot onderzoek te Koffijfontein bestaande uit de heeren I.W.B. de Villiers, C.G. Marais & W. Wagner

Re Koffijfontein

1. Origineel brief d.d. 25 Mei 1896 van Govts Insp. aldaar aan Govts Secretaris met rapport (origineel) van Dr Tannock dd 21 Mei 1896 over de ziekte onder de kleurlingen

2. Org. rapport van Dr Caiger dd 19 Mei 1896 over voormelche ziekte

3. Org brief dd 29 Juni ‘96 van Govts Inspk. aan Govts secretaris met kopier van stukken als volgt. Brief dd 18 Juni 1896 van voorsitter Dorps Bestuur aan Landdrost. Telegram van Assist Landdrost aan Landdrost Fauresmith. Telegram van Landdrost Fauresmith aan assist Landdrost. Brief 18 Juni ‘96 van Dr Tannock aan assist Landdrost bevattende memo van assist Landdrost op voet daarvan dd 19 Juni 1896. Brief dd 29 Mei 1896 van assist Landdrost aan Secrs Dorps Bestuur. Brief dd 25 Mei 1896 van assist Landdrost aan acting General Manager Koffyfontein Mines (Limid). Brief dd 28 Mei 1896 assistent Mgr Koffyfontin Mines aan assist Landdrost. Certificaat van Drs Pearse, Long & Tannock. Allen met betrekking tot Chicken Pox

4. Orig Brief dd 22 Juni 1896 van assist Landdrost aan Govts Secretaris met orig brieven van Secretary London & OFS Exploration Co. aan Govts Secretaris dd 20 Mei 1896 en W.S.

Whitworth (Koffyfontein Mines Limid) dd 18 Juni 1896 met vertaling van laasten over het begrawen van kleurlingen in de Tailings
en een pakket komende van Staatsprocureurs kantoor bevattende 29 stuks die aan elkander vast gelakt zÿn."

The Commission sat in Koffiefontein from the 16th to the 31st July 1896. Whitworth spent most of the time staying at the hotel in the town where the commissioners were staying (the mine was some distance from the town, and for instance when Theron started as mine inspector he asked for a horse because the mine was so far away from the town [GS447:158]). It seems that he was able to spend time talking to the commissioners and was favourably impressed by them.

The commission evidence was taken down verbatim (VR 1897 vols 420-423), and much of the documentation handed to the commission is available. Of relevance to this report is the report by Dr Fuller, dated 11th July 1896 (vol. 422:182-185). He visited the compound and the hospital on 26th and 27th June. He states that there had been 81 deaths over the three month period, with pneumonia the cause of the most deaths, followed by diahorrea and fever. He also states that there were "twenty boys at least buried in the tailings". He goes on to say that "I consider this a dangerous practise & one to be condemned; and it would be better now to have them taken up and cremated, or otherwise buried decently." This was obviously not done.

Fuller ascribed the high death rate to the very bad state of health of the individuals. They had arrived at the mine in a weakened state after their trip up from the Eastern Cape, and should have been rested before commencing work. He writes that "the epidemic seems to me to be of an influenza character, occurring amongst boys in very poor health; the rapidity of the diahorrea and pneumonia towards a fatal end, being to my mind very characteristic of this disease - the premonitory symptoms where (sic) of an influenza, the complications were diahorrea & pneumonia ... There may have been a few cases of a typhoid character, but when the temperature is not regularly taken or the stools examined; it is impossible for me or any one else to say it was typhoid."

The Commission discussed several other matters, particularly relating to the selling of brandy in the compound, and the agreements signed with the mine workers when they were contracted to the mine. It seems that these other matters were of more interest to the commissioners, and much of the evidence is about them. However, the epidemic at the mine was discussed, but it seems that the doctors could not agree as to its cause. Dr Tannock's report discussed the incidence of malarial fever at length, and Dr Fuller was more concerned about pneumonia.

Chicken pox had also been diagnosed, but it seems that typhoid was not regarded as the main cause at the time.

The Commission handed a report to the Government, and it was discussed by the Executive Council. Unfortunately it has not been possible to find the minutes of this meeting and of the decisions that were taken, but a copy of the draft minutes was discovered (UR40:291-295). The meeting is not dated, but probably took place between the 28th and 31st of August. The minutes are written in blue pencil and are difficult to read, but the essential points are decipherable. The details of the discussion is outside the scope of this report, but certain aspects will be mentioned.

The first was that sanitary conditions at the mine had improved, although they had been bad previously. The decision was taken that water from the reservoir was not to be drunk, nor was water from the mine unless it had been boiled first. As far as graveyards were concerned, the Council decided that there should be a proper piece of ground set aside for this purpose. Unfortunately the rest is not clear, but it seems to read: “Slechts die gr...n (?graven) zecht ?hun - ander onder de madden begrawen.” This seems to relate to the burials in the tailings, but it is difficult to determine what it means. As concerns the epidemic they state that “koorts geeft aan staten van sterfgevallen”, which seems to indicate that the numbers of deaths were due to the fever. Tannock stated that the sickness was malarial fever. Both Dr Caiger and Dr Fuller testified, and there was agreement that the sickness was caused by the bad water (“slechte water”). Tannock stated that it was also the result of the bad physical condition in which the workers arrived at the mine. One other point of interest for this report is the entry on money found on bodies, in which it was stated that such money must be handed over to Government.

The recommendations of the Commission were that de Villiers be transferred, and that Tannock’s government salary be suspended. It has also not been possible to find the report which was published from the Commission. However it was discussed in the Volksraad on Friday 14th May 1897 (VR29:425). Various comments were made by Volksraad members, and it was decided that as conditions had improved at the mine, the report would be noted only.

DISCUSSION

What is clear from the foregoing is that, while there may be some ideas of answers to the questions this section set out to investigate, there are by no means straightforward answers.

The simple answer seemed that there had been a typhoid epidemic which reached its peak in April/May 1896, that many people had died, and that the tailings dump was used as a burial

ground for the overwhelming numbers of deceased mine workers. However, it is not as simple as that. The epidemic was not firmly diagnosed at the time, and it was only later attributed to typhoid. Typhoid is a bacterial infection which has a six week cycle, and once people become infected they remain carriers of the disease for some while afterwards (pers. comm. Dr S. Potgieter). It can therefore be expected to continue for some time once it has established itself in conditions such as a mine compound. Typhoid is contracted via the oral-fecal route. Diarrhoea in an individual can indicate the start of typhoid, especially under conditions where typhoid is rampant. Therefore some of the deaths attributed to diarrhoea might also have in fact been typhoid. The term 'enteric' can be used interchangeably with typhoid, although it is not used much today (*ibid*). One thing which everyone seemed to agree upon was that the bad drinking water had played a major role in the epidemic.

Another inconsistency is in the reporting of the epidemic. Whitworth's reminiscences were written many years later, looking back on events before the Anglo-Boer War and quite near to the beginning of his career with Koffyfontein Mines Ltd. In 1896 he recorded numbers of deaths at the time they occurred, but these records do not match up to the numbers he notes many years later in his reminiscences. It would also appear that, if the designation of April/May is a correct one for the epidemic, Whitworth was away for some of the time in the Eastern Cape recruiting labour. He writes his reminiscences in the first person, but one cannot be sure whether he actually witnessed the burials, or that what he wrote was rather what he had been told had happened while he was away. Whitworth 'collapses' the events (the epidemic amongst the black mine workers, the burials in the tailings, the epidemic amongst the white mine workers, his bout of typhoid fever, and recuperation at the sea) in his reminiscences so that they seem to have occurred within the same period: "There were a certain number of enteric cases in the town while in the location and compound there was soon a real epidemic raging. Our accommodation in the Mine hospital was soon flooded and we had patients lying on the floor, while several of the white employees were infected and 3 or 4 deaths occurred. While with the natives we had up to 30 in one day and were overwhelmed by the number of graves required so that we had to put a number of dead natives in very shallow graves which were covered within a few days by tailings from the washing gears (see Fig. 15). The epidemic gradually eased off - Mr Moseley taking all possible steps to check the epidemic. When I went down with enteric he was extremely kind and telegraphed for a trained nurse from Sister Henrietta's Home in Kimberley to come out to nurse me." (Whitworth n.d.:15). However, from the official letters it would seem that the epidemic amongst the black workers started in February 1896, with the epidemic at its highest in April/May. The largest numbers of sick workers were recorded in May (about 250 sick, LB B:10, 25), a month after the letter written by D.H. Jacobs about the burials in the tailings. Whitworth himself succumbed to typhoid only in February 1897, returning from his recuperation at the sea on 17th April 1897. The white workers

started going down with typhoid in February 1897, with the deaths occurring then. The reminiscences should be treated with caution unless there is some independent verification. The essentials probably remain valid, and it could even be that with the benefit of 30 to 40 years distance from the events he could be somewhat franker about what had happened than he had been at the time.

Perhaps the best way to sum this all up would be to say that there was a period of an epidemic, which was probably typhoid, but could have been a combination of things exacerbated by the poor state of health of the mine workers. It seems that a larger number of people died than was reported officially at the time. We can, however, be reasonably certain that the window of March - May 1896 was the time during which this incident occurred.

NAMED INDIVIDUALS IN 1896

Bayley, Mr: Chief constable in Koffiefontein.

Beaton, C.F.: *Koffyfontein Mines Ltd* agent in Kimberley, also a shareholder.

Brink, J.G.: Assistant Landdrost and Government Inspector for Jagersfontein.

Bullock, Mr: Overseer for the *Koffyfontein Mines Ltd* of the young boys ('picanninies') who did the sorting for diamonds. Dismissed for drunkenness on 3rd May 1896.

Caiger, Herbert: Medical doctor and District Surgeon for Jacobsdal.

Campion, Robert: Head of the mine guard at Koffiefontein. He was tried for shooting one of the miners during a riot in the KML compound on 18th May, and was acquitted, but was later dismissed.

DeBell, Poul: General manager of the *New Jagersfontein Mining and Exploration Company*.

de Villiers, A.P.: Assistant Landdrost for Koffiefontein, and Government Inspector responsible for inspecting the mine. Relieved of his duties as mine inspector in July 1896, and transferred as Assistant Landdrost to Senekal on 1 January 1897.

de Villiers, I.W.B.: Attorney in Jacobsdal, Volksraad member for Jacobsdal, and member of the Commission of Enquiry.

Dodds, Charles: Secretary for the *Koffyfontein Mines Ltd* in London.

Farish, Mr: Medical Assistant sent out to run *Koffyfontein Mines Ltd* mine hospital in order to deal with epidemic. Arrived in Koffiefontein on 29 August 1896.

Fuller, George, Harry, Hingston: Acting District Surgeon at Fauresmith.

Jacobs, David. H.: Miner in Koffiefontein, who had 4 claims at the mine, which he lost to Moseley. Sent a petition about various matters, including the claims, and the burial practise of *Koffyfontein Mines Ltd* to the Free State government.

Marais, C.G.: Volksraad member for Boshof, and member of the Commission of Enquiry.

McCay, David: Compound manager for *Koffyfontein Mines Ltd*.

Moseley, Alfred: Director of the *Koffyfontein Mines Ltd* until 1897.

Osborne, Thomas Glasson: Manager of the *London and Orange Free State Exploration Company* at Koffiefontein.

Pearse, Robert Edward Franklin: Assistant District Surgeon and doctor in Jagersfontein who dealt with patients from the Jagersfontein mine.

Schultz, David D.: Manager of the *Nederlandsche Zuid Afrikansche Diamantmyn Maatschappy* at Koffiefontein.

Solomon, W.H.: Secretary for the *New Jagersfontein Mining and Exploration Company* in Kimberley.

Stokes, S.: Secretary for *London and Orange Free State Exploration Company* in Kimberley.

Tannock, John Porter: District Surgeon for Koffiefontein. Relieved of his position in the latter half of 1896, left Koffiefontein in September 1896.

Theron, Hendrik Schalk: Appointed as Mine Inspector in Koffiefontein on 21 July 1896.

van Heerden, T.W.: Acting Landdrost in Fauresmith.

Wagner, W.: Claims Inspector at Jagersfontein, and member of the Commission of Enquiry.

West, James: Manager of the *Koffyfontein Mines Ltd*. Dismissed June 1896.

Whitworth, Walter Stanley: Manager of the *Koffyfontein Mines Ltd*, from February 1895 (co-manager with West until June 1896, thereafter sole manager)

NOTE:

[1]The term in common usage for the black mine workers at the time seems to have been ‘boys’. It is retained here in quotations, but is obviously not acceptable as a term today. I use the term mine workers or labourers to refer to the black people working on the mine. Unfortunately their names have not been preserved.

PART III

THE EXCAVATED BURIALS

All age, sex and other pathological information about the skeletons comes from the report by E.N. L'Abbé and M. Loots. For full details see Appendix 1. The cultural material is described in the report by S. Havenga, and full details are available in Appendix 2. The identifications of the animal remains by L. Rossouw and N. Avenant are available in Appendix 3, and the beetle identifications by T. van der Linde and G. Goergen are in Appendix 4.

DESCRIPTIONS OF THE INDIVIDUAL BURIALS

KOF 01

This skeleton had been completely removed from the ground by bulldozing activity. Most of the bones had been collected, and could therefore be analysed. The skeleton was that of an adult male between 20 and 30 years of age at death. The body had been wrapped in hessian.

KOF 02/03

This skeleton had also been completely removed from the ground. The bones were collected from two localities, in line with each other. It would appear that the skull fragments which made up the collection of no. 3 had been carried further from their original location by the bulldozing activity. On examination it was discovered that the bones came from the same individual. This skeleton was of a male between 18 and 22 years of age at death.

KOF 04 (Figs 22 & 23)

The skull of this individual had been exposed and removed by bulldozing, but it location was evident. This was the first skeleton excavated. The skeleton lay in a supine position, fully flexed, apart from the right hand which lay on the pelvis, with its head to the south west. This person was also an adult male between 25 and 35 years of age at death.

KOF 05

This skeleton had also been completely removed from the ground. The bones were collected from loose ground, away from the rest of the graves (Fig.8). It would appear that it had been originally located somewhere near 13 or 15. The bones were badly crushed, but it was possible to determine that the individual had been male and between 20 and 30 years of age at death.

KOF 06 (Figs 24 - 26)

The legs and head of this skeleton had been disturbed by the bulldozer. However, it was possible to determine that the body had been laid on its back, with the right arm extended and the left arm bent across the stomach. The head was to the south west. The body had been wrapped in a red blanket and had had a coiled copper wire ring around the ankle, indicated by a copper stain on the bone (Fig. 26, also see Morris 1981). The ground was softer especially around the right side of the skeleton. The individual was a male and had been between 20 and 25 years of age at death.

KOF 07 (Figs 27 - 31)

The grave was also disturbed by bulldozing activity, and the legs of this individual were no longer in their original position. The skeleton was badly crushed but it was still possible to determine that the individual had been buried supine, with the arms bent up at the elbows so that the hands were near the face. The head was to the south west. The body had been wrapped in a red cloth.

A leather purse was discovered between the right upper arm and ribs (Fig. 29). The purse was lying on its side, with the top facing towards the arm (Fig. 30). It was attached to a leather strap which extended to the neck, the one side up around the chest, and the other behind the shoulder blade (Fig. 31). The strap had an iron buckle, and was attached to what seemed to be a circular leather piece with a metal central ?shank. This piece of leather was placed where the collar bone adjoins the neck vertebrae. The contents of the purse consisted of a folded piece of paper, a 6^{D} token and a one shilling coin.

This person had coiled copper wire around the legs. Fragments of red and brown material were also found in the area of the legs. It would seem that the copper had aided in the preservation of these fragments (see also Appendix 2).

It was not possible to determine the sex of this individual, but the person had been between 25 and 35 years of age when he/she had died.

KOF 08 (Figs 32 - 34)

This skeleton was found during bulldozing, and lost its legs in the process. However, it was possible to determine that the body had been laid supine in the grave, with its head to the south west. Both arms were extended down the sides of the body. The skull was still in position, and the face looked over the left shoulder. The body had also been wrapped in a red cloth, part of which had been preserved stuck to a copper bangle. This bangle had been around the lower part of the left arm, as indicated by the green stain (Fig. 34, see Morris 1981) visible on the soil.

The individual was male, and had been between 25 and 35 years at death.

KOF 09 (Figs 35 - 39)

Bulldozing had not disturbed this skeleton, and it was possible to determine that the body had been placed in the grave in a fully flexed, supine position with its head towards the south west. The sand was much softer around the skeleton, and it was possible to make out most of the outline of the grave. The body had been wrapped in both a red blanket and in hessian (Fig.37). Fragments of the red material were particularly well-preserved attached to the copper wire which was discovered around both lower legs. The person had obviously had a string of blue beads around his left ankle as well (Fig. 38).

The fingers of the left hand had been curled, and the ring finger and second finger both had copper rings on them (Fig. 39).

The individual was a male and had been between 20 and 25 years old at death.

KOF 10 (Figs 40 - 42)

The skeleton was lying on its left side with the head to the south west. The edges of the grave were clear around the upper portion of the body and down the eastern side, where the ground was softer. Both legs were bent with the feet lying next to each other. The right arm was bent at the elbow with the lower arm lying across the stomach. The right hand was clenched in a fist (Fig. 42). The left arm was at an angle away from the body with the elbow bent and the hand up at the

level of the face. Black platelets were found in the region of the pelvis, but it has not been possible to identify their source. The body had been wrapped in hessian.

The skeleton was that of a male who had been between 18 and 22 years at death.

KOF 11 (Figs 43 & 44)

This skeleton was not disturbed during bulldozing so was very nearly complete. Although the ground was softer around the skeleton, it was not possible to distinguish a possible grave. The body had been wrapped in hessian, and was lying supine. The right arm was extended at the person's side, with the fingers of the hand stained red. The left arm was bent with the hand under the chin. The legs were crossed at the knees. The skull was towards the south west, with the face looking over the right shoulder.

The skeleton was that of a male who had been between 20 and 25 years at death.

KOF 12

This skeleton had been completely removed during bulldozing. The bones were found near to KOF 01, and could have come out near KOF 15 (Fig. 8). The skeleton was that of a male who had been between 20 and 30 years at death.

KOF 13 (Figs 45 - 47)

It was difficult to excavate this skeleton because it was covered in well-preserved hessian (Fig. 47). The skull was unfortunately removed during bulldozing, although many fragments were recovered. It was towards the south west. The body was supine with the arms extended along the sides. The right femur had been removed out of position, but the left leg was in place. It would appear that the legs had been bent towards the right. The individual appeared to have been female, between 20 and 25 years at death.

KOF 14

This was a collection of bones which had been removed during bulldozing. At least three individuals seem to be represented. The bones were somewhat removed from the area of the graves (Fig. 8), and it was impossible to determine from where they came. They were found in line with KOF 05, KOF 12, KOF 01 and KOF 03. It is possible that the collection could be made

up of remains from KOF 05 and KOF 02/03. However, at least two other individuals are represented, as all four of the other collections had right distal femoral ends present, and two of these are present in the KOF 14 collection.

KOF 15 (Figs 48 - 52)

Unlike the skeletons described so far, this skeleton was lying with its head to the north east. It was lying on its back, but had not been laid flat in the grave at the time of burial. The lower portion of the body was lying in an extended position with the feet at a higher level than the pelvis, at the same height as the skull. However, the upper body was curved upwards, which gave the impression that the body had been placed in a slumped position in the grave with the left shoulder and head up against the side of the grave (Fig. 50). The body had slipped over and was half propped up on the right shoulder, lying on the upper right arm. The lower right arm extended outwards, and the hand was bent towards the skeleton at the wrist. The left arm was slightly bent with the hand between the legs. The top of the skull was visible first when it was uncovered, with the face looking over the right shoulder.

The body had been wrapped in a red cloth. A thick brown mass came out next the skull and over the left shoulder. It was impossible to determine its origin, but it might have been material which had lost its structure. Various buttons were discovered with the skeleton (Fig. 51). A white glass button was discovered on the top of the skull, which could either indicate that the shirt worn by the individual was pulled up over the head, or that it had been thrown in on top of the skeleton. A second, similar button was discovered in line with the shoulders about 18 cms away from the right side of the skeleton. It was discovered with pieces of rusted iron and two copper eyelets (Fig. 52). The rusted iron could have been part of a buckle. Two mother-of-pearl buttons were discovered slightly north of the second glass button and more towards the skull. Another copper button, attached to some brown material, was discovered under the chin of the individual. It would appear that the individual had been wearing some sort of clothing at burial, but also that another piece (or pieces) of clothing had been put in the grave near the head.

The individual had been a male, between 22 and 28 years at death.

KOF 16 (Figs 53 - 55)

This skeleton was lying in an awkward position. The lower body was lying on the left side with the legs bent and the feet together. However the skeleton was twisted in the stomach area, and the upper body was lying on the chest with the arms bent up. The lower left arm was under the chest

with the hand lying under the upper right arm. The right hand was lying under the chin. The skull faced over the right shoulder but was at an awkward angle, resting on its chin (Fig. 55).

The body had been wrapped in hessian. It had been buried with the head to the north east as with KOF 15. The skeleton belonged to a male between 25 and 35 years at death.

KOF 17 (Figs 56 - 58)

This individual had been buried with the head to the south west. The body had been wrapped in hessian, and was in a supine position. The arms, however, were bent with the left hand on the stomach. The right arm was bent away from the skeleton at the elbow. The head faced over the right shoulder. A copper bangle was discovered around the middle of the lower right arm (Fig. 58). The skeleton lay on a thick bed of roots and hessian. In many of the skeletons where hessian was quite well preserved there was a thick growth of roots in and under the hessian.

It would appear that this skeleton was that of a female between 20 and 25 years at death.

KOF 18 (Figs 59 - 63)

Like most of the other skeletons, this individual had been buried with his head to the south west. The body was in a flexed, supine position, with the head facing over the left shoulder. No signs of hessian were found, but there were numerous roots, which could indicate that the body had possibly been wrapped in hessian.

The skeleton had a copper bangle around the left wrist (Fig. 61), an iron button resting midway down the right fibula, and a leather strap around the left ankle (Figs 62 & 63). The remains have tentatively been identified as those of a male, between 22 and 26 years of age.

KOF 19 (Figs 64 - 66)

This individual was buried in hessian and red cloth, with his head to the south west. However the body had not been placed very carefully into the grave. The person lay on his right side with his right arm bent upwards so that his hand was under his chin. The left arm bent at the elbow with the left hand clenched in a fist (Fig. 66) in front of him. The legs were bent, with the right knee up against the side of the grave and the right foot under the left knee. The right foot was covered in a red stain.

The skeleton was that of a young male, between 17 and 22 years of age at death.

KOF 20 (Figs 67 - 69)

This skeleton was lying supine, but with the arms bent upwards and the hands on the chest (Fig. 69). The legs were crossed at the ankle with the left leg on top. The head was towards the south west and the face looked over the left shoulder. The body had been buried wrapped in hessian, and with an iron bangle around the lower left leg. Another rusted iron object was discovered near the lower right arm. Black platelets (similar to those found with KOF 10) were discovered in the skull. The skeleton lay on a thick bed of hessian.

The individual was a male between 22 and 28 years old at death.

KOF 21 (Figs 70 - 72)

This skeleton was lying on its back with its head, looking over the right shoulder, to the south west. Its legs were bent towards the right side, with the knees and feet together. The knees were slightly raised as if they had rested against the side of the grave. The right arm was flexed, but the left arm was across the chest with the hand, with its fingers curled (Fig. 72), lying beyond the right arm.

There was an iron fragment on the chest at the left elbow. The body had been wrapped in hessian. The individual was a male between 20 and 30 years of age at death.

KOF 22 (Figs 73 - 75)

It appears that this person had been buried without much care. The skeleton was lying twisted with the pelvis on its side and the legs more-or-less flat. The body had also been bent at the waist, and the person was buried lying on his chest, with his face resting on his chin. His left arm was stretched out behind him with the hand under the body. The right arm was bent at the elbow with the lower arm and curled hand at right angles to the body (Fig. 75). The body had been wrapped in hessian. The head was to the south west.

The individual was male and had been between 30 and 40 years of age at death.

KOF 23 (Figs 76 & 77)

The ground around this skeleton was soft, and when it was removed it was possible to see the size of the grave. The head was lying to the north east with the individual on his side, facing west. The arms were both bent with the right hand under the chin and the left hand curled in front of the body. The legs were bent with the left knee drawn up slightly more towards the chest than the right leg. The body had been wrapped in hessian for burial.

The individual was a male aged between 40 and 50 years at death.

KOF 24 (Figs 78 - 80)

This skeleton was also lying on its side with the head to the north east, facing west. The right arm was stretched out down the skeleton's back with the fingers of the hand curled up. The left arm was bent at the elbow with the lower arm sticking out at right angles to the body (Fig. 80). The left leg was on the top but lying to the back, with the right leg underneath and lying to the front. The body had been wrapped in hessian.

The individual was a male aged between 25 and 30 years at death.

KOF 25 (Figs 81 - 84)

This body had been wrapped in a red cloth, but it was lying on a bed of hessian and roots. The head was towards the south west, with the face looking over the left shoulder. The skeleton was supine, with the right arm alongside the body. The left arm was bent across the stomach with the left hand over the right hand. The legs were bent towards the right with the feet together.

Several items of cultural material were found with the skeleton (Fig. 83). A copper bangle was discovered around the upper left arm. The copper wire was covered in red woven cloth, which seems to have been preserved where it lay on the copper. Another bangle was found around the left wrist, also with red woven cloth adhering to it. A third copper 'bangle' with red cloth adhering to it was uncovered around the right lower leg. A clasp was found at the edge of the left scapula. Three glass buttons were found, one at the top of the skull, the second on the right side of the neck at the level of the shoulders, and the third lower down on the right side.

It would appear that a bundle of clothing and other objects was put into the grave near to the head of the individual. This was uncovered as a black material fragment in a red stain (Fig. 84).

The bundle contained a black waistcoat or jacket with at least two metal clasps, and at least eight leather buttons. Large portions of the material were well-preserved. Other objects were a coil of copper wire, a flat glass disc and a collection of wooden fragments. The disc was broken. There is a possibility that the pieces of wood were a mount for the glass, as there was a small curved rim of wood attached to thicker flat pieces, which seemed to have formed a circular base. The curvature and size of the wood and glass is the same. The coil of copper wire was found in the middle of the bundle. It is unclear what it would have been used for. It is however the same as the coiled copper used for ankle 'bracelets', and may have been held as 'stock'.

The skeleton is that of a male aged between 22 and 26 years at death.

KOF 26 (Figs 85 - 89)

This skeleton was lying in a supine position with the head to the north east, and the face looking over the right shoulder. The arms were bent at the elbow and the right hand was under the chin. There was an iron bangle around the left wrist. The body had been wrapped in hessian for burial.

There was a collection of objects next to and under the right knee (Fig. 87). These included a pipe with its copper lid (Fig. 87), two buttons, a round copper object and 19 pips. Seventeen of these pips could be either watermelon (*Citrullus lanatus*) or pumpkin (*Curcurbita moschata*) (P.C. Zietsman, personal communication). If the former, watermelon would be available from November to February. However these would not have come from the modern cultivar, and could have been kept for longer than the watermelon of today. Pumpkin is, however, more versatile. The other two seeds were unidentifiable. The large wooden button came from on and next to the left knee (it was in fragments), and might be related to the collection of objects around the right knee.

Wear on the left upper and lower I2s and canines (Fig. 89) suggest 'pipe-smoker's wear' (Morris 1988) which indicates that the individual had smoked a pipe for sometime. This is rather neatly confirmed by the presence of a pipe in the grave. This pipe has a vulcanite stem (Appendix 2), and although lesions produced by vulcanite pipe stems are different to those of smokers of clay pipes (Morris 1988), they do occur. The individual was male and had been between 25 and 35 years of age at death.

KOF 27 (Figs 90 & 91)

This person had also been buried wrapped in hessian with his head to the north east, and turned to look over his right shoulder. The skeleton was supine, but with his legs bent towards the right

and the left knee resting on the right leg. The left arm extended downwards, but the right arm was bent upwards with the hand above the head. The right elbow was propped up against the side of the grave about 15 cms higher than the shoulder.

There was an iron band around the left ankle. The individual was a male and had been between 25 and 35 years of age at death.

KOF 28 (Figs 92 - 94)

This person had been buried with his head to the south west, and lying partly on his side, but mostly on his chest. The face was towards the right, but partially downwards. The legs were crossed with the right leg under the left leg. The right arm was under the chest and the right hand in front of the skeleton at shoulder level. The left arm was bent with the hand on the neck. The body had been wrapped in hessian. Black platelets were visible in the chest, neck and scapula area. A button was discovered on the left shoulder suggesting that the individual had been wearing a shirt when he was buried.

A string of predominantly blue, but also some white and pink beads, was discovered around his neck (Fig. 94). The individual was male aged between 14 and 18 years at death. It was interesting to note that young children (especially Sotho-speakers) often wear a string of beads around the neck. This person was the youngest of all the individuals in the sample.

KOF 29 (Figs 95 & 96)

This individual was lying on his stomach with the face looking over his left shoulder. The head was towards the south west. The left arm was bent with the hand in front of the face. The right arm was bent with the lower right arm under the stomach. The legs were bent towards the left side of the skeleton. A red stain was evident on the right lower arm and hand and on the left leg. It seems that the individual had been buried in a red cloth. Black platelets were noted in the region of the chest and the brain. There was no cultural material with the skeleton.

The individual was male and had been between 25 and 35 years at the time of death.

KOF 30 (Figs 97 - 105)

This person had been buried with his head to the south west in a supine position. The face looked over the left shoulder. The left arm was extended down the side of the skeleton, while the right

arm was bent across the stomach with the hand under the left arm. The left leg was bent with the lower leg over the right leg and the foot parallel to the lower right leg. The body had been wrapped in hessian and quite an amount of the hessian had been preserved.

A collection of cultural remains was found with this individual (Fig. 99). A leather strap was found around the right arm, just above the elbow. This strap contained 27 coins (see Appendix 2). This arm band is similar to the one described by Whitworth (LB B:29), although it lacks the copper plate on which the person's identity no. was stamped. It does, however, have the slit under the buckle strap into which money could be inserted. It would seem that this kind of band or strap was in common use at the time. A piece of rusted iron was found in the vicinity of the right hand on the lower left arm, but it was impossible to determine what it was.

Most of the objects were located over and next to the right knee. They consisted of a 'divining set', a piece of burnt bone, two spoons, a purse, a piece of skin, an iron nail, a metal strap, some copper wire, a pair of trousers and a piece of textile (Fig. 100). The 'divining set' had been in a bag, and the bones and cowry shells lay in a half moon shape (Fig. 101). The 'set' consisted of three cowry shells, a Later Stone Age core, the bones from the foot of a bird and seven knuckle bones from sheep (2), goat (3), springbok (1) and one unidentified (see L. Rossouw, Appendix 3). The piece of burnt bone was not part of the set as it was found on the other side of the knee, but was also from a sheep (Fig. 102). The piece of skin was probably that of a duiker (N. Avenant, Appendix 3) and was found draped over the right knee (Fig. 103), under a piece of beige textile. This latter textile was very finely woven and was folded many times. The beige textile was partially under the trousers (Fig. 104). The iron nail and the strap were found on top of the knee, resting on the textile. The two spoons were found on top of each other (Fig. 105) partially under the purse and the 'divining set'. It would appear that the 'divining set' was in a separate, small bag. All the items were concentrated in one area, but it is difficult to determine whether they were in a larger bag that was placed in the grave or whether they were placed in the grave individually. The spoons were resting on one another which would perhaps be unlikely if they were loose in a bag. However, the collection of objects would seem to have been placed randomly in the grave, some on top of each other. The trousers also were not folded in any way, but appeared rather as if it had been dropped into the grave.

The individual was a male, between 25 and 30 years of age at death.

KOF 31 (Figs 106 - 108)

This skeleton was lying supine, with the head towards the south west, and the face upwards. The right arm and legs were flexed, but the left arm was bent upwards with the hand under the chin. The body had been wrapped in hessian for burial.

Five buttons were found on the skeleton. They were all the small glass buttons that probably came from a shirt. The locations of the buttons suggest that it might have been a long shirt that opened all the way down the front. The individual also had a copper wire band around each lower leg just above the ankles. A copper earring was found in the vicinity of right ear (Fig. 108).

The individual was male and was between 25 and 30 years of age at death.

KOF 32 (Figs 109 - 115)

This skeleton was lying supine with its head to the south west, and the face looking over the left shoulder. The left arm was bent with the hand under the chin. The right arm was bent across the body, with the elbow raised up about 10 cm above the vertebral column. The feet were together with the left foot resting on the right foot. The body had been wrapped in hessian for burial. No cultural remains were found with the skeleton.

Of interest was the large amount of beetle dung which was found with the skeleton. This dung was found inside and around the skull (Figs 111, 112). It was also particularly evident around the arms and legs of the skeleton. The bones seemed to have been resting in a bed of dung (Figs 113, 114). Pieces of grass were found in the dung (Fig. 115). When the ground around the skeleton was sieved it was found to contain 30 beetles which were identified as *Lecanoderus cordicollis* (see Appendix 4). These beetles were collected, and were obviously in hibernation, as they woke up in the warmth, and started moving around. Two forensic entomologists were consulted, and they were both of the opinion that the beetles had entered the grave recently. Only one pupae case was found.

The individual was a male between 30 and 40 years at death.

KOF 33 (Figs 116 - 118)

The upper part of this skeleton was damaged by bulldozing. However, it was possible to determine that the skeleton was supine, with the head to the north east. The legs were stretched

out, and the right arm was alongside the body. The left arm was bent across the body. The body had been wrapped in hessian which was still much in evidence.

There were copper wire bangles around the ankles of the individual (Fig. 118), and a piece of brown textile was evident near the right shoulder. The individual was male and was between 17 and 20 years at death.

KOF 34 (Figs 119 - 121)

The right leg and part of the left leg were accidentally removed during bulldozing. However, it was possible to determine that the individual had been buried in a supine position, with his head toward the south west, and the right arm extended down the person's side. The left arm was bent upwards and the hand was under the chin. The body had been buried in a red cloth.

A box of matches with unused matches in it was found against the edge of the left pelvis (Fig. 121). The matchbox was on a leather pouch. It seems that the box of matches and the pouch were in a bag which was on a thin leather strap with a buckle. The leather strap extended up along the ribs to just below the left scapula. The other part of the strap extended under the pelvis area. It seems that the strap was worn over the left shoulder and down the back.

The individual had a copper earring in each ear. A rusted iron piece was found between the ribs of the left side. The skeleton was of a male aged between 25 and 35 years at death.

KOF 35 (Figs 122 - 124)

This skeleton was found lying on its stomach, with the head towards the south west, and the face looking over the right shoulder. The right arm was lying bent away from the body with the hand against the right leg which was bent upwards. The left arm was under the chest with the hand against the upper right arm. The left leg was also bent upwards behind the right leg. The body had been wrapped in hessian. A thick bed of mixed roots and hessian was discovered under the skeleton after it had been removed.

Four small glass buttons were uncovered and their locations would seem to suggest that the individual was wearing a shirt when he was buried. The button next to the little finger of the right hand could suggest a long-sleeved shirt. A rusted iron strip was found near the right elbow. This seems to have formed part of a purse. A one florin coin was found during sieving and it is likely that the coin came from the purse. A pocket knife was found under the right scapula (ie on the

front of the individual, Fig. 124). A large button was found near to the knife. It would seem that the knife and the button suggest a pouch or a pocket which was located on the right shoulder, either through design, or it had come to rest in that vicinity when the body was buried. The purse would presumably have been concealed in a pocket of some sorts, so one can infer that the clothing of this individual was not lying neatly around the body when the person was buried.

The skeleton was that of a male aged between 30 and 40 years at death.

KOF 36 (Figs 125 & 126)

This skeleton was badly disturbed by bulldozing activity. However, it was still possible to determine that the head had faced south east. The skeleton was lying on its side facing west. The arms were bent upwards and the hands were under the chin. One fibula and one foot still seemed to be undisturbed. If these were in position it would indicate that the person had been buried in the foetal position with his knees near his elbows. This was the only skeleton possibly buried in this position. The body had been wrapped in hessian.

A buckle was discovered between the arms, and a copper earring under the skull. It would appear to come from the left ear.

The individual was an adult male between 25 and 35 years at death.

KOF 37 (Figs 127 - 129)

KOF 37 and KOF 38 were buried in a double grave with their heads at opposite ends of the grave. The knees of both individuals were opposite the foot of the other individual.

Unfortunately KOF 37 was badly disturbed by bulldozing. Only the left leg, the lower right leg and the lower left arm were still *in situ* when the skeleton was uncovered. The position of the right hand was indicated by a collection of hand bones, and this suggested that the right arm had been alongside the body. The left arm was also alongside the body. From this arrangement it was possible to deduce that the head had been to the north east, and that the body had been supine with the legs extended. The body had been wrapped in red cloth. No traces of hessian were found.

A pipe gap was observed where the incisors were worn on the left side (Fig. 129). The skeleton was that of a male aged between 25 and 35 years at death.

KOF 38 (Figs 127, 128, 130 - 132)

This skeleton was discovered while uncovering KOF 37. It was in very good condition, the ground having formed a cavity around the upper half of the skeleton so the bones were not crushed (Fig. 130). The skeleton was supine with the head to the south west, and the face looking over the left shoulder. The legs were stretched out, and the left arm was alongside the body. The right arm was bent and the hand rested on the stomach. The body had been wrapped in hessian, which was well-preserved, especially in the chest area (Fig. 131).

Several items of cultural material were found with the skeleton. A broken possible hat pin was found on the lower neck and in the upper chest area. The location of the two pieces of the possible pin would suggest that it was not being used as a hat pin, but was either being used to pin cloth together in the lower neck area, or it was some form of decoration (see Appendix 2). Another piece of iron was found next to the left side ribs, but it is not possible to determine what this could have been part of. A bangle was found around the lower right arm, with a glass button near the bangle. The glass button suggests a shirt, and fragments of a green textile were found on thoracic vertebrae nearby, which could be the remains of the shirt. Two iron buttons were found near to the upper right and left legs, and a copper button was found next to the right tibia. A purse was discovered on the left tibia in a position which suggests that it had been in a trouser pocket (Fig. 132). The purse contained two KML 6^{D} tokens. Further evidence for trousers comes from the iron clasp which was found (see Appendix 2).

This male was the oldest person found, being between 60 and 70 years old at death.

GENERAL COMMENTS ON THE SKELETONS

Certain general conclusions can be drawn from the skeletons, the layout of the graves, the positions of the skeletons uncovered in the graves and the cultural remains found with them.

The layout of the graveyard

Thirty two skeletons were removed from 31 graves. There were roughly five rows of graves. However, the two most southerly rows were very close together and were less evident than the other three rows. The graves were assigned to the rows as follows:
Row 1: 13, 30, 16
Row 2: 15, 29, 22, 35, 23
Row 3: 8, 9, 17, 18, 21, 25, 24, 31

Row 4: 4, 6, 10, 20, 28, 27, 33, 26, 37/38
Row 5: 7, 11, 19, 34, 36
Grave number 32 occurred in between rows 3 and 4.

As can be seen from Figure 133 none of the rows is in a straight line. This gives the impression that the graves were not all dug at the same time, were dug in haste and also that it was not professionally done; a rather uncoordinated effort. The depths of the graves were not consistent, which would also support this interpretation. The difference in depth between the shallowest grave (no. 15, on the western side) and the deepest grave (no. 38, on the eastern side) was 1.5 m. This would seem to indicate that the graveyard grew in a westerly direction (if the dump was growing while the burials were taking place). The double grave on the eastern side (nos 37 & 38) was originally thought to indicate the beginning of a speeding up in the burial process, but probably rather represents something different, perhaps a slowing down in numbers of deaths.

The layout strongly suggests that the whole graveyard was not uncovered. The double grave on the eastern side suggests that there may be more graves in the vicinity. The graveyard would extend in a south easterly direction, and the area uncovered would only indicate the most north western limits of the graves.

Orientation

There are three aspects to orientation which will be examined. First is the general orientation of the skeletons as an indication of the grave orientations. The second is the individual alignments of the skeletons within the rows and third is the orientation of the skeleton within the graves.

General orientation of the skeletons/graves

The skeletons are orientated north east - south west, with the rows of graves extending from the north west to the south east. A normal orientation would be expected to be east west where there is no impediment. It might be that the lines of graves roughly followed the edge of the dump, around the pipe.

Individual alignments of the graves

Although all the skeletons are roughly orientated north east - south west, few of the individual skeletons are parallel to those on either side of them. Some of them, such as 4, 10, 11, 15, 24

and 35 are more obviously out of alignment (Fig. 133). This supports the suggestion that the graves were not all dug at the same time.

Orientation of the skeletons within the graves

Most of the skeletons had their heads towards the south west. However, eight (or 25%) of the skeletons were buried with their heads to the north east. The occurrence seems to be random, although nos 27, 33, 26 and 37 (from the double grave) are all next to each other in row 4. These four skeletons were all supine, although only 37 had its legs and arms extended. Of the other four skeletons (which all occurred in rows 1, 2 and 3), two (23, 24) were on their sides, one (16) on its chest and one (15) was slumped.

Positions of the skeletons

There are six categories of position amongst the skeletons: supine with arms and legs extended, supine with one arm bent, supine with limbs bent or crossed, on side, on chest, and slumped (Table 4 & Fig. 134).

Table 4: Breakdown of positions of skeletons n=32

Position	Number	Percentage
Supine, extended	3	
Supine, one arm bent	4	12.5
Supine, legs and arms bent	11	34.38
On side	5	15.62
On chest	5	15.62
Slumped	1	3.13
Legs missing	3*	

* no. 8 has its legs missing, however, as none of the skeletons with their legs crossed or bent had their arms straight at their sides, it is assumed that the legs of no. 8 were extended, nos 6 & 34 have their legs missing, but have one arm bent (In Fig 134, no. 8 is included with “extended supine”, and nos 6 & 34 with “supine, one arm bent”).

What emerges from this breakdown is that the number of skeletons buried in an extended supine position is very small. Even combining this category with those of the skeletons which were almost in an extended supine position (ie had only one arm not extended), less than a third of the skeletons seemed to have been placed carefully in their graves. At least a third of the skeletons seemed to have been put rather unceremoniously into the graves. This would also seem to support the idea of haste, and the lack of proper, professional care in the burials.

If KOF 36 was buried in a foetal position this would normally suggest a possible traditional burial practice. The traditional African mode of burial was to place the body, wrapped either in a mat, cloak, or skin of an ox, in a sitting position (KOF 36 was lying on his side) in the grave with the knees tucked up against the chest (Hammond-Tooke 1974, Shaw 1974, Tyrrell & Jurgens 1983). However, the Western mode of burial (with the body supine) had already largely taken over from the traditional practices. It would seem that although the Koffiefontein corpses were wrapped in a blanket or hessian, the bodies were buried in the Western fashion. It is possible that KOF 36 was buried in a more traditional position, but as the skeleton was heavily disturbed the identification of the position of burial remains tentative.

There is another aspect to the position of the skeletons in the graves. Nearly 70% of the bodies were not lying in an extended supine position (Table 4). A local Bloemfontein undertaker, Mr Deon Stander, was consulted about these burial positions. After examining the plans of the skeletons he concluded that many of the people had been curled up in their beds from cold when they died. A body will undergo rigor mortis after three to four hours. Once the body is stiff it is very difficult to straighten it out, and in amateur circumstances usually not possible. If a person had died in the early part of the night, it is very likely that by the time the body was found the next morning it was already stiff. Under the circumstances of the mine not coping with the high mortality rate, it is probably safe to assume that the bodies would have been removed and then buried without too much attention paid to trying to lay them out. If the suggestion that the people were suffering from cold before they died in their sleep holds, one could examine the distribution of ‘curled up’ bodies to possibly gain some idea of how many people might have died in a single night. However one would assume that if several graves were dug at the same time they would be more-or-less parallel to each other and at the same angle. This does not seem to be the case in any of the rows, although there are several cases where the skeletons were found in a position as if they were ‘sleeping’. This explanation certainly offers a more acceptable view of the treatment of the bodies. If they were indeed stiff from having died in their sleep, then their positions in the graves are the result of circumstances and not necessarily careless or indifferent handling.

Cultural remains

Burial wrappings

Twenty one skeletons were buried wrapped in hessian. One skeleton had no signs of hessian in the grave, but the skeleton was resting on a bed of roots. Many of the skeletons wrapped in hessian were also found on a bed of roots, and it is therefore assumed that this skeleton was also

originally wrapped in hessian. Three skeletons were wrapped in hessian and a red cloth, and seven were only wrapped in a red cloth. In four cases it was not possible to determine what the body had been wrapped in, usually because the bones were no longer *in situ*.

It would appear that hessian was the favoured material for burying the deceased in as 72% of the skeletons were discovered with hessian (Table 5). From the fragments of red cloth preserved it would seem that this cloth was a coarsely woven fabric. It was probably a thin blanket of some kind. The fact that the cloth all seems similar, and is a similar red colour, suggests that the blankets could have been supplied by the mine to be bought by the workers in the mine compound shop. In a long letter to Dodds written on 9 August 1896, Whitworth (LB B:193) orders *'Red' striped cotton blankets to sell at 3/º and up to 6/º* for the compound store. Although this letter was written after the epidemic, it would seem that the blankets were standard. Whitworth would only have ordered goods which he was sure would sell (for instance he orders cotton handkerchiefs adding *(patterns with animal pictures greatly preferred.* [*ibid*]). He was therefore aware of the tastes of the workers. It is safe to assume that the 'Red' striped cotton blankets were in general use in the compound, and that there were two types of blankets as there are two prices given.

Table 5: Coverings of bodies at burial

Material	No. of skeletons	Percentage	Which individuals
Hessian	22*	61	1, 10, 11, 13, 16, 17, 18*, 20, 21, 22, 23, 24, 26, 27, 28, 30, 31, 32, 33, 35, 36, 38
Hessian and red cloth	3	8	9, 19, 25
Red cloth	7	19	6, 7, 8, 15, 29, 34, 37
Unknown	4	11	2/3, 4, 5, 12

* Includes skeleton where hessian is inferred from presence of thick mat of roots

Clothing

None of the individuals were wearing shoes or boots. This is to be expected if the people had been confined to bed prior to their death. Indications of trousers, jackets and shirts come from the buttons and fasteners that have been preserved (Table 6). The small glass and mother-of-pearl buttons would in all probability have come from shirts (Fig. 135) or undervests (Fig. 136). It would appear that at least nine individuals were wearing shirts on the basis of this argument. Large wooden buttons, also possibly indicating a shirt, were found with four individuals, and covered wooden buttons, which would indicate either a jacket or waistcoat were found with one skeleton. All glass buttons for which locations were available seem to have come out either on the upper body or next to the head. This latter could be an indication of clothing put into the grave with the

body (as in nos 15 and 25). One mother-of-pearl button was recorded as found next to the head (no. 15), while the four found with no. 26 were discovered next to the right knee. These buttons from no. 26 could have belonged to a garment in the bag which also held the pipe and the seeds. One wooden button was recorded as on a knee (no. 26) and one was recorded on a shoulder (no. 35). The wooden buttons found with no. 25 seemed to have come from a waistcoat or jacket which was under the head of the individual.

Metal buttons would be most likely associated with trousers and jackets, which would be the case in the seven examples. Three skeletons were found with buckles commonly associated with trousers or waistcoats. Of these two, nos 36 and 38, also had metal buttons which could indicate the fly buttons from a pair of trousers (see Appendix 2). We can probably assume that at least two individuals therefore were wearing trousers. No 38 seems to have been the most completely dressed, and he was probably wearing both a shirt and trousers (further confirmation of the latter comes from the positioning of the buttons in the upper leg area, and of the purse, as if the latter had been in a trouser pocket. A piece of corduroy material adhering to the copper clasp of the purse would suggest that the trousers had been made out of corduroy).

Many of the metal buttons were found associated with the legs of the different individuals, which would indicate trousers. However, no. 15 had a copper button under the chin, which would rather suggest a garment that was buttoned at the neck.

Table 6: fasteners and buttons indicative of clothing (from Appendix 2)

Type	Skeletons with objects (quantities in brackets)	Total no. of skeletons with object
Glass button	2(1), 15(2), 25(3), 28(1), 31(1), 35(4), 38(2)	7
Mother-of-pearl button	9(1), 15(2), 21(1), 25(1), 26(4)	5
Wooden button	1(2), 21(1), 25(8*), 26(2), 35(1)	5
Copper button	15(1), 26(1), 30(2), 35(2), 38(1)	5
Iron button	18(1), 30(2), 38(2)	3
Metal button	35(1), 36(2)	2
Fasteners	25(4), 30(1), 31(1)	3
Buckles for trousers/etc	21(1), 36(1), 38(1)	3

* wooden buttons covered in material

It is interesting to note that of the seven skeletons wrapped in a red cloth when buried, only one (no. 15) of them had buttons indicating clothing. It might have been that the other six individuals had not been wearing clothing under their blanket. This is perhaps confirmed by various photographs taken of mine workers from the end of the 19th century, and early 20th century,

where the, clearly off-duty, workers are not wearing much or at least not shirts or trousers under their blankets (Figs. 137 & 138, Appendix 2, Figs 16, 56).

Ornamentation

Seventeen of the individuals were wearing ornamentation of some kind. Six of these individuals had more than one kind of ornamentation. The ornamentation consisted of earrings, finger rings, bracelets for both arms and legs, and a necklace (Table 7).

Table 7: ornamentation on skeletons (from Appendix 2)

Ornament	Skeletons with ornament, no. in brackets indicates how many per individual	Total no. of individuals with ornament
Copper earrings	18(1), 31(1), 34(2), 36(1)	4
Beads	9(81 - ankle), 28(151 - neck)	2
Possible hat pin/neck decoration	38(1)	1
Finger rings	9(2)	1
Arm bangles - copper	8(1), 17(1), 18(1), 25(4)	4
- iron	20(1), 26(1), 30(1), 38(1)	4
- leather	30(1)	1
Leg bangles - copper	6(1), 7(1), 9(2), 20(1*), 25(1), 31(2), 33(2)	7
- iron	27(1)	1
- leather	18(1)	1

*copper and iron mixed

Copper leg bangles seem to have been the most popular form of ornamentation, and this is supported by photographs of mine workers from the late 19th and early 20th century (Figs 139, 140, Appendix 2, Fig. 16). Arm bangles occur on nine individuals, and this is also corroborated on photographs from that time period (Fig. 141), including multiple bangles on one arm (Appendix 2, Fig. 67), such as was found on no. 25. Four individuals had copper earrings (see for comparison Appendix 2, Fig. 70), but necklaces and finger rings do not seem to have been common.

Other cultural objects

Five individuals were buried with purses, of which three contained money and/or tokens. One of them, a pouch, contained a piece of folded paper, and the fifth purse (belonging to no. 30) contained only copper wire. However, this individual (no. 30) had money in the leather arm band on his right arm (Appendix 2). At least three of the purses had been worn on the individual's body (either on a strap or in a pocket). One of the purses (belonging to no. 35) was not discovered *in situ*, and the fifth purse was found with a collection of cultural material which had been buried with

the skeleton, possibly in a bag (no. 30). These were utilitarian objects, although the decoration on purses found on nos 7 and 34 indicate that they were possibly of better quality.

The rest of the cultural material comes predominantly from two skeletons: nos 25 and 30. Nos 26, 34 and 35 also had other material with them, *viz.* a pipe with no. 26, a box of matches with no. 34, and a pocket knife with no. 35. On 13th September 1896, Whitworth wrote to Dodds to order some cheap pipes for the compound shop. Whitworth was interested in '*a composition bowl with cherry wood stem'* which he thought could be sold in the shop for 1/6 (LB B:304). These pipes were ordered several months after the epidemic, but they were ordered direct from England. This would provide an explanation for the presence of a pipe dated to 1894/1895 from England which had been buried in April 1896 in Koffiefontein.

Both no. 25 and 30 had a bundle of items put into the grave with them. No. 25 was buried with a jacket under and next to the head. A collection of copper bangles (or a coil of copper wire) was found in the folds of the jacket, as was a glass disc with a wooden base. It would appear that no. 30 was a *sangoma*, or diviner. He was buried with various objects which could have been used in the divining process. These were a collection of sheep, goat and springbok knuckle bones (Appendix 3), cowry shells, a bird foot, a piece of duiker skin (Appendix 3), a nail and two spoons. Included in this collection was a pair of trousers. The remains with no. 30 suggest a richness in cultural expression which has not been recorded in the written record.

OTHER GRAVES ON THE KOFFIEFONTEIN MINE PROPERTY

There have been at least three other groups of graves in the Koffiefontein mining area, and there are two other possible locations of graves (Fig. 141).

Two of these locations have been reported on already (Henderson 2001). The nearest collection of graves to these reported on here also come from the Whitworth Dump. They were however found about 70 m away to the north of the graveyard, and at a higher level. The graves had a possible military association, and were those of three men (Henderson 2001:6). However, discarded military clothing was often recycled (see Appendix 2), so the military association may not be valid, in the sense that the people might have died in a military engagement or context. The three burials might have been a completely separate incident not related to the events of 1896, or they could have been a continuation of the deaths from the epidemic (as it would seem that burials in the tailings were not restricted to one incident only, and they were located to the west of the graveyard, the direction in which the graveyard grew).

The first collection of graves to be discovered near the mine was in 1969. This was during building operations for the re-opening of the mine. A series of graves were discovered (Figs 142-144) and the skeletons apparently removed by undertakers at the time (Frans Lamprecht pers comm.). It is not known how many graves were uncovered, but from the photographs (Figs 142 & 143) there seem to have been at least fourteen graves in a row. The photograph on one of the skeletons *in situ* would seem to indicate that these skeletons had been buried at a normal depth and that the bodies had been laid out for burial (Fig. 144).

It has been possible to determine the exact location of these graves. In Figures 142 and 143 there are two trees in front of the koppies in the background. These trees are the same as the trees which occur in the centre of Fig. 145. To the right of where the photograph is taken are the workshops (Fig. 146 & 147), which would corroborate the information on the location of the graves provided by Frans Lamprecht. No records of the graves were traceable, and it is therefore not possible to determine whether there was any cultural material with the skeletons. The cultural material could have given us an indication of the date of burial of the skeletons, as is the case in the burials reported here. In their letter to the Government Secretary in Bloemfontein, the London and Orange Free State Exploration Company states that they have put aside an area for the graves of workers (Fig. 18). The neat rows of graves uncovered in 1969 could possibly relate to such a situation.

The final incidence of human material uncovered near the mine would be the skull which was found in the quarry in 2001 (Henderson 2001:16). The skull possibly came from a burial which had been disturbed during work in the area. No conclusions could be drawn from the skull.

There are two further localities where there might be graves in the vicinity of the mine. One of these is located to the west of the old soccer field, and to the north west of the old hostel building (Fig. 141). Several heaps of stones were observed (Figs 148 - 150), which seemed to be in a pattern. These heaps would seem to indicate possible graves, but this could only be determined through excavation. There is however no reason to disturb the possible graves unless the area was to be developed, and if this was to be the case, the necessity to develop should be considered very carefully. Graves should be left undisturbed if possible (Appendix 5).

Another possible area where graves could be located is in the ‘no-mans-land’ to the west of the gantry. However, it is not at all sure that the heaps of stones in that area are graves, but certainly, should any development need to take place in that area, the possibility that there are graves must to be taken into account in any planning of activities. There is a fair amount of nineteenth and early twentieth century material scattered in this area, which would need to be recorded as well.

PART IV

RECOMMENDATIONS

According to the National Heritage Resources Act, no 25 of 1999, a permit is required to remove a burial, older than 60 years, outside a formal cemetery. De Beers followed the correct procedures, and a permit was issued to the author (Appendix 5). Condition no. 4 of the permit states that "All remains recovered, including relics and artefacts, must be kept with the skeletal material and be accessioned and curated at the National Museum or reburied with the skeletal material." It is clear from the permit that one of two things could happen to skeletons removed from their graves. The remains can either be taken up into the collection of the National Museum, a Declared Cultural Institution, or the bones can be reburied.

The author has consulted with other practitioners and it would seem that where there is a clear descendent community, reburial is the option taken. However, where the identity of the skeletons is not known, the remains have been accessioned into a designated collection, with the option that, should there be the request from a legitimate community, the remains can be reburied at a later date. There are two cautionary notes that accompany with this latter option. The first would be that the mine would have to finance the reburial, even if it should occur many years after the excavation. The second is that once the remains are accessioned into the Museum's collection, ministerial approval will be required to de-accession them for reburial. Neither of these issues are a problem, but it does mean that closure of this project could be revisited at a later date.

The Act makes provision for consultation "with the aim of reaching agreement about the future of such grave or burial ground" (see Appendix 5, pages 3 and 9) with "the descendents and family members of the persons buried" (Appendix 5, page 9). The identification of the descendent community can be done through archival research, consultation or advertising. The individuals represented by the skeletons reported on here were buried relatively recently (in 1896). They were migrant workers, but as their names are unknown the people represented by the skeletons cannot be traced back to their places of origin. It is obviously also not possible to trace their families, and therefore not possible to determine their descendent community for consultation.

Should the skeletons be reburied it should be somewhere near to where the rest of the graveyard has been preserved. The layout of the graveyard (ie 5 rows) should be preserved (see Appendix 5 page 6). Guidelines for the Act make certain recommendations for reburial. Further details can be found in the discussion document (Appendix 5, see particularly pages 5 and 9). Although the guidelines do not require this I would suggest that both the ‘new’ graveyard and the area where

the rest of the graveyard is probably preserved should be fenced off as a demarcation. A plaque must be erected at the new graveyard. I would suggest that a plaque be placed at both sites to ensure a visible reminder of the graveyard.

The plaque at the new site could carry words which read something like the following:
The remains of thirty-eight mine workers, who died in an epidemic in 1896, are reburied in this area, after their graves had become disturbed during mining operations. The rest of the original graveyard is still preserved near the edge of the Koffiefontein mine.

Each skeleton must be reburied in a separate grave in accordance with the dignity which should be given to all individuals (see also Appendix 5, page 5). As most of the bodies had been wrapped in hessian, it was suggested that each body should be buried in a hessian bag, especially made for the purpose. However, the guidelines discussed above do mention a "suitable container, permanently marked for identification". There is some concern that the hessian wrapping might not be in accordance with the Act, and this issue would need to be clarified by the committee dealing with human burials at SAHRA, as would the issue of a permanent marker. This marker could take the form of an aluminium disc with each skeleton, as well as an above ground marker, either for each grave or for each row.

The cultural items found with each body should be buried with them according to the Act. However, this matter should be deliberated by the South African Heritage Resources Agency, especially with regard to the money found on certain of the individuals, and also the possibility of constructing a small museum in Koffiefontein.

The final decision on the destination of the skeletons would seem to rest with SAHRA in the absence of a descendent community (see Section 36 (6) (b) of the NHRA). SAHRA would take the mine's recommendations in consultation with the archaeologist, into account.

The two other areas of possible graves in the mining area should be noted, particularly if there is to be future development in those areas. It is best to leave the graves undisturbed where possible (Appendix 5, page 5).

One final recommendation (which does not concern the skeletons, but which has come up in the process of my research): An audit should be done at the mine of all the old maps (for instance with the survey department) and photographs in various offices and storage areas at the mine. All historical material (or at least copies of it) should be transferred to the De Beers Archives in Kimberley where it can be properly curated and preserved. It is vital that this information should not be lost.

ACKNOWLEDGEMENTS

This project has been carried out over the past year, and there are many individuals who have helped at various times. I should like to thank, most sincerely, the following people:

Christine Dalton in particular for numerous arrangements, much help in so many ways, and for looking after us so well.
At Security, particularly Ruben du Plessis, Niel van Wyk, Jan Faber, Nathan Nieuwenhuizen, Zacharia Posholi, Abé Mdlokovana, Hansie Schoonbee, and not forgetting Andy de Bruin, for looking after us and our equipment, ferrying us backwards and forwards, and generally taking an interest in our activities. Ruben and Zach also showed us the other possible graves on the property, for which I am grateful.
Also at Security: Judy Alexander, John Jacobs, Irene Davis and Marinda Janse van Vuuren for all the many arrangements to make our entrances and exits painless.
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Jan Rabe was an invaluable source of information - thank you.
The bulldozer/backacter crew, in particular Jan Syster. He and Elias March and Jim Enkelt did an extremely good job at locating skeletons, and I want to thank them in particular for their skill in moving vast volumes of earth and still leaving the skeletons behind for us. It was a pleasure to work with them. I also thank Robbie van Niekerk for various arrangements with the moving of ground (and apologise for holding things up!).
I would like thank Tossie Hendriks for his interest and, very importantly arranging funding, also Sandy Murray and Nellie de Bruin for help in various ways.
Frans Lamprecht brought to my attention the graves uncovered in 1969, as well as allowing me access to his personal photographs, reproduced here as Figs 143-145. Figures 4 and 5 are also reproduced from a photograph which hung in his office. I want to thank him for sharing this important information with me.
Frikkie de Bruyn helped in several ways outside the call of duty, and I want to thank him for his interest and stimulating questions.
At the De Beers Archives in Kimberley, I would like to thank Brenda Feder and Celeste Feder for their help in locating documents, and their interest in the project (I keep on coming back!). I should also like to thank Emmanuel Mokeke for numerous cups of tea, which made working there a pleasure.

There were numerous other people who helped at various stages with this project, and their help and interest is very much appreciated.
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Outside De Beers:
Mary Leslie from SAHRA in Cape Town gave valuable advice for which I am very grateful
At the Museum, I should like to thank Sharon Holt and Klaas Mphafi for sharing all the hours in the field. Sharon also computerised all the maps and figures which was an enormous task, as well as undertaking the printing of most of the report, which turned into a marathon.
Sudré Havenga, Ericka L'Abbé, Marius Loots, Lloyd Rossouw, Nico Avenant and Prof Theuns van der Linde all provided specialist information, and I would like to thank them all most sincerely for the time and effort they have expended on this project.
Rentia Ouzman took most of the excellent studio photographs, with Estie Esterhuizen completing the task, and thereby making this report so much more interesting.
Gabriel Tlhapi, Daniel Mphafi and Thinus van der Merwe all also helped in the field, and I would like to thank them for their companionship.
The archivists at the Free State Archives have spent much time searching for documents, for which I thank them. Johan Loock and Mariaan Botes gave very valuable suggestions of where to look. Johan loaned me some of his precious documentation, while Mariaan also helped with deciphering practically illegible handwritten Dutch script.
Mr Deon Stander from Grobelaar, Bolt and Saffas (Pty) Ltd discussed grave plans and burial positions with me, and Dr Stef Potgieter enlightened me on typhoid fever, enteric, diarrhoea and the possible nature of the epidemic. My thanks to them both for patiently answering my questions and for their very helpful comments.
Thanks to Elsa Kotzé for the cover design.
Thanks too to David Morris for being a sounding board, and for being so encouraging.
Finally I would like to thank my husband for putting up with me and this project for the past year.

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From De Beers Archives, Kimberley

Jagersfontein General Manager's Letter Book 139.

Koffiefontein Mines Ltd, General Manager's General Letter Books A, B & C.

Minute Book, 29 August 1890 - 31 August 1898, of the London and Orange Free State Exploration Company Ltd.

Whitworth, W.S. n.d. *The unfinished saga of mine manager W.S. Whitworth: His priceless narrative of early Koffiefontein.* unpublished manuscript, EAD 307, De Beers Archives, Kimberley.

From Free State Archives, Bloemfontein

GS 443 - 450 Correspondence with the Government Secretary from the Fauresmith District.

GS 1547 Government Secretary, general correspondence.

OR 57, 58 & 59 Reports of the Governments Inspectors for Koffiefontein and Jagersfontein.

VR 1897, vols 420-423 Minutes of the commission

UR40 Draft minutes of the Executive Council of the Free State

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COPIES OF THE REPORT LODGED

Copies of the report are lodged with the following:
De Beers Mine, Koffiefontein (2 copies & 1 copy on disc)
De Beers Archives, Kimberley (1 copy & 1 copy on disc)
South Africa Heritage Resources Agency, Cape Town & Bloemfontein (2 copies)
Free State Archives (1 copy on disc)
National Museum Library, Bloemfontein (1 copy)
National Museum, Archaeology Dept. (1 copy & 1 copy on disc)

All documentation, photographs and excavation reports are lodged with the National Museum, Bloemfontein, as required by the permit issued for the excavation.

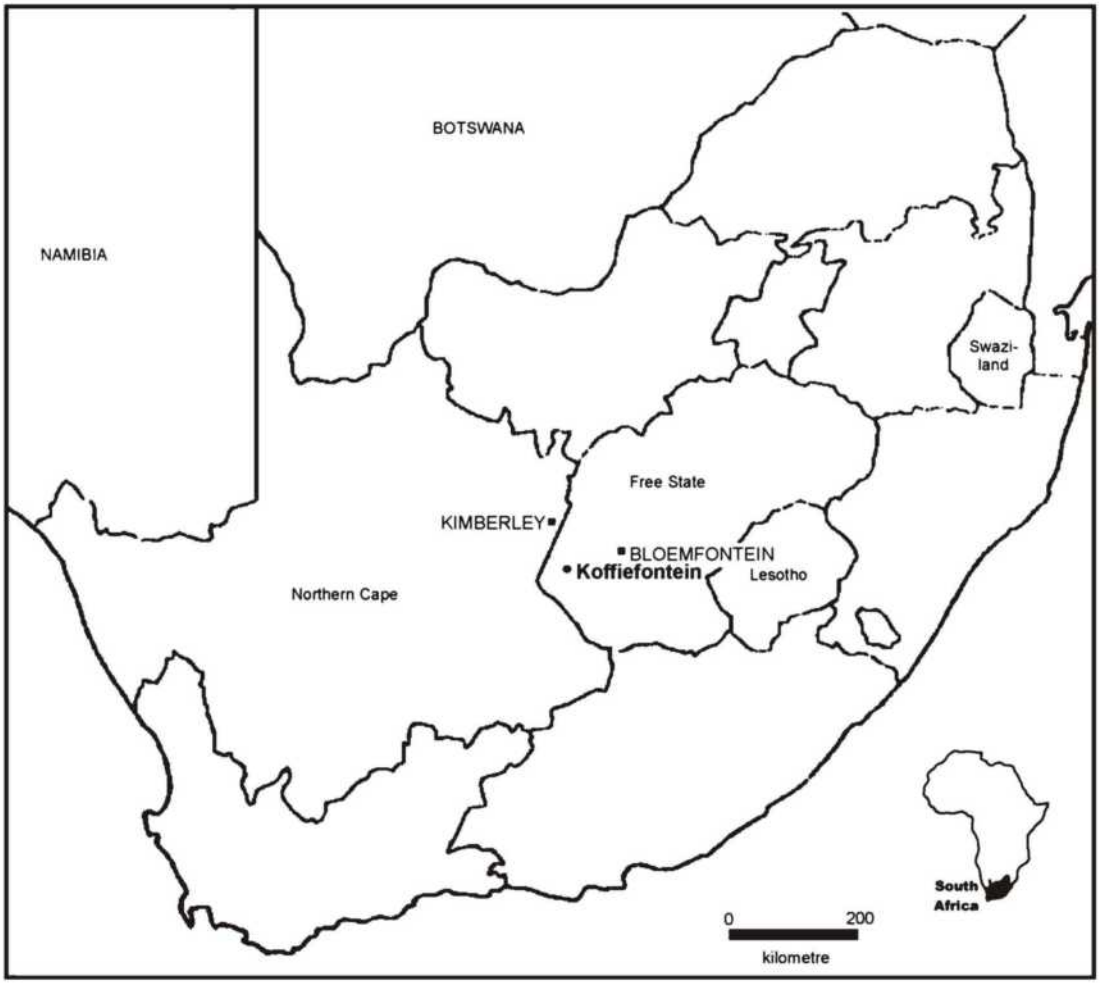


Figure 1. Location of Koffiefontein

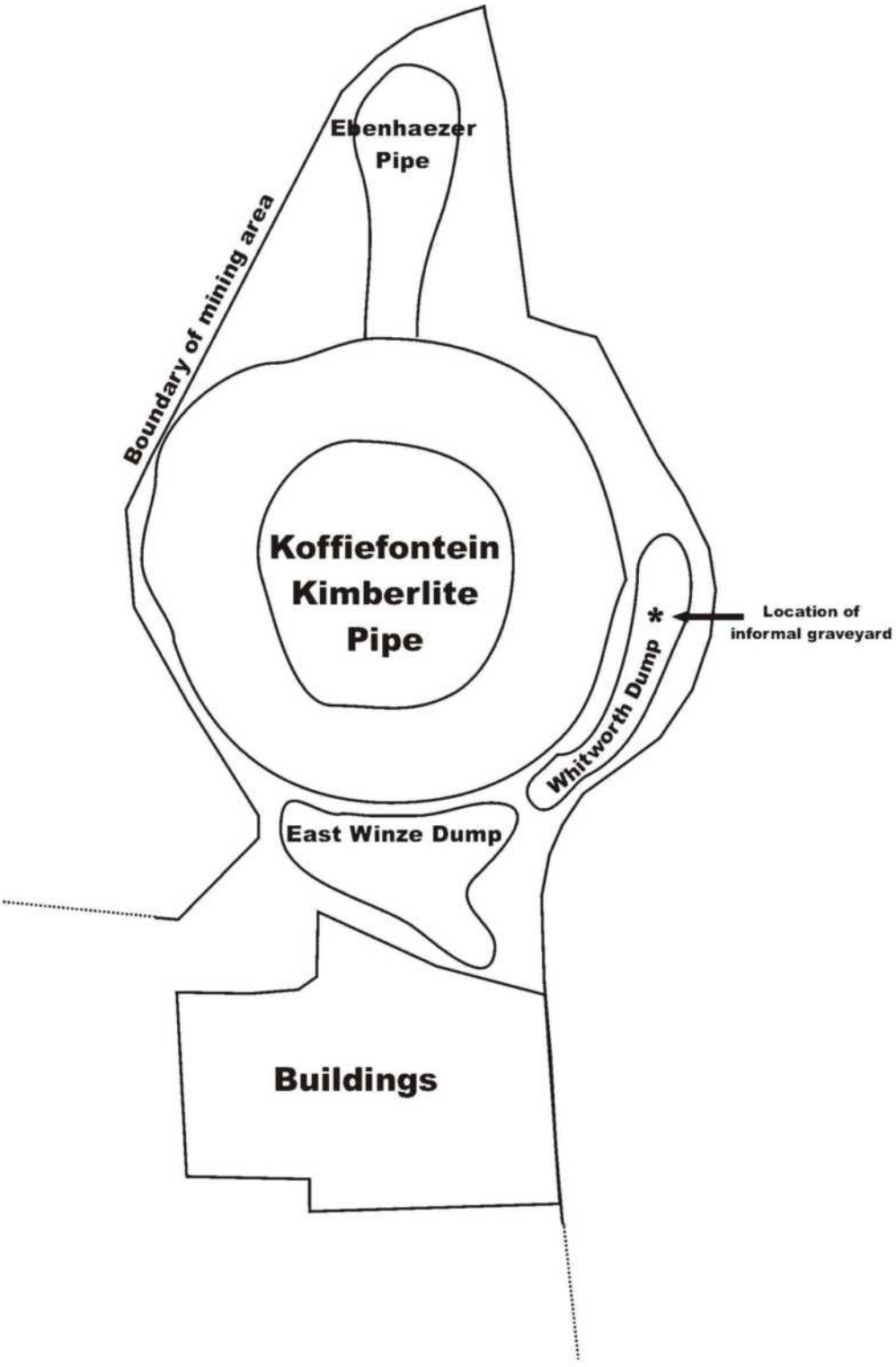


Figure 2. Location of Whitworth Dump in relation to the Koffiefontein Kimberlite Pipe

Figure 3. View from the south across the site (in the vicinity of the figures). The highest point of the Whitworth Dump is visible as the partially vegetated 'koppie' behind the figures.

Figure 4. Photograph taken in 1970 of the Koffiefontein pipe during construction of the mine shaft for underground mining. The Whitworth Dump is visible on the far side of the pipe.

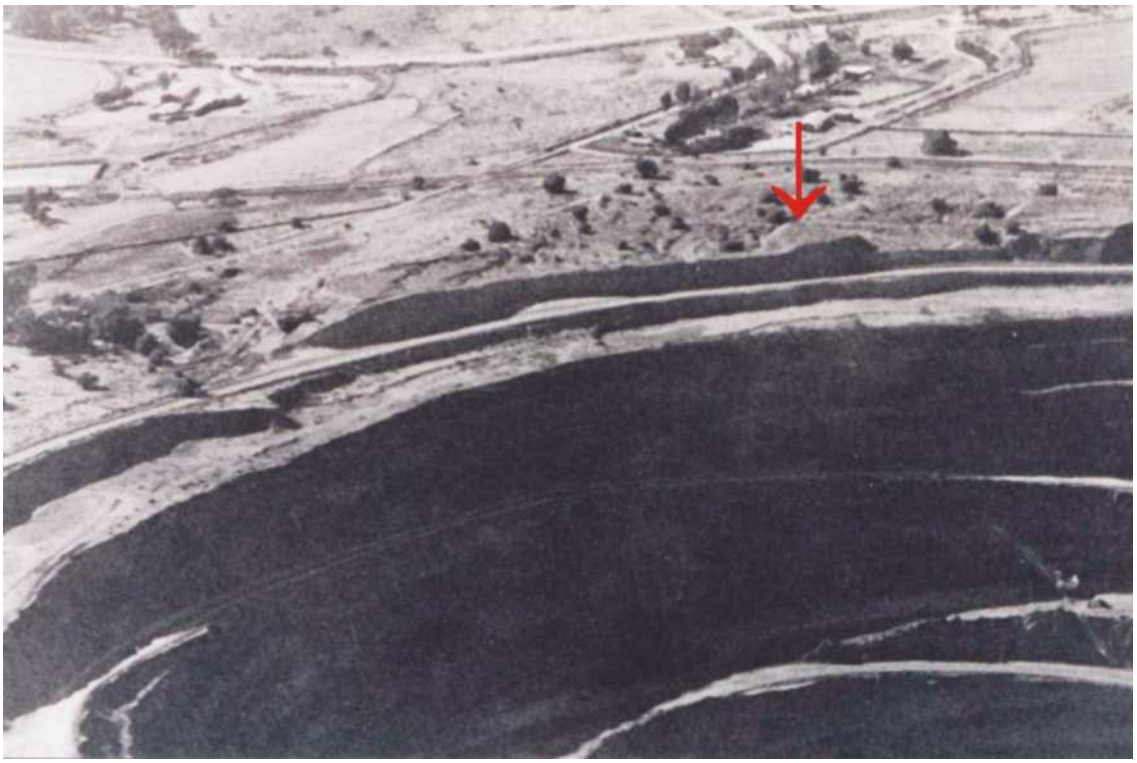


Figure 5. Close up of Whitworth dump from previous photograph. The highest point is marked with an arrow.

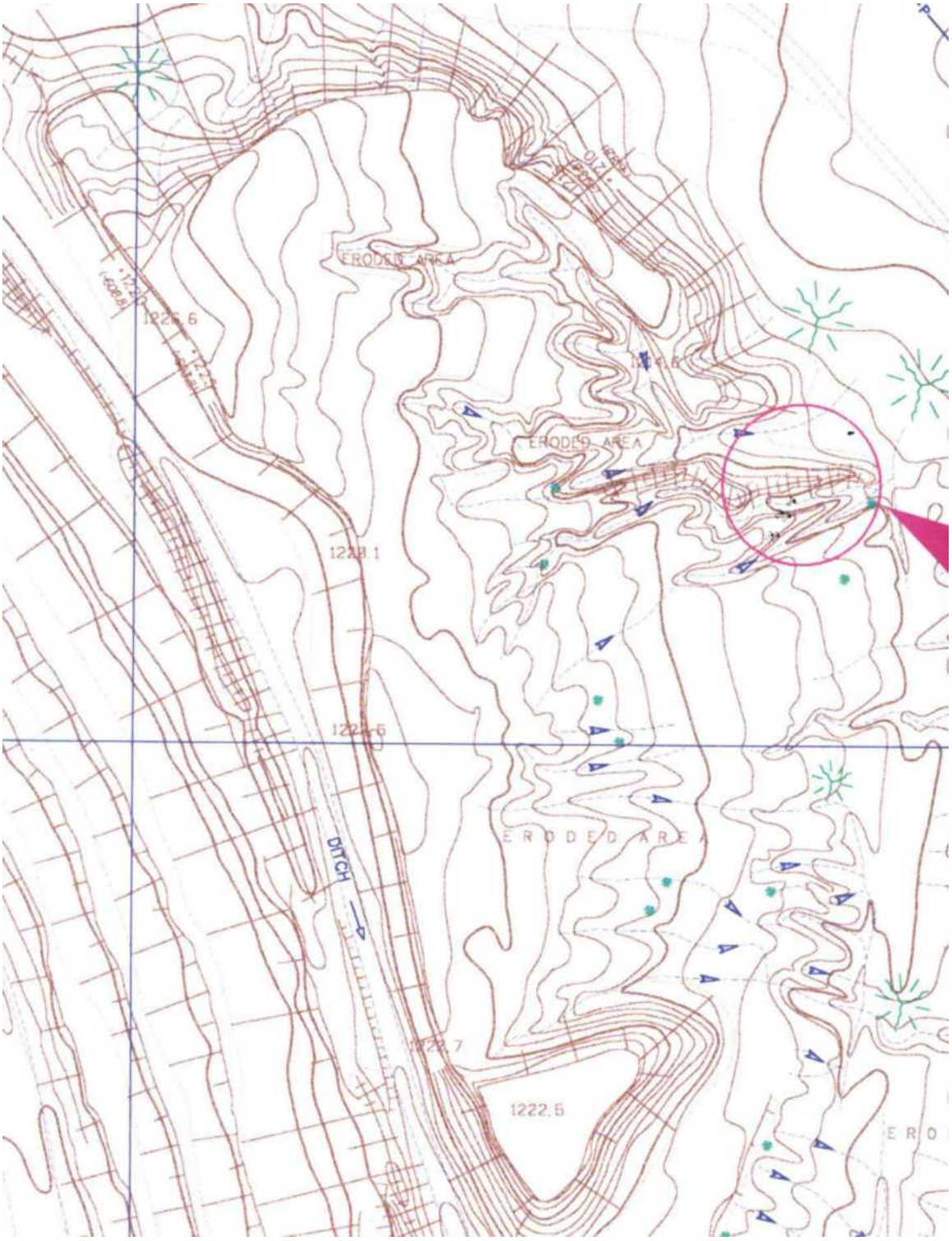


Figure 6. Eroded area of eastern side of Whitworth Dump, circled area indicates graveyard.

Figure 7. Koffiefontein mine pipe, 2002, note yellow-ground of the top ± 20 m of the pipe.

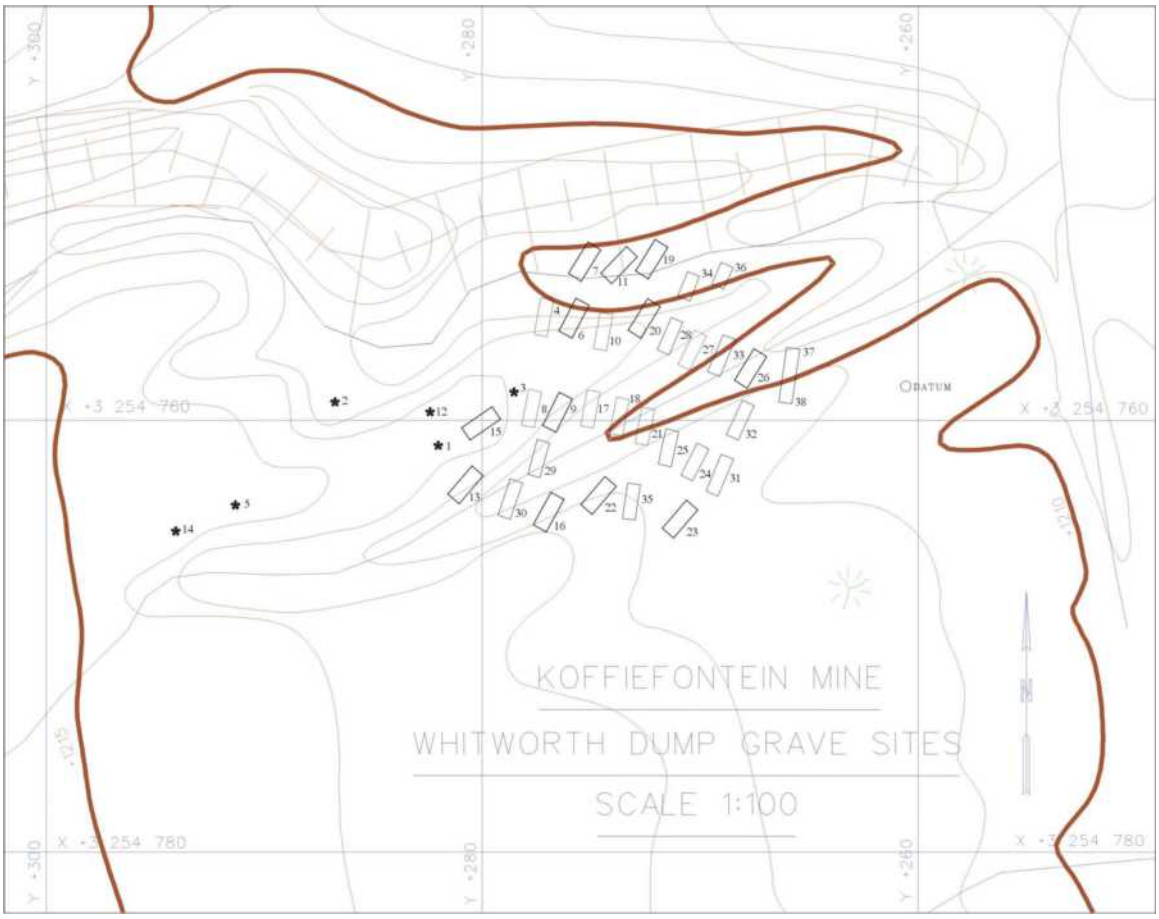


Figure 8. Contour map of grave area before bulldozing in 2002.

Figure 9. Excavation of nos 37 and 38 at base of the unbulldozed section of the dump, indicating depth below surface.

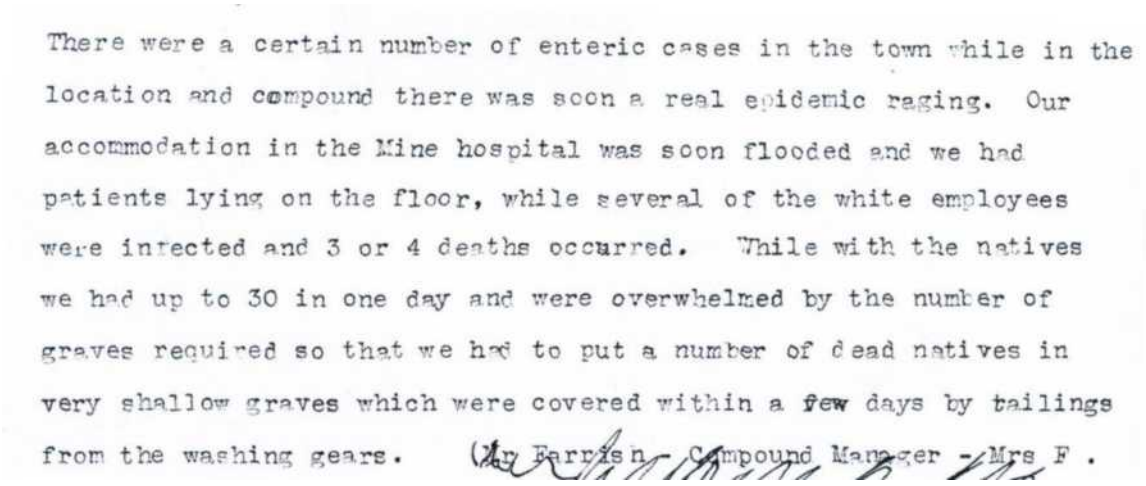
Figure 10. View of excavation area showing homogenous yellow-ground of dump.

Figure 11. Bulldozing in progress.

Figure 12. Skeletons 17, 18 and 21 *in situ*

Figure 13. Removal of skeleton no. 26.

Figure 14. 1908 photograph of the mine from Whitworth's album, showing depositing floors in the foreground, and the tailings dump where the washed ground was deposited in the background.



There were a certain number of enteric cases in the town while in the location and compound there was soon a real epidemic raging. Our accommodation in the Mine hospital was soon flooded and we had patients lying on the floor, while several of the white employees were infected and 3 or 4 deaths occurred. While with the natives we had up to 30 in one day and were overwhelmed by the number of graves required so that we had to put a number of dead natives in very shallow graves which were covered within a few days by tailings from the washing gears. (Mr Farrish - Compound Manager - Mrs F .

Figure 15. Extract from Whitworth's reminiscences (n.d.: 15).

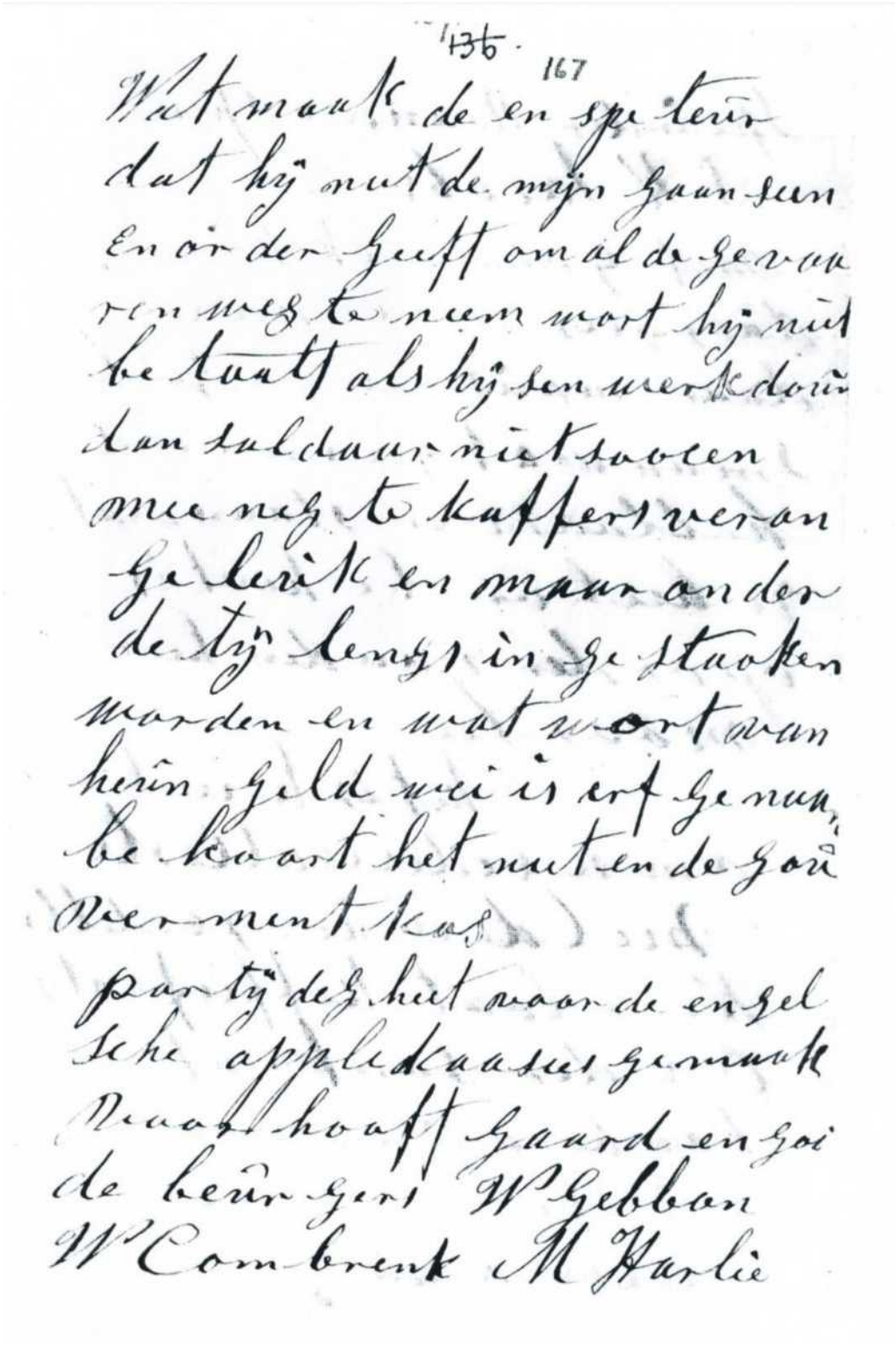
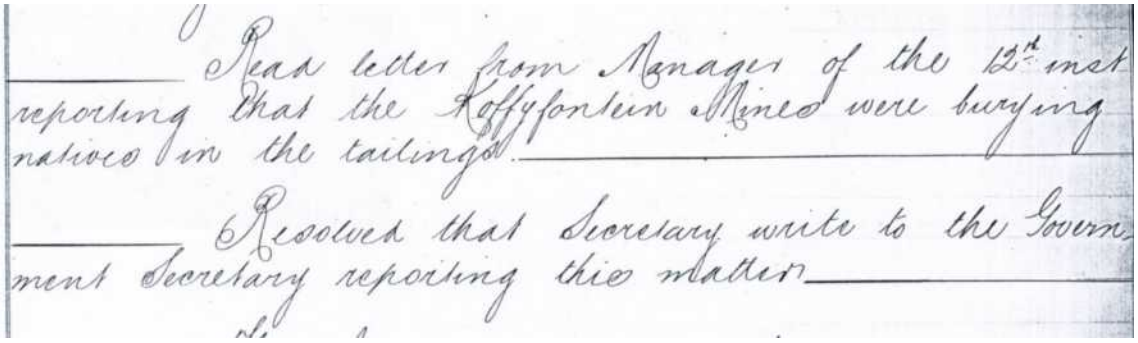


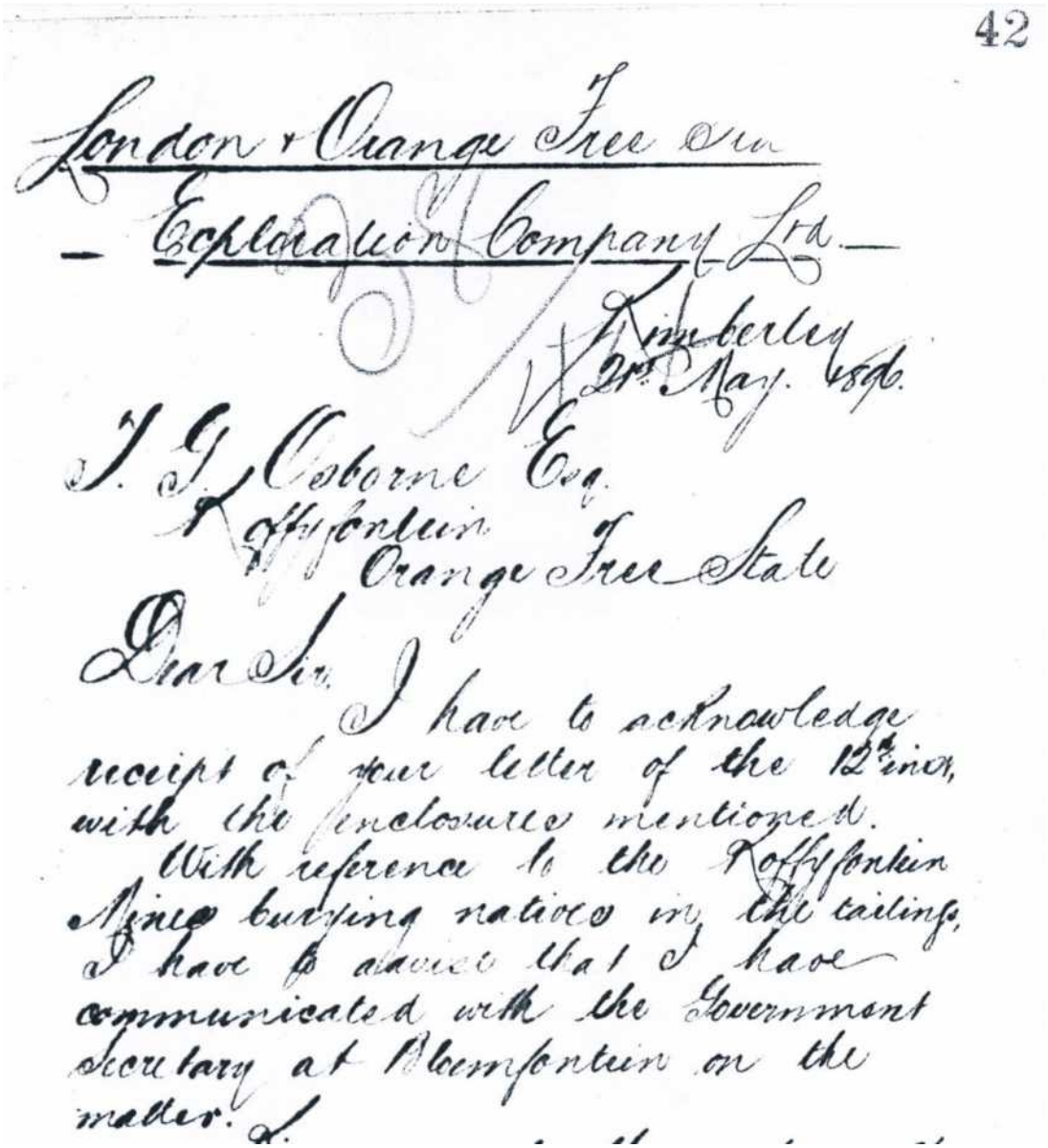
Figure 16. Extract from letter by D.H. Jacobs to the Government Secretary in Bloemfontein.



Read letter from Manager of the 12th inst reporting that the Koffyfontein Mines were burying natives in the tailings.

Resolved that Secretary write to the Government Secretary reporting this matter

Figure 17. Extract from the London and Orange Free State Exploration Company Minute Book of a meeting held on 20th May 1896.



42

London & Orange Free State
Exploration Company Ltd.

Kimberley
21st May. 1896.

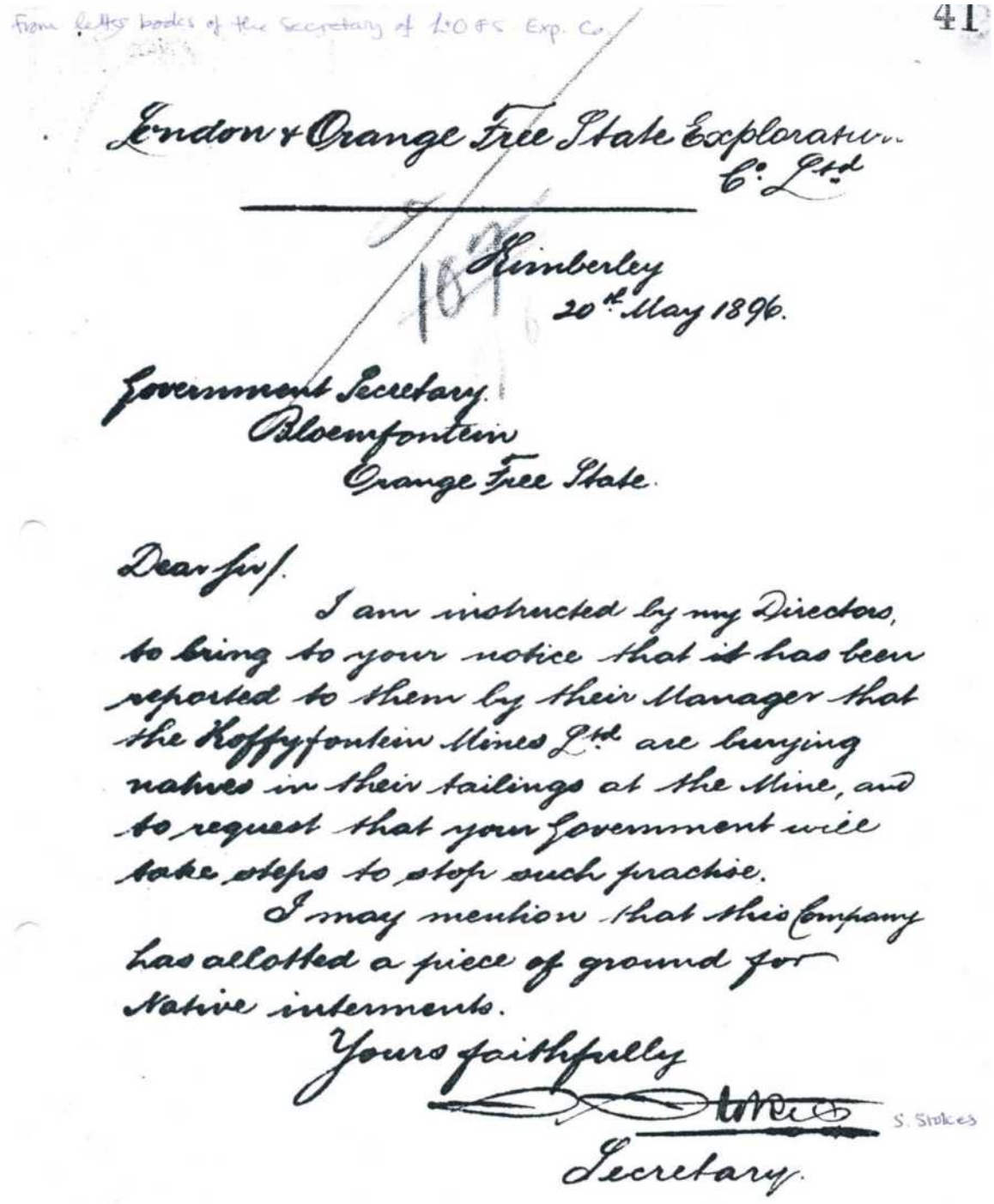
T. J. Osborne Esq.
Koffyfontein
Orange Free State

Dear Sir,

I have to acknowledge receipt of your letter of the 12th inst, with the enclosures mentioned.

With reference to the Koffyfontein Mines burying natives in the tailings, I have to advise that I have communicated with the Government Secretary at Bloemfontein on the matter.

Figure 18. Extract from the reply to T. Osborne's letter of 12 May 1896 by S. Stokes, secretary.



From Kelly's books of the Secretary of L&OFS Exp. Co.

41

London & Orange Free State Exploration Co. Ltd.

Kimberley
20th May 1896.

Government Secretary.
Bloemfontein
Orange Free State.

Dear Sir/

I am instructed by my Directors, to bring to your notice that it has been reported to them by their Manager that the Koffyfontein Mines Ltd. are burying natives in their tailings at the Mine, and to request that your Government will take steps to stop such practice.

I may mention that this Company has allotted a piece of ground for Native interments.

Yours faithfully

S. Stokes

Secretary.

Figure 19. Letter to the Free State Government Secretary from the London and Orange Free State Exploration Company.

Figure 20. Photograph from Whitworth's album of mine workers at Koffiefontein in July 1908.

Figure 21. Another view of mine workers from Whitworth's album of 1908.

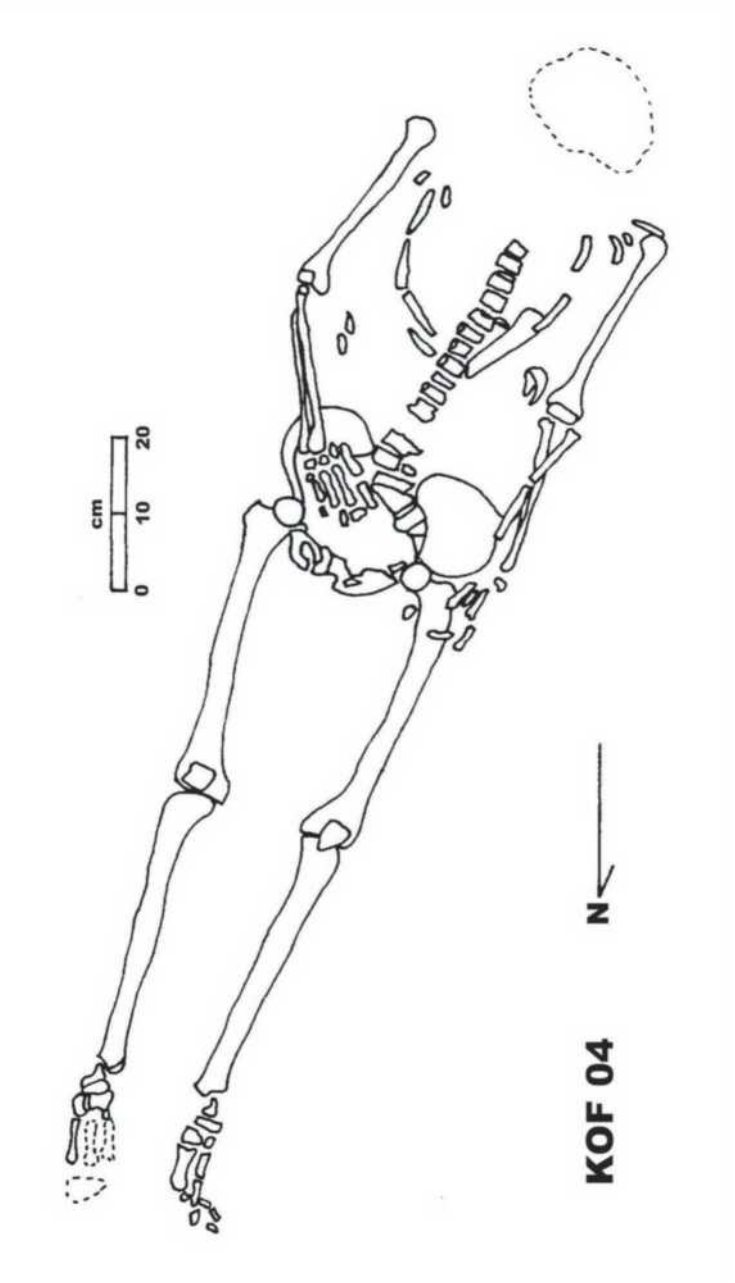


Figure 22. KOF 04: Sketch plan of skeleton

Figure 23. KOF 04 *in situ*

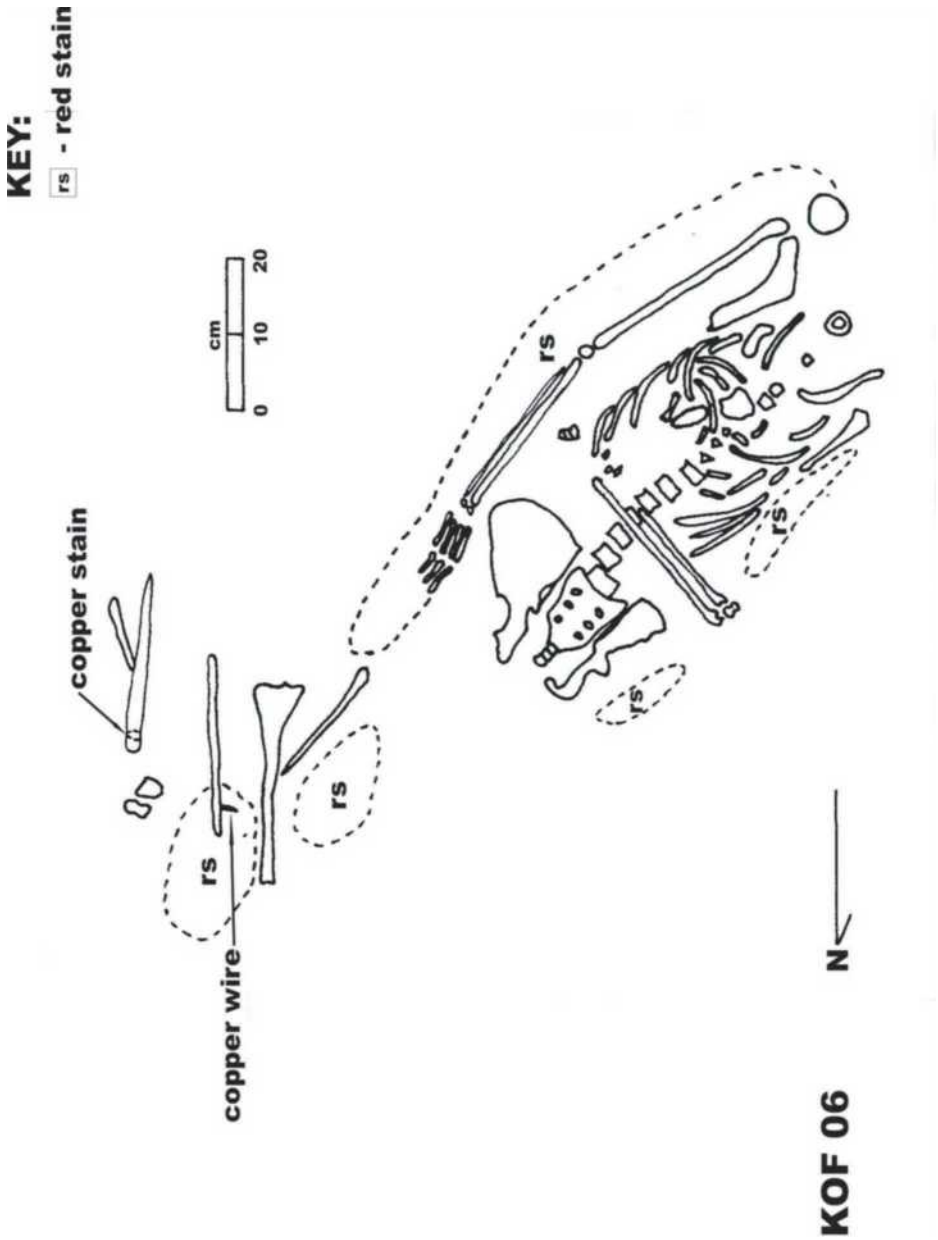


Figure 24. KOF 06: Sketch plan of skeleton

Figure 25. KOF 06 *in situ*

Figure 26. KOF 06 showing copper stain on distal tibia

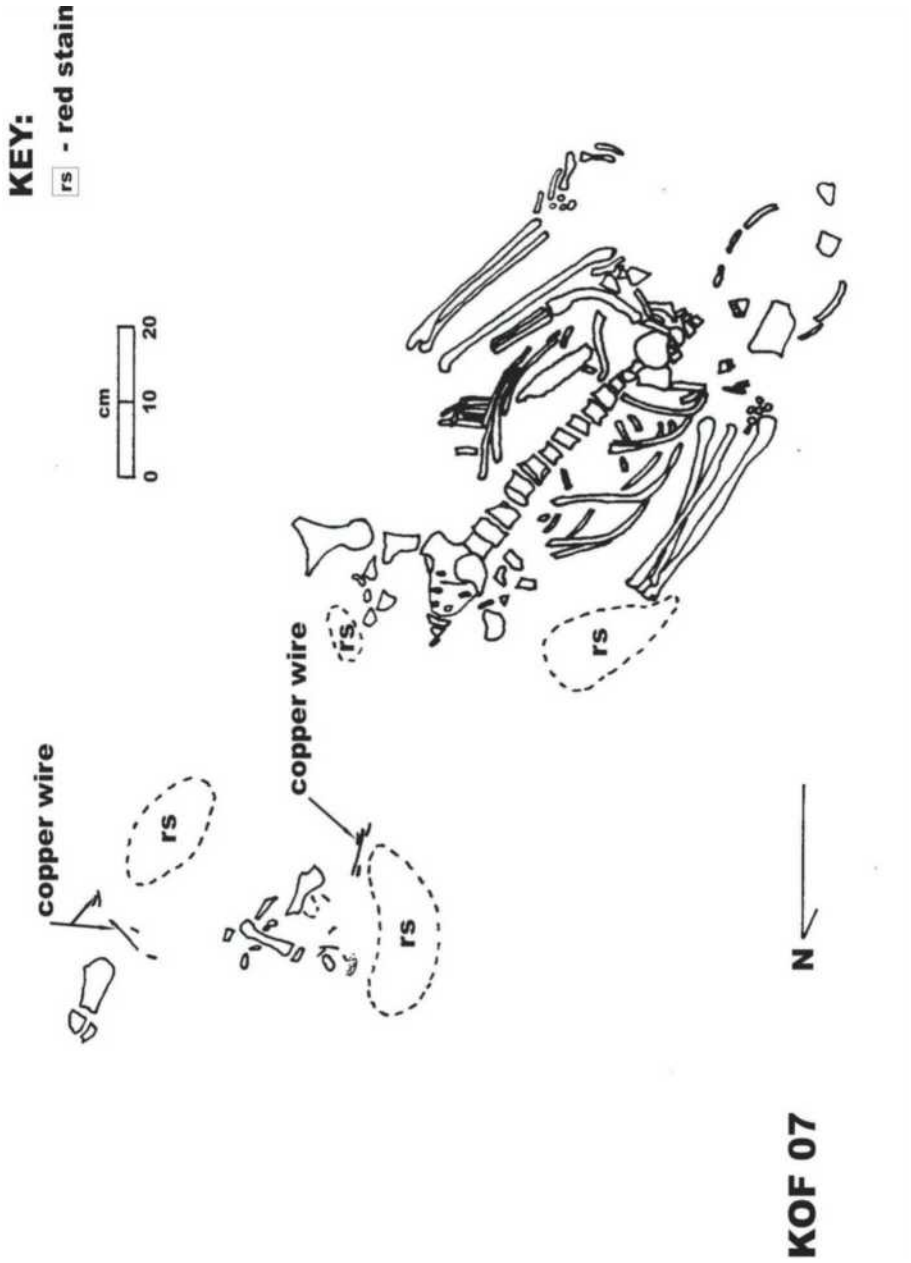


Figure 27. KOF 07: Sketch plan of skeleton

Figure 28. KOF 07 *in situ*

Figure 29. KOF 07 showing location of leather purse

Figure 30. KOF 07: leather purse between ribs and arm, with top facing towards arm

Figure 31. KOF 07 showing strap and leather disc at base of neck

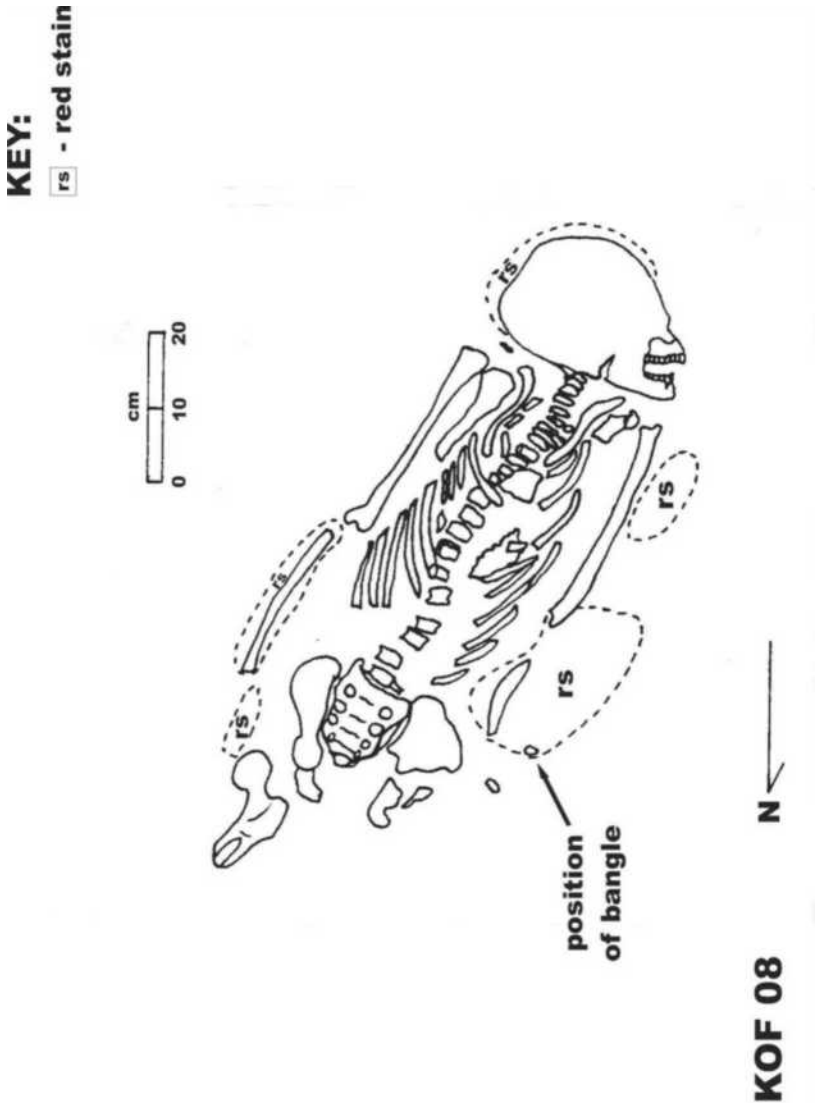


Figure 32. KOF 08: Sketch plan of skeleton

Figure 33. KOF 08 *in situ*

Figure 34. KOF 08: Copper stain on soil

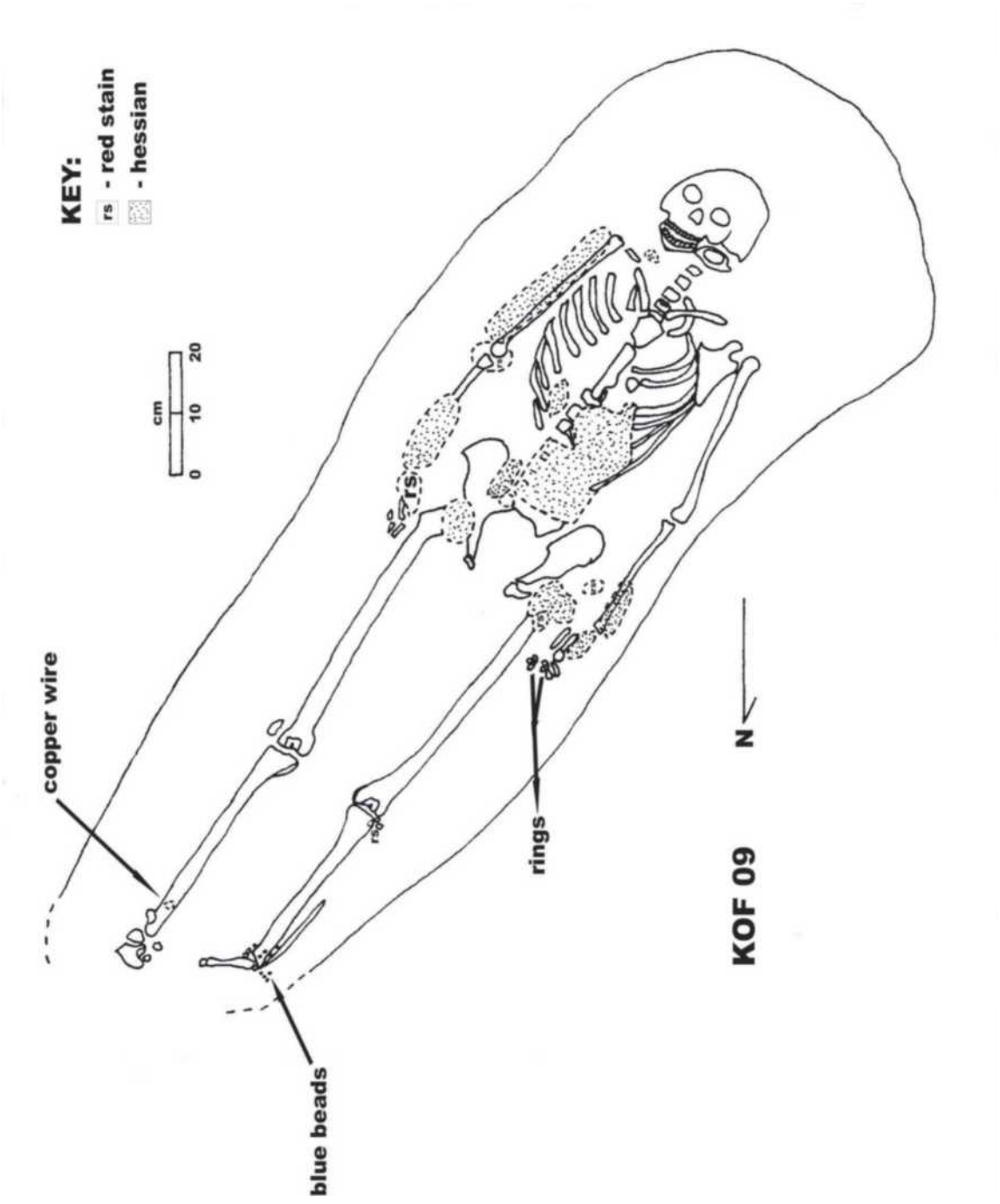


Figure 35. KOF 09: Sketch plan of skeleton

Figure 36. KOF 09 *in situ*

Figure 37. KOF 09 close up showing hessian and red staining

Figure 38. KOF 09 showing blue beads around left ankle

Figure 39. KOF 09 left hand with rings

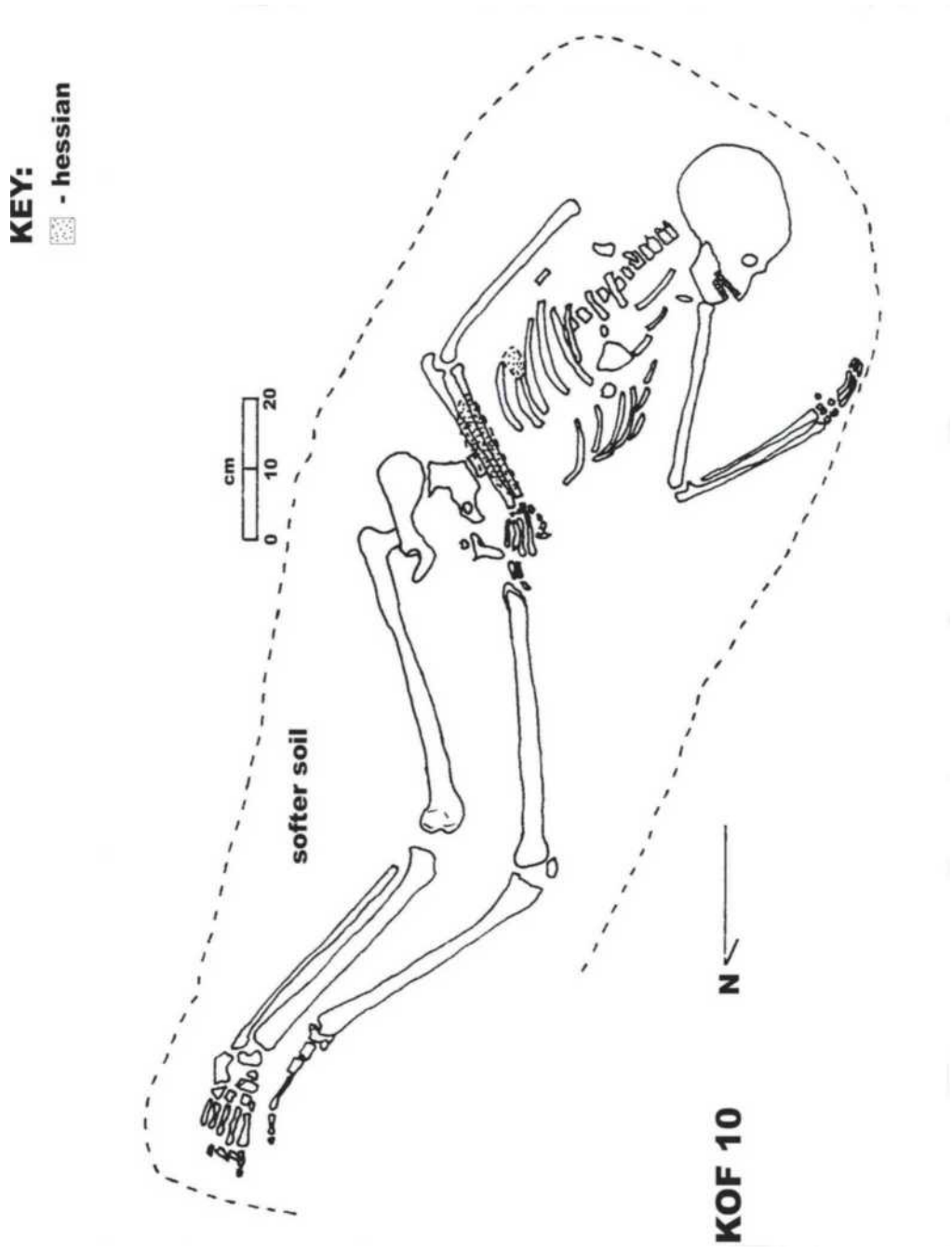


Figure 40. KOF 10: Sketch plan of skeleton

Figure 41. KOF 10 *in situ*

Figure 42. KOF 10 right hand clenched in a fist

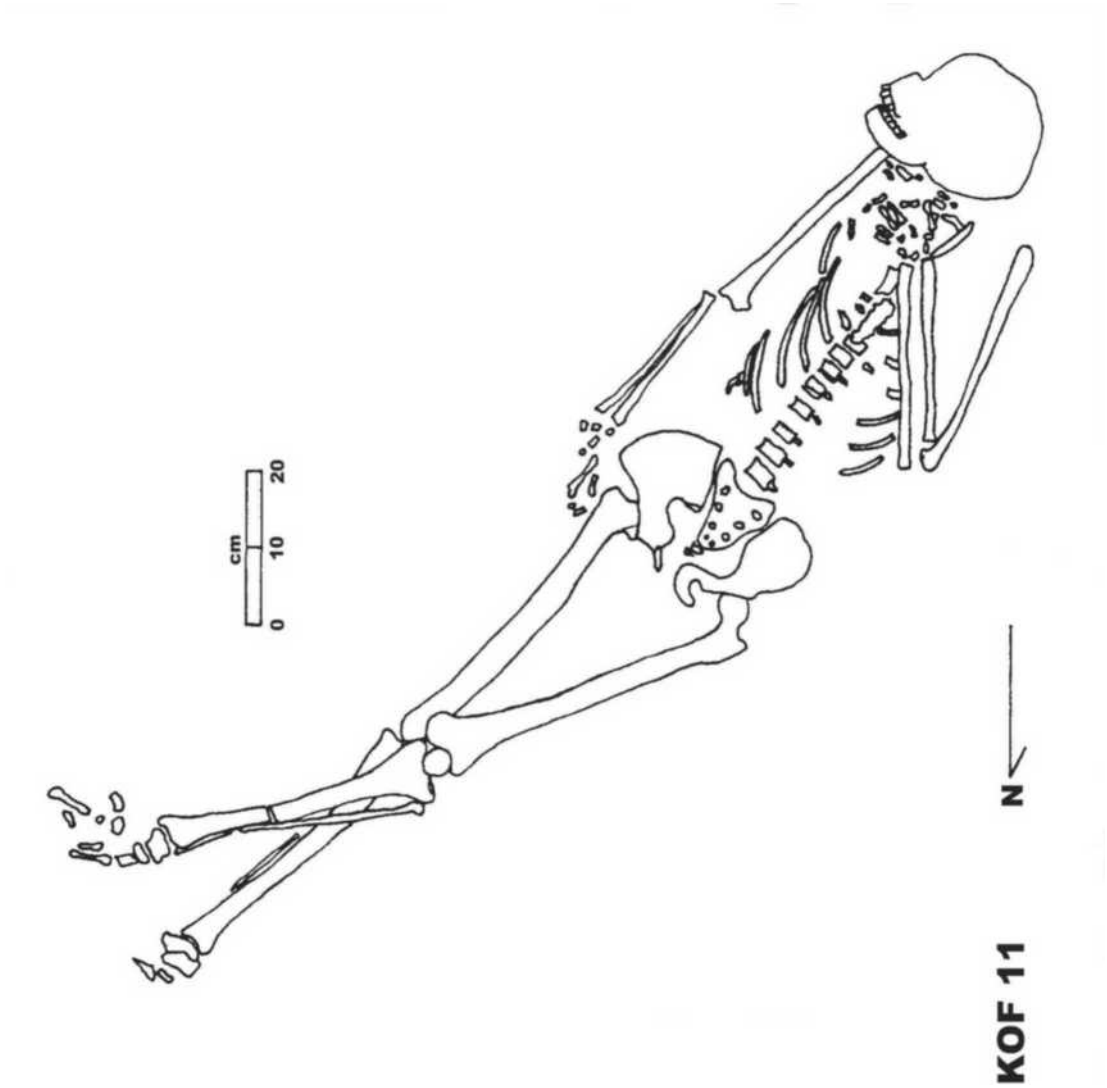


Figure 43. KOF 11: Sketch plan of skeleton

Figure 44. KOF 11 *in situ*

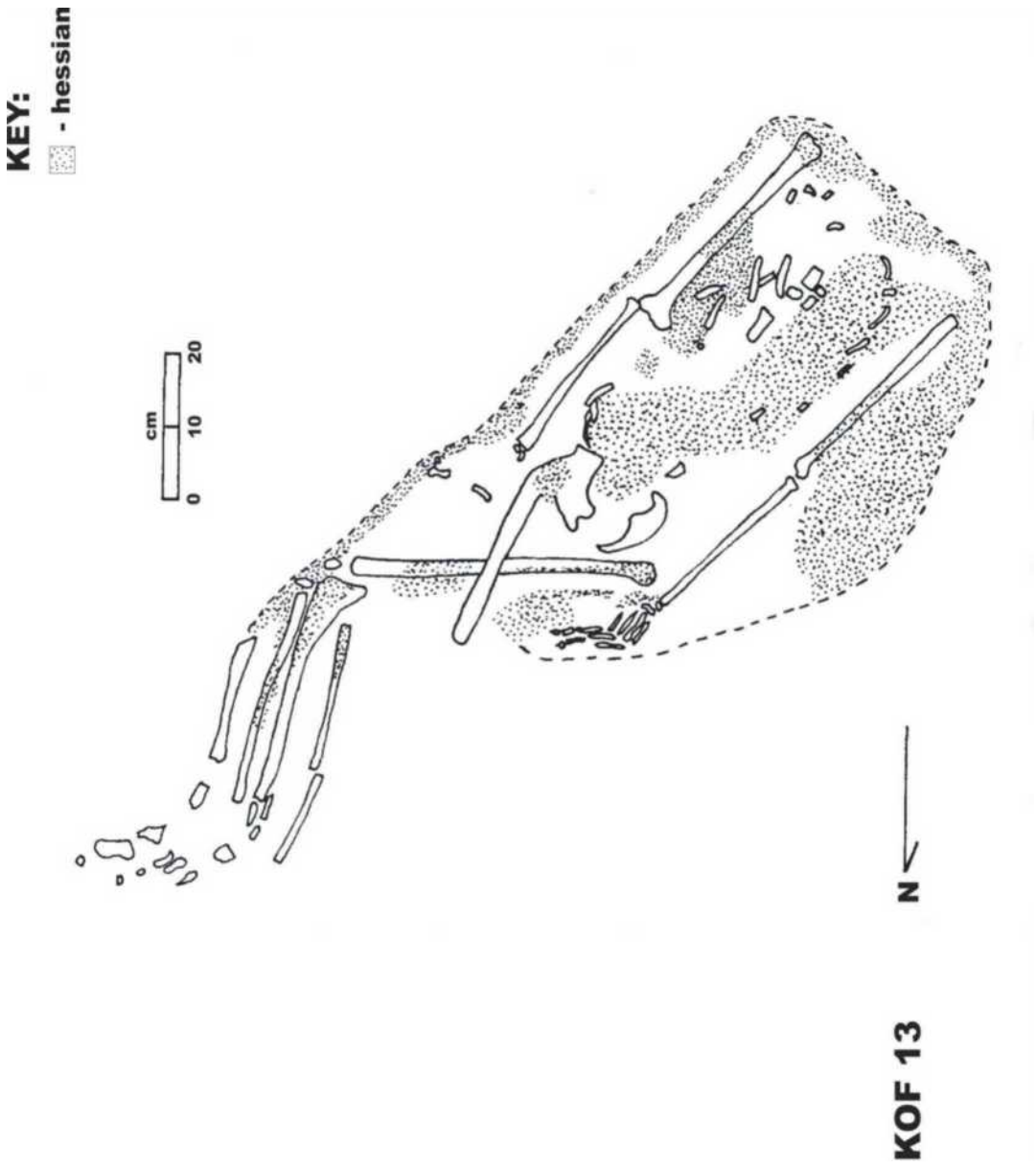


Figure 45. KOF 13: Sketch plan of skeleton

Figure 46. KOF 13 *in situ*

Figure 47. KOF 13 showing hessian on chest area

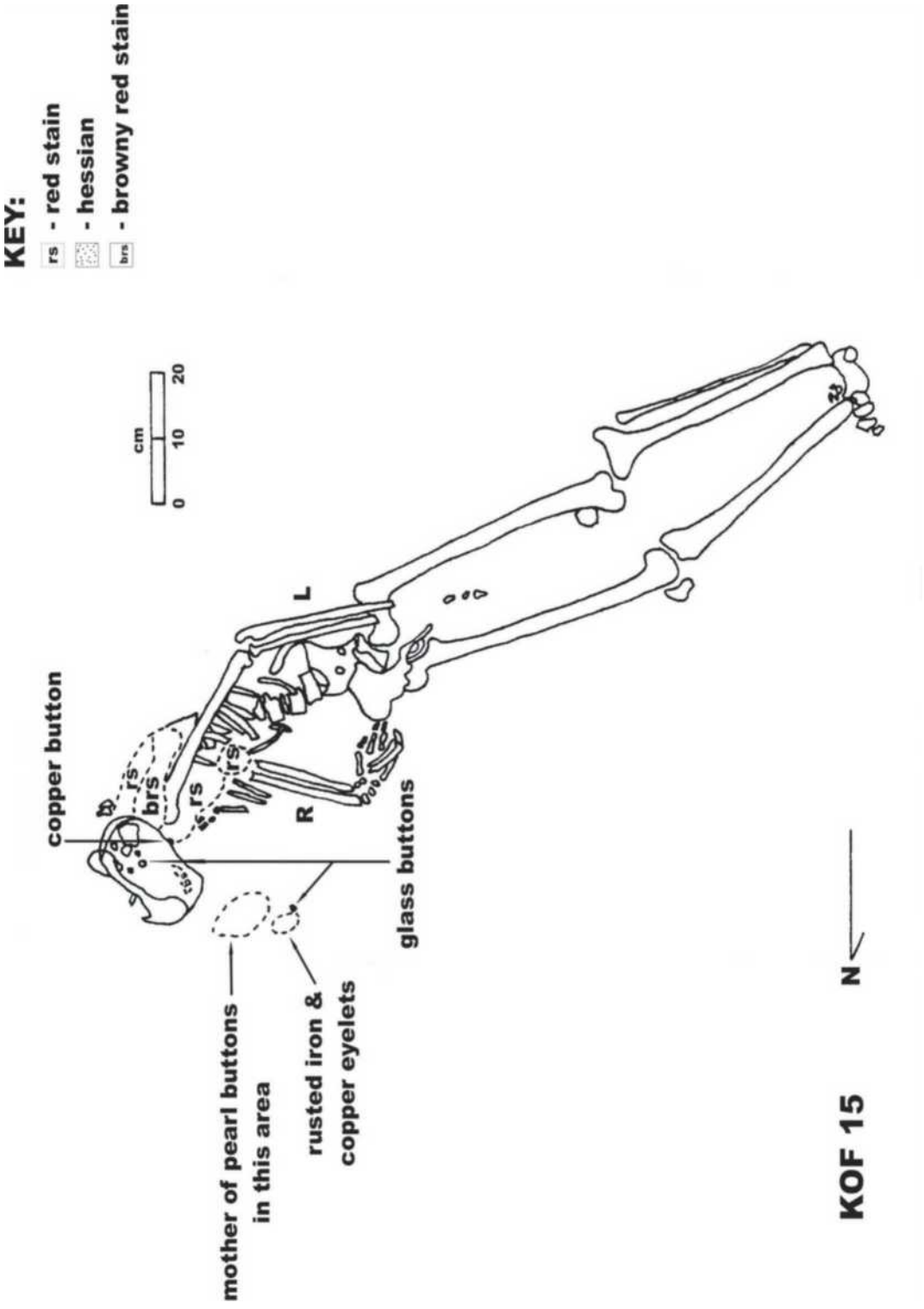


Figure 48. KOF 15: Sketch plan of skeleton

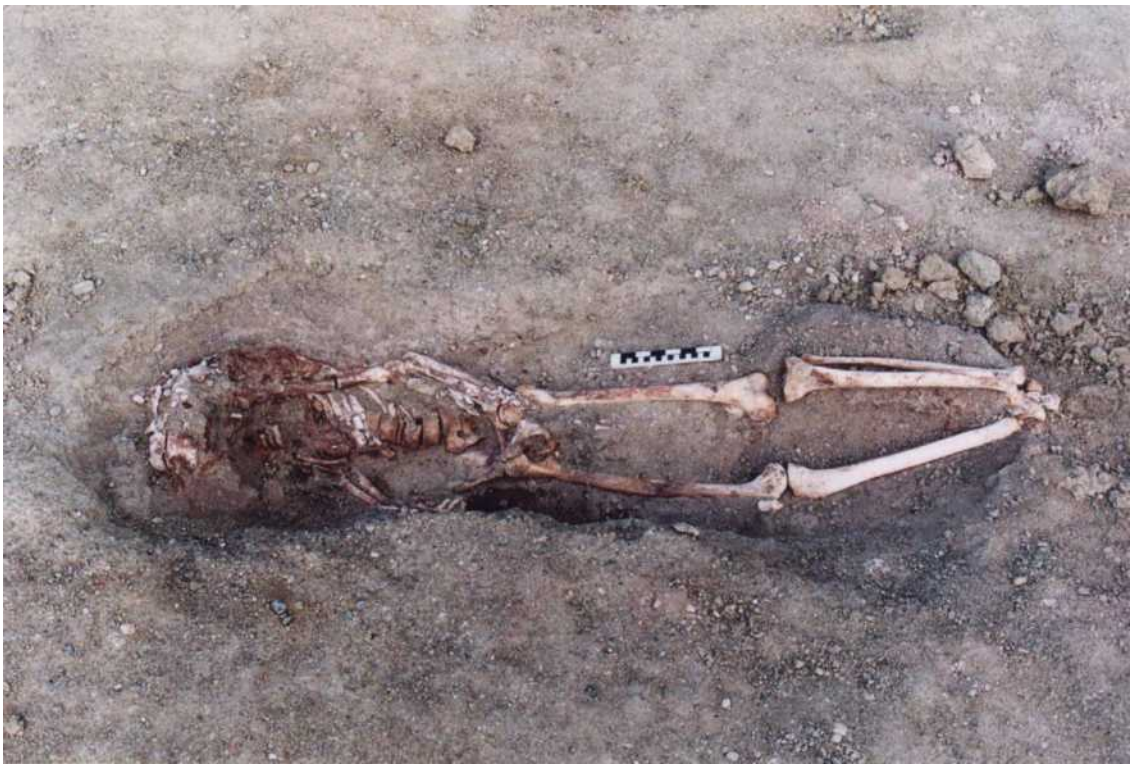


Figure 49. KOF 15 *in situ*

Figure 50. KOF 15 showing skeleton slumped in grave

Figure 51. KOF 15 cultural remains

Figure 52. KOF 15 button found with rusted iron and eyelets

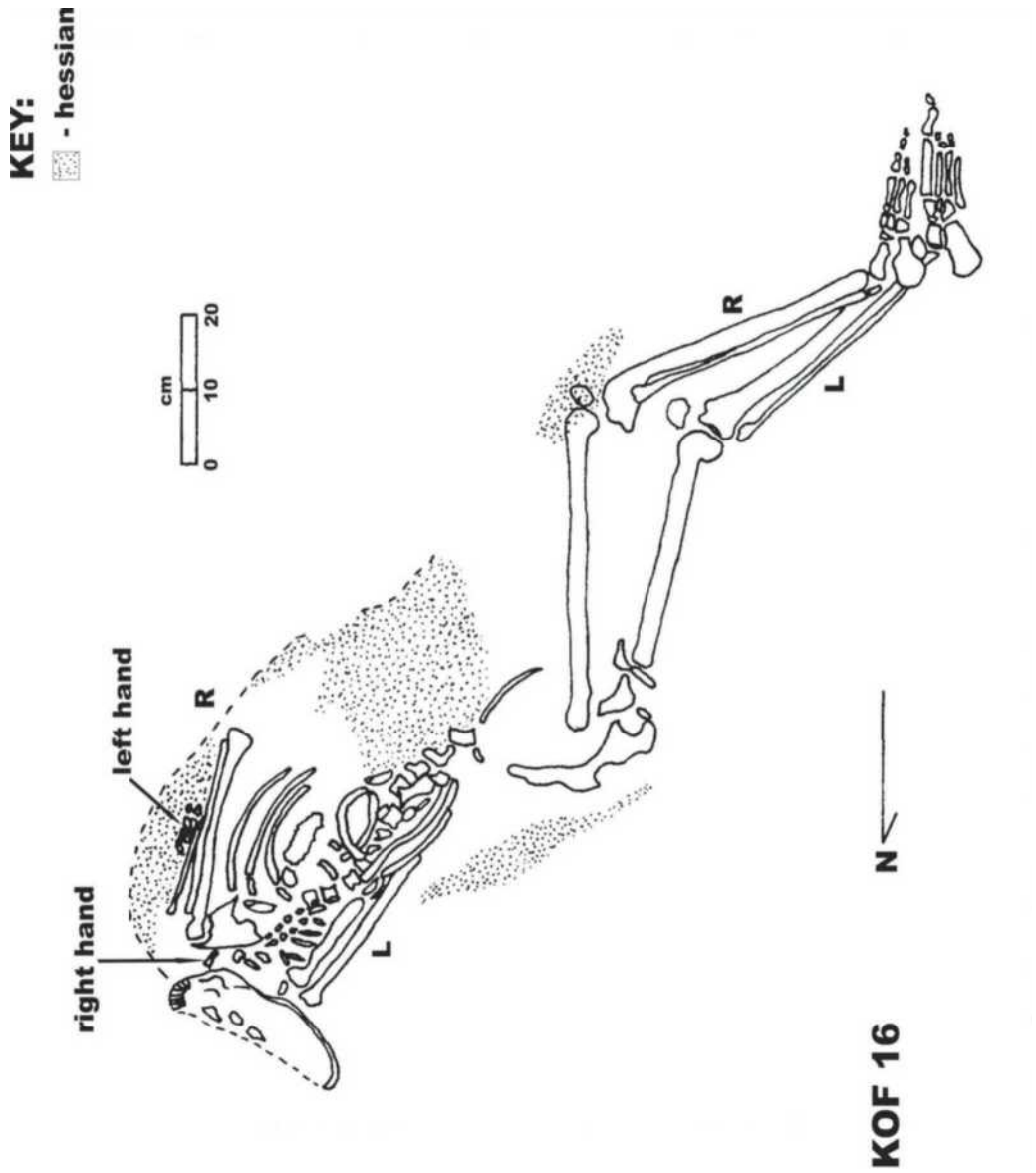


Figure 53. KOF 16: Sketch plan of skeleton

Figure 54. KOF 16 *in situ*

Figure 55. KOF 16 showing skull resting on chin

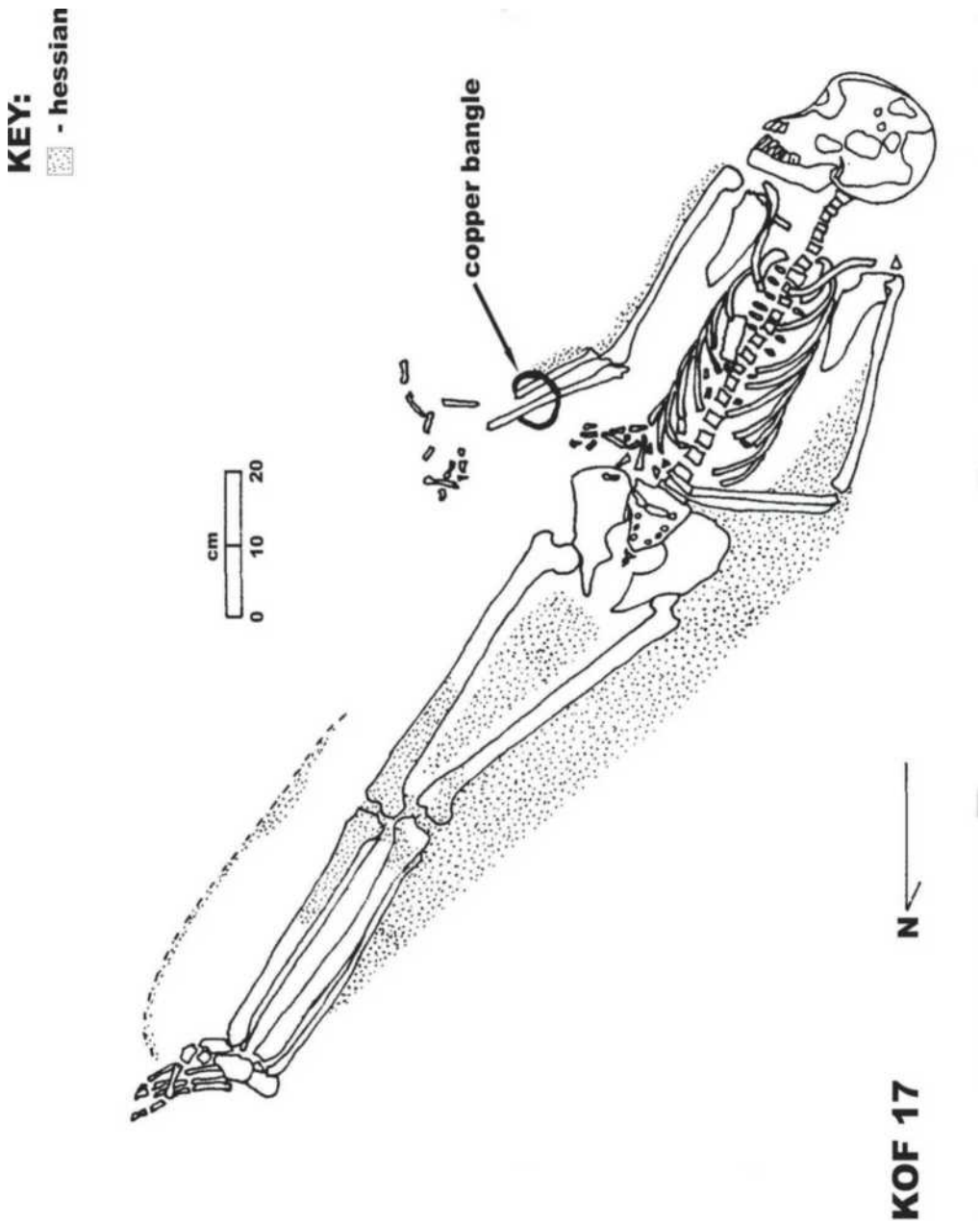


Figure 56. KOF 17: Sketch plan of skeleton

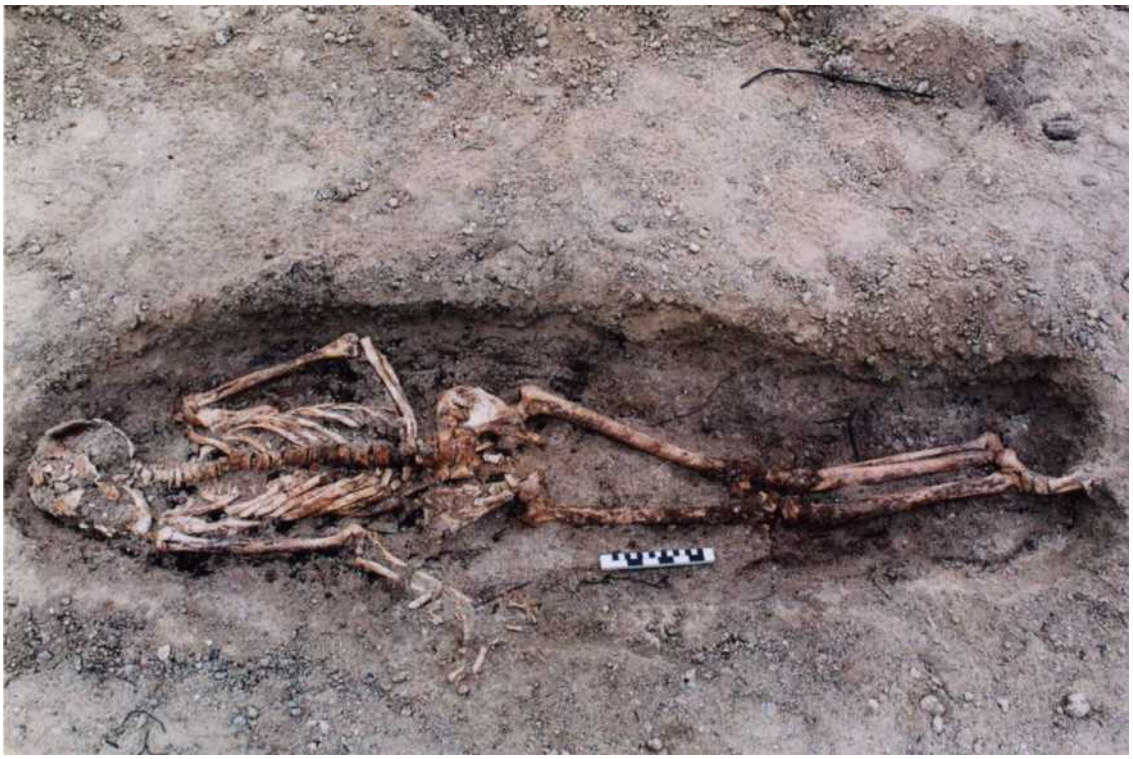


Figure 57. KOF 17 *in situ*

Figure 58. KOF 17 showing copper bangle on right arm

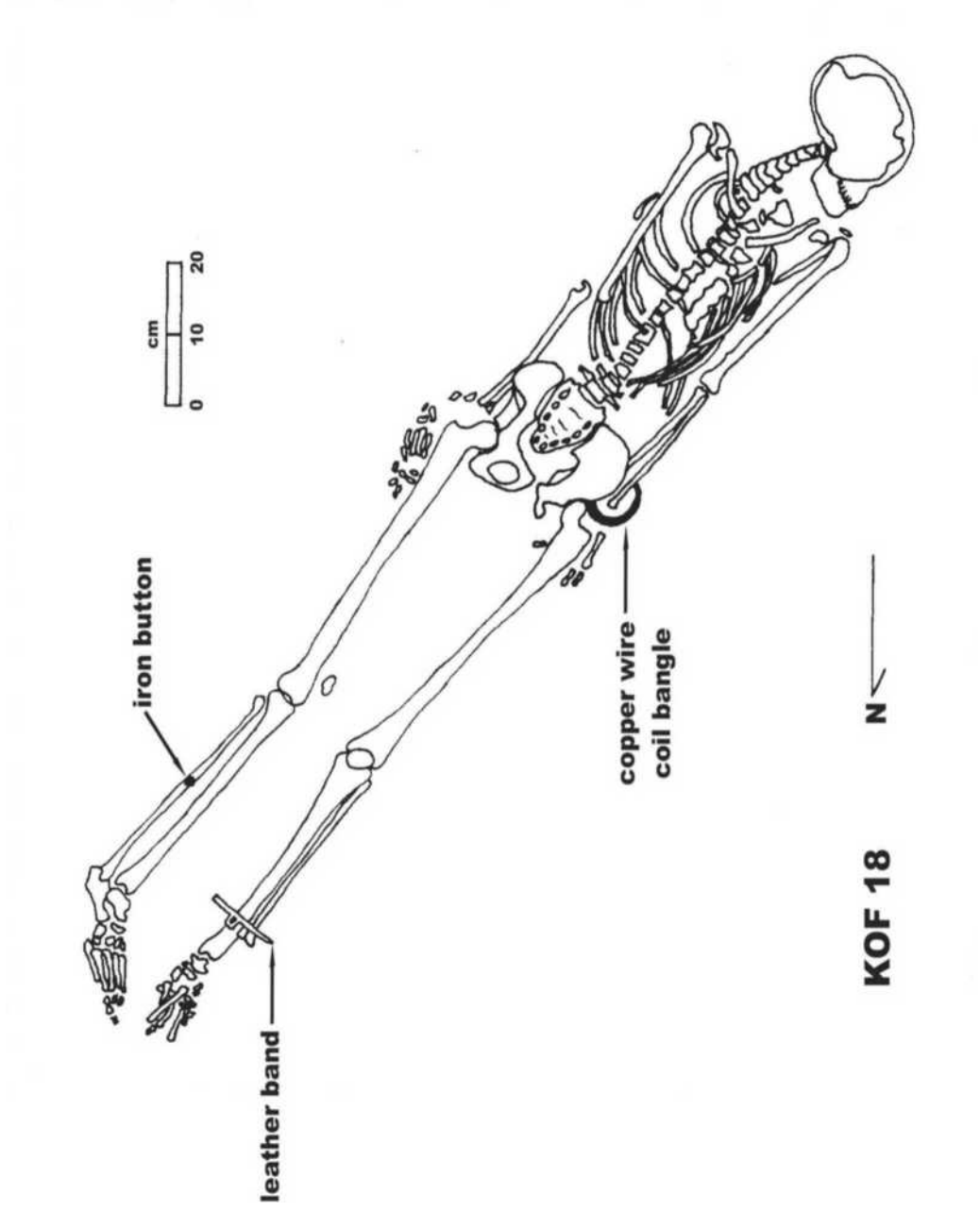


Figure 59. KOF 18: Sketch plan of skeleton

Figure 60. KOF 18 *in situ*

Figure 61. KOF 18 showing bangle around left arm

Figure 62. KOF 18 showing leather strap around left ankle

Figure 63. KOF 18 detail of strap

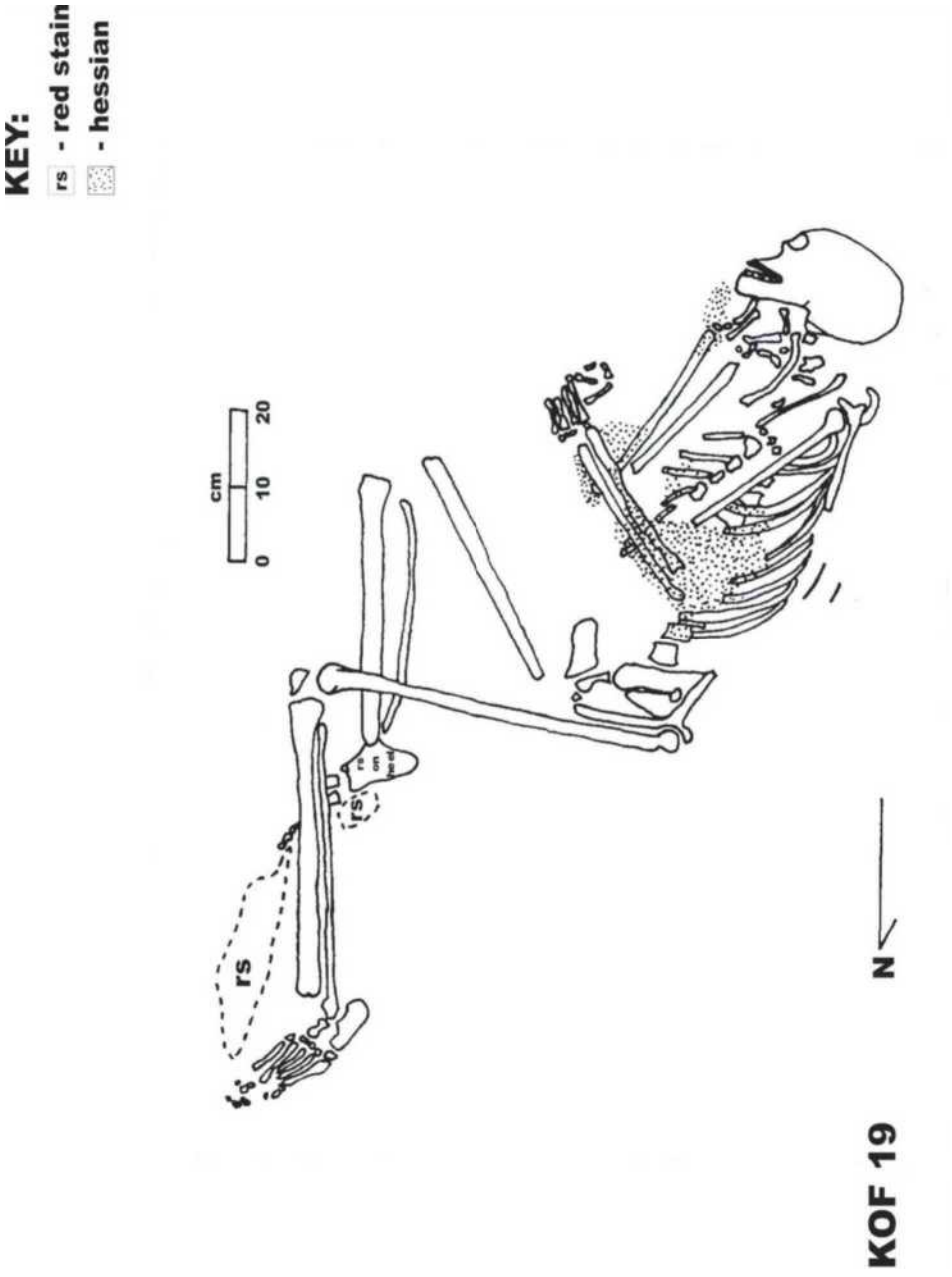


Figure 64. KOF 19: Sketch plan of skeleton

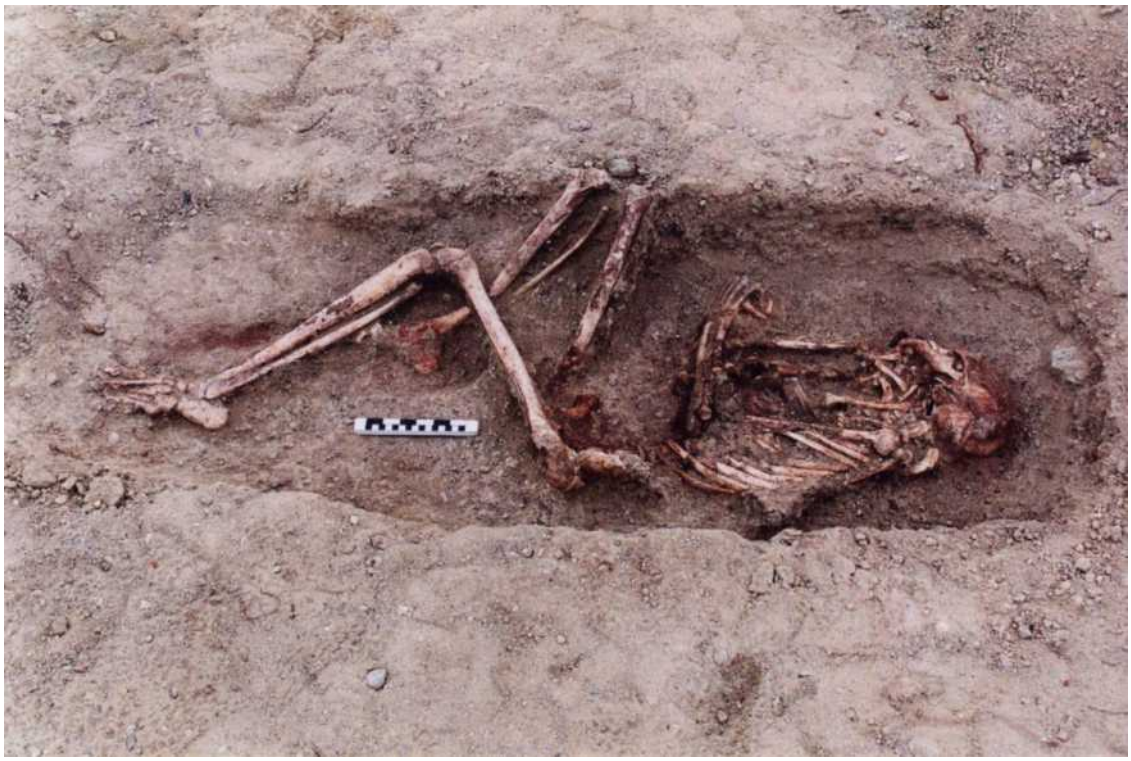


Figure 65. KOF 19 *in situ*

Figure 66. KOF 19 showing clenched left hand

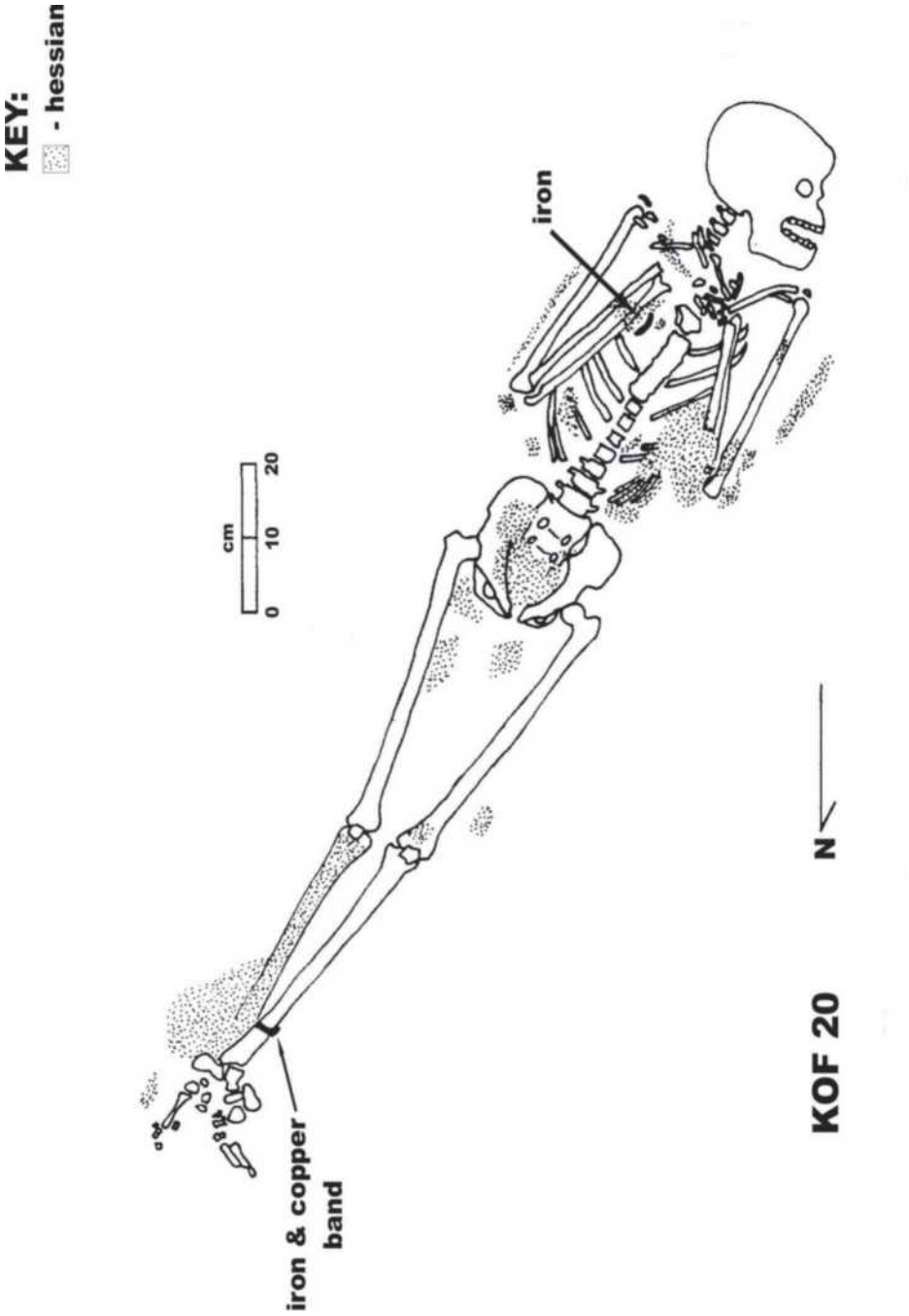


Figure 67. KOF 20: Sketch plan of skeleton

Figure 68. KOF 20 *in situ*

Figure 69. KOF 20 showing hands on chest

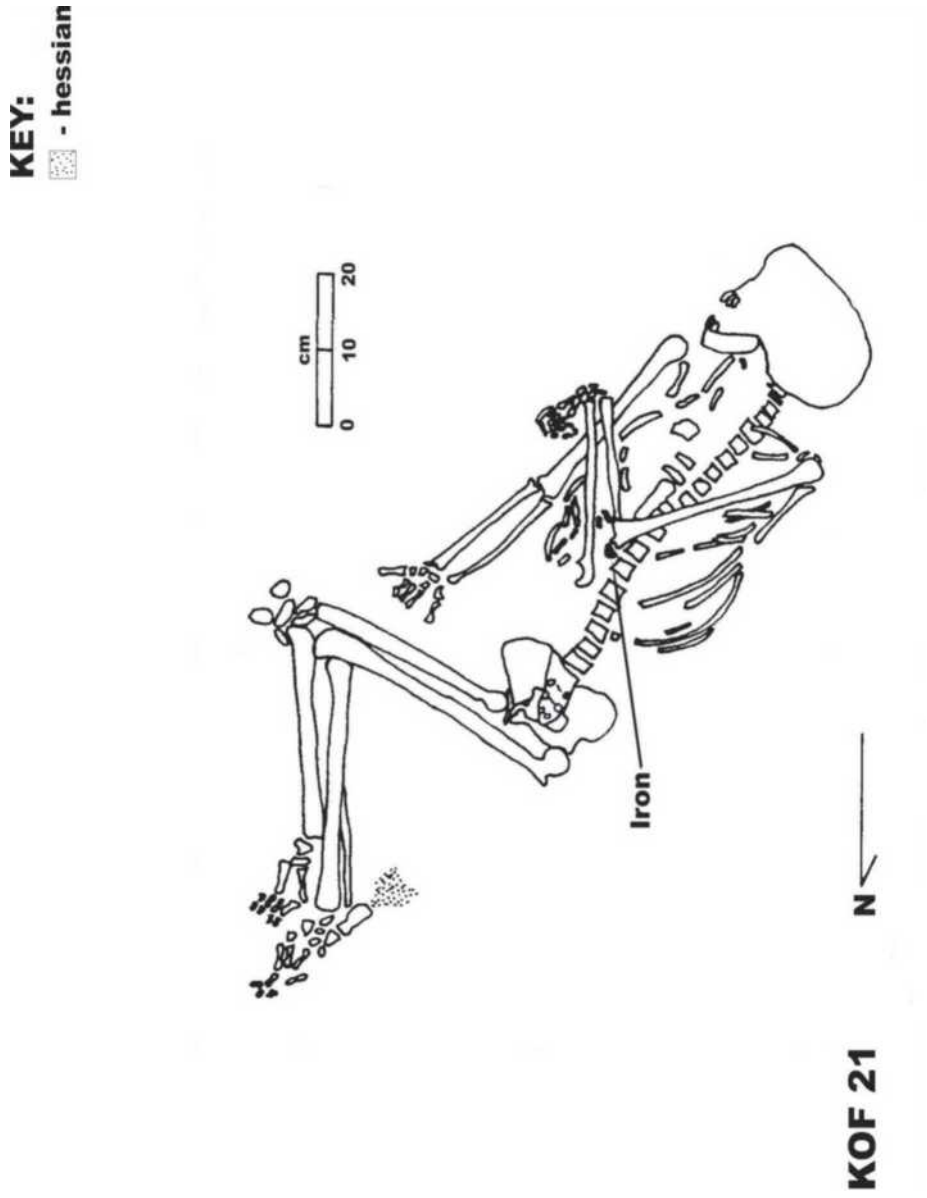


Figure 70. KOF 21: Sketch plan of skeleton

Figure 71. KOF 21 *in situ*

Figure 72. KOF 21 detail of left hand

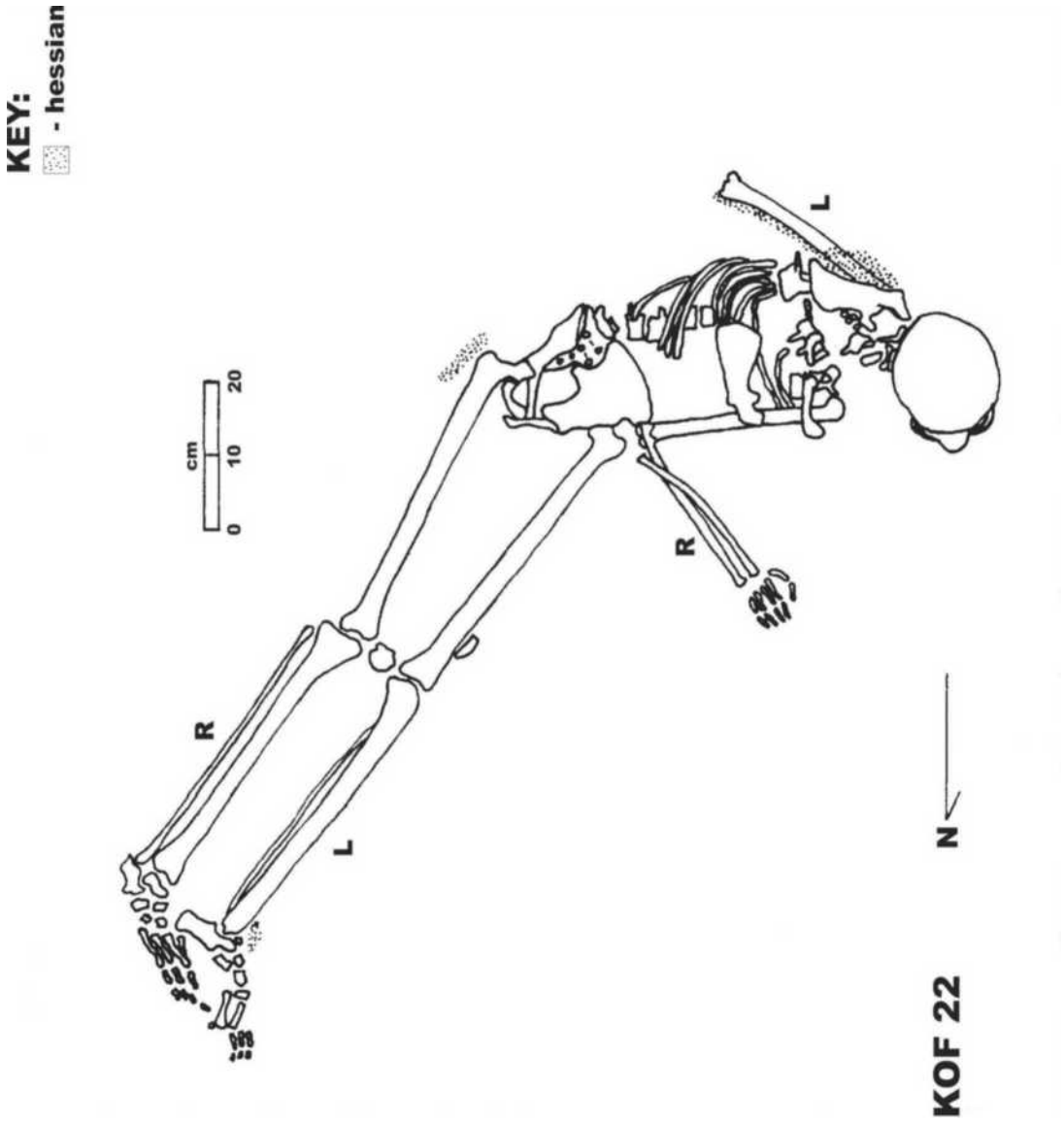


Figure 73. KOF 22: Sketch plan of skeleton

Figure 74. KOF 22 *in situ*

Figure 75. KOF 22 upper body on chest

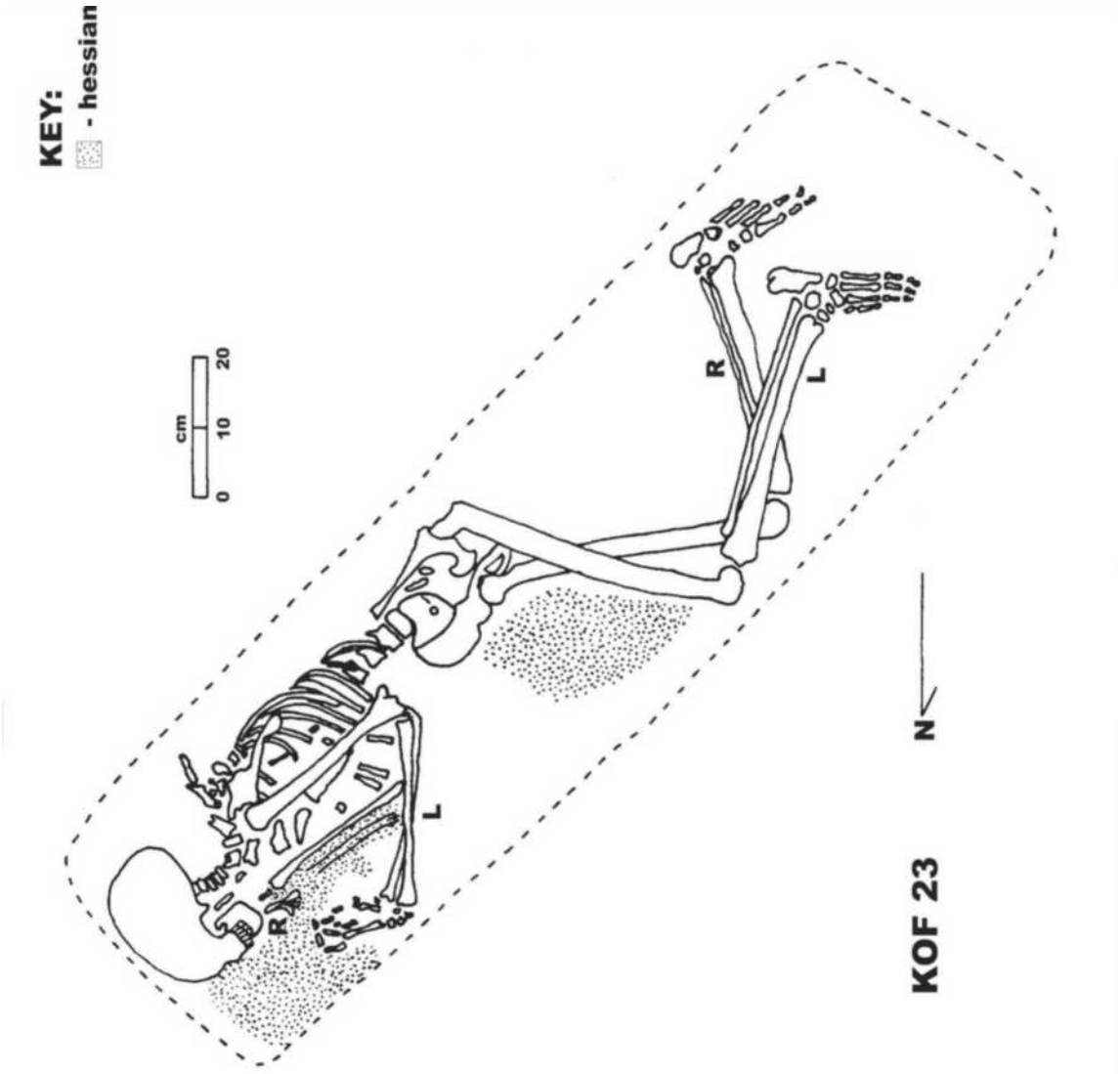


Figure 76. KOF 23: Sketch plan of skeleton

Figure 77. KOF 23 *in situ*

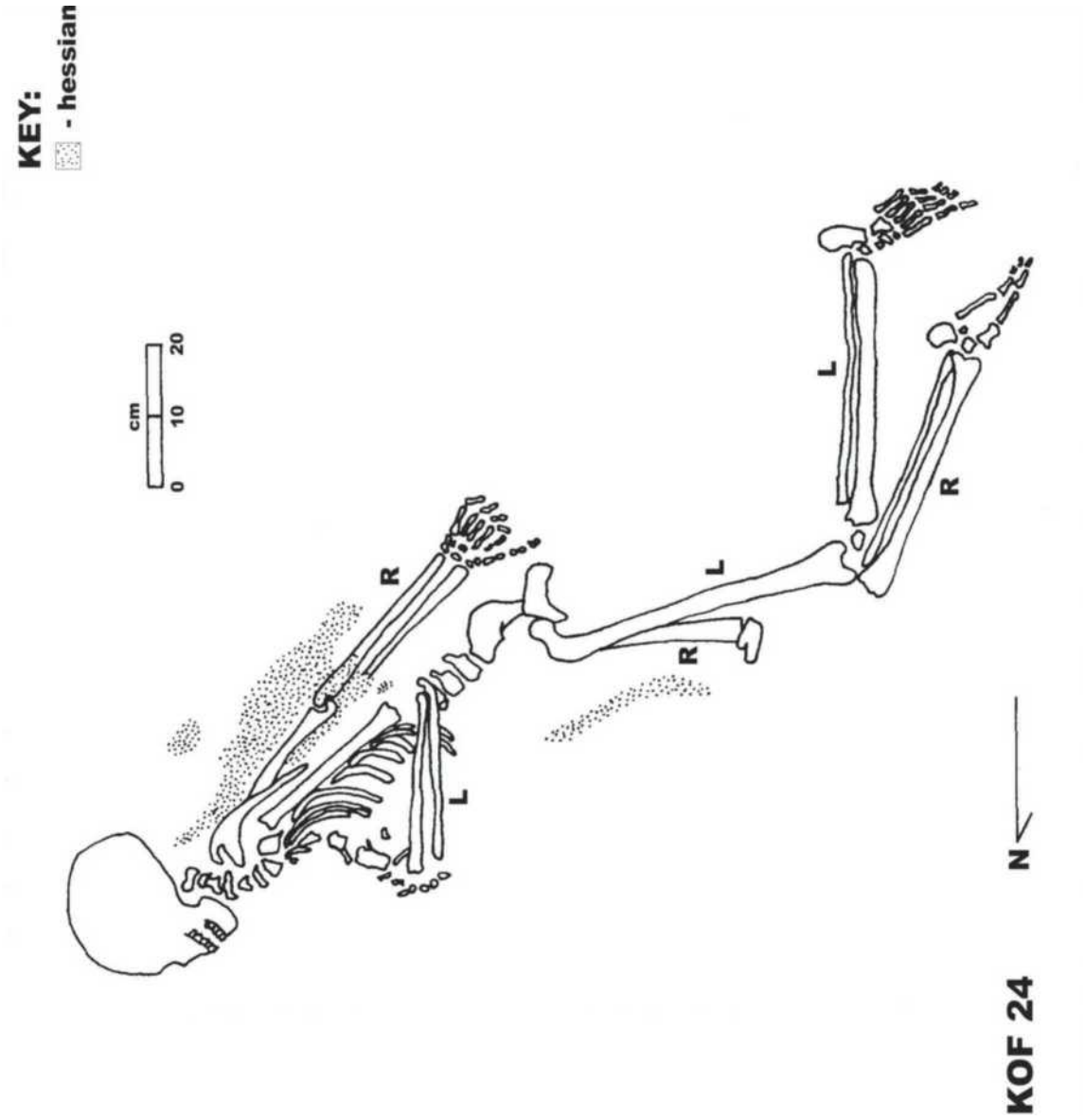


Figure 78. KOF 24: Sketch plan of skeleton

Figure 79. KOF 24 *in situ*

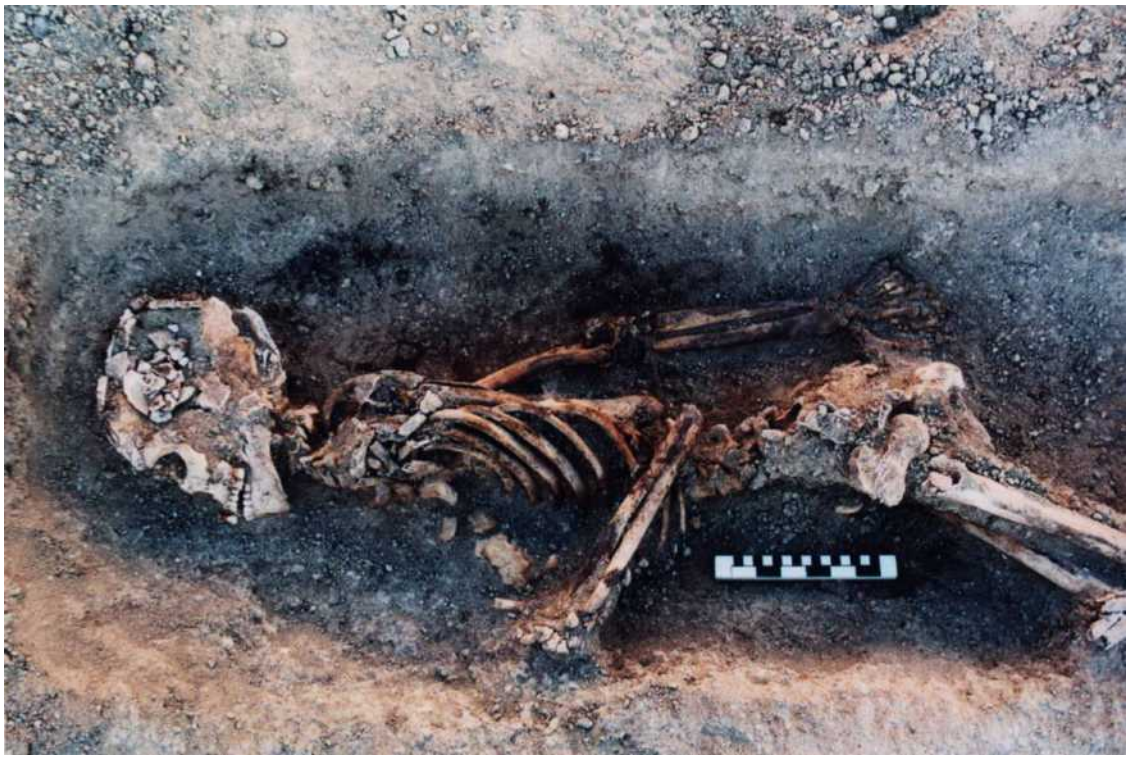


Figure 80. KOF 24 detail of torso

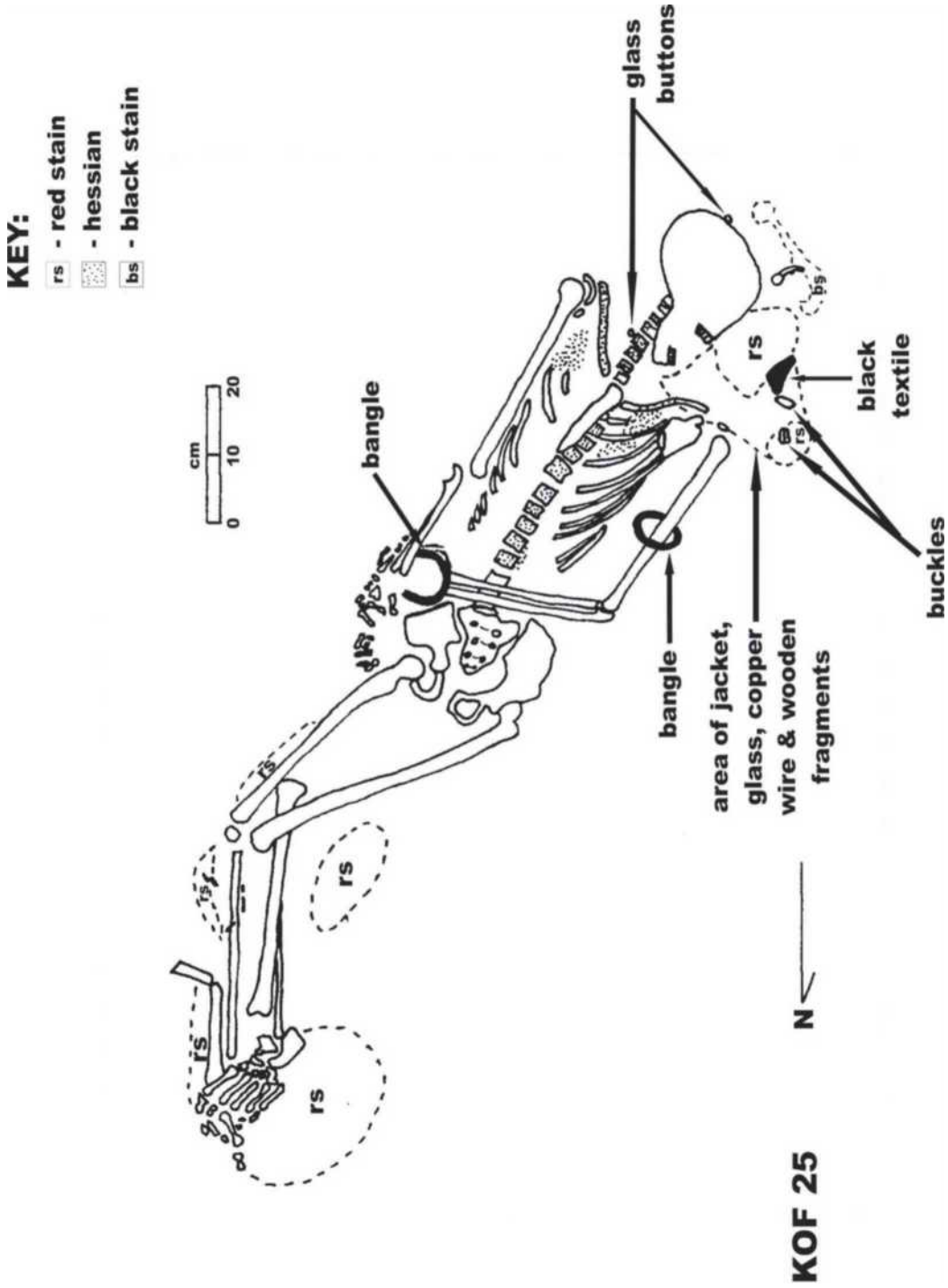


Figure 81. KOF 25: Sketch plan of skeleton

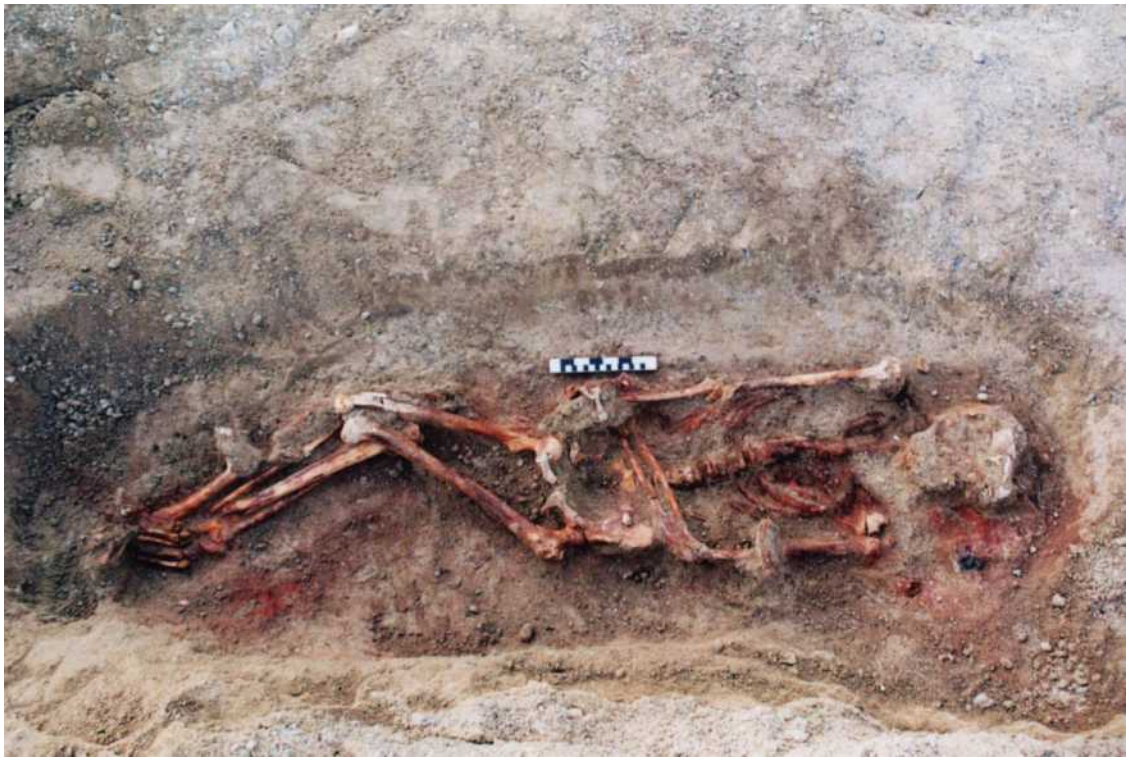


Figure 82. KOF 25 *in situ*

Figure 83. KOF 25 cultural material

Figure 84. KOF 25 showing black material and red stain *in situ*

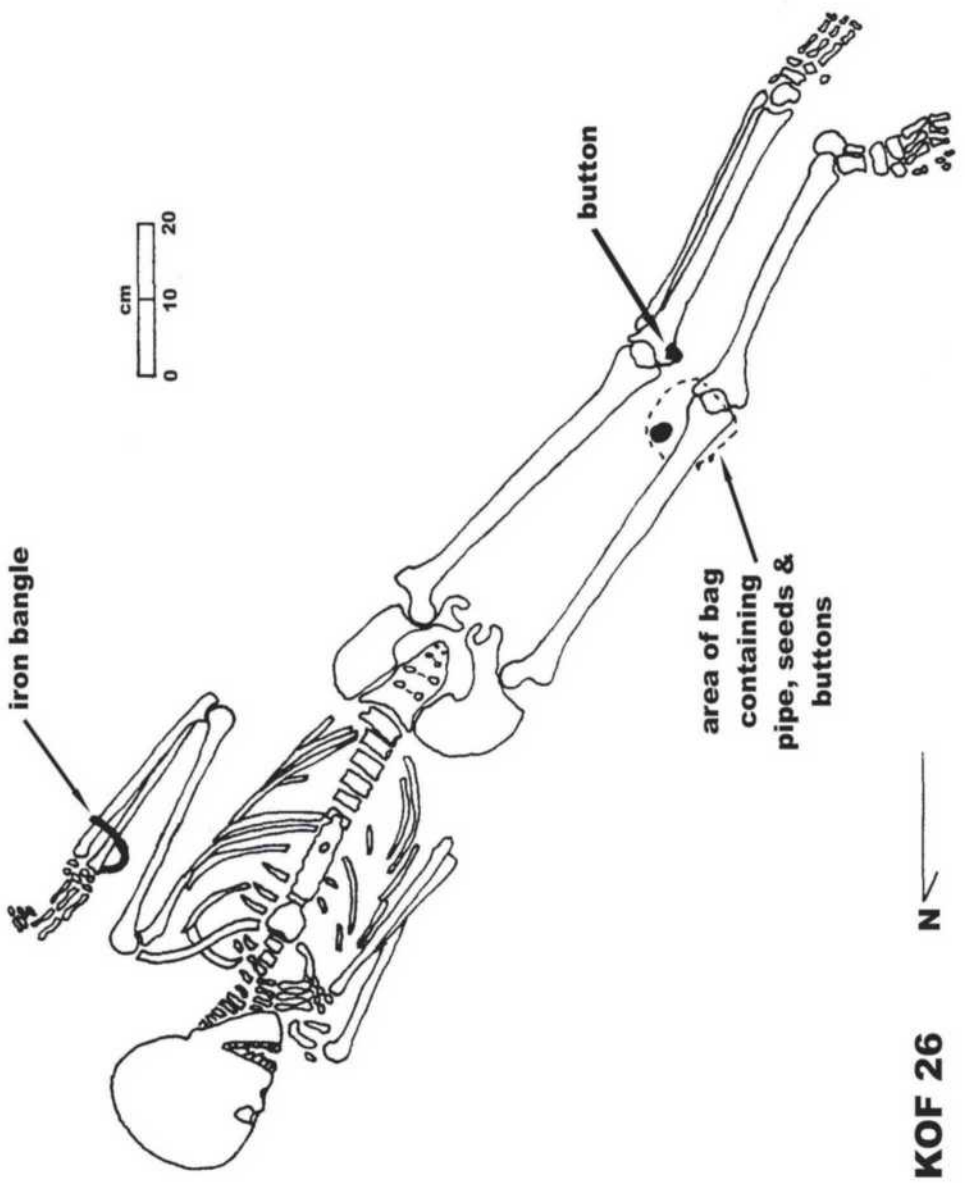


Figure 85. KOF 26: Sketch plan of skeleton

Figure 86. KOF 26 *in situ*

Figure 87. KOF 26 cultural material

Figure 88. KOF 26 pipe *in situ*

Figure 89. KOF 26 pipe-smoker's wear on individual's left side teeth

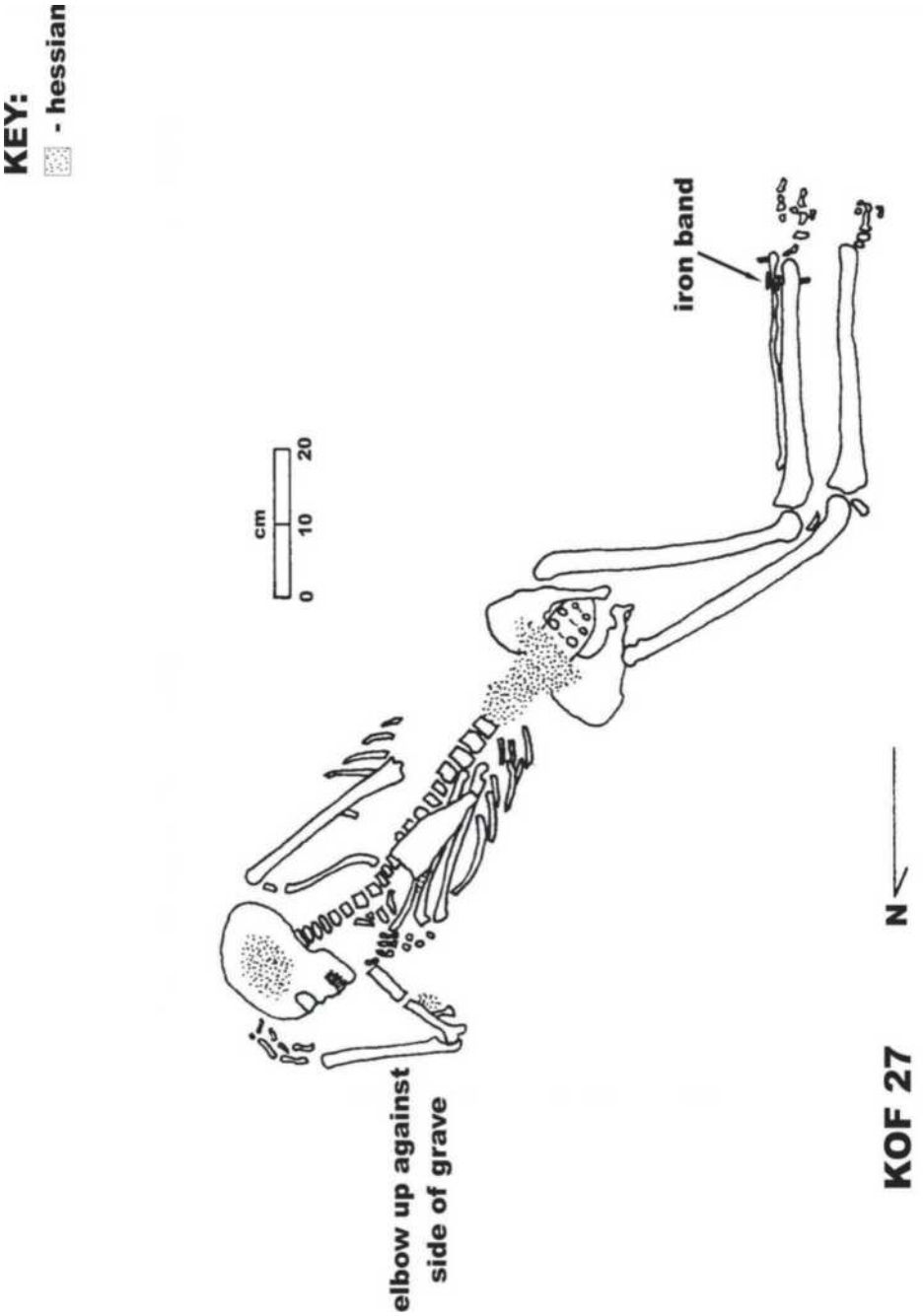


Figure 90. KOF 27: Sketch plan of skeleton

Figure 91. KOF 27 *in situ*

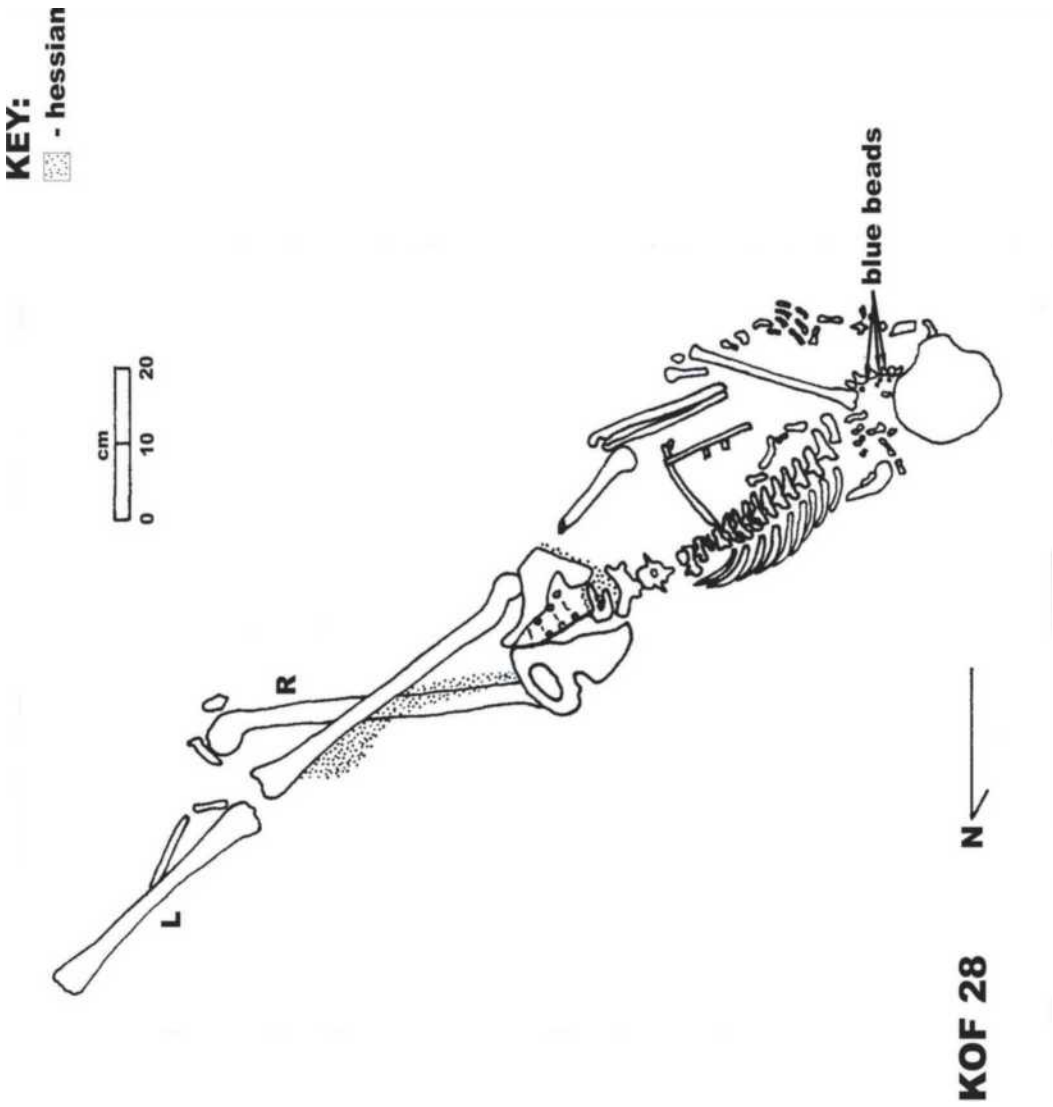


Figure 92. KOF 28: Sketch plan of skeleton

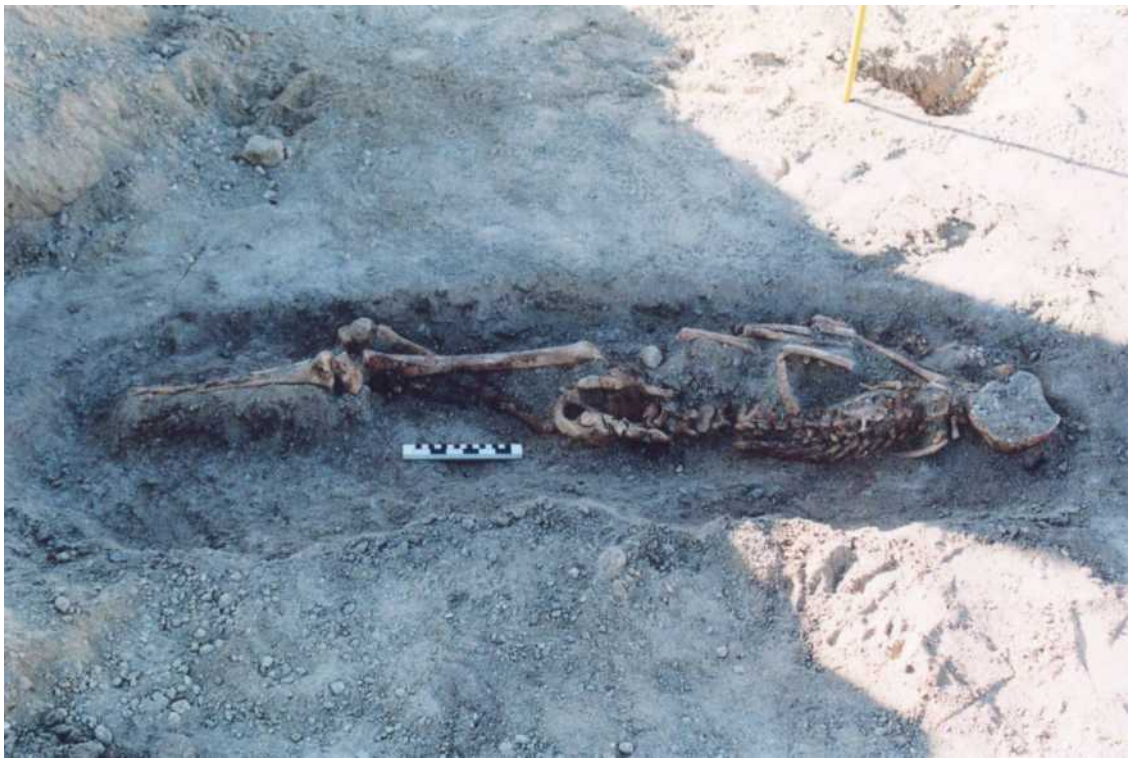


Figure 93. KOF 28 *in situ*

Figure 94. KOF 28 showing blue beads round neck

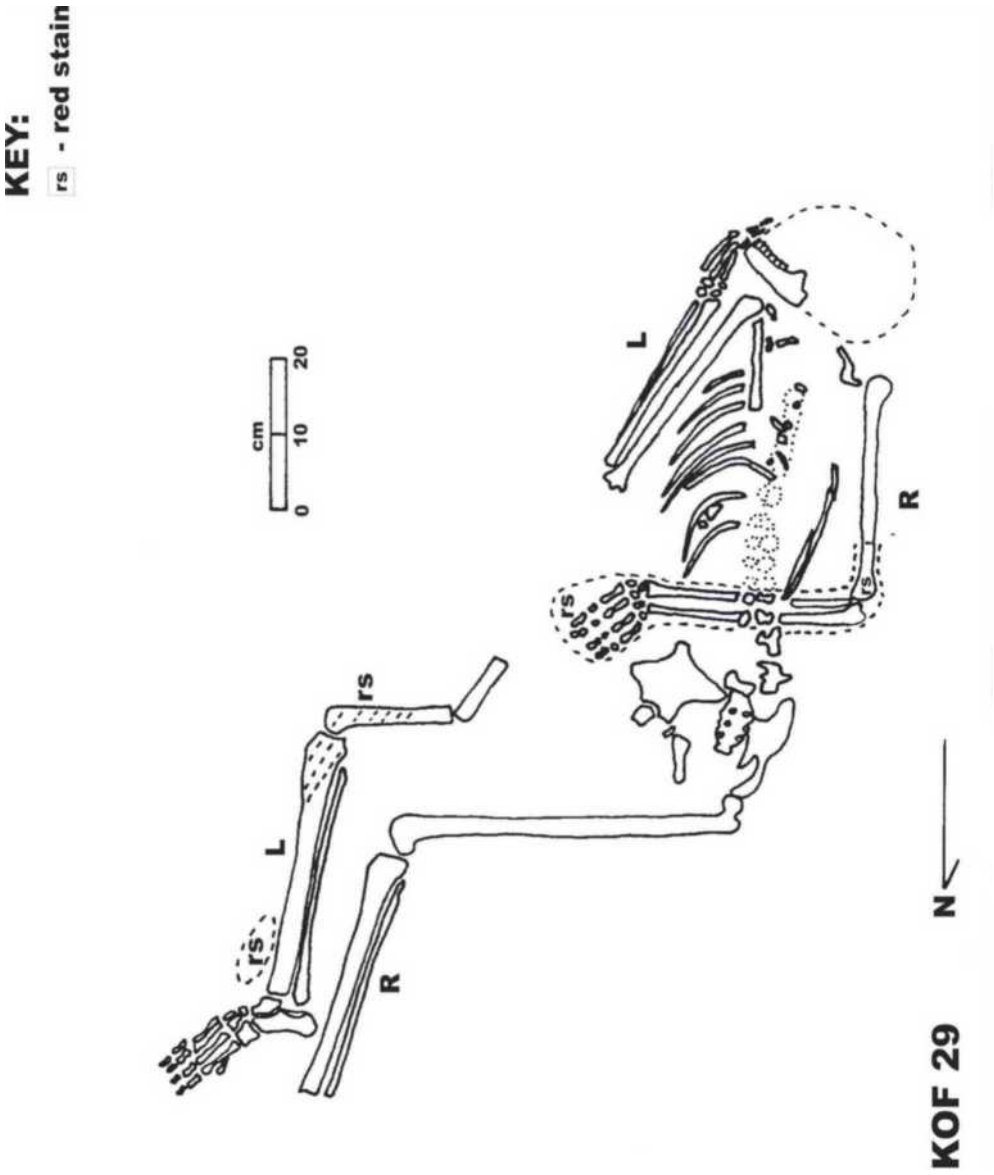


Figure 95. KOF 29: Sketch plan of skeleton

Figure 96. KOF 29 *in situ*

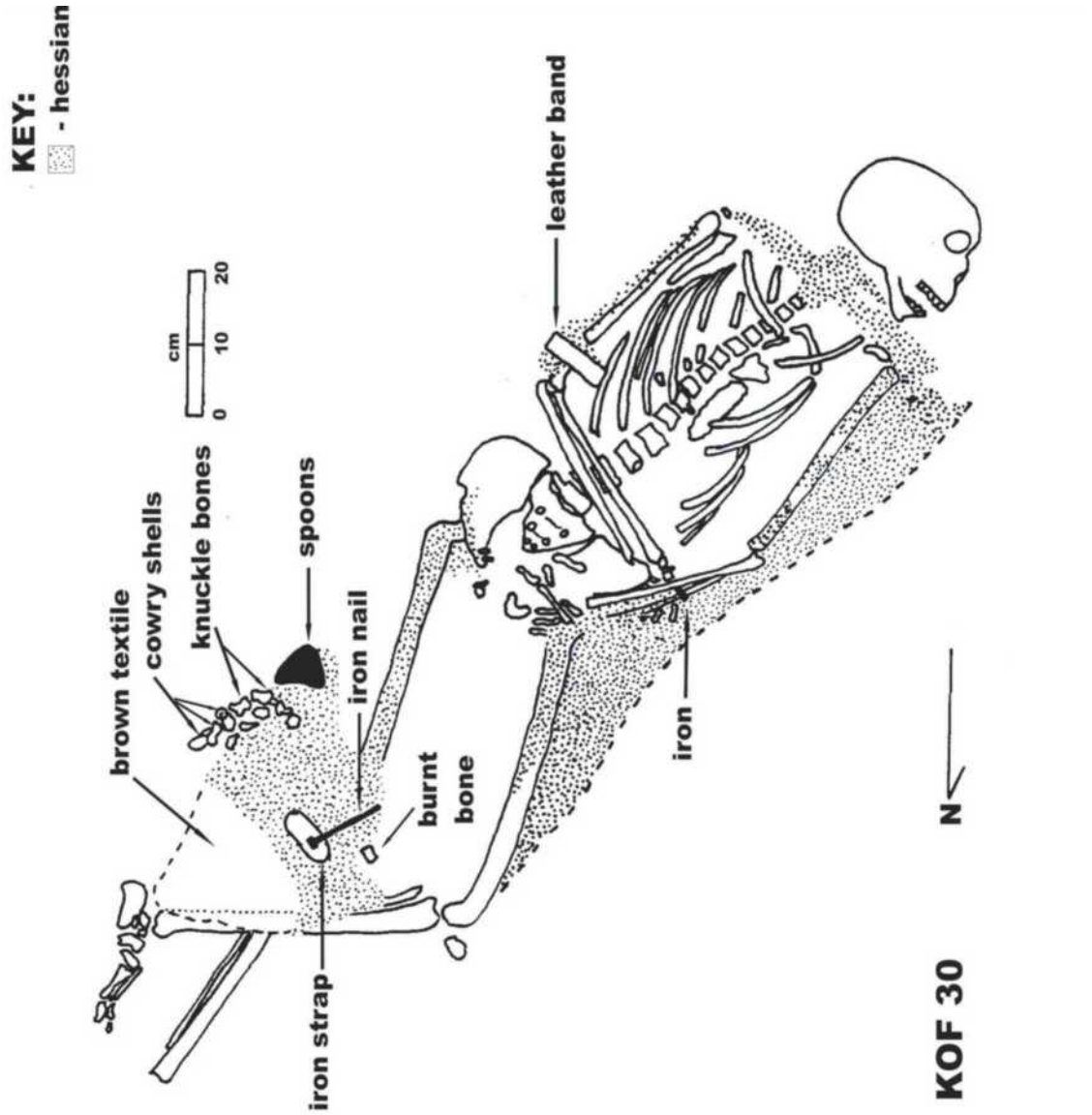


Figure 97. KOF 30: Sketch plan of skeleton

Figure 98. KOF 30 *in situ*

Figure 99. KOF 30 cultural remains

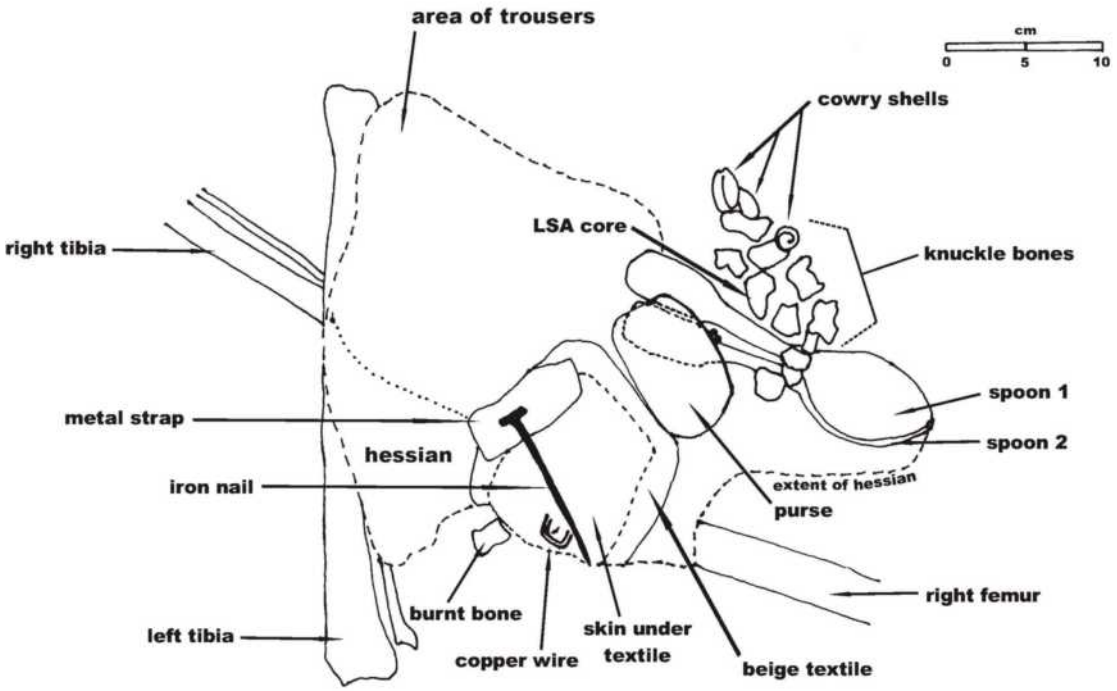


Figure 100. KOF 30 plan of cultural remains *in situ*

Figure 101. KOF 30 “divining set” *in situ* - note curve of collection

Figure 102. KOF 30 “divining set” and piece of burnt bone (bottom left)

Figure 103. KOF 30 piece of duiker skin

Figure 104. KOF 30 duiker skin (on right) under fragments of beige textile, and pieces of trousers (on left)

Figure 105. KOF 30 two spoons

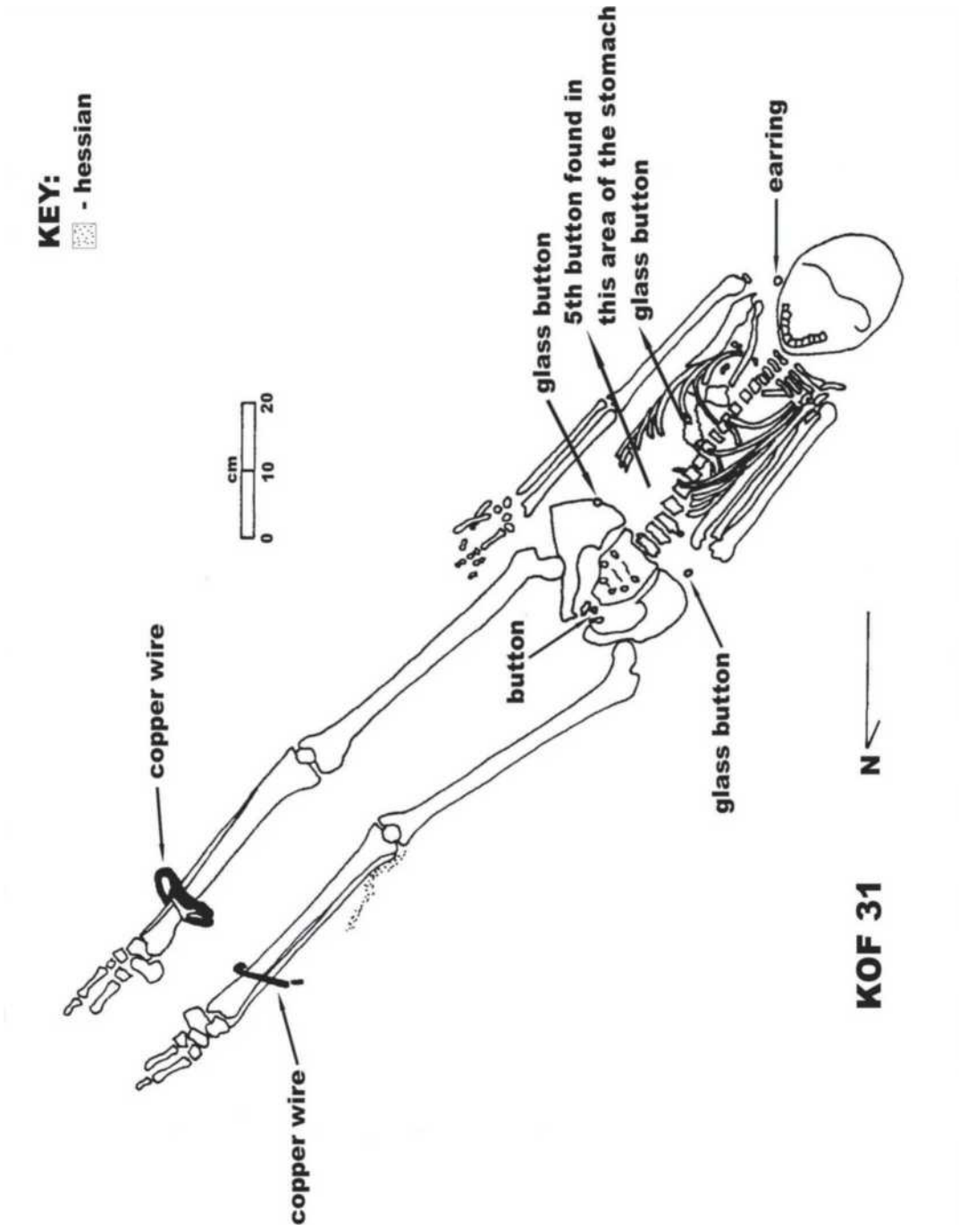


Figure 106. KOF 31: Sketch plan of skeleton

Figure 107. KOF 31 *in situ*

Figure 108. KOF 31 showing copper earring at right side of skull

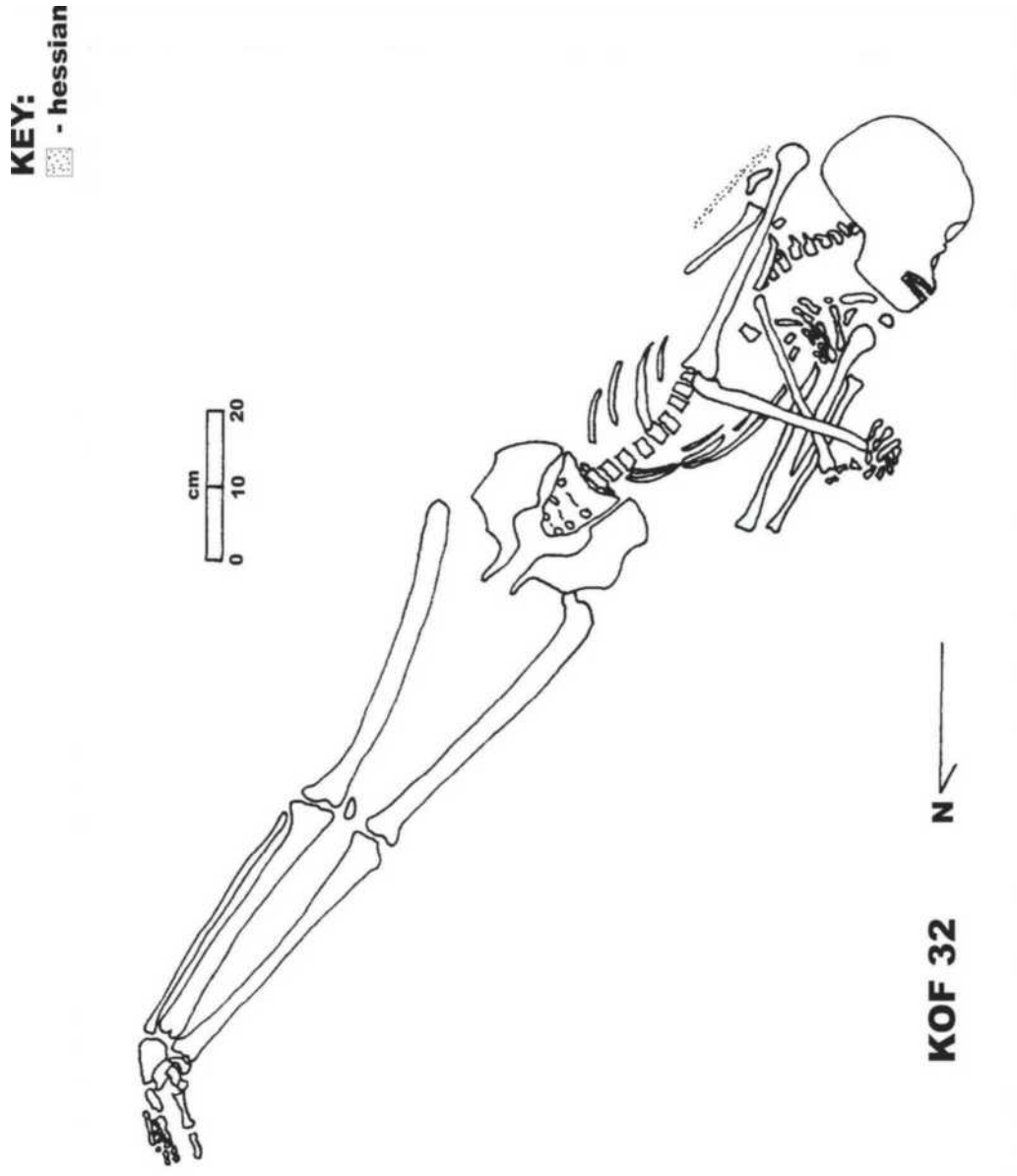


Figure 109. KOF 32: Sketch plan of skeleton

Figure 110. KOF 32 *in situ*

Figure 111. KOF 32 skull showing dung *in situ*

Figure 112. KOF 32 detail of dung in skull

Figure 113. KOF 32 dung around legs *in situ*

Figure 114. KOF 32 detail of dung next to femur

Figure 115. KOF 32 detail showing grass stalks in dung

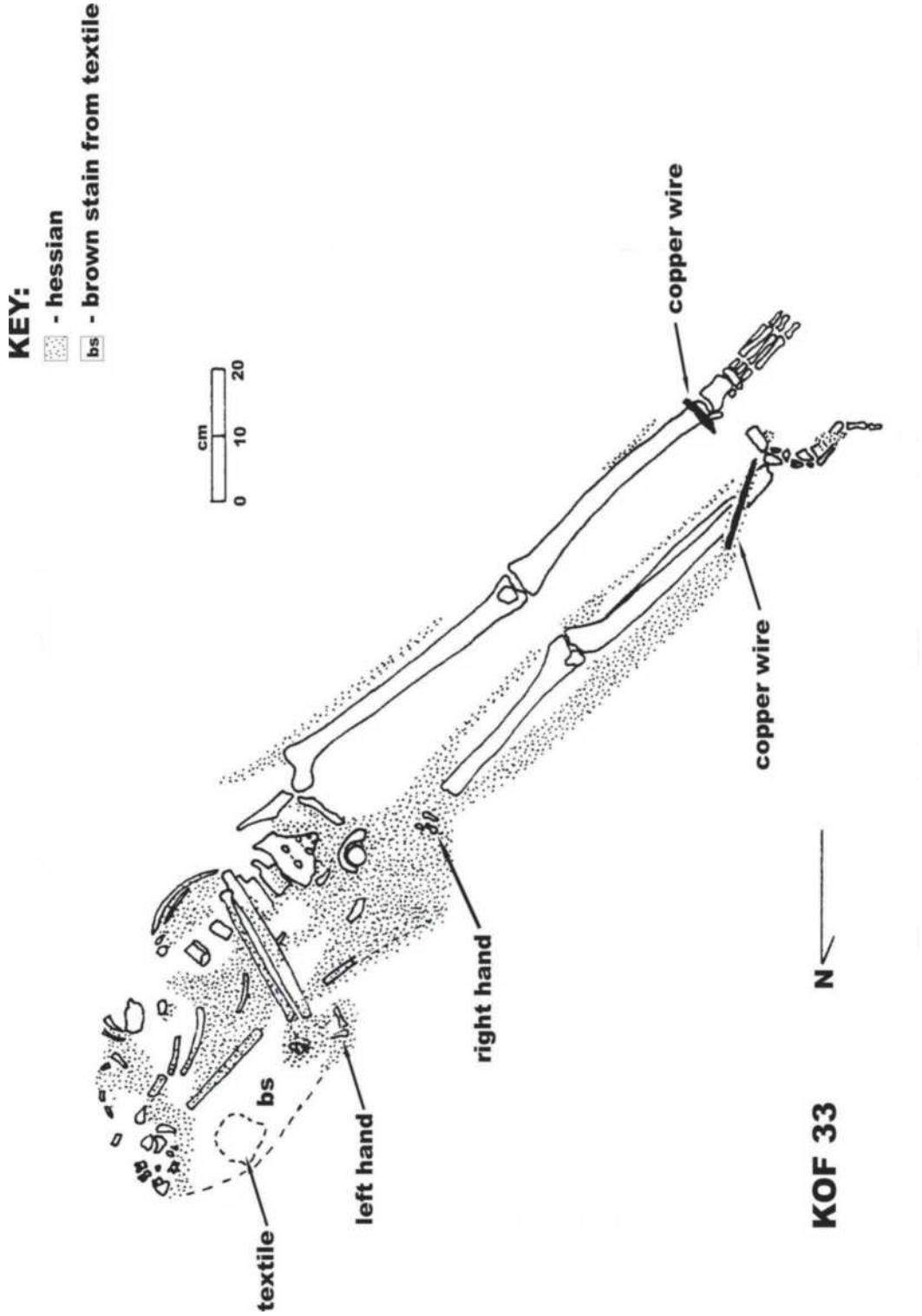


Figure 116. KOF 33: Sketch plan of skeleton

Figure 117. KOF 33 *in situ*

Figure 118. KOF 33 copper wire round ankles *in situ*

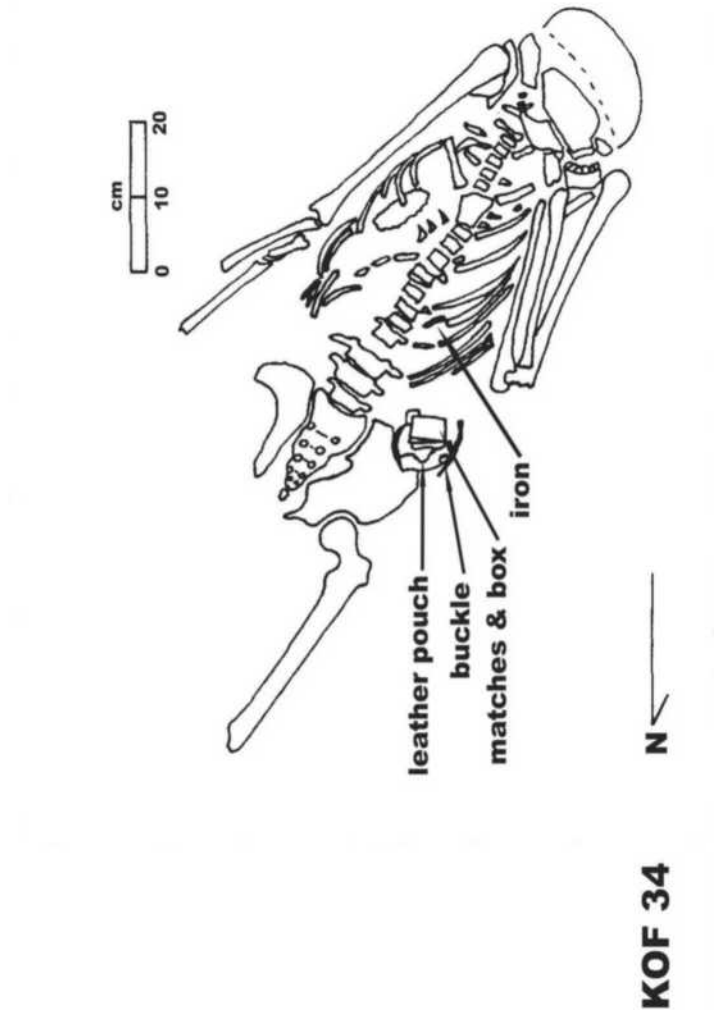


Figure 119. KOF 34: Sketch plan of skeleton

Figure 120. KOF 34 *in situ*

Figure 121. KOF 34 matches and box *in situ* on left hip

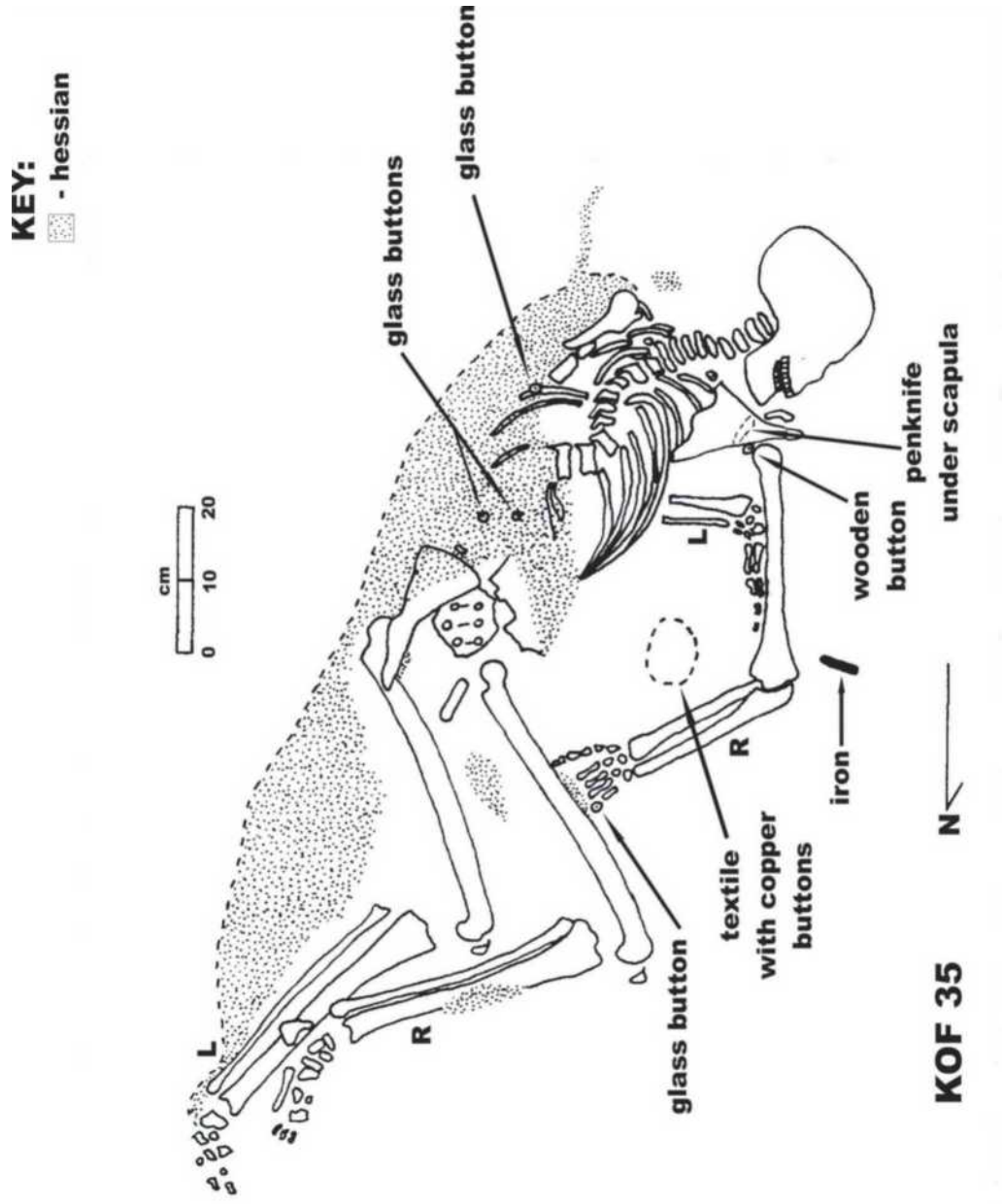


Figure 122. KOF 35: Sketch plan of skeleton

Figure 123. KOF 35 *in situ*

Figure 124. KOF 35 indicating penknife in position

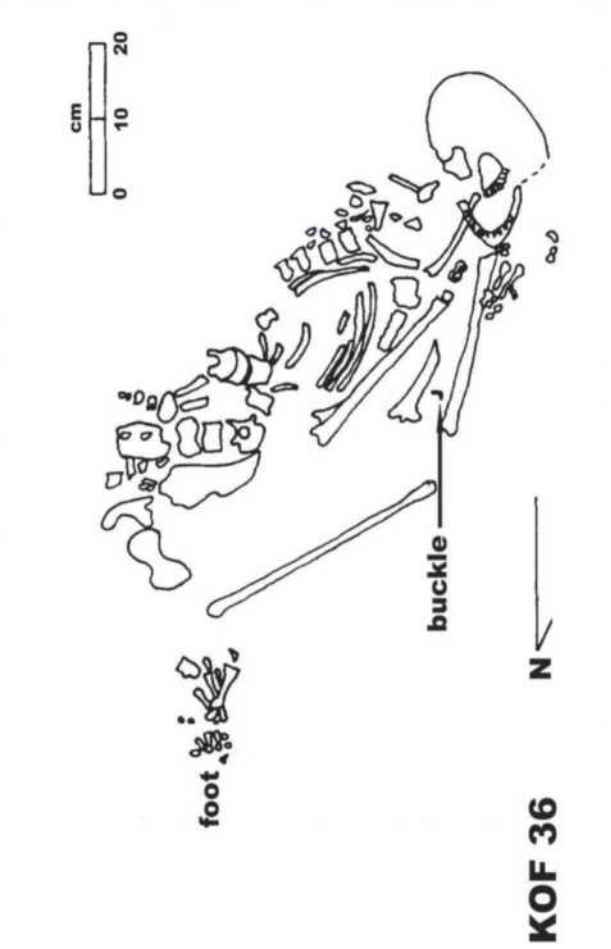


Figure 125. KOF 36: Sketch plan of skeleton

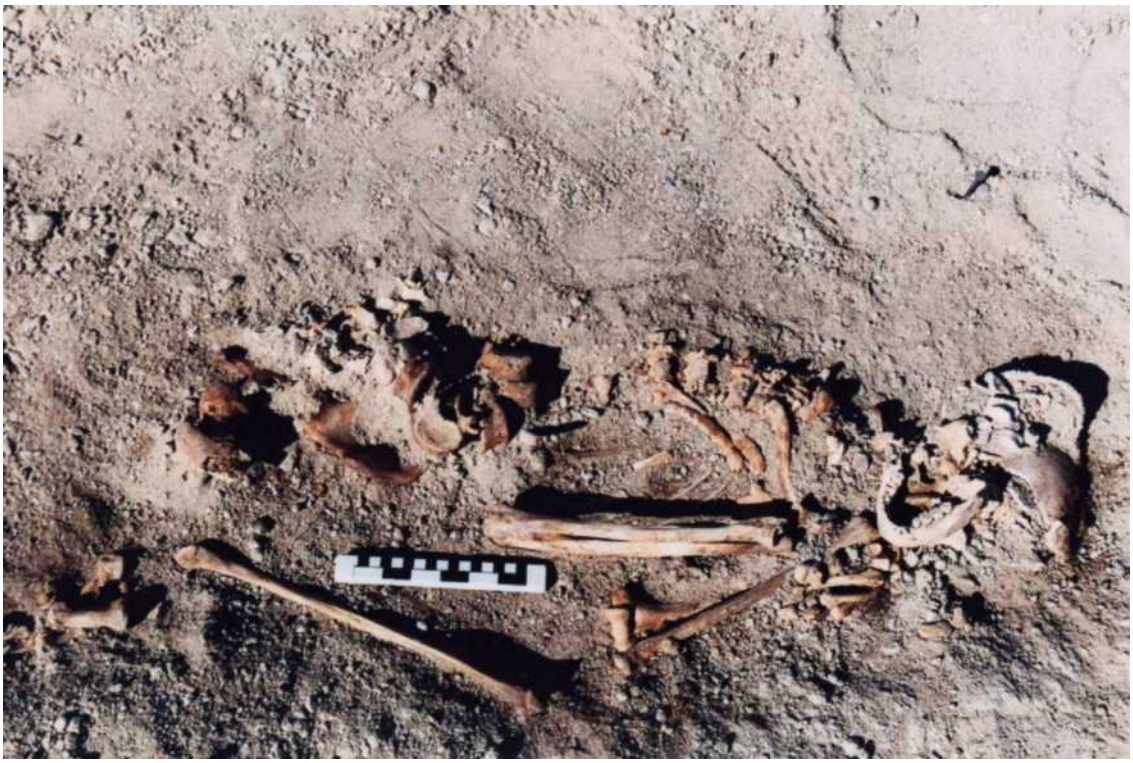


Figure 126. KOF 36 *in situ*

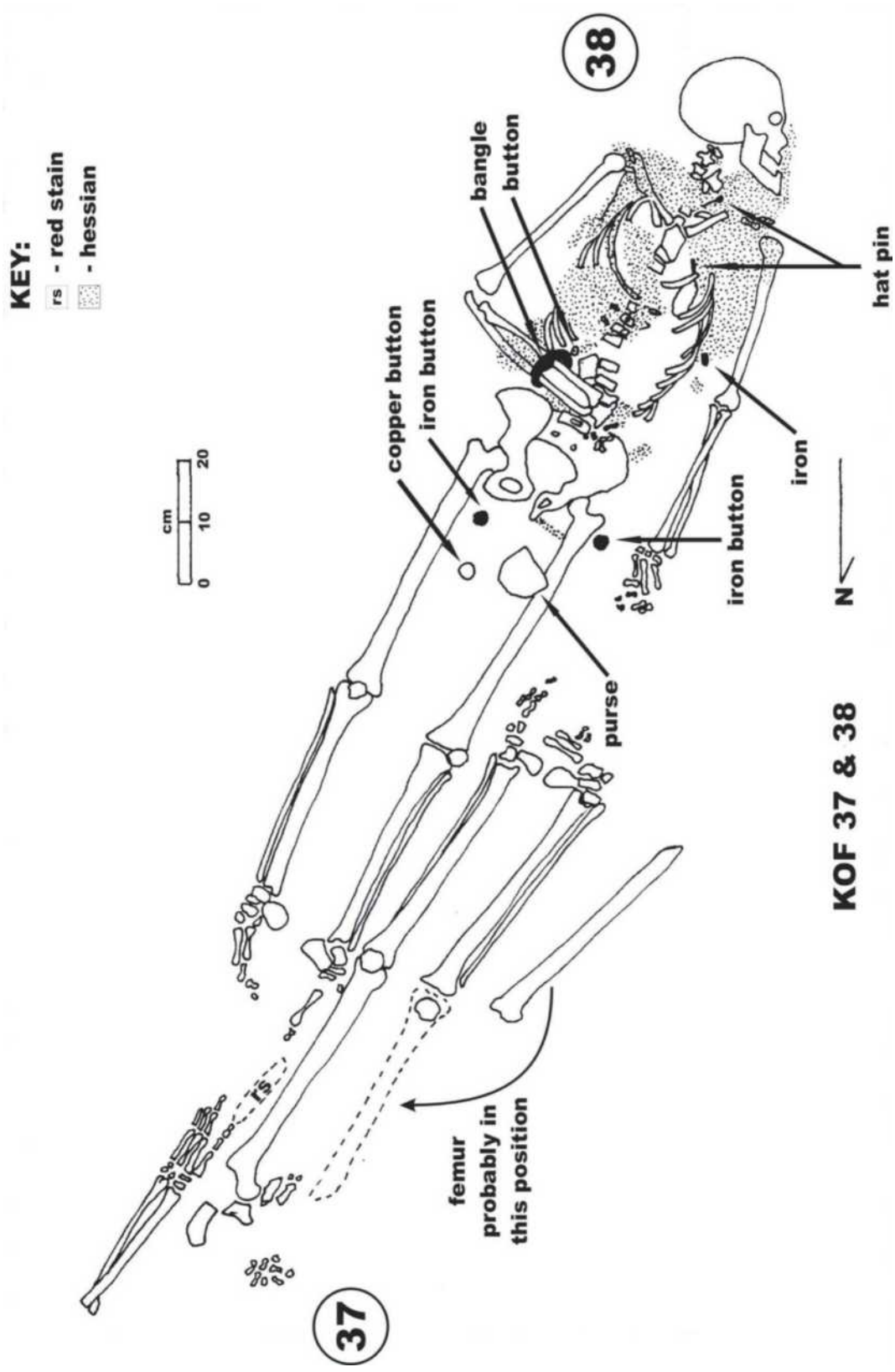


Figure 127. KOF 37 & 38: Sketch plan of skeletons

Figure 128. KOF 37 & 38 *in situ*

Figure 129. KOF 37 showing pipe-smoker's wear on individual's left side between I1 and I2

Figure 130. KOF 38 showing cavity around upper half of skeleton during excavation

Figure 131. KOF 38 hessian in chest area

Figure 132. KOF 38 purse *in situ* on left leg

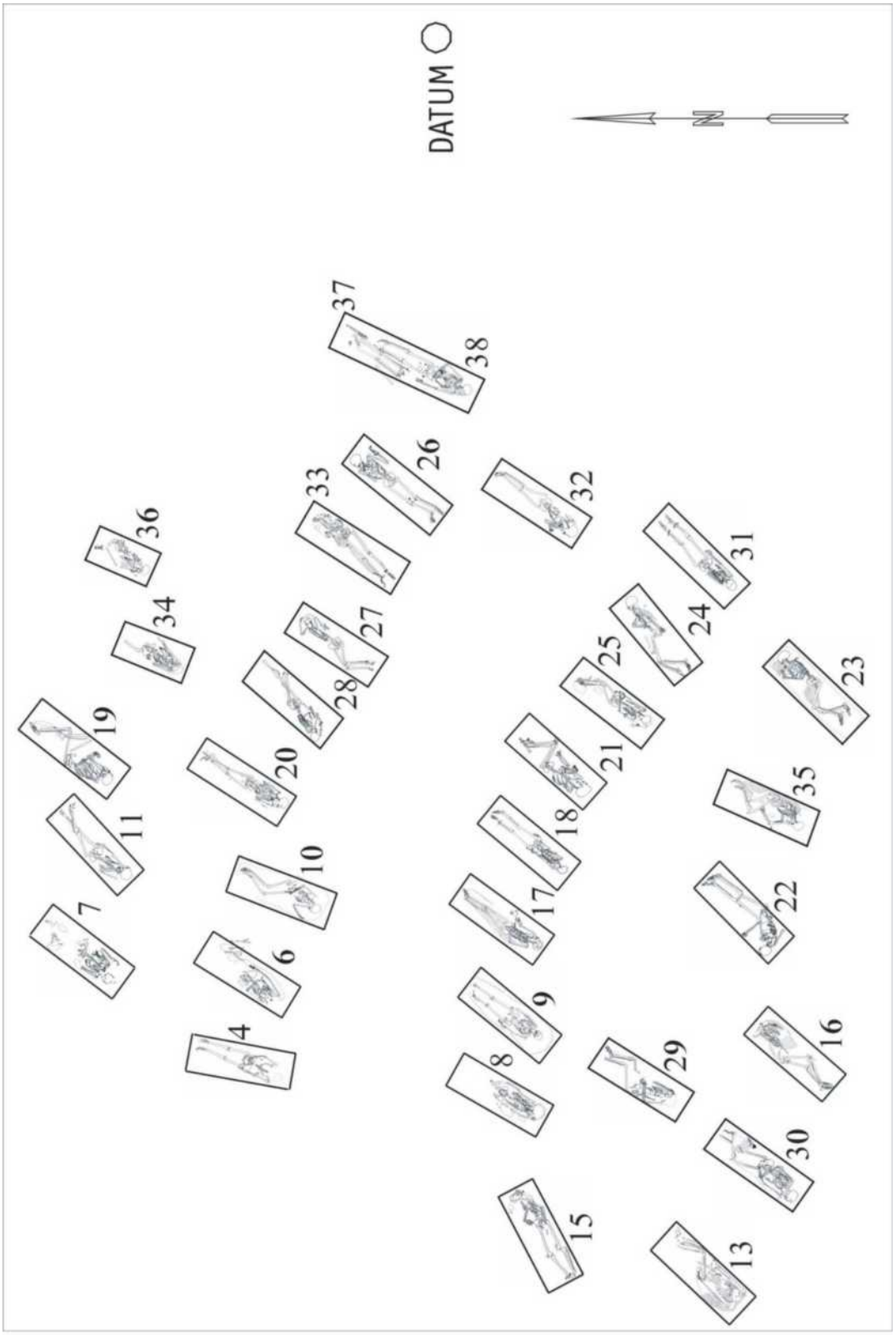


Figure 133. Plan of informal graveyard with skeletons in position

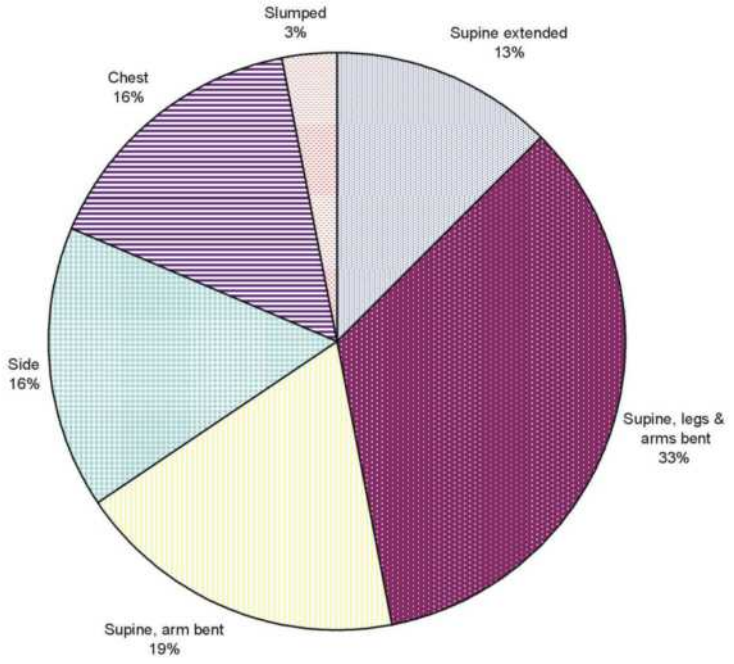


Figure 134. Breakdown of positions of skeletons in graves

Figure 135. Two miners indicating clothing detail from 1906, Kimberley. (Photograph De Beers Archives 1056 L117)

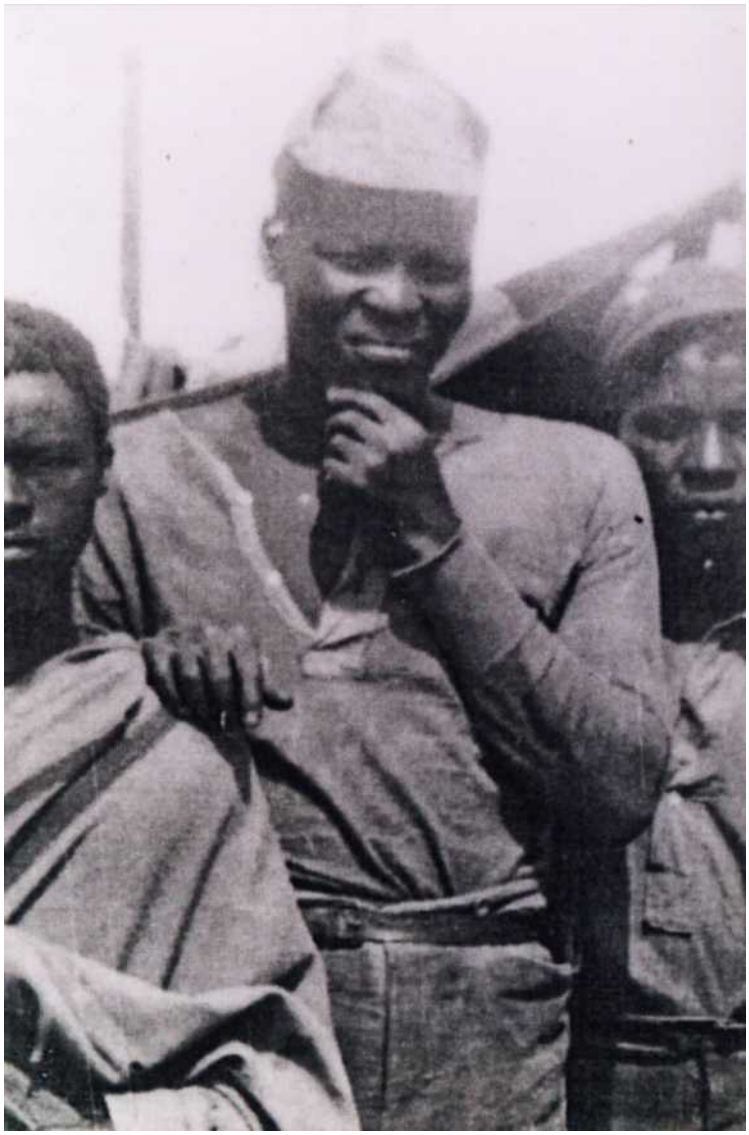


Figure 136. Miner in undervest, Kimberley (Detail from photograph 3536 L80, De Beers Archives)

Figure 137. Miner wrapped in blanket (on right), Kimberley (Detail from photograph 3535 L79, De Beers Archives)

Figure 138. Note clothing of miners on right and left, photograph taken 1894 in Kimberley (Detail from photograph 3150 L91, De Beers Archives)

Figure 139. Note ankle rings, Kimberley (Detail from photograph 3533 L77, De Beers Archives)

Figure 140. Note ankle rings, particularly of man on right, Kimberley (Detail from photograph 3537 L81, De Beers Archives)

Figure 141. Note bracelets and wire around upper calf, Kimberley (Detail from photograph 3538 L82, De Beers Archives)

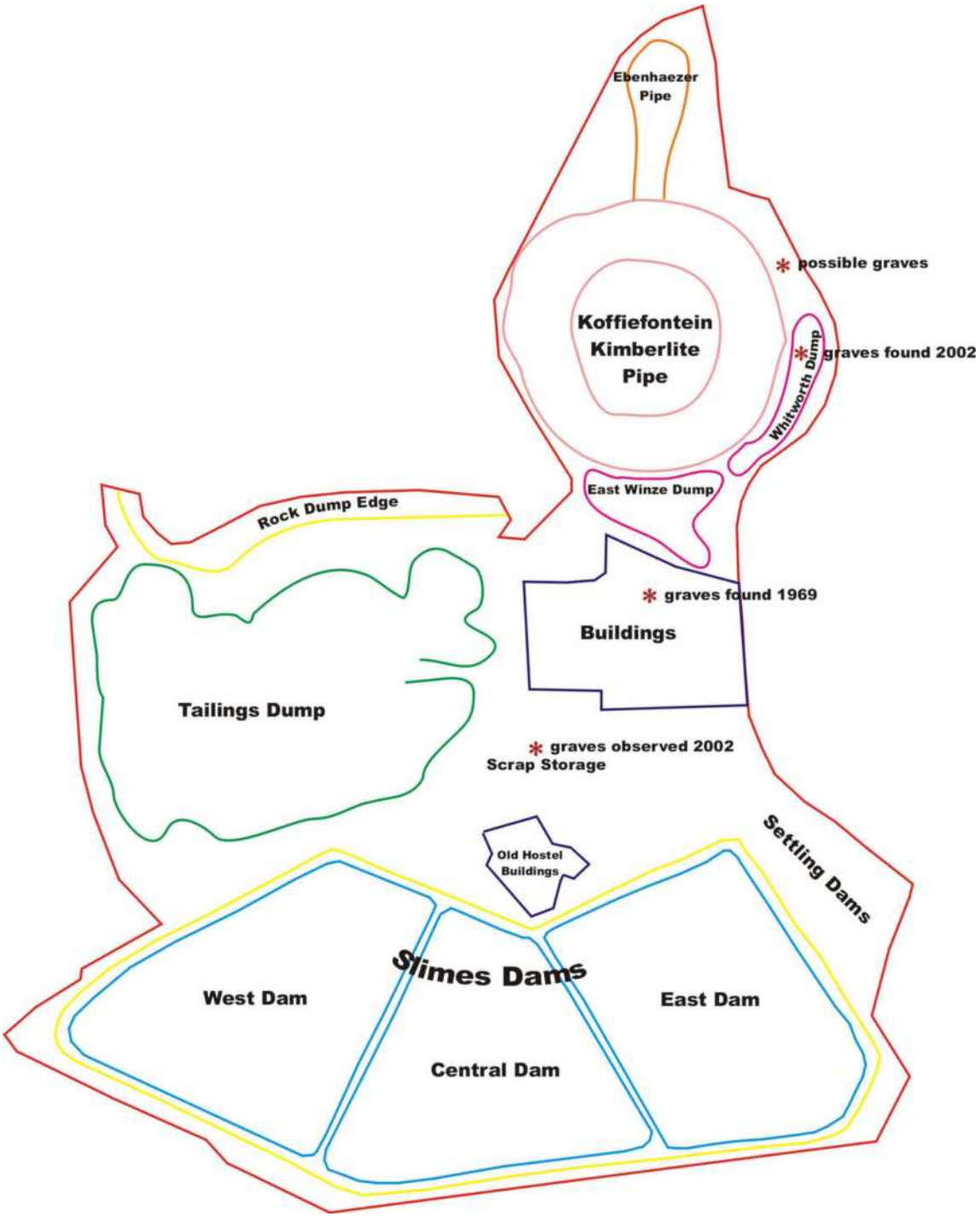


Figure 142. Map of graves discovered around Koffiefontein pipe.

Figure 143. Graves uncovered in 1969 (photograph F. Lamprecht)

Figure 144. Graves uncovered in 1969, note position of two trees above line of graves in relation to background koppies (photograph F. Lamprecht)

Figure 145. Skeleton in one of the graves from 1969 (photograph F. Lamprecht)

Figure 146. Photograph taken in front of workshop area, note trees and koppies in centre of photograph

Figure 147. Same view as Fig. 144, from in front of the workshop

Figure 148. Building now standing where graves were located

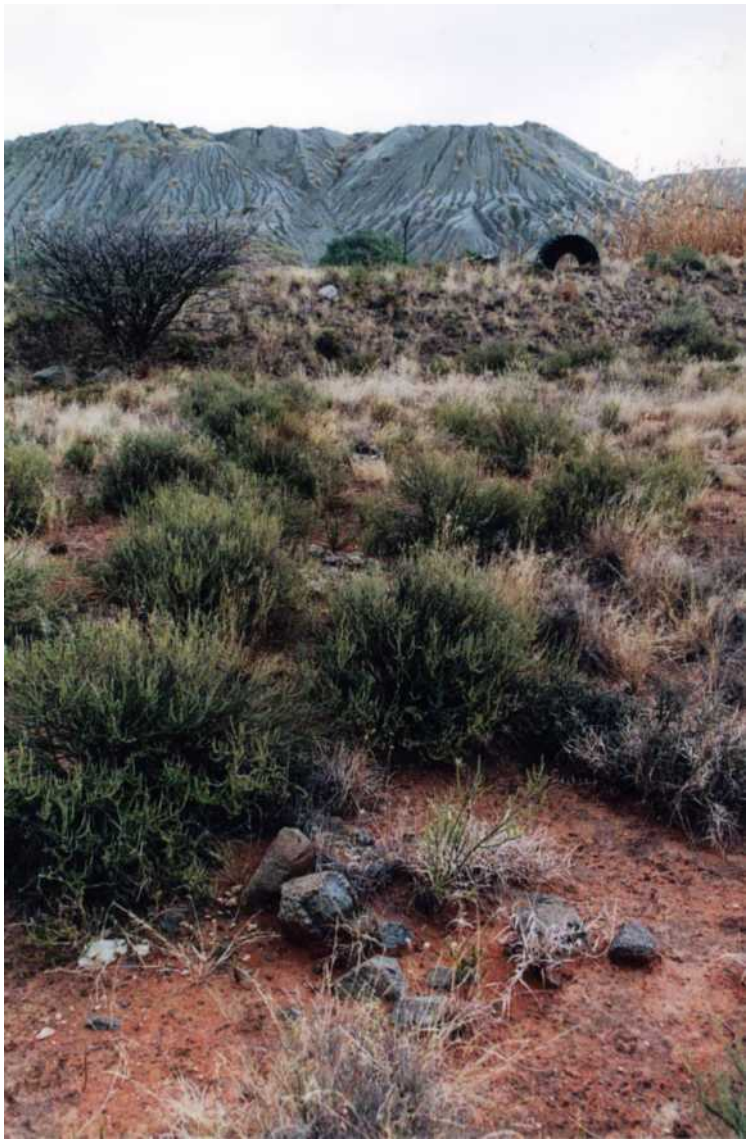


Figure 149. Possible grave near soccer field and old hostel

Figure 150. View of another grave near old soccer field

Figure 151. Another possible grave in the old soccer field area

APPENDIX 1

REPORTS ON SKELETAL REMAINS FROM THE KOFFIEFONTEIN MINE

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University of Pretoria

Skeleton images Back to index

KOF01

Preservation: Condition of the remains was fair. Portions of the skull vault, mandible, and 21 loose teeth were present but had been badly damaged by the bulldozer. Postcranial remains included the claviculae, scapulae, humeri, ulnae, radii, vertebrae (3 cervical, 9 thoracic, and 5 lumbar), sacrum, femora, tibiae, as well as hands and feet. Postmortem damage was noted on the claviculae, scapulae, left radius, ulnae, sacrum, os coxae, and fibulae.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: A prominent external occipital protuberance with a small inion hook and ramal flexure were observed in the cranium. The sciatic notch of the pelvis was extremely narrow, and the head of the femur was large, 45mm. All the long bones were robust in appearance. From this evidence, it was suggested that the individual had been male.

Age: All the long bone epiphyses were fused, and epiphyseal lines were visible around the head of the humerus and femur. All the sutures of the skull were open, and minimal dental wear was observed on the maxillary and mandibular molars. Early degenerative changes on the vertebral bodies of L4, L5, and S1 were noted. This evidence suggests that the individual had been a young adult, between 20 and 30 years of age.

Teeth: None of the teeth were lost antemortem. The upper right M2, the upper left I1, I2, PM1, and PM2, the lower right I1, I2, and M1, and the lower left C, PM1, PM2, and M3 were lost postmortem. Slight calculus deposits were present around the cemento-enamel junction (CEJ) of all the teeth. No carious lesions were observed. Enamel hypoplastic lesions were noted on the upper right I1 and the lower left I2. Dental wear was minimal and no dentin was exposed.

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 168.5cm.

Trauma/Pathology: No trauma or pathology was observed.

Conclusions: The remains were those of a male South African Negro who had been between 20 and 30 years of age and approximately 168.5 cm in length. Small osteophytes were noted on L4, L5 and S1; otherwise no trauma or pathology was observed.

KOF02 & 03

Preservation: Condition of the remains was poor. Only six skull fragments were recovered along with portions of the maxilla and mandible. Fragments of the postcranial remains were retrieved and included the claviculae, scapulae, sternum, humeri, right ulna, radii, vertebral bodies (2 cervical, 12 thoracic, 4 lumbar), femoral heads, and several phalanges from the hand. No tibiae, fibulae, or foot bones were found.

Populational Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: A prominent temporal line and ramal flexure were noted on the temporal bone and the mandible. The femoral head diameter was large, 45mm. From these features, it was suggested that the individual had been male.

Age: Unfused epiphyses were observed on the sternal end of the claviculae, the distal end of the left ulna and radius, and the vertebral bodies. The proximal epiphysis of the humerus was fused, but the epiphyseal line was visible. The pubic symphysis was scored between a phase 1 and a phase 2, and the sternal end of the 4^{th} rib was scored as a phase 1. No dental wear was noted on the molar teeth. With this evidence, it was proposed that the individual had been between 18 and 22 years of age.

Teeth: None of the teeth had been lost antemortem. The upper right M3, upper left M1, lower right M1 and lower left PM1, M2 and M3 had been lost postmortem. No dental wear was observed. Enamel hypoplastic lesions were recorded near the CEJ on the upper right I1, I2, C, and M1, the upper left I1, I2, C, and M2, the lower right I1, I2, C, PM1, M2, and M3, and the lower left I1, I2, and M1. No carious lesions were noted.

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 159.2cm.

Trauma/Pathology: Cribra orbitalia was observed on the right orbit. No other trauma or pathology was noted.

Conclusion: The remains were of a male South African Negro who had been between 18 and 22 years of age and approximately 159.2 cm in length. Cribra orbitalia was noted on the right orbit.

KOF04

Preservation: Condition of the remains was fair/poor. The left side of the skull had been found intact along with fragments of the maxilla, mandible, and 18 loose teeth. Fragments of the scapulae, sternum, ribs, right humerus, right ulna, left radius, vertebrae (cervical and thoracic), and os coxae had been found along with complete bones which included the left humerus, left ulna, right radius, sacrum, femora, tibiae, fibulae, hands and feet. No lumbar vertebrae were found.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: A well-defined supra-orbital torus, prominent external occipital protuberance, a smooth orbital margin and large mastoid processes were observed in the skull. In the mandible, a wide menton with a distinct mental eminence was noted. The sciatic notch of the pelvis was neither wide nor narrow, and the femoral head diameter was large, 44 mm. From these features, it was suggested that the individual had been male.

Age: All the long bone epiphyses were fused as well as the spheno-occipitalis synchondrosis. Epiphyseal lines were visible on the distal portion of the left ulna and on the body of the vertebrae. No osteophytes or lipping were noted on the thoracic vertebrae. Dental wear was minimal on the molar teeth. With this evidence, it was proposed that the individual had been a young adult between 25 and 35 years of age.

Teeth: None of the teeth had been lost antemortem or postmortem. Small patches of dentin exposure were noted on the anterior teeth. Dental calculus was present around the CEJ of all the teeth. No enamel hypoplastic lesions were present. Carious lesions were found on the occlusal

surface of the upper right M1 and M2 and the upper left M1, M2, and M3, the occlusal and distal surface of the lower right M2 and M3, and the occlusal surface of the lower left M2 and M3. The enamel crowns of the lower right M3 and the lower left M2 had been destroyed-most likely by dental caries.

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 160.1cm

Trauma/Pathology: No trauma or pathology was observed.

Conclusion: The remains were those of a male South African Negroid who had been between 25 and 35 years of age and approximately 160.1 cm in length. No trauma or pathology was observed.

KOF05

Preservation: Condition of remains was extremely poor. Identifiable remains included seven skull fragments, eleven loose teeth, and five long bone fragments along with fragments of scapulae, ribs, vertebrae (4 lumbar and 1 thoracic), two femoral heads, four carpal bones, and eight phalanges from both the hands and feet.

Populational Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: The femoral head diameter was wide, 47mm, and the teeth were large. From these two features, it was tentatively suggested that the individual had been male.

Age: No dental attrition wear was present on any of the molar teeth, and the dental roots of the upper and lower M3's had not completely formed. The epiphyseal plates of the vertebrae were unfused. This evidence suggested that the individual had been a young adult perhaps between 20 and 30 years of age.

Teeth: A total of 11 teeth were recovered and included the upper right M1, the upper left I2, M1, and M3, the lower right C, PM1, and M3, and the lower left C and PM1. No dental wear was observed. Pitted enamel hypoplasias were observed on the buccal surface and near the CEJ of the upper left I1 and lower left and right C's. Three carious lesions were noted on the occlusal,

lingual, and medial surface of the upper left M1 and one carious lesion was observed the occlusal surface of the upper left M3.

Stature: Stature could not be determined on account of the poor preservation of the remains.

Trauma/Pathology: No trauma or pathology was observed.

Conclusion: The remains were tentatively those of a male individual who had been between 20 and 30 years of age. Pitted enamel hypoplasias were noted on upper left I1 and lower right and left C's.

KOF06

Preservation: Condition of the remains was fair. Fragments of the skull were recovered along with 24 loose teeth. Many of the postcranial bones were in a fragmentary condition and included the right humerus, ulnae, left radius, ribs, vertebrae (6 cervical, 11 thoracic, and 5 lumbar), os coxae, femora, tibiae, and fibulae. A complete right radius, sacrum, hands and feet were also present.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro

Sex: The mastoid processes were average in size and the skeleton was not overly robust. In the pelvis, the sciatic notch was relatively narrow. Humeral head diameter and femoral head diameter were average, 41mm and 42 mm, respectively. Midshaft circumference of the femur was wide, 86mm. Based on this evidence, it was suggested that the individual had most probably been male.

Age: Early epiphyseal fusion was observed on the distal forearms (ulna and radius), iliac blades of the os coxae, ischium of the os coxae, and body of the vertebrae. Epiphyseal lines were visible on the proximal ends of the humerus, femur, and tibia. No dental wear was observed. From this evidence, it was proposed that the individual had been between 20 and 25 years of age.

Teeth: None of the teeth had been lost antemortem. The upper right PM1 and M2, the upper left I1, PM1, and M2, and the lower right I1, I2, and C were lost postmortem. No dental wear was observed. Enamel hypoplastic lesions were noted on the upper right I1 and M1, the upper left M1, the lower right M1, and the lower left I1, I2, and M1. A carious lesion was observed on the lingual

side of the upper M1 and two carious lesions were observed on the buccal side of the lower right and left M1, respectively.

Stature: Stature was estimated by using the physiological length of the femur in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 164.6cm.

Trauma/Pathology: No trauma or pathology was observed.

Conclusion: The remains were those of a possible male South African Negro who had been between 20 and 25 years of age and approximately 164.6 cm in length. No trauma or pathology was observed.

KOF07

Preservation: Condition of the remains was poor. Several pieces of the skull vault were recovered along with portions of the mandible and 24 loose teeth. The postcranial bones included fragments of the claviculae, scapulae, humeri, right radius, ulnae, vertebrae, sacrum, pelvis, femora, tibiae, calcanei, and 9 phalanges from both the left and right foot. A complete left radius as well as the right and left hand bones were present. No fibulae were found.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro

Sex: Large mastoid processes were noted on the skull. The femoral head diameter and humeral head diameter were neither small nor large, 42 mm and 41 mm. Sex could not be determined from this evidence.

Age: Dental wear was minimal on the molar teeth. The sternal ends of the claviculae were fused. Epiphyseal lines were visible on the vertebral bodies, but were not visible on the proximal ends of the humeri and femora. Based on these characteristics, it was suggested that the individual had been between 25 and 35 years of age.

Teeth: None of the teeth had been lost antemortem. Nine teeth were not recovered and included the upper right I2, C, and PM1, the upper left I2, PM1, PM2, and M1, and the lower right M1 and M2. No carious lesions were noted, but enamel hypoplastic lesions were observed on the upper right I1, upper left I1 and C, the lower right C, and the lower left C. Dental wear was minimal.

Stature: Stature could not be estimated due to the poor preservation of the remains.

Trauma/Pathology: A deep groove was noted on the posterior aspect of the tibia within the popliteal region. The reason for this groove is not known.

Conclusion: The remains were those of a South African Negro who had been between 25 and 35 years of age. No trauma or pathology was observed.

KOF08

Preservation: Condition of the remains was fair. The cranium had been crushed but portions of the maxilla and mandible were recovered. Many of the postcranial bones were in a fragmentary state and included the claviculae, scapulae, ribs, humeri, radii, ulnae, os coxae, left femur and left fibulae. The vertebrae (7 cervical, 9 thoracic, and 5 lumbar), sacrum, right femur, tibiae, right fibula and several tarsal bones were found complete. No hand bones were present.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro

Sex: Large mastoid processes and an external occipital protuberance were noted on the skull. The sciatic notch of the pelvis was narrow. Robust deltoid tuberosities were seen on the shaft of the humeri, and the femoral head diameter was large, 43mm. From these features, it was suggested that the individual had been male.

Age: Dental wear was minimal on the molar teeth. The sternal ends of the claviculae were fused. Epiphyseal lines were visible on the vertebral bodies, and small osteophytes were noted on the thoracic and lumbar vertebrae. From this information, albeit scanty, it was suggested that the individual had been between 25 and 35 years of age.

Teeth: The lower right I1 had been lost antemortem. None of the teeth had been lost postmortem. Dental wear was minimal on all the teeth. Dental calculus was noted around the CEJ of all the teeth, and heavier concentration were noted on the lingual aspect of the lower incisors and canines. No carious lesions were observed. Enamel hypoplasias were seen on the upper right M1, upper left M1, lower right PM1 and lower left PM2.

Stature: Stature was estimated by using the physiological length of the femur in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 158.8cm.

Trauma/Pathology: Early signs of degenerative disease of the spine were noted on the lumbar and thoracic vertebrae, but no other trauma or pathology was observed.

Conclusion: The remains were those of a male South African Negro who had been between 25 and 35 years of age and approximately 158.8 cm tall. Small osteophytes were observed on the lumbar and thoracic vertebrae.

KOF09

Preservation: Condition of the remains was excellent. All the bones were complete and only slight postmortem damage was observed on the skull and mandible. An inventory of the bones included the skull, mandible, claviculae, humeri, radii, ulnae, ribs, vertebrae (7 cervicals, 12 thoracics, and 5 lumbars), pelvis, femora, tibiae, fibulae, as well as hands and feet.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro

Sex: A prominent supraorbital torus, elongated skull vault, blunt orbital margins, large mastoid processes, and parietal bossing were observed in the skull. Ramal flexure, a square menton, and a mental eminence were observed in the mandible. The sciatic notch and sub-pubic angle of the pelvis were narrow and the pelvis inlet was heart-shaped. The femoral head diameter was large, 45 mm. From this evidence, it was determined that the individual had been male.

Age: All the long bone epiphyses had fused. The speno-occipitalis synchondrosis was partially fused and the sternal end of the claviculae was unfused. Dental wear was minimal, and the lower 3rd molars had not erupted. Epiphyseal lines were visible on the iliaca of the os coxae, the vertebral bodies, and the proximal end of the femora. These features indicate that the individual had been a young adult between 20 and 25 years of age.

Teeth: The upper right I1 had been lost postmortem. None of the teeth had been lost antemortem, but the lower right and left M3's had not erupted. Dental wear was minimal on all the teeth. Heavy dental calculus deposits were noted on the lingual aspect of the upper and lower incisor and canine teeth. No carious or enamel hypoplastic lesions were observed.

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 164.8 cm.

Trauma/Pathology: Osteophytes had begun to develop on L5, but no other trauma or pathology was observed.

Conclusion: The remains were those of a male South African Negro who had been between 20 and 25 years of age and approximately 164.46 cm in height. Osteophytes had begun to develop on L5.

KOF10

Preservation: Condition of the remains was excellent. The skull had been crushed but portions of the mandible and maxilla had been recovered. Most of the postcranial bones were complete and included the claviculae, humeri, ulnae, radii, vertebrae, pelvis, femora, tibiae, fibulae, hands and feet. The ribs were present but had extensive postmortem damage and were not suitable for analysis.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro

Sex: A sloping forehead, elongated skull vault, square shaped menton, and prominent mental eminence were noted in the cranium. In the pelvis, a narrow sciatic notch and sub-pubic angle were observed. The femoral head diameter was wide, 45mm. From these features, it was suggested that the individual had been male.

Age: Epiphyseal lines were visible on the distal end of the ulna and radius, proximal ends of the humeri and femora. Partially epiphyseal closure was noted on the iliaca and ischium of the os coxae. Unfused epiphyses were seen on the vertebral bodies. No dental wear was observed. From this evidence, it was proposed that the individual had been a young adult between 18 and 22 years of age.

Teeth: None of the teeth had been lost antemortem or postmortem. No dental wear and no carious lesions were observed. Enamel hypoplastic lesions were noted on the upper right I2, C, the upper left I2, C, the lower right I1, I2, and C, and the lower left I1, I2, and C.

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 165.2cm.

Trauma/Pathology: Early signs of compression of the intervertebral disc were seen on L5. No other trauma or pathology was observed.

Conclusion: The remains were those of a male South African Negro who had been between 18 and 22 years of age and approximately 165.2 cm tall. Early signs of intervertebral disc compression were noted.

KOF11

Preservation: Condition of the remains was fair. The skull had extensive postmortem damage but portions of the maxilla and mandible were recovered. Most of the postcranial bones were found complete and included the right humerus, ulnae, radii, vertebrae, sacrum, left tibiae, fibulae, hands and feet. The claviculae, os coxae, left humerus and right tibiae had postmortem damage to either the proximal or distal end of the bone.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro

Sex: A slight external occipital protuberance was noted in the skull. Ramal flexure was present in the mandible. The sciatic notch of the pelvis was narrow, and the femoral head diameter was wide, 46mm. From these features, it was suggested that the individual had been male.

Age: The spheno-occipitalis synchondrosis and the sternal ends of the claviculae had not fused. Epiphyseal lines were visible on the distal epiphyses of the forearms (ulna and radius), the proximal end of the humerus and the body of the vertebrae. The epiphyses of the iliac blade and ischium of the pelvis were partially fused. Dental wear was minimal on M1 and M2, and no dental wear was noted on M3. From this evidence, it was proposed that the individual had been between 20 and 25 years of age.

Teeth: The upper left C, M3 and lower left I1 were lost postmortem. None of the teeth had been lost antemortem. Enamel hypoplastic lesions were present on the upper left M2, lower right C, and lower left C and M2. No carious lesions were observed.

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 167.3cm.

Trauma/Pathology: The bodies of the scapulae were unusually narrow from medial to lateral. An explanation for these narrow scapulae had not yet been found.

Conclusions: The remains were those of a male South African Negro who had been between 20 and 25 years of age and approximately 167.3cm tall. The bodies of the scapulae were unusually narrow from medial to lateral.

KOF12

Preservation: Condition of the remains was poor. Only fragmented remains of the skeleton were recovered and included portions of the skull, C2 vertebra, 8 thoracic vertebrae, 4 lumbar vertebrae, portion of S1, proximal ends of the ulnae, proximal end of the right radius, proximal end of the left humerus, distal end of the right humerus, right femora, patellae, proximal ends of both tibiae, and an assorted pile of small bone fragments which contained ribs, carpals, tarsals, and phalanges.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro

Sex: The sciatic notch of the pelvis was narrow and the femoral head diameter was approximately 42 mm. The shafts of the long bones were robust in appearance. From these features, albeit minimal, it was suggested that the individual had probably been male.

Age: S1 had not fused to the sacrum. Epiphyseal lines were visible on the distal end of the right femur and on the bodies of the vertebrae. Dental wear was minimal. From these features, it was proposed that the individual had been between 20 and 30 years of age.

Teeth: None of the teeth had been lost antemortem or postmortem. Dental wear was minimal and no carious lesions were observed. Enamel hypoplastic lesions were noted on the upper right PM1, PM2, upper left PM1, PM2, lower right C, and lower left C.

Stature: Stature was estimated by using the physiological length of the femur in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 166cm.

Trauma/Pathology: No trauma or pathology was observed.

Conclusion: The remains were those of a male South African Negro who had been between 20 and 30 years of age and approximately 166cm in length. No trauma or pathology was observed.

KOF13

Preservation: Condition of the remains was fair. 15 skull fragments, a portion of the maxilla, and 25 teeth were recovered along with fragmented remains of the claviculae, scapulae, sternum, ribs, cervical vertebrae, pelvis, humeri, left ulna, left radius, femora, right tibia, fibulae, as well as the left hand. 10 thoracic vertebrae, 3 lumbar vertebrae, sacrum, right ulna, and the right radius were found complete. The right hand and right foot were not recovered.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro

Sex: From the cranial fragments, a gracile menton, small teeth, and absence of an external occipital protuberance were noted. The femoral head diameter was small, 39mm. The inferior ramus of the pubic bone was thin and wide, which suggested that the sub-pubic angle had been wide. Based on these features, it was proposed that the individual had been female.

Age: Epiphyseal lines were visible on the proximal end of the femur. Partially fused epiphyses were noted on the distal end of the right forearm, the iliaca of the os coxae, and the ischium of the os coxae. An unfused epiphysis was noted on the distal end of the left ulna. Dental wear was minimal on the molar teeth. From this evidence, it was suggested that the individual had been between 20 and 25 years of age.

Teeth: The upper right C, PM1, and PM2, the lower right M1 and M2, and the lower left I2 and PM1 were lost postmortem. None of the teeth had been lost antemortem. Dental wear was minimal. Small amounts of dental calculus were seen on the lower molar teeth. No carious lesions or enamel hypoplastic lesions were observed.

Stature: Stature was estimated by using the maximum length of the radius in conjunction with stature formulas created by Lundy and Feldesman (1987) for female South African Negroes. Estimated stature was 159.2 cm.

Trauma/Pathology: No trauma or pathology was observed.

Conclusion: The remains were those of a female South African Negro who had been between 20 and 25 years of age and approximately 159.2 cm tall. No trauma or pathology was observed.

KOF14

Preservation: At least 3 individuals were represented in KOF14. Condition of the remains was fair. The following long bones were recovered: the distal end of two left and two right femora, a complete right tibia, the distal ends of two right tibiae, the proximal end of a left tibia, the distal end of a left fibula, the proximal end of a right fibula, and the distal end of a left fibula. Two calcanei (right and left), a fragment of a right calcaneus, 1 left talus, 7 tarsals bones, 2 metacarpals, 1 metatarsal and 1 tarsal bone were also present.

Trauma/Pathology: No trauma or pathology was observed on the remains.

Conclusion: The remains were those of at least 3 different individuals, most likely male. The bulldozer had destroyed the graves, which made individual analysis of the remains impossible.

KOF15

Preservation: Condition of the remains was good. The facial bones of the skull were intact but the skull vault had been damaged. Most of the postcranial bones were complete and included the claviculae, humeri, vertebrae, sacrum, femora, tibiae, hands, and left foot. Postcranial remains which had postmortem damage included the scapulae, ribs, ulnae, radii, and os coxae. The C2 and the right foot were not recovered.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro

Sex: Blunt orbital margins and a supraorbital torus were noted on the skull. The sciatic notch and the sub-pubic angle of the pelvis were narrow, and the femoral head diameter was wide, 44mm. From these features, it was suggested that the individual had been male.

Age: Both the spheno-occipitalis synchondrosis in the skull and sternal end of the claviculae were partially fused. Epiphyseal lines were no longer visible on the long bones. Dental wear was minimal on the molar teeth. From this evidence, it was suggested that the individual had been between 22 and 28 years of age.

Teeth: The upper left M1 had been lost postmortem. None of the teeth had been lost antemortem. Dental wear was minimal. No carious lesions or enamel hypoplastic lesions were observed.

Stature: Stature was estimated by using the physiological length of the femur in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 166 cm.

Trauma/Pathology: No trauma or pathology was observed.

Conclusion: The remains were those of a male South African Negro who was between 22 and 28 years of age and approximately 166 cm in height. No trauma or pathology was observed.

KOF16

Preservation: Condition of the remains was fair. Preservation of the skull and mandible was poor and were suitable for analysis. Postcranial bones, which had postmortem damage, included the claviculae, scapulae, humeri, right ulna, right radius, ribs, 10 thoracic vertebrae, pelvis, femora, tibiae, and fibulae. The manubrium, sternal body, 3 lumbar vertebrae, hands, and feet were recovered intact. No sacrum was retrieved.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro

Sex: The sciatic notch of the pelvis was narrow in shape, and the femoral head diameter and the maximum circumference of the midshaft of the femur were wide, 44 mm and 92 mm respectively. From these features, it was tentatively suggested that the individual had been male.

Age: Both the spheno-occipitalis synchondrosis and the sternal end of the claviculae were fused. All the long bone epiphyses were fused. Dental wear was moderate and no lipping or osteophytes were present on the vertebrae. From this evidence, it was proposed that the individual had been between 25 and 35 years of age.

Teeth: None of the teeth had been lost antemortem or postmortem. A peg-shaped supernumerary tooth was recorded in the maxilla. No carious lesions or enamel hypoplastic lesions were observed. Dental wear was moderate and slight dentin exposure was present on the incisors, canines, and 1st molars.

Stature: Stature was estimated by using the physiological length of the femur in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 164.1cm.

Trauma/Pathology: No trauma or pathology was observed.

Conclusion: The remains were those of a probable male South African Negro who had been between 25 and 35 years of age and approximately 164.1 cm tall. Dental wear was moderate with slight dentin exposure. No trauma or pathology was observed.

KOF17

Preservation: Condition of the remains was good. The skull vault had extensive postmortem damage but portions of the mandible and maxilla were recovered. Postcranial bones, which had postmortem damage, included the right clavicle, scapulae, ulnae, right radius, ribs, os coxae and five cervical vertebrae. The humeri, left radius, eleven thoracic vertebrae, five lumbar vertebrae, sacrum, femora, patellae, tibiae, fibulae, hands and feet were recovered intact.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro

Sex: A wide sciatic notch was noted in the pelvis. The femoral head diameter and circumference of the mid-shaft of the femur were also small, 38mm and 82 mm respectively. All the long bones had a gracile appearance. From these features, it was suggested that the individual had been female.

Age: Unfused epiphyses were observed in the spheno-occipitalis synchondrosis, the sternal end of the claviculae, the iliaca of the os coxae, the ischium of the os coxae, and the distal ends of the ulna and radius. The proximal ends of the humeri were partially fused. Dental wear was minimal on the molar teeth. From this evidence, it was proposed that the individual had been between 20 and 25 years of age.

Teeth: The lower right I2 had been lost postmortem. None of the teeth were lost antemortem. Dental wear was minimal. No enamel hypoplastic lesions were observed. Carious lesions were present on the occlusal surfaces of the upper right M1 and M2, the upper left M2 and M3, the lower right M2, and the lower left M1, M2, and M3. On the lower right and left M2 carious lesions had destroyed the entire enamel crown.
Heavy calculus deposits were noted on the buccal surface of the lower incisors, canines, and 1st molars.

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for female South African Negroes. Estimated stature was 160.1cm.

Trauma/Pathology: Spina bifida occulta, a congenital disorder that results in the absence of fusion of the vertebral spines of the sacral vertebrae, was observed. The vertebral bodies of the thoracic and lumbar vertebrae were riddled with porous, abscess like holes. A porous appearance was also noted on the posterior aspect of the manubrium. Further investigation is needed to uncover the etiology behind these lesions.

Conclusion: The remains were those of a female South African Negro who had been between 20 and 25 years of age and approximately 160.1cm tall. Spina bifida occulta was observed as well as porous lesions in the body of the vertebrae and posterior aspect of the manubrium.

KOF18

Preservation: Condition of the remains was good. The skull, maxilla and mandible had been crushed and were not suitable for metric analysis. The claviculae, scapulae, humeri, ribs, vertebral spines of the cervical vertebrae, and the os coxae had postmortem damage, but the ulnae, radii, thoracic vertebrae, lumbar vertebrae, sacrum, femora, tibiae, fibulae, hands and feet had no postmortem damage and were complete.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: A small but elongated mastoid process was noted in the skull. The sciatic notch and sub-pubic angle of the pelvis were narrow. The femoral head diameter was average, 42mm. From these features, it was tentatively suggested that the individual had been male.

Age: The speno-occipitalis synchondrosis was fused. Epiphyses were partially fused on the sternal end of the clavicle, ischium of the os coxae, and the vertebral bodies. The pubic symphysis had slight postmortem damage but was scored between a phase 3 and a phase 4. Dental wear was minimal on the molar teeth. From this evidence, it was suggested that the individual had been between 22 and 26 years of age.

Teeth: The lower right I2 and C were lost postmortem. None of the teeth had been lost antemortem. Dental wear was minimal. A carious lesion was noted on the medial aspect of the

upper left I1 and a hypoplastic lesion was seen on the upper left PM1. Heavy calculus deposits were noted on the buccal surface of the upper premolars.

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 164.2cm.

Trauma/Pathology: No trauma or pathology was observed.

Conclusion: The remains were those of a tentative male South African Negro who had been between 22 and 26 years of age and approximately 164.2 cm tall. No trauma or pathology was observed.

KOF19

Preservation: Condition of the remains was excellent. All the bones were present. Slight postmortem damage was noted on the scapulae, distal end of the left radius, ribs, sacrum, distal end of the femora, proximal end of the right tibiae, and the shafts of the fibulae.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro

Sex: A small supraorbital torus, parietal bossing, and an external occipital protuberance were observed on the skull. The sciatic notch and sub-pubic angle of the pelvis were narrow, and the femoral head diameter was average, 42 mm. From these features, it was tentatively suggested that the individual had been male.

Age: Unfused epiphyses were seen at the speno-occipitalis synchondrosis, the sternal ends of the claviculae, the distal ends of the ulnae and radii, and the distal end of the femora. Partially fused epiphyses were observed on the proximal end of the humeri, the iliacs of the os coxae, the ischium of the os coxae, and the sacral vertebrae. No dental wear was noted on the 3rd molar. From this evidence, it was suggested that the individual had been between 17 and 22 years of age.

Teeth: None of the teeth had been lost postmortem or antemortem. Dental wear was minimal, and heavy dental calculus deposits were noted on the lingual aspect of the lower incisor and canine teeth. Enamel hypoplastic lesions were observed on the upper right I1 and C, the upper left I1 and C, the lower right C, and the lower left C. Pitted enamel hypoplasias were seen on the

buccal surface of the upper lateral incisors. Carious lesions were seen on the occlusal surface of the upper right M1 and M2 and on the buccal surface of the lower right M2.

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 171.7 cm.

Trauma/Pathology: No trauma or pathology was observed.

Conclusion: The remains were those of a South African Negro who had been between 17 and 22 years of age and approximately 171.7 cm tall. No trauma or pathology was observed.

KOF20

Preservation: Condition of the remains was excellent. All the bones were present and included the skull, mandible, claviculae, scapulae, humeri, ulnae, radii, ribs, vertebrae, sacrum, os coxae, femora, tibiae, fibulae, hands and feet. Slight postmortem damage was noted on the pubic and ischial bones of the os coxae.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: A sloping forehead, elongated skull vault, large mastoids, and a prominent external occipital protuberance were seen on the skull, and a distinct mental eminence and ramus flexure was observed on the mandible. The sciatic notch of the pelvis and the sub-pubic angle were narrow and the pelvis inlet was heart-shaped. Femoral head diameter was average, 41 mm. From these features, it was suggested that the individual had been male.

Age: The speno-occipitalis synchondrosis, sternal end of the claviculae, and all the long bone epiphyses were fused. Dental wear was minimal. No degenerative changes in the skeleton such as osteophytes or osteoarthritis were observed. The sternal end of the 4th rib was a phase 3. From this evidence, it was suggested that the individual had been between 22 and 28 years of age.

Teeth: None of the teeth had been lost postmortem or antemortem. Dental wear was minimal. Enamel hypoplastic lesions were observed on the lower right I1, I2, and C and the lower left I1, I2, and C. Carious lesions were observed on the occlusal surface of the upper right and left M2.

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 165.9cm.

Trauma/Pathology: No trauma or pathology was observed.

Conclusion: The remains were those of a male South African Negro who had been between 22 and 28 years of age and approximately 165.9cm in length. No trauma or pathology was observed.

KOF21

Preservation: Condition of the remains was poor. The skull had been crushed but portions of the maxilla and mandible were recovered. All the postcranial bones had extensive postmortem damage and included the claviculae, scapulae, humeri, radii, ulnae, ribs, vertebrae, sacrum, os coxae, and bones of the foot. The distal portions of the femora were not recovered and only bone shafts were retrieved for the tibiae and fibulae. Right and left hand bones and the manubrium were found intact.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: Large mastoid processes and an external occipital protuberance were observed. The sciatic notch of the pelvis was narrow, and the femoral head diameter was average, 42mm. From these morphological features, it was tentatively suggested that this individual had been male.

Age: Due to the poor condition of the remains, age estimation was an approximation at best. Dental wear was minimal and no osteophytes were noted on the vertebrae. From this, it was suggested that the individual had been between 20 and 30 years of age.

Teeth: The lower right C and M3 were lost postmortem. The lower left M1 had been lost antemortem. Enamel hypoplasias were noted on the lower right PM1 and PM2 and the lower left C, PM1, and PM2. Carious lesions were noted on the occulsal surface of the upper right M1, the lingual surface of the upper right M2 and M3, the occlusal surface of the upper left M2 and M3, the medial surface of the lower right M1, the occlusal surface of the lower right M2, the distal surface of PM2, the distal surface of M1, and the occlusal surface of M2. Dental wear was minimal on all the teeth.

Stature: Stature estimation could not be determined due to the poor condition of the remains.

Trauma/Pathology: No trauma or pathology was observed.

Conclusion: The remains were those of a probable male South African Negro who had been between 20 and 30 years of age. Several carious lesions were observed in both the maxilla and mandible.

KOF22

Preservation: Condition of the remains was excellent. All the bones were represented. Postmortem damage was noted on the frontal bone of the skull, the rami of the mandible, and the scapulae.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: Large mastoids, a slightly sloped forehead, a round skull vault, smooth orbital margins and a slight external occipital protuberance were noted on the skull, and a square menton and gonial eversion were noted on the mandible. The sciatic notch and sub-pubic angle of the pelvis were narrow. The femoral head diameter was average, 42 mm. From these characteristics, it was proposed that the individual had been male.

Age: Dental wear was moderate on all the molar teeth. Slight dentin exposure was noted on M1 in both the maxilla and mandible. The xiphoid process had started to ossify. The sternal end of the 4^{th} rib was scored as a phase 5 (33 to 42 years) and the pubic symphysis was scored between a phase 6 (30 to 35 years) and a phase 7 (36 to 39 years). Slight osteophytes were seen on L3, L4 and L5. From this evidence, it was proposed that the individual had been between 30 and 40 years of age.

Teeth: The upper left PM2, lower right PM2, and lower left PM2 had been lost antemortem. None of the teeth were lost postmortem. Enamel hypoplasias were noted on the lower right and left M1. A carious lesion was observed on the lingual side of the lower right M3. Dental wear was moderate and heavy dental calculus deposits were observed on the lingual aspect of the lower incisors and canines. A gap was also present between the lower central incisors (Fig. 1).

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 170.0cm.

Trauma/Pathology: Cribra orbitalia was observed in the right orbit. Early signs of degenerative disease of the spine such as osteophytes and anterior compression were noted in L3, L4 and L5.

Conclusion: The remains were those of a male South African Negro who had been between 30 and 40 years of age and approximately 170.0 cm tall. Three teeth had been lost antemortem. Cribra orbitalia was noted in the right orbit, and early signs of degenerative disease of the spine were observed on L3, L4 and L5.

KOF23

Preservation: Condition of the remains was good. The skull vault was not recovered but the facial bones along with the maxilla and mandible were retrieved. The cervical vertebrae, scapulae, humeri, and os coxae had postmortem damage, but the ulnae, radii, thoracic vertebrae, lumbar vertebrae, sacrum, femora, tibiae, fibulae, and feet were complete.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: A slight supraorbital torus, an elongated skull vault, smooth orbital margins, and an external occipital protuberance were noted in the skull. The menton was square in shape and a mental eminence was present. A narrow sciatic notch and sub-pubic angle were noted in the pelvis, and the femoral head diameter was wide, 46 mm. From these features, it was suggested that the individual had been male.

Age: Dental wear was heavy and dentin was exposed on M1 and M2. M3 had moderate dental attrition but no dentin exposure. Osteophytes were observed on the lower thoracic and lumbar vertebrae. The pubic symphysis was scored as a phase 8 (45 to 50 years of age). From this evidence, it was approximated that the individual had been between 40 and 50 years of age.

Teeth: None of the teeth were lost postmortem. The upper left M1 and lower left M1 were lost antemortem. Dental wear was severe and dentin exposure was observed on the incisors, canines, premolars, and molars (M1 and M2). Enamel hypoplastic lesions were observed on the upper right M2 and M3, the lower right C, and the lower left C. A carious lesion was observed on the medial aspect of the lower right M2. Only roots were found of the lower left M2- a carious lesion might have destroyed the dental crown.

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 164.8cm.

Trauma/Pathology: Periostitis was noted on the distal aspect of the right fibula. Osteophytes were observed on the lumbar vertebrae. No other trauma or pathology was observed.

Conclusion: The remains were those of a male South African Negro who had been between 40 and 50 years of age and approximately 164.8 cm tall. Periostitis was noted on the fibula and osteophytes on the lumbar vertebrae.

KOF24

Preservation: Condition of the remains was fair. The skull had been crushed but portions of the maxilla and mandible were recovered. All the postcranial bones, which included the claviculae, scapulae, humeri, ulnae, radii, vertebrae, sacrum, os coxae, femora, tibiae, and fibulae, were present with varying degrees of postmortem damage. Both hands and feet were complete.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: A square shaped menton was observed on the mandible. The sciatic notch of the pelvis was neither wide nor narrow, but the femoral head diameter was wide, 45 mm. From these features, it was suggested that the individual had been male.

Age: The sternal ends of the claviculae were partially fused and epiphyseal lines were still visible on the thoracic vertebrae. Dental wear was minimal. Based on this evidence, it was tentatively suggested that the individual had been between 25 and 30 years of age.

Teeth: The upper right I1 and the upper left I1, I2, M1, and M2 were lost postmortem. None of the teeth had been lost antemortem. Enamel hypoplastic lesions were observed on the upper right C, upper right M1 and the upper left C. A carious lesion was observed on the buccal surface of the lower left M3. Dental wear was minimal and slight dentin exposure was noted on the lower right and left M1's.

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 165.6cm.

Trauma/Pathology: Periostitis was present on the proximal right ulna. The vertebral bodies of T8-T12 had abscess like lesions, and small osteophytes were noted on the lumbar vertebrae. Further investigation is needed to understand the etiology behind these vertebral lesions.

Conclusion: The remains are those of a male South African Negro who was between 25 and 30 years of age and approximately 165.6 cm tall. Periostitis was present on the proximal right ulna, and the bodies of the lower thoracic vertebrae had abscess like lesions. Further investigation into the vertebral pathologies is necessary.

KOF25

Preservation: Condition of the remains was fair. The skull vault was fragmented but portions of the maxilla and mandible were recovered. Postcranial bones with postmortem damage included the claviculae, cervical, ribs, vertebrae, os coxae, right femur, right tibiae, and fibulae. The sternum, humeri, radii, ulnae, hands, left femur, left tibia, thoracic vertebrae, lumbar vertebrae, sacrum, and feet were found complete.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: A square shaped menton and a prominent mental eminence were noted on the mandible. The sciatic notch was neither wide nor narrow, but the sub-pubic angle was narrow. Femoral head diameter was average, 42mm. From these features, it was suggested that the individual had been male.

Age: The sternal end of the clavicle was partially fused. Dental wear was minimal. No osteophytes were present on the vertebrae. The pubic symphysis had slight postmortem damage but had been scored between a phase 3 and a phase 4 (22 to 26 years). From this evidence, it was suggested that the individual had been between 22 and 26 years of age.

Teeth: None of the teeth had been lost antemortem or postmortem. Dental wear was minimal. No enamel hypoplastic lesions or carious lesions were observed.

Stature: Stature was estimated by using the physiological length of the femur in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 161.9cm.

Trauma/Pathology: The left clavicle had a prominent attachment site for the costo-clavicular ligament and was more robust than the right clavicle. No trauma or pathology was noted.

Conclusion: The remains were those of a male South African Negro who had been between 22 and 26 years of age and approximately 161.9 cm in length. No trauma or pathology was noted.

KOF26

Preservation: Condition of the remains was fair. The skull was intact, except for the left side, and the maxilla and mandible were recovered. All the postcranial bones were present and included the claviculae, sternum, humeri, radii, ulnae, vertebrae, right femur, hands and feet. The scapulae, ribs, sacrum, os coxae, left femur, tibiae, and fibulae had postmortem damage.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: A prominent supraorbital torus, an external occipital protuberance, and smooth orbital margins were noted on the skull. A square menton and distinct mental eminence were noted in the mandible. The sciatic notch was narrow and the femoral head diameter was wide, 43 mm. From these features, it was suggested that the individual had been male.

Age: All the long bone epiphyses were fused as well as the speno-occipitalis synchondrosis and sternal end of the claviculae. Dental wear was minimal. No osteophytes were present on the vertebrae. From this evidence, it was suggested that the individual had been between 25 and 35 years of age.

Teeth: None of the teeth had been lost antemortem or postmortem. Dental wear was minimal. Enamel hypoplastic lesions were noted on the upper right and left I1 and C. Carious lesions were observed on the occlusal surface of the upper right PM2, the occlusal surface of the upper right M2, the occlusal and medial surfaces of the lower right M2 and M3, and the occlusal surfaces of the lower left M2 and M3. Heavy calculus deposits were noted on the lingual aspect of the lower incisors and molars.

Stature: Stature was estimated by using the physiological length of the femur in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 168.2cm.

Trauma/Pathology: A bony growth was noted around the supraorbital fissure in the left orbit. A butterfly vertebra was noted at the level of T9, T10 and T11 (Figs 2 & 3). Butterfly vertebra is a rare congenital condition that can be associated with Alagilles syndrome.

Conclusion: The remains were those of a male South African Negro who had been between 25 and 35 years of age and approximately 168.2 cm in length.

KOF27

Preservation: Condition of the remains was excellent. The skull had been fragmented postmortem but portions of the maxilla and mandible were recovered. All the postcranial bones were present with only slight postmortem damage to the scapulae and os coxae.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: A sloping forehead, elongated skull vault, prominent supraorbital torus, large mastoids, and a distinct external occipital protuberance were noted in the skull. A square mention and distinct mental eminence were observed in the mandible. The sciatic notch was narrow and the femoral head diameter was wide, 44 mm. From these features, it was suggested that the individual had been male.

Age: Dental wear was minimal on all the teeth and no dental wear was observed on M3. The sternal end of the 4th rib was scored between a phase 3 and a phase 4. The xiphoid process had begun to ossify. From this evidence, it was suggested that the individual had been between 25 and 35 years of age.

Teeth: The upper right I2 had been lost postmortem. None of the teeth were lost antemortem. Dental wear was minimal. No enamel hypoplastic lesions were observed. Carious lesions were noted on the occlusal surface of the upper right M2, the occlusal and medial surface of the lower right M3, and the occlusal surfaces of the lower left M1 and M2. Calculus deposits were noted on the lingual aspect of the upper maxillary teeth. Dental pearls were seen on the roots of the upper right and left M2's (Fig. 4).

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 167.7cm.

Trauma/Pathology: Several anomalies were observed and included dental pearls, a cervical rib, an unfused acromion process on the right scapula, large foramen instead of a notch for the suprascapular artery and nerve, congenital absence of transverse processes of T11 and T12, and a double transverse process on the left side of L5 (Fig. 5). Periostitis was also observed on the distal end of the right tibia and fibula.

Conclusion: The remains were those of a male South African Negro who had been between 25 and 35 years of age and approximately 167.7cm in length. Several anomalies were observed and periostitis was seen on the distal end of the right tibia and fibula.

KOF28

Preservation: Condition of the remains was good. The skull had been fragmented and was not suitable for analysis but most of the teeth had been recovered. All of the postcranial bones were present and only slight postmortem damage was noted on the left humerus, ulnae, left radius, and the os coxae.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: Large mastoids and a prominent external occipital protuberance were noted in the skull. The sciatic notch of the pelvis was narrow and the femoral head diameter was wide, 47mm. From these features, it was suggested that the individual had been male.

Age: The 3rd molars were partially erupted. Unfused epiphyses were noted on the glenoid fossas, distal ends of the humeri, distal ends of the femora, and greater and lesser trochanters of the femora. Partially fused epiphyses were seen on the proximal end of the humeri. From this evidence, it was proposed that the individual had been between 14 and 18 years of age.

Teeth: The upper right M1, lower right M1 and M2, and lower left PM2 had been lost postmortem. None of the teeth had been lost antemortem. A carious lesion was observed on the buccal surface of the lower left M1. No enamel hypoplastic lesions were observed. The upper left C was impacted, and the upper deciduous canines were present and had extensive dental wear. The upper and lower M3's were partially erupted. Calculus deposits were noted on the upper left premolars and molars.

Stature: Stature was estimated by using the physiological length of the femur in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 165.6cm.

Trauma/Pathology: Abscess like lesions were observed on the bodies of the thoracic and lumbar vertebrae. Anterior compression of the anterior aspect of the lumbar vertebrae was also observed. Further investigation is needed to understand the etiology behind these vertebral lesions.

Conclusion: The remains were those of a male South African Negro who had been between 14 and 18 years of age and approximately 165.6 cm in length. Abscess like lesions were observed on the bodies of the thoracic and lumbar vertebrae.

KOF29

Preservation: Condition of the remains was poor. The skull had been fragmented but the loose teeth were recovered. All the postcranial bones, expect for the left humerus, right femur, and left tibia, had extensive postmortem damage.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: Large mastoid processes were observed in the skull. The sciatic notch of the pelvis was narrow, and the femoral head diameter of the femur was wide, 44 mm. The long bones were robust appearance. From these features, it was suggested that the individual had been male.

Age: The spheno-occipitalis synchondrosis was fused. Dental wear was minimal with the most noticeable wear on the upper and lower M1's. Epiphyseal lines were visible on the bodies of the vertebrae. No osteophytes were present. From this evidence, it was proposed that the individual had been between 25 and 35 years of age.

Teeth: The upper left M3 had been lost postmortem. None of the teeth had been lost antemortem. The lower right and left M3's were congenitally absent. Enamel hypoplastic lesions were observed on the lower right and left I1, I2, and C. A carious lesion was noted on the distal aspect of the lower left M2 and within the interproximal groove of M2 and M3. Dental wear was minimal and no dentin was exposed.

Stature: Stature was estimated by using the physiological length of the femur in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 167.2cm.

Trauma/Pathology: No trauma or pathology was observed.

Conclusion: The remains were those of a male South African Negroid who had been between 25 and 35 years of age and approximately 167.2 cm in length. No trauma or pathology was observed.

KOF30

Preservation: Condition of the remains was excellent. The skull had been fragmented and was not suitable for analysis, but portions of the maxilla and mandible were recovered. All the postcranial bones were in a good condition except for the cervical vertebrae, left humerus, left femur, os coxae, and fibulae which had extensive postmortem damage.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: Large mastoid processes, a distinct external occipital protuberance, and a square menton with a prominent mental eminence were noted in the cranium. The sciatic notch and sub-pubic angle of the pelvis were narrow, and the femoral head diameter was wide, 46 mm. From these features, it was suggested that the individual had been male.

Age: All the epiphyses were fused, including the sternal end of the claviculae. Dental wear was minimal and some antemortem toothloss was present. Osteophytes were noted on the lumbar vertebrae. Both the pubic symphyses and the sternal end of the 4th rib were scored as a phase 3 (24 to 28 years). From this evidence, it was suggested that the individual had been between 25 and 30 years of age.

Teeth: The upper right M1, M2, and M3 had been lost postmortem. The lower right M1 and M2, and the lower left M1 had been lost antemortem. Only the root of the upper left M1 was present. Enamel hypoplastic lesions were noted on the upper right and left I1, I2, and C, the lower right and left C, and the lower left M2. Carious lesions were observed on the distal surface of the upper right PM2, the medial and occlusal surface of the upper right M3, and the distal surface of the lower right PM1. Heavy calculus deposits were present on the buccal and lingual aspects of the lower incisors, canines, and premolars.

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 171.1cm.

Trauma/Pathology: Several small osteophytes were noticed on the lumbar vertebrae. Schmorl nodes were present on T11- L5 and are indicative of anterior compression of the spine. The posterior aspect of the manubrium had a porous appearance.

Conclusion: The remains were those of a male South African Negro who had been between 25 and 30 years of age and approximately 171.7cm in length. Several small osteophytes and schmorl nodes were noted on the vertebrae and may be the result of intensive mining labour activities.

KOF31

Preservation: Condition of the remains was fair. The skull had been fragmented but portions of the mandible were recovered. All of the postcranial remains had been recovered. The bones with extensive postmortem damage included the claviculae, scapulae, humeri, cervical vertebrae, lumbar vertebrae, ribs, ulnae, os coxae, and fibulae. Complete bones included the radii, thoracic vertebrae, sacrum, femora, patellae, tibiae, hands and feet.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: A square menton with a distinct mental eminence was observed on the mandible. The sciatic notch was narrow, and the femoral head diameter was wide, 47 mm. From these features, it was suggested that the individual had been male.

Age: The long bone epiphyses were fused, and the sternal end of the claviculae were partially fused. Dental wear was minimal and most of the dental wear was noted on the upper and lower M1's. From this evidence, it was tentatively proposed that the individual had been between 25 and 30 years of age.

Teeth: None of the teeth had been lost postmortem or antemortem. Enamel hypoplastic lesions were observed on the lower right and left PM1's. No carious lesions were noted. Heavy calculus deposits were noted on the lingual aspect of the upper and lower incisors and canines.

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 166.4cm.

Trauma/Pathology: A single schmorl node was observed on the vertebral body of T10. No other trauma or pathology was observed.

Conclusion: The remains were those of a male South African Negro who had been between 25 and 30 years of age. A schmorl node was observed on the vertebral body of T10.

KOF32

Preservation: Condition of the remains was good. The skull had been fragmented but portions of the maxilla and mandible were recovered. All the postcranial bones were retrieved but the scapulae, right ulna, os coxae, and right fibula have been damaged postmortem.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: Ramal flexure, a square-shaped menton and a prominent mental eminence were observed on the mandible. The sciatic notch of the pelvis was neither wide nor narrow, and the femoral head diameter was average, 42 mm. The long bones were robust in appearance. From these features, it was tentatively suggested that the individual had been male.

Age: All the long bone epiphyses had fused. Dental wear was moderate on all three molar teeth. The pubic symphysis was scored between a phase 6 (30-35) and a phase 7(36-39). From this evidence, it was proposed that the individual had been between 30 and 40 years of age.

Teeth: None of the teeth had been lost postmortem or antemortem. Carious lesions were also noted on the upper right M1 and the lower right M3.Dental roots were found in the alveolar sockets of the upper right and left M3 – the destruction of the dental crown may have been caused by dental caries. No enamel hypoplasias were observed. Moderate to heavy calculus deposits were seen on the lingual surface of the lower incisors and canines.

Stature: Stature was estimated by using the maximum length of the femur + maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 165.8 cm.

Trauma/Pathology: On the lateral aspect of the left patella, a patellar avulsion was observed. A patella avulsion is a traumatic injury which usually can occur when a high velocity force is applied to the medial aspect of the knee. When this force contacts the medial side of the knee, it causes a stretch in the vastus lateralis tendon which has an insertion site on the patella. The over-stretching of this tendon may cause the attachment site on the patella to fracture and "tear-off". In this instance, the torn patella had healed. The left acrominal-clavicular ligament had also fused.

Conclusion: The remains were those of a male South African Negro who had been between 30 and 40 years of age and approximately 165.8 cm in length. A patella avulsion and fusion of the acrominal-clavicular ligament was observed.

KOF33

Preservation: Condition of the remains was fair. Small fragments of the skull and 25 loose teeth were recovered. All the postcranial bones were present but the claviculae, vertebrae, scapulae, ribs, humeri, ulnae, sacrum, os coxae, and fibulae had extensive postmortem damage and were not suitable for analysis. Complete bones included the left radius, femora, tibiae, hands and feet.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: Large mastoid processes were observed on the skull. The sciatic notch of the pelvis was narrow, and the femoral head diameter was wide, 44mm. From these features, it was tentatively suggested that the individual had been male.

Age: Unfused epiphyses were seen at the distal ends of the forearms (ulna and radius), the distal ends of the femora and tibiae, the iliacs of the os coxae, and the ischium of the os coxae. The spheno-occipitalis synchondrosis and the sternal end of the right clavicle were also unfused. From this evidence, it was proposed that the individual had been between 17 and 20 years of age.

Teeth: The upper right I2, PM1 and PM2, the upper left C, the lower right M2 and M3, and the lower left M2 had been lost postmortem. None of the teeth had been lost antemortem. No enamel hypoplastic lesions were observed. A carious lesion was noted on the occulsal surface of the lower left M1.

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 171.8cm.

Trauma/Pathology: Avulsion of the lateral aspect of the left patella was noted and is similar to KOF32. Schmorl nodes were noted on T9 to T12 and L1 to L5. Schmorl nodes are an indication of Scheurrman's disease. Scheurrman's disease occurs in individuals between 12 and 18 years of age and may result from either a genetic or a traumatic etiology. Strenuous mine labour may be responsible for the appearance of the disease in this population. A distinctive pink colour was noted on the upper right central incisor. Further investigation is needed.

Conclusion: The remains were those of a male South African Negro who had been between 17 and 20 years of age and had been approximately 171.8 cm in length. Avulsion of the left patella, Schmorl nodes, which are indicative of Scheurrman's disease, and a distinctive pink coloured upper central incisor were observed.

KOF34

Preservation: Condition of the remains was fair. The skull was fragmented but portions of the maxilla and mandible were recovered. All the postcranial bones were present with only slight postmortem damage to the right clavicle, cervical vertebrae, scapulae, ulnae, ribs, os coxae, and fibulae. The right hand and some tarsal bones from the foot were not found.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: A square menton with a distinct mental eminence was noted on the mandible. The sciatic notch was neither wide nor narrow, and the femoral head diameter was wide, 47 mm. The long bones also had a robust appearance. From these features, it was suggested that the individual had been male.

Age: The sternal end of the left clavicle was fused. Dental wear was minimal and most dental wear was noted on the upper and lower M1's and M3's. No osteophytes were seen on the vertebrae. From this evidence, it was estimated that the individual had been between 25 and 35 years of age.

Teeth: None of the teeth had been lost postmortem or antemortem. The upper right M3 had not been recovered. An enamel hypoplastic lesion was observed on the lower right I2. No carious lesions were noted. The lower left M3 was gray in colour.

Stature: Stature was estimated by using the physiological length of the femur in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 168.7cm.

Trauma/Pathology: No trauma or pathology was observed.

Conclusion: The remains were those of a male South African Negroid who had been between 25 and 35 years of age and approximately 168.7 cm in length. No trauma or pathology was observed.

KOF35

Preservation: Condition of the remains was good. The skull had been fragmented but portions of the maxilla and mandible were recovered. All the postcranial bones were present but the claviculae, scapulae, ribs, lumbar vertebrae, and os coxae had extensive postmortem damage and were not suitable for analysis.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: A distinct temporal line, smooth orbital margins, a square shaped menton and a distinct mental eminence were noted in the cranium. The femoral head diameter was wide, 46mm, and the long bones had a robust appearance. From these features, it was suggested that the individual had been male.

Age: All the long bone epiphyses were fused and osteophytes were present on C1 and C2, the head of the ulna, inferior ramus of the pubic bone, and lumbar vertebrae. Dental wear was moderate and the slight dentin exposure was noted on the upper and lower incisors, premolars and 1st molars. The pubic symphysis was scored between a phase 6 (30-34) and a phase 7 (35 – 39). From this evidence, it was proposed that the individual had been between 30 and 40 years of age.

Teeth: The upper left I1 had been lost antemortem. None of the teeth had been lost postmortem. Enamel hypoplastic lesions were noted on the lower right and left C's. A carious lesion was

observed on the occlusal surface of the lower left M2, and a periapical abscess was noted on the lower left M1.

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 160.1cm.

Trauma/Pathology: Periostitis was noted on the posterior proximal aspect of the left tibiae and the distal lateral aspect of the left fibula. This bone growth was most likely the result of a non-specific infection. Early signs of osteo-arthritis were noted on the head of the left ulna.

Conclusion: The remains were those of a male South African Negro who had been between 30 and 40 years of age and approximately 160.1 cm in length. A periapical abscess was noted in the mandible, periostitis was seen on the left tibia and fibula, and early signs of osteo-arthritis were noted on the head of the left ulna.

KOF36

Preservation: Condition of the remains was good. The skull had been crushed but portions of the mandible and 14 loose teeth were recovered. Most of the postcranial bones were present and included the claviculae, scapulae, left humeri, radii, ulnae, ribs, vertebrae, sacrum, pelvis, femora, tibiae, fibulae, and miscellanous bones from the hands and feet. However, three thoracic vertebrae were missing, the proximal ends of the left ulna and tibiae had been broken, the distal end of the left femur was missing, and the ribs, sacrum, and os coxae had extensive postmortem damage.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: Large mastoid processes, an external occipital protuberance, a square-shaped menton, and a prominent mental eminence were observed. The sciatic notch of the pelvis was narrow, and the femoral head diameter was wide, 47 mm. From these features, it was suggested that the individual had been male.

Age: All the long bone epiphyses were fused. Dental wear was moderate and small pits of exposed dentin were noted on the upper and lower M1's and M2's. No osteophytes were observed on the vertebrae. From this evidence, it was tentatively proposed that the individual had been between 25 and 35 years of age.

Teeth: None of the teeth had been lost antemortem. The upper right I2 and PM1 had not been found, and the lower right I2 and C had been lost postmortem. No carious lesions were observed. Enamel hypoplastic lesions were noted on the upper right and left M3's. Dental wear was moderate and small pits of exposed dentin were noted on the upper left incisors, upper left premolars, lower right incisors and canine, and upper and lower M1's and M2's.

Stature: Stature was estimated by using the physiological length of the femur in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 166cm.

Trauma/Pathology: Slight depressions were noted on the superior and inferior surfaces of the vertebral bodies of the lumbar vertebrae. The etiology behind these depressions is not known and further investigation is needed.

Conclusion: The remains were those of a male South African Negro who had been between 25 and 35 years of age and approximately 166cm in length. Depressions were noted on the superior and inferior surfaces of the vertebral bodies of the lumbar vertebrae.

KOF37

Preservation: Condition of the remains was poor. The skull had been fragmented but portions of the maxilla and mandible were recovered. Some of the long bones were recovered and included the shafts of the humeri, ulnae, radii, and femora as well as complete tibiae and fibulae. Three thoracic vertebrae, sternum, and portions of the scapulae, hands, and feet were also retrieved. No claviculae, sacrum or os coxae were found.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: A square shaped menton and a distinct mental eminence were noted in the mandible. The circumference of the midshaft of the femora was wide, 90 mm, and the long bones shafts had a robust appearance. From these features, it was tentatively suggested that the individual had been male.

Age: Fused epiphyses were noted at the proximal ends of the tibiae and distal ends of the humeri. Dental wear was minimal on all the molar teeth. No osteophytes were noted on the

vertebrae. From this evidence, it was proposed that the individual had been between 25 and 35 years of age.

Teeth: None of the teeth had been lost antemortem or postmortem. No enamel hypoplastic lesions were observed. Carious lesions were noted on the occlusal surfaces of the lower right M1, M2 and M3.

Stature: Stature was estimated by using the physiological length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 159.8cm.

Trauma/Pathology: No trauma or pathology was observed.

Conclusion: The remains were those of a tentative male South African Negro who had been between 25 and 35 years of age and approximately 159.8 cm in length. No trauma or pathology was observed.

KOF38

Preservation: Condition of the remains was excellent. All the bones were present and included the skull, mandible, claviculae, scapulae, humeri, radii, ulnae, ribs, vertebrae, sacrum, os coxae, femora, tibiae, fibulae, hands and feet.

Population Affinity: The social context of the burial at the Koffiefontein mine suggested that this individual had been a South African Negro.

Sex: A supra-orbital torus, sloped forehead, round skull vault, external occipital protuberance, large mastoid processes, and smooth orbital margins were observed in the skull. The sciatic notch and sub-pubic angle of the pelvis was narrow, and the femoral head diameter was wide, 45 mm. From these features, it was suggested that the individual had been male.

Age: Heavy dental wear and extensive antemortem toothloss was observed in the maxilla and mandible (Fig. 6). The cricoid cartilage and thyroid cartilage had completely fused (Fig. 7). Osteoarthritis was noted on the right thumb joint, the clavicular joints, and at the elbow joint. Osteophytes were also present on all the vertebrae. The sternal end of the 4th rib was scored as a phase 7 (Fig. 8). From this evidence, it was suggested that the individual had been between 60 and 70 years of age.

Teeth: The upper right I1, PM1, M1, M2 and M3, the upper left I1, I2, PM1, PM2, M1, and M2, the lower right PM1, PM2 and M1, and the lower left I1, M1, M2, and M3 had been lost antemortem. The upper right PM1 and lower left I1 had been lost postmortem. Only dental roots were present for the upper right I2 and C and the upper left C. Carious lesions were noted on the medial and distal surfaces of the lower right I1, the medial surface of the lower right I2, the distal surface of the lower right M2, the medial surface of the lower right M3, the distal surface of the lower left C, and the medial surface of the lower left PM1.

Stature: Stature was estimated by using the maximum length of the femur + the maximum length of the tibia in conjunction with stature formulas created by Lundy and Feldesman (1987) for male South African Negroes. Estimated stature was 165.0cm.

Trauma/Pathology: Osteo-arthritis was noted at the sterno-clavicular joint, the acromo-clavicular joint, the elbow joint, and the thumb joint. Osteophytes were also noted on all the vertebrae. Ribs 9, 10, and 11 from the right side had been fractured and had healed (Fig. 9).

Conclusion: The remains were those of a male South African Negroid who had been between 60 and 70 years of age and approximately 165.0 cm in length. Osteo-arthritis was noted at the sterno-clavicular joint, the acromo-clavicular joint, the elbow joint, and the thumb joint. Ribs 9, 10, and 11 from the right side had been fractured and healed. Osteophytes were noted on all the vertebrae and the cricoid cartilage and thyroid cartilage had ossified.

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Figure 1. KOF 22: gap between lower central incisors

Figure 2. KOF 26: butterfly vertebrae

Figure 3. KOF 26: butterfly vertebrae, side view

Figure 4. KOF 27: dental pearls on the upper right and left M2's

Figure 5. KOF 27: congenital absence of transverse processes of T11 and T12, and a double transverse process on the left side of L5

Figure 6. KOF 38: front view showing heavy dental wear and extensive antemortem toothloss

Figure 7. KOF 38: fused cricoid cartilage and thyroid cartilage

Figure 8. KOF 38: sternal ends of ribs

Figure 9. KOF 38: healed fractures on ribs

APPENDIX 2

REPORT ON THE CULTURAL REMAINS FOUND AT KOFFIEFONTEIN

Sudré Havenga

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Introduction

Zoë Henderson asked me two pivotal questions; firstly to identify the different cultural remains that were found at Koffiefontein and secondly to ascertain if these objects coincide with the date of 1896, which she has established.

KOF 01:

- Button; wood with two eyelets and 13mm in diameter. (Fig. 1)
- Half a button, wood with two eyelets. Seems to be identical to above-mentioned button. (Fig. 1)[1]
- Hessian: (Fig. 2) *Hessian is a rough coarse fabric of hemp[2] or mixed jute[3] and hemp. It is mainly used for sacking.*[4] Many of the bodies found were buried in hessian.

KOF O2/03: (Fig. 3)

- Glass button, cream colour with two eyelets and 11mm in diameter.

KOF 05: (Fig. 4)

[1] The oldest button we know of were made along with the eyed needle thousands of years ago during the Palaeolithic Period. Europeans first used buttons as decoration and preferred strings, pins or belts to fasten their clothes. Buttons gained use as fasteners during the 1200's and from then on their popularity as fasteners grew steadily until they became an absolute necessity. The following material has all been used in the manufacturing of buttons; porcelain, glass, pearl, leather, vulcanised rubber, wood, brass, copper, iron, silver, ivory, bone, celluloid, vegetable ivory etc. In the 19th century, technology and the emergence of a mass market encouraged button manufacturing on a large scale and as early as 1807 the first button manufacturing machine was invented by a Dane, B. Sanders.
[2] Hemp is a tough coarse fiber from the hemp plant used for weaving.
[3] Jute is a glossy fiber from the East Indian Jute plant.
[4] M. Brooks Picken, The Language of Fashion. A dictionary and digest of fabric, sewing and dress, p. 77.

- Shell, family Naticidae, which are found on the Transkei/Natal coast. This shell is 16mmx22mm.

KOF 06: (Fig. 5)

- Ankle/Leg bangle made out of a copper wire coil covered with bronze disease[5].
- Textile, piece of reddish brown material roughly woven. Could be part of a blanket.

KOF 07: (Fig. 6)

- Leather purse (Fig. 7) with an intricate copper chain-stitch design and an overlapping lid. It has three compartments. A piece of paper was found in the second compartment. A token and a coin were found in the third compartment. The purse was attached to a leather strap, which was found around the neck and shoulder of the skeleton. The measurements of the purse are 59mmx69mm.
- Leather strap with a buckle, a type of leather disk and two copper eyelets. This strap belongs with the leather purse.
- Paper found in purse with some of the lettering still visible *"rling"* which could imply "sterling" and *"189?"* which could be an indication of the date. (Fig. 8)
- Token, (Fig. 9 & Fig. 10) Six pence, brass with the following inscription: *"KML 6D"* and 19mm in diameter. Museum Africa (previously known as The Africana Museum) in Johannesburg has a large token collection and this is documented in a catalogue compiled by E.J. Maynard: *Tokens of Southern Africa. A catalogue based on the collection in The Africana Museum.* In this catalogue fifteen Koffiefontein Mines LTD. tokens are described. Some of these tokens are if not exactly the same, very similar to the tokens found by Zoë Henderson and her team. (Fig. 11 - Fig. 15) *In contrast to a coin which has Government authority, tokens and good-fors may be defined as metallic money or notes issued privately e.g. by individuals, banks or trading firms to fill a local monetary need. It is intended as a pledge to be redeemed either in goods to the value it represents or in corresponding coin of the area. These items do not tend to circulate beyond particular localities. The usage of subsidiary "coinage" in the Free State was widespread between 1854 and 1900. After Britain withdrew her authority in 1854, the Free State became a Republic. The Republic of the Free State did not have its own metallic currency. They traded with the Cape (still a British Colony) where their paper currency was*

[5] Bronze Disease is the name given to the type of corrosion found with copper and its alloys in which light blue/green growths form on the surface. This is due to the breakdown by chloride ions

not legal tender and thus they had to purchase their supplies with specie. A shortage in currency was therefor inevitable and they combated this shortage by issuing tokens and good-fors.[6]

- Coin, One Shilling, 1883, silver with the following inscription: *"VICTORIA DEI GRATIA BRITANNIA: REG: ?: D:"* and 22mm in diameter.
- Ankle/Leg bangle made out of a copper wire coil. (Fig. 16)
- Textile, piece of reddish brown material coarsely woven. (Same as found at KOF O6) Could be part of a blanket.

KOF 08: (Fig. 17)

- Copper bangle, the bangle measures 65mmx71mm, 53mm inside diameter and 2.7mm thick.
- Textile, piece of reddish brown material roughly woven (Same as found at KOF 06 and 07). Could be part of a blanket.

KOF 09: (Fig. 18)

- 81x Glass beads, hand made, turquoise and 4mm in diameter. They were found around the left ankle and would have been part of a bangle worn around the ankle.
- Hessian, a large quantity of Hessian was found with this skeleton.
- Ankle/Leg bangle made out of a copper wire coil. The bangle was found on the right lower leg and had a piece of beige textile around it. This could be a piece of clothing from the trousers for example.
- Ankle/Leg bangle made out of a copper wire coil. The bangle was found on the lower left leg and was covered with a piece of beige textile. On top of the beige textile was a reddish brown material.
- Button, mother-of-pearl[7] with four eyelets and 10mm in diameter.
- Copper ring. It was found on the third finger of the left hand, which probably means it is a wedding band. 23mm in diameter, 18mm inside diameter, 5mm wide and 2mm thick.
- Copper ring. It was found on the second finger of the left hand. It looks rather crude and home made. A piece is missing. +- 18mm in diameter, 4mm wide and 1mm thick.

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of the passive layers of corrosion products, which normally protects the surfaces of these metals. All of the copper items found at Koffiefontein are covered with bronze disease.

[6] J.T. Becklake, From Real to Rand, The story of Money and Mints in South Africa, pp. 17-19.

[7] Mother-of-pearl buttons were made out of shells from the waters around Japan, the Philippines and Australia. But in 1890, a tariff was levied on many products entering the United States, including ocean shell mother-of-pearl, which caused pearl buttons to become scarce and

KOF 10/11and 13:

- Hessian

KOF 15: (Fig. 19)

- 2x Buttons, mother-of-pearl each with two eyelets and 10mm in diameter.
- 2x Glass buttons each with two eyelets and 10mm in diameter.
- Copper button 13mm in diameter and 1mm thick.
- 2x Copper eyelets with small pieces of leather. Part of a belt or strap.
- Iron buckle also part of belt or strap.
- Textile, piece of red material finely woven or possibly compressed, for example felt.

KOF 16:

- Hessian

KOF 17:

- Hessian
- Copper bangle, 69mm in diameter, and 56mm inside diameter and 5mm thick. (Fig. 20)

KOF 18: (Fig. 21)

- Copper earring, 16mm in diameter and 2mm thick.
- Bangle made out of a copper wire coil found on left wrist, 71mm in diameter and 5mm thick.
- Leather band with copper trimmings was found around left ankle. It is decorated with the same copper chain-stitch design as the purse found with KOF 07. The band was tied around the ankle by means of a buckle. A lot of the band has deteriorated; it seems to have been 33mm wide and resembles the leather band found with KOF 30. (Fig. 53)
- Buckle, iron, 20mm x 26.5mm, belongs to leather band.
- Iron button with four eyelets and 12mm in diameter.

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expensive. In 1891 John Boepple, a German immigrant, began making buttons from mussel

KOF 19:

- Hessian
- Textile, piece of red material.

KOF 20: (Fig. 22)

- Bangle, copper and iron, which was found on the left leg. There seem to be a few iron beads on the copper wire coil. With the beads it is 6mm thick and where there are no beads it measures 4 mm thick.
- Hessian
- Iron bangle that was found on the right upper arm. There are pieces missing. The bangle is 2.5mm thick.

KOF 21: (Fig. 23)

- Button, wood with four eyelets, 17mm in diameter and 2mm thick.
- Button, mother-of-pearl with two eyelets and 17mm in diameter.
- Buckle, iron, was found on the left elbow, which rested on the chest. 22mmx27/30mm and 2mm thick.
- Small piece of copper with a piece of textile attached to it, 1mm thick.
- Textile, piece of beige material coarsely woven, was attached to above-mentioned piece of copper.

KOF 22:

- Hessian
- Textile, piece of material with bright red specks, finely woven or compressed, for example felt.

KOF 25:

- 2x Glass buttons each with two eyelets and 11mm in diameter.
- Copper bangle, was found on the left wrist. It could be two separate bangles with a coarsely woven textile attached to it. The bangle is ± 75mm in diameter.

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shells found in the upper Mississippi River.

- 3x Copper bangles were found on the left upper arm and are flattened on the sides. They are 74mm in diameter and 4mm thick.
- Glass button with two eyelets and 10mm in diameter.
- A piece of a button, mother-of-pearl with two eyelets.
- Textile, piece of beige material coarsely woven.
- 8x Buttons, wooden moulds covered with material. The buttons were found next to the piece of black material that is believed to be a jacket. Each button has a copper shank (a projecting piece on the underside of the button by means of which it was attached to the textile) and is ± 15mm in diameter. (Fig. 24)
- Button loop made out of braided cord. The loop serves as a buttonhole and is usually attached to the edge of the jacket or textile. (Fig. 25)
- Textile, piece of black material finely woven with lining. The buttons, button loop and eye were found with this material. It could be a military jacket of some sort since the mineworkers often wore discarded old uniforms or pieces of uniforms.[8] (Fig. 26)
- Iron eye, 2mm thick. An eye and hook link together to form a type of textile fastener. This eye would strengthen the theory of a military jacket or coat since although very often used in women's clothing, the eye and hook was not frequently used as fasteners in men's wear at the turn of the nineteenth century, It did however feature to some extent in military uniforms.
- Hessian
- 2x Iron clasps, 48mm long and 6mm thick. (Fig. 27)
- Buckle, iron, 18mm x 29mm and 3mm thick.
- Leather strap with copper eyelet and 10mm wide.
- Glass disk, 41.5mm in diameter and 1.5mm thick.
- Pieces of wood that were found with the glass disk. Although the wood is in many pieces it does look as if the glass disk fitted snugly into the "round" wooden structure.
- Buckle, piece of iron buckle, 2mm thick.
- 6/7x Bangles made out of copper wire coils with pieces of iron.
- Textile, piece of red material.
- Bangle made out of a copper wire coil and was found around the right leg.

KOF 26:

- Pipe, (Fig. 28) wooden bowl with a brass or copper lid and vulcanite stem.[9] Where the stem meets the bowl there is a thin silver strip with a leaf-like decoration on two of the four sides

[8] O. Doughty, Early Diamond Days. The opening of the diamond fields of South Africa, p.186.
[9] Although vulcanite was discovered in 1839 by Charles Goodyear the vulcanite mouthpiece found on modern pipes was not invented until 1878. Vulcanite is a hard black insulating material

and a flower-like decoration on the other two sides. A silver mark is visible: the anchor and lion symbols along with the letter "u" indicate Birmingham silver from 1894/1895. The wooden bowl is decorated with a band of small circles around the top.

- 4x Buttons, mother-of-pearl with four eyelets and 10.5mm in diameter.
- Button; wood with four eyelets and 24.5mm in diameter.
- Piece of a wooden button.
- Pumpkin-seeds
- Iron bangle, which consists of three strands and was found on the left arm. Each strand is 4mm thick.
- Copper button with copper shank and 24mm in diameter. It was covered with a piece of corduroy.
- Textile, piece of beige corduroy could be from a waistcoat or a pair of trousers and was found on above-mentioned copper button.

KOF 27: (Fig. 29)

- Iron bangle that was found on the left leg and is 3.5mm thick.

KOF 28: (Fig. 30)

- Hessian
- Glass button, white with four eyelets and 11mm in diameter.
- 2x Glass beads, pink, handmade and 3,5mm in diameter
- 14x Glass beads, white, handmade, the larger ones are 4mm in diameter and the smaller ones 3mm in diameter.
- 135x Glass beads, turquoise, handmade, the larger ones are 5mm in diameter and the smaller ones 3mm in diameter. All the beads were found around the neck and would have been part of a necklace.

KOF 30:

- Leather purse with a small compartment (58mm in length) inside. The purse closes with a type of copper clasp and is 51mm x 77 mm. A piece of copper wire was found inside the purse. (Fig. 31 & Fig. 32)

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made by the vulcanization of rubber with a high proportion of sulphur. Vulcanite was especially popular during the Victorian era (1846-1901) because of its resemblance to the dark colored heartwood, ebonite.

- Spoon, iron, 220mm in length. (Fig.33)
- Spoon, iron, 190mm in length. (Fig.34)
- Animal skin. (See report by N. Avenant)
- Knuckle-bones (See report by L. Rossouw)
- Textile, The remains of a pair of trousers. The material has a distinct herringbone weave and consists of two colours. Some of the seams and stitching are still intact. A few metal buttons were found embedded in the material. (Fig. 35 & Fig. 36)
- Copper hinge was found between the layers of above mentioned material (Fig. 37 & Fig. 42). This seems to be part of the fly from a pair of trousers. The hinge would have been used to connect the waistband while the fly fastened with buttons. (Fig. 43 - Fig. 51)
- Copper button with four eyelets, 7mm in diameter and 0.5mm thick.
- Iron button with two eyelets, 16mm in diameter and 3mm thick.
- Iron button, with shank, 17mm in diameter and 3mm thick. The following lettering is visible on the back of the button: "PATENT" or it could be "PATENTED".
- Textile, piece of beige material, finely woven and extremely thin with a huge amount of layers and folds. The material reacted almost like paper since it is extremely brittle. (Fig.5 2)
- Nail, iron, 103mm in length and 5mm thick. The head is 11,5mm in diameter.
- 3x Shells, *Cypraea moneta* Linnaeus that originates from the Natal coast.[10] The larger shells are 19mm x 12.5mm but measures 8mm at the tip. The smaller shell measures 17.5mm x 8mm and 7.5mm at the tip.
- Stone, greyish green, Later Stone Age core with at least 3 removals. It is cryptocrystalline silicate, usually from the Drakensberg.
- Iron bangle - was found on left arm
- Iron strip, flat with a hole on one side. It was found next to the knee and measures 20mmx900mm.
- Leather band with copper buckle with which it was tied around the upper right arm. It is also decorated with the copper chain-stitch design as mentioned before. It is 29mm wide. What makes this very special is that the strap was filled with British coins. It weighed 187.5g before the removal of the coins and only 43g after the coins had been removed. (Fig. 53 - Fig. 56)
- 27 Coins were found in the leather strap (Fig. 57): 5x One Shilling, 1880, silver with the following inscription: *"VICTORIA DEI GRATIA BRITANNIAR: REG:F:D:"* and 23mm in diameter.

[10] According to Deirdre Richards beach-worn specimens of the *Cypraea moneta* Linnaeus, which are often found, washed southwards along the coast are white with a purple center where the dorsal surface has been eroded. Many people around the world used this shell as currency for thousands of years and among African tribes until the end of the nineteenth century. The Cowry shell was the earliest form of common currency to circulate throughout the entire world.

- Coin, One Shilling, 1865, silver, with the following inscription: *"VICTORIA DEI GRATIA BRITANNIAR REG:F:D:"* and 22.5mm in diameter.
- Coin, One Shilling, 1887, silver with the following inscription: *"VICTORIA DEI GRATIA BRITANNIAR REG F:D:"* and 23 mm in diameter.
- Coins, One Shilling, 1879, silver with the following inscription: *"VICTORIA DEI GRATIA BRITANNIAR REG F:D:"* and 23 mm in diameter.
- 2x Coins, One Shilling, 1890, silver with the following inscription*: "VICTORIA DEI GRATIA BRITT*: *REGINA F:D:"* and 23mm in diameter.
- 3x Coins, One Shilling, 1888, silver with the following inscription: *"VICTORIA DEI GRATIA BRITT: REGINA F:D:"* and 23 mm in diameter.
- 4x Coins, One Shilling, 1889, silver with the following inscription: *"VICTORIA DI GRATIA BRITT: REGINA F:D:"* and 23mm in diameter
- 2x Coins, One shilling, 1893, silver with the following inscription: *"VICTORIA DEI GRA BRITT. REGINA. FID. DEF. IND. IMP*" and 23mm in diameter.
- 2x Coins, One Shilling, 1851, silver with the following inscription: *"VICTORIA DEI GRATIA BRITANNIAR REG F:D:"* and 19mm in diameter.
- Coin, One Shilling, silver, the date is unreadable but it looks like 1819. The inscription reads: *"GEOR III DG BRITT REX F:D:"* and 23mm in diameter.
- Coin, One Shilling, 1835, silver with the following inscription: *"GULIELMUS IIII D:G: BRITANNAIR:REX:F:D"* and 23mm in diameter.
- Coin, One Shilling, 1836, silver with the following inscription: *"GULIELMUS IIII* D:G BRITANNAIR:REX:F:D" and 23mm in diameter.
- Coin, One Shilling, silver with the impression of the young queen Victoria. The date is not visible because this coin is stuck to two bronze or copper coins.
- 2x Bronze or copper coins.
- Coin, bronze or copper, 23mm in diameter.
- Hessian
- Copper button with four eyelets, 18mm in diameter and 1mm thick.

KOF 31: (Fig. 58)

- Hessian
- 5x Buttons, glass, white, each with two eyelets and 10mm in diameter.
- Iron eye, this type of eye along with a hook links to form a kind of textile fastener.
- Copper earring, 7.5mm in diameter and 2mm thick.
- Bangle made out of copper wire coil. It was found around the left ankle and is 4mm thick.
- Bangle made out of copper wire coil, 119mm in diameter and 4mm thick.

KOF 33: (Fig. 59)

- Bangle made out of copper wire coil found around the left leg, 3mm thick.
- Bangle made out of copper wire coil found around the right leg, 3mm thick.
- Hessian

KOF 34: (Fig. 60)

- Buckle, iron
- Leather strap - it varies in width some parts are 5mm and other parts 8mm wide. The buckle must have been part of the strap since there is a lot of rust visible on two parts of the strap and was probably used to tie the strap together.
- Leather pouch decorated with the same copper chain-stitch design as mentioned before was found on the left hip. The leather strap was probably part of the pouch. It measured 49mmx73mm and is 3.5mm thick. A piece of paper was found in the pouch. (Fig.61)
- Paper: Although very brittle some lettering and a diagram of some kind could be determined. *"RIVER", "yfontein"* which most definitely would suggest *Koffyfontein", "HE BOY"* and *"STAAT".*
- Box of Matches, thin wooden box with matches. The box measured 29x53mm and 14x matches still with their sulphur ends intact, 45mm in length and 7x matches without their sulphur ends were found with the remains of the box.
- Textiles, three types of textiles were found. Up against the pouch was a finely woven material with hand stitching, seams and a corner indicating some kind of bag. It is believed that the pouch along with the matches was carried in some kind of bag. On top of the finely woven material was a red piece of material of medium weave. There was also a piece of brown material coarsely woven.
- Copper earring found at left ear, 21mm in diameter, 17mm inside diameter and 1.5mm thick.
- Copper earring found at right ear, 20mm in diameter, 15mm inside diameter and 1mm thick.
- Textile, piece of red material.
- Piece of curved iron found between the ribs, 2.5mm thick. Looks circular and is +- 42mm in diameter.

KOF 35: (Fig. 62)

- Pocket-knife with wooden handle and metal blade. It measures 21mm x 89mm.
- Coin, 1 Florin, 1873, 29mm in diameter.

- Button, wood with four eyelets, 19mm in diameter and 2.5mm thick.
- 4x Glass buttons, white each with two eyelets and 10mm in diameter.
- Leather purse decorated with the same copper chain-stitch design. It has an over lapping lid with opening to fit over a copper stud. A piece of paper is inside but could not be removed.
- Textile, piece of corduroy, beige from a pair of trousers or a jacket.
- Button, metal, 16mm in diameter.
- Button, copper with a shank at the back and 17mm in diameter. There seems to be another button just like this one lodged in the piece of corduroy.
- Hessian

KOF 36: (Fig. 63)

- Earring, copper, 12mm in diameter and 1mm thick.
- Buckle, iron, 3mm thick and normally found on the back of a waistcoat or a pair of trousers.
- 2x Buttons, metal with four eyelets and 17mm in diameter.

KOF 37:

- Textile, piece of red material.

KOF 38: (Fig. 64)

- Iron bangle was found on right arm and is 65mm in diameter and 9mm thick.
- Textile, piece of finely woven material.
- Iron button, 17.5mm in diameter.
- Iron button, 14.5mm in diameter.
- 3x Copper eyelets, 7mm in diameter.
- Textile, a piece of beige material, medium weave, was found on top of a piece of corduroy. The piece of corduroy had a lining and would have been either part of a jacket or a pair of trousers.
- Copper button was found between the layers of corduroy. The button seems to have a shank and is 17mm in diameter.
- 2x Glass buttons with four eyelets and 11mm in diameter.
- 2x Brass tokens, six pence with the following inscription: *"KML 6D"* and are 20mm in diameter.
- Textile, piece of material woven in a herringbone motif.

- Textile, piece of finely woven material with seams and lining still visible. There are two copper buttons embedded in the material, 16.5mm in diameter as well as 2 eyelets. By all indications this could be the remains of the fly of a pair of trousers (Fig.65).
- Piece of iron with a black glass bead. Could be either a hatpin (Fig.66) or the remains of some kind of necklace (Fig.67). It is 91mm in length, the iron is 3mm thick and the head of the bead are 8mm in diameter.
- Iron hook, 45.5mm long, 3.5mm thick.
- Hessian
- Leather purse with a copper clasp and an overlapping lid. (Fig.68) On the back of the purse is a leather strip (56mm long and 31.5mm wide), which made it possible to wear the purse on a belt or strap. (Fig.69 & 70) It is 74mmx84mm. There is a piece of paper inside the purse and the two tokens came from the purse.)
- Textile, a very well preserved piece of beige corduroy was found on the clasp of the leather purse and on top of the corduroy was a piece of material of medium weave.
- Iron buckle. (Fig.71 & 72)

Conclusion

In spite of the fact that no specialised testing could be done, all of the cultural material identified falls with in the time frame of the late nineteenth century. Some of the material made dating easy for example the pipe with its clearly identifiable silver mark of 1894/95 found at KOF 26 and the number of coins with their dates still intact. Although these dates stretch from as early as 1819 to 1893 this is of no pressing concern. South Africa was a British Colony (with the exception of the republics of the Free State and Transvaal) and British specie would have stayed in circulation for long periods of time especially since a shortage in metal currency was often experienced. Early coins furthermore were not just tokens like our money today. They contained full value in terms of their content in gold, silver or copper. Commonly respected these coins moved freely in markets all over the world. What is of importance, is the fact that none of the coins found dates later than 1893.

Lastly it might be interesting to note the following: metals can be divided into three groups according to their susceptibility to corrosion. Firstly metals that resist corrosion in all natural environments, for example gold. Secondly metals that are at first easily attacked but subsequently form a corrosion-resistant film and become resistant to further attack, for example copper alloys and silver. Lastly some metals corrode rapidly and do not form a layer of protective

corrosion products, for example iron[11]. This would explain why most of the copper remains were found to be intact while many of the iron remains were far more deteriorated and broken Furthermore most of the organic material that survived, survived in the surrounding area of a piece of copper or metal. Various copper salts are useful protective agents. In agriculture they are used successfully in various compounds to prevent textiles, ropes, thread, cordage, leather and other materials from rotting.[12]

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PERSONAL COMMUNICATIONS

Z. Henderson, National Museum, Bloemfontein - excavation and mine history

Figure 1: Wooden button and a piece of a wooden button found with KOF 01. (Photograph: National Museum)

Figure 2: A piece of Hessian. This piece was found with KOF 09. (Photograph: National Museum)

Figure 3: Glass button with two eyelets found with KOF 02/03. (Photograph: National Museum)

Figure 4: Shell from the family Naticidae found along the Transkei/Natal coast. This shell was found with KOF 05. (Photograph: National Museum)

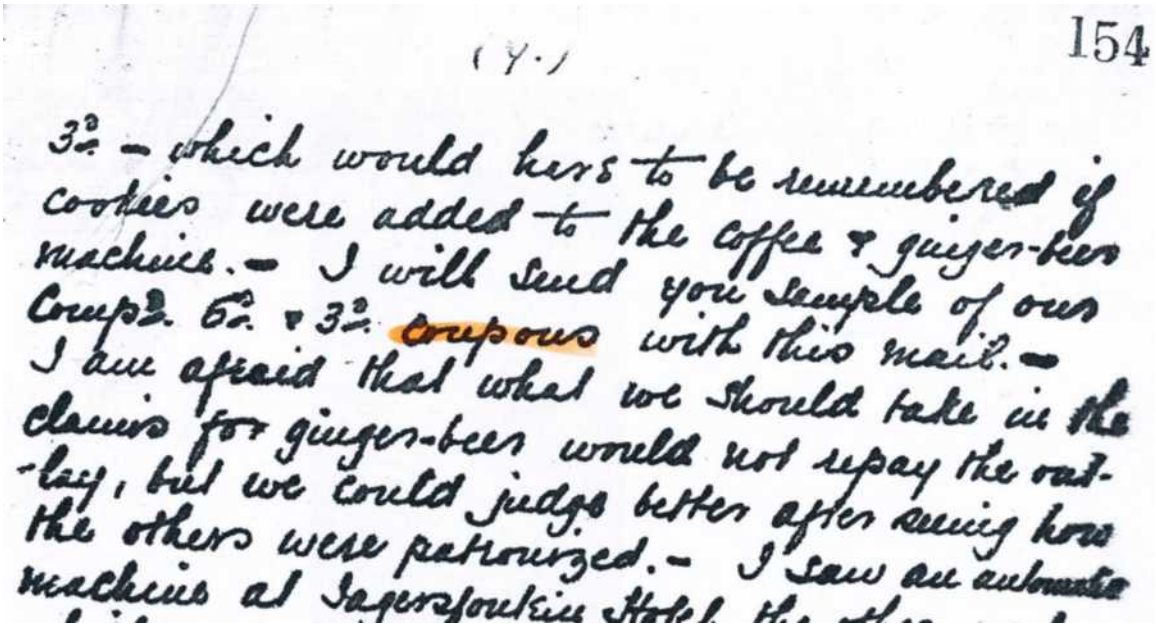
Figure 5: Pieces of a leg/ankle bangle found with KOF 06 and made out of copper wire. (Photograph: National Museum)

Figure 6: Purse, leather fragments, two copper bangles and woven material fragments found with KOF 07. (Photograph: National Museum)

Figure 7: Leather purse form KOF 07 decorated with an intricate copper chain-stitch design. A token and One shilling coin were found in the purse along with a piece of paper. (Photograph: National Museum)

Figure 8: Pieces of paper found in the purse with some lettering still visible. The following can be deciphered: "aat", 189" and "rling". (Photograph: National Museum)

Figure 9: Koffiefontein Mines Limited 6 pence tokens (KML 6D) found with KOF 07 (on right) and KOF 38. (Photograph: National Museum)



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3d. - which would have to be remembered if coolies were added to the coffee & ginger-beer machines. - I will send you sample of our Coup[s] 6d. & 3d. coupons with this mail. - I am afraid that what we should take in the claims for ginger-beer would not repay the outlay, but we could judge better after seeing how the others were patronized. - I saw an automatic machine at Sagersfontein Hotel the

Figure 10: Photocopy of a letter from 18 July 1896, W. Witworth to C. Dodds, Secretary, KML, mentioning the 3D and 6D tokens. (Letter: De Beers, Kimberley)

Figure 11: The obverse and reverse sides of a brass six pence token from the token collection of Museum Africa in Johannesburg. According to Maynard's description on p.144, no 80 this token is 19,7mm in diameter and although not visible on this photograph there are two dots beneath the "D". Unfortunately we were not able to identify any markings on the reverse sides of the tokens Zoë Henderson and her team found since they are very worn and also covered in bronze disease.

Figure 12: Another brass six pence token from the Museum Africa's collection. This token is 20.3mm in diameter and has only one dot beneath the "D". The reverse also differs from that of Figure 10.

Figure 13: Brass six pence token from the Museum Africa's collection. It is 19.8mm in diameter. Although the "D" seems to have a small line beneath it on the photograph it is described in the catalogue as having two dots beneath the "D".

Figure 14: Brass three pence token from the Museum Africa's collection (front and back view), 16,7mm in diameter. Although Zoë Henderson did not find any 3D tokens they are mentioned in the letter (Fig.10).

Figure 15: Brass three pence token from the Museum Africa's collection (front and back view), 17,3mm in diameter. Although Zoë Henderson did not find any 3D tokens they are mentioned in the letter (Fig.10).

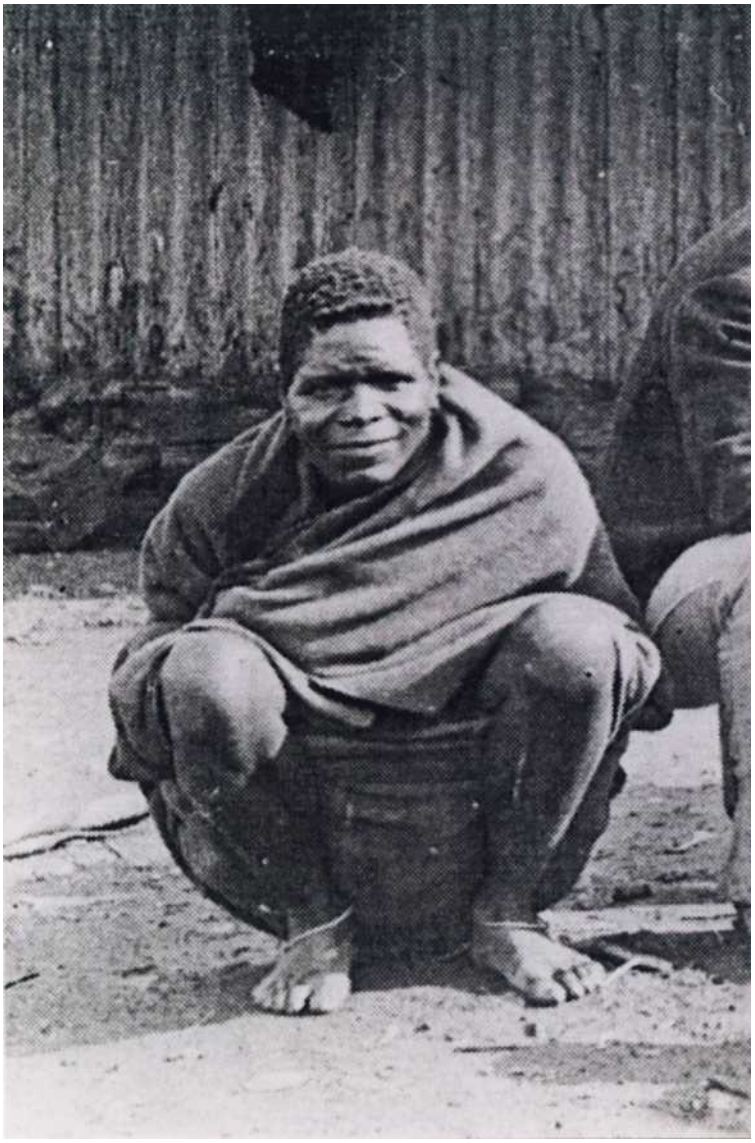

Figure 16: Part of a photograph from the 1890's taken at the De Beers Compound in Kimberley. Note the ankle bangles, one on each ankle. (Detail from photograph 3153 L974: De Beers Archives, Kimberley)

Figure 17: Copper bangle found with KOF 08. (Photograph: National Museum)

Figure 18: Items found with KOF 09: In the top left hand corner you can see the remains of a copper bangle covered on one side with a piece of beige and a piece of reddish material. On the right hand side next to the bangle is a piece of beige corduroy. Below the bangle are the remains of another ankle bangle. Visible on the photograph is the reddish brown material that is covering a piece of beige material. Beneath this bangle are 81 turquoise beads. On the right of the second bangle is a piece of Hessian and beneath the Hessian the two copper rings. (Photograph: National Museum)

Figure 19: Items found with KOF 15: from left to right. A copper button, 2 glass buttons and two buttons made out of mother-of-pearl. (Photograph: National Museum)

Figure 20:Copper bangle found with KOF 17. (Photograph: National Museum)

Figure 21: Items found with KOF 18: On the left of the photograph are an iron buckle and next to it an earring. Below them is a leather band decorated with a copper chain-stitch design and on the right is an iron bangle. (Photograph: National Museum)

Figure 22: From left to right an iron bangle and an iron and copper bangle found with KOF 20. (Photograph: National Museum)

Figure 23: Items found with KOF 21. From left to right two buttons the top one is made out of wood and the bottom one out of mother-of-pearl. In the middle is a piece of copper with a piece of material stuck to it and on the right is a buckle. (Photograph: National Museum)

Figure 24: Buttons found with what seems to be a jacket or a coat. The jacket was found with KOF 25. (Photograph: National Museum)

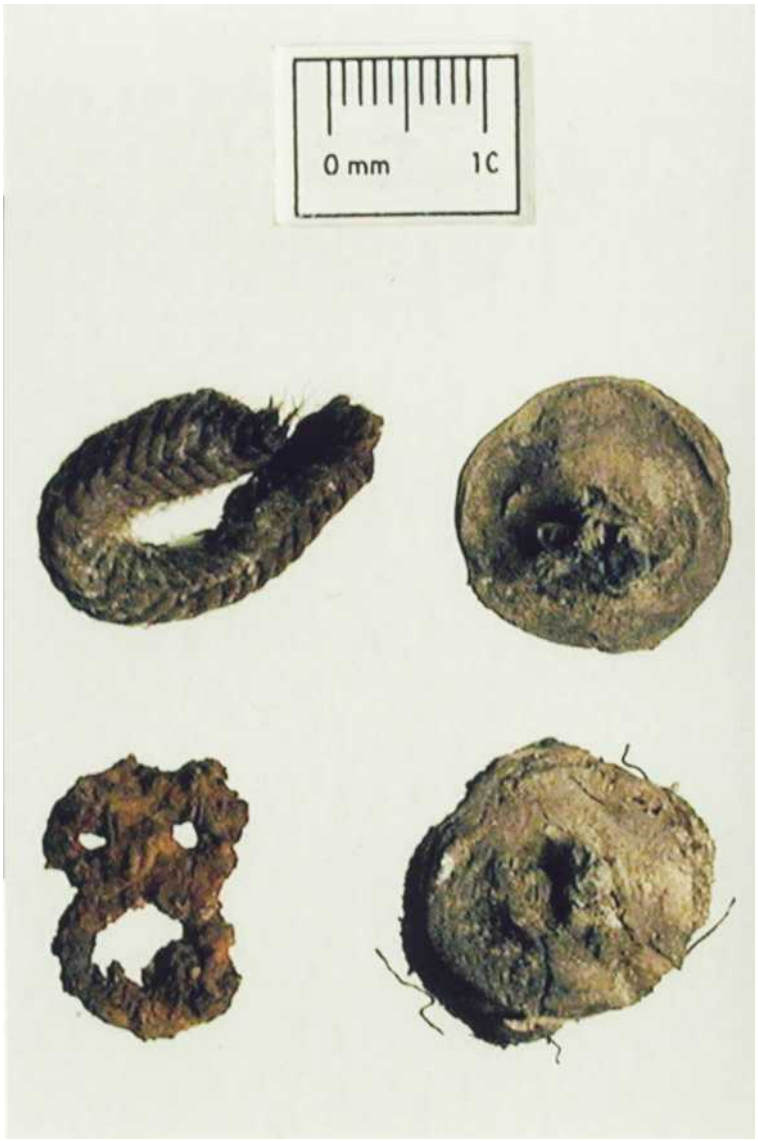

Figure 25: Button loop, buttons and eye found with jacket. (Photograph: National Museum)

Figure 26: Piece of black material from what seems to be a military jacket or coat. Seams and edges are clearly visible. This was found with KOF 25. (Photograph: National Museum)

Figure 27: Two iron clasps found with KOF 25. (Photograph: National Museum)

Figure 28: A pipe found with KOF 26. (Photograph: National Museum)

Figure 29: An iron bangle found with KOF 27. (Photograph: National Museum)

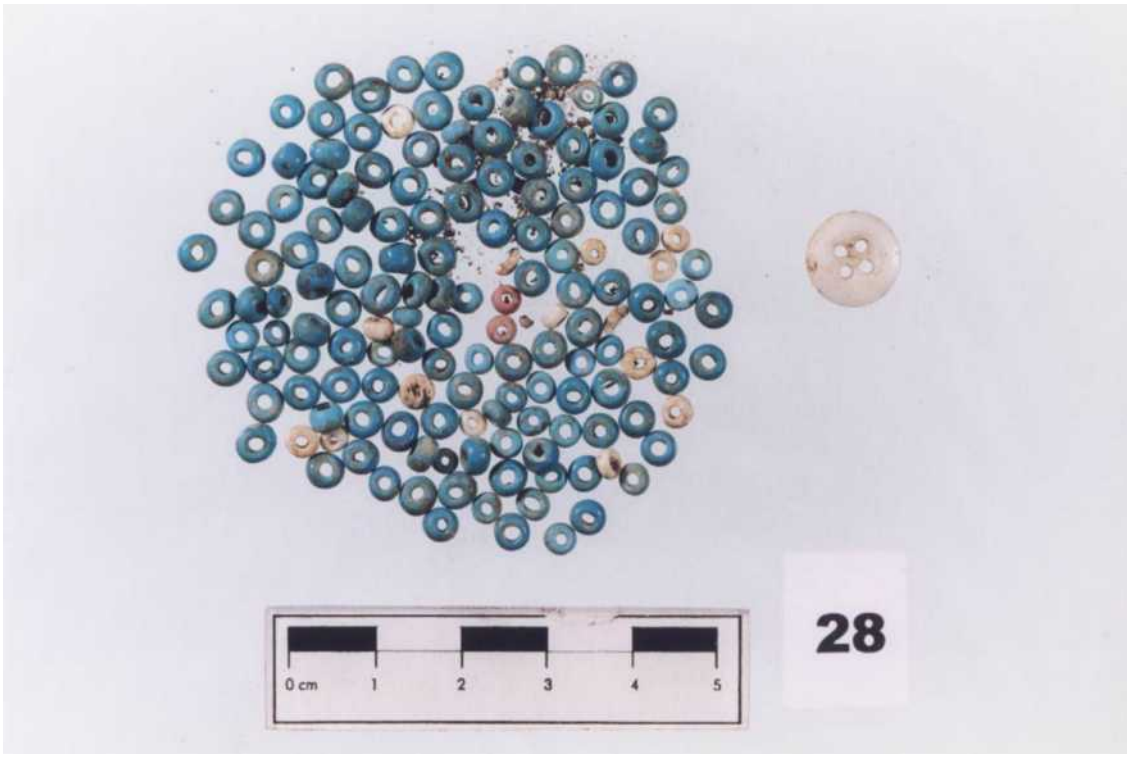

Figure 30: Beads and button found with KOF 28. (Photograph: National Museum)

Figure 31: Leather purse found with KOF 30. (Photograph: National Museum)

Figure 32: Leather purse found with KOF 30 with the inside pocket and the piece of copper wire beneath it. (Photograph: National Museum)

Figure 33: A piece of an iron spoon found with KOF 30. (Photograph: National Museum)

Figure 34: The place where the two spoons found at KOF 30 was removed. (Photograph: National Museum)

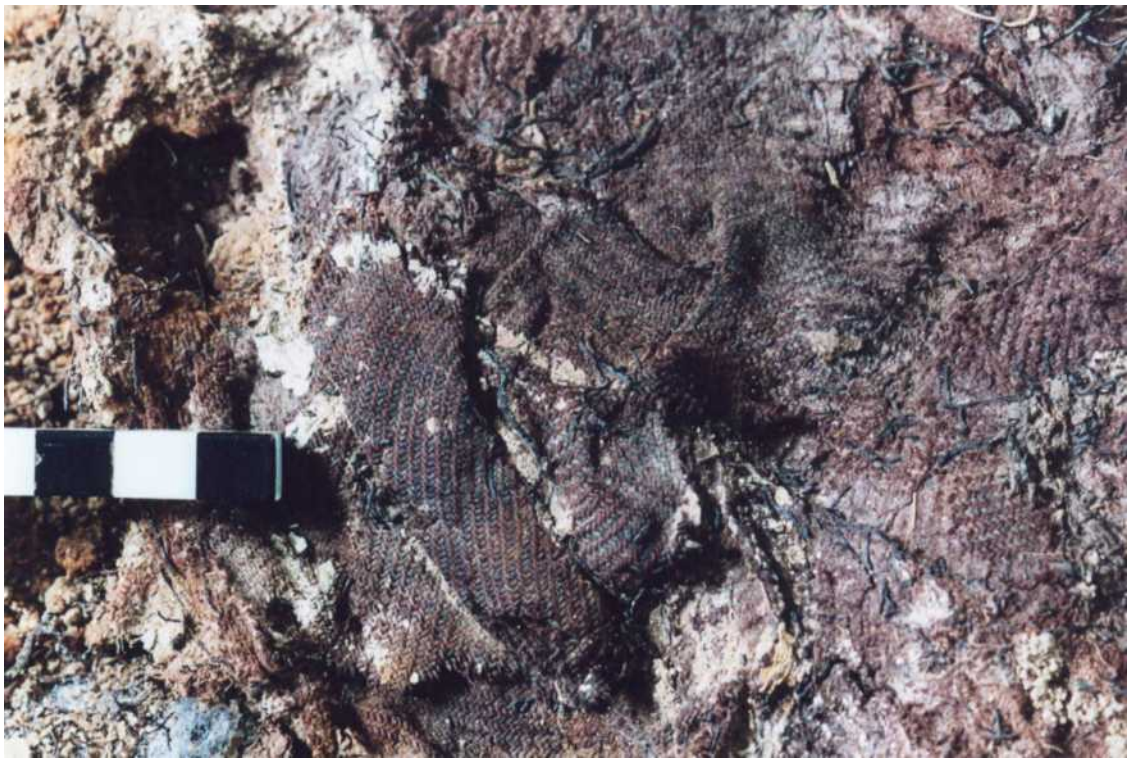

Figure 35: Large piece of textile with distinct herringbone weave. Seems to be part of a pair of trousers. (Photograph: National Museum)

Figure 36: A few metal buttons were found embedded in the material found with KOF 30. They would have been part of the fly from a pair of trousers/pants. (Photograph: National Museum)

Figure 37: Copper hinge found in the layers of the material found with KOF 30 (Photograph: National Museum, as found)

Figure 38: Copper hinge found in the layers of the material found with KOF 30 (Photograph: National Museum, as found)

Figure 39: Copper hinge found in the layers of the material found with KOF 30 (Photograph: National Museum, front view)

Figure 40: Copper hinge found in the layers of the material found with KOF 30 (Photograph: National Museum, front view)

Figure 41: Copper hinge found in the layers of the material found with KOF 30 (Photograph: National Museum, back view)

Figure 42: Copper hinge found in the layers of the material found with KOF 30 (Photograph: National Museum, back view)

Figure 43: The copper hinge found at KOF 30 with a brass hook (G11055) from the National Museums History Collection. This type of hook along with an eyelet is used as a fastener on the waistband of trousers. (Photograph: National Museum)

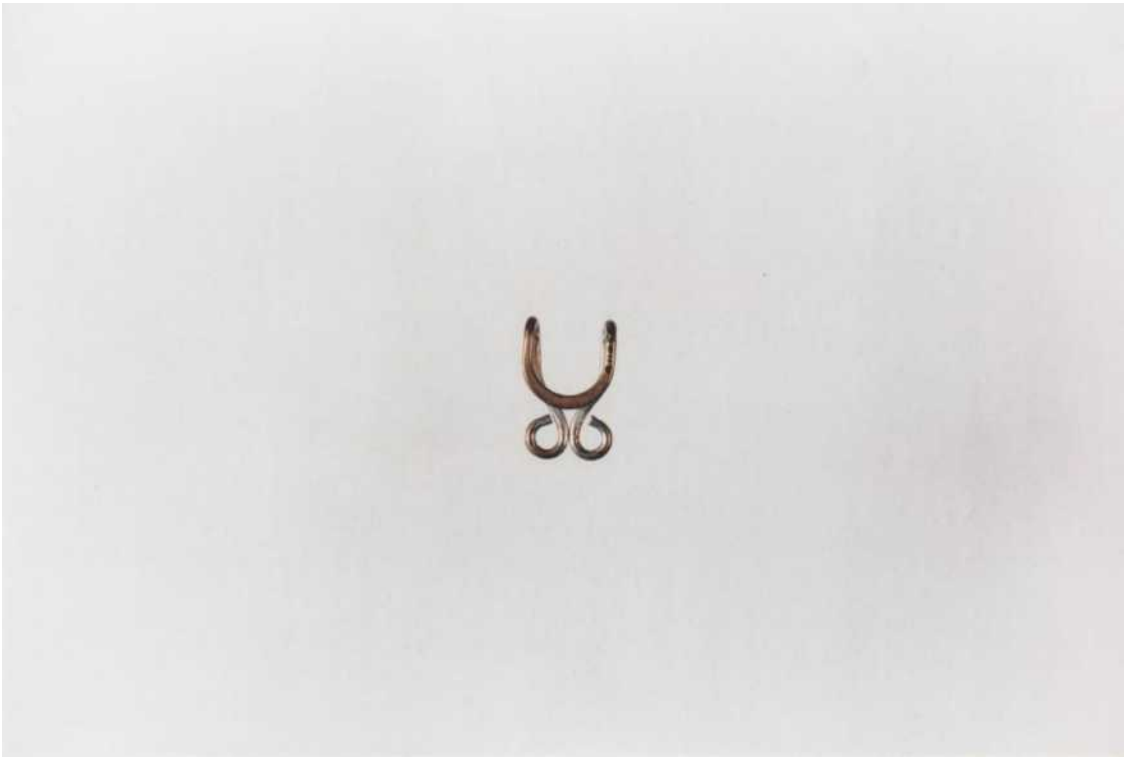

Figure 44: A front view of the brass hook (G11055) in the History Collection of the National Museum. (Photograph: National Museum)

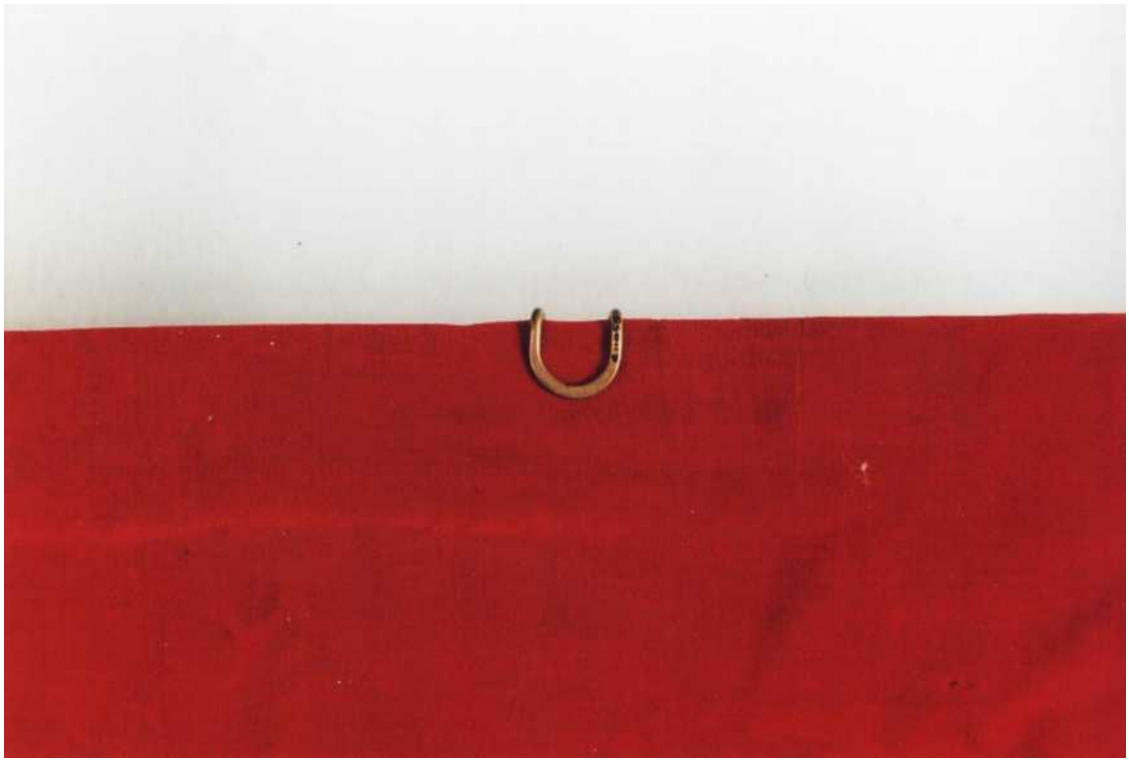

Figure 45: A front view of the brass hook (G11055) in the History Collection of the National Museum. (Photograph: National Museum)

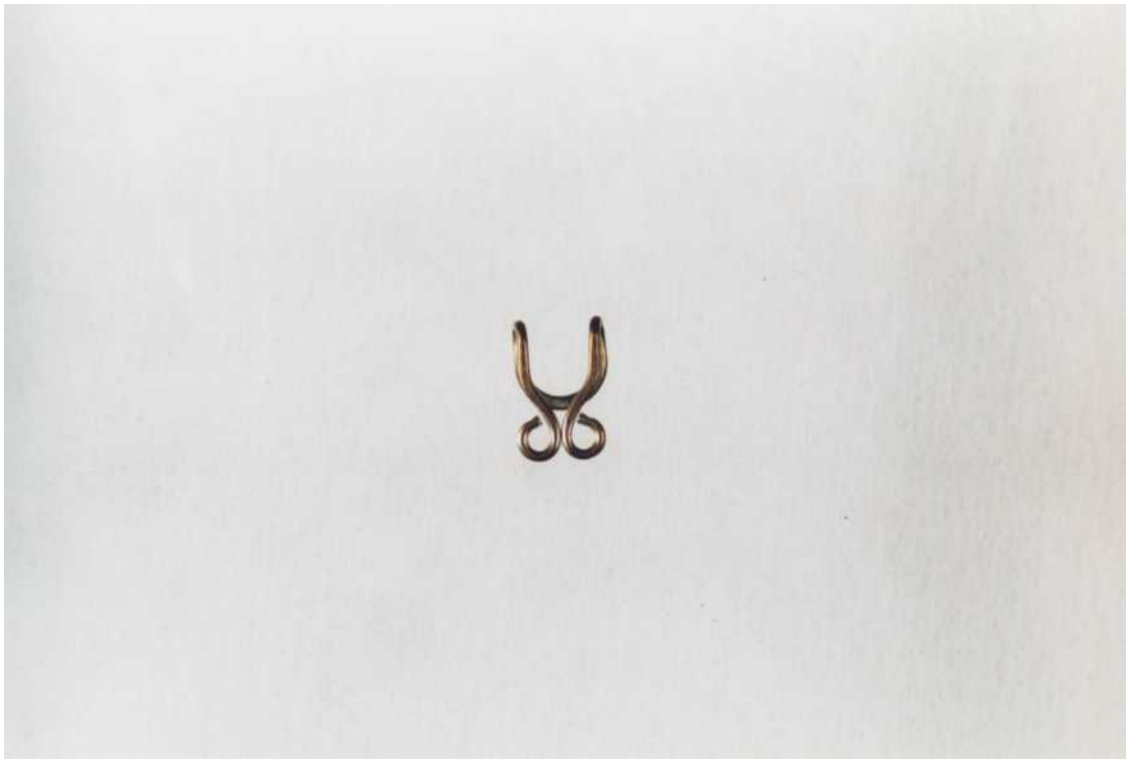

Figure 46: A back view of the brass hook (G11055). This part would be sewn into the waistband of the trousers. (Photograph: National Museum)

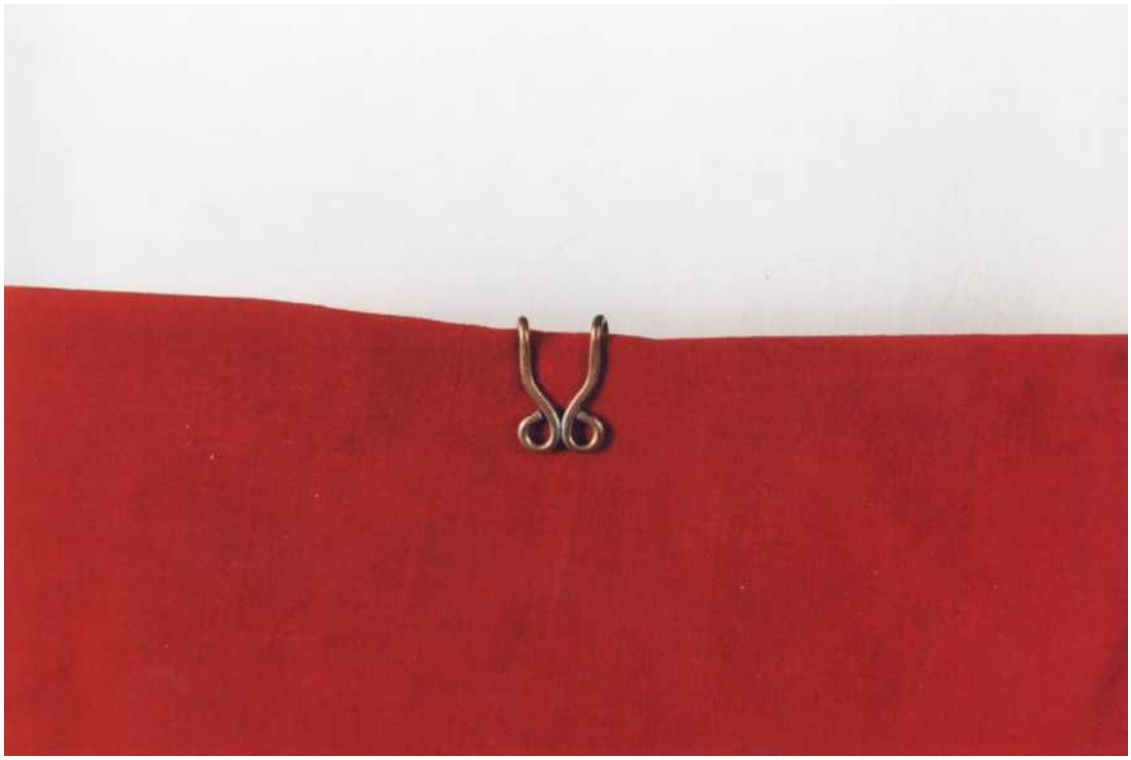

Figure 47: A back view of the brass hook (G11055). This part would be sewn into the waistband of the trousers. (Photograph: National Museum)

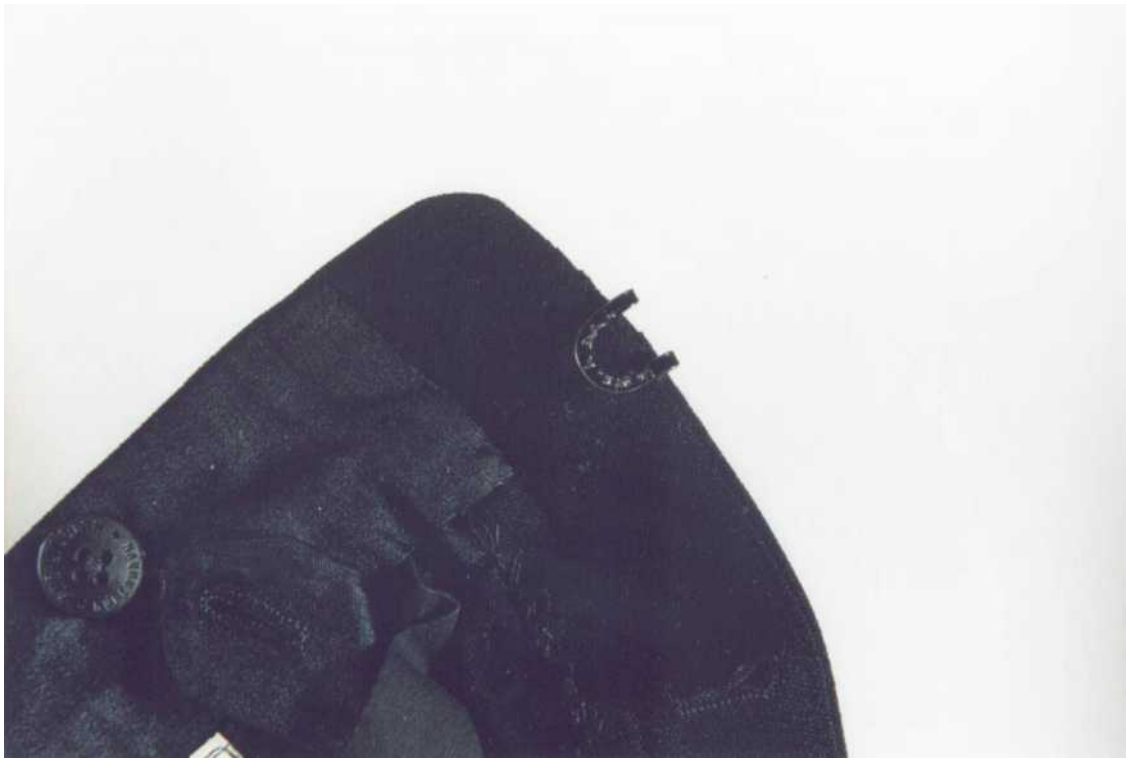

Figure 48: A pair of trouser from the History Collection of the National Museum showing the hook and eyelet used to fasten trousers at the waist. (Photograph: National Museum)

Figure 49: A pair of trouser from the History Collection of the National Museum showing the hook and eyelet used to fasten trousers at the waist. (Photograph: National Museum)

Figure 50: A pair of trouser from the History Collection of the National Museum showing the hook and eyelet used to fasten trousers at the waist. (Photograph: National Museum)

Figure 51: A pair of trouser from the History Collection of the National Museum showing the hook and eyelet used to fasten trousers at the waist. (Photograph: National Museum)

Figure 52: A piece of finely woven beige textile found with KOF 30. (Photograph: National Museum)

Figure 53. Leather band decorated with copper chain-stitch design and a copper buckle. Twenty-seven coins were found inside the band. (Photograph: National Museum)

Figure 54. Leather band decorated with copper chain-stitch design and a copper buckle. Twenty-seven coins were found inside the band. (Photograph: National Museum)

Figure 55. Leather band showing the twenty-seven coins *in situ* inside the band. (Photograph: National Museum)

Figure 56: Photograph of black mineworker at De Beers Kimberley Mines. Note the leather band on his right arm. (Detail from photograph 3156 L97: De Beers Archives, Kimberley)

Figure 57: Twenty-seven coins were found in the leather band of KOF 30. (Photograph: National Museum)

Figure 58: Items found with KOF 31. From left to right. 5 x glass buttons, a copper earring, an iron eye and two copper bangles. (Photograph: National Museum)

Figure 59: Two copper bangles found with KOF 33. (Photograph: National Museum)

Figure 60: Items found with KOF 34 At the top from left to right: two copper earrings with pieces of an iron buckle beneath it, two pieces of textile and a leather pouch with the remains of a match box stuck to it. Below from left to right: remains of a leather strap, matches with their sulphur ends and the remains of a matchbox. (Photograph: National Museum)

Figure 61: Leather pouch decorated with copper chain-stitch design. (Photograph: National Museum)

Figure 62: Items found with KOF 35. Top from left to right: 1 Florin from 1873, wooden button, 4 glass buttons and a leather purse. Bottom from left to right: pocketknife and a piece of the leather purse's lid with copper stud in middle. (Photograph: National Museum)

Figure 63: A copper earring, 2 metal buttons and the remains of a buckle found with KOF 36. (Photograph: National Museum)

Figure 64: Items found with KOF 38. (Photograph: National Museum)

Figure 65: Pair of corduroy trousers from the National Museums collection indicating the fly with its buttons. (Photograph: National Museum)

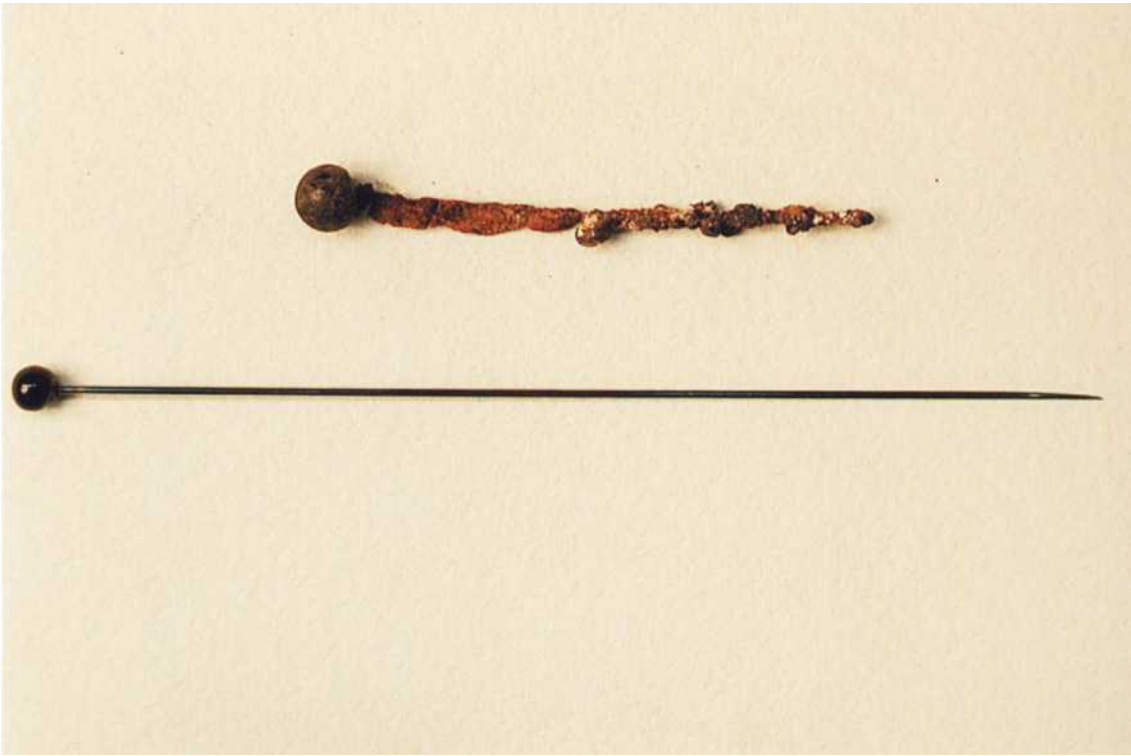

Figure 66: A comparison between the "hatpin" found with KOF 38 and a hatpin from the National Museums history collection. (Photograph: National Museum)

Figure 67: Black mineworkers from De Beers Kimberley Mines c. 1890's. Note the necklace around the neck of the one on the right. (Detail from photograph 3533 L77: De Beers Archives, Kimberley)

Figure 68: Leather purse with copper clasp found with KOF 38 (Photograph: National Museum)

Figure 69: The backside of the leather purse found with KOF 38. (Photograph: National Museum)

Figure 70: Photograph of black mineworkers taken at a Be Beers Compound in Kimberley. Note the Leather belt with purse. (Detail from photograph 3537 L81: De Beers Archives, Kimberley)

Figure 71: Iron buckle found with KOF 38. (Photograph: National Museum)

Figure 72: A comparison between buckles found at Koffiefontein and a buckle from the back of a pair of corduroy trousers found in the National Museum's History Collection. (Photograph: National Museum)

APPENDIX 3

IDENTIFICATION OF FAUNAL REMAINS FOUND WITH KOF 30

Legal documentation **Back to index**

FAUNAL REMAINS - L. ROSSOUW

ARTIODACTYLA

	Bodypart
Sheep *Ovis aries*	talus (left) x 1 talus (right) x 1
Goat *Capra sp.*	talus (left) x 2 talus (right) x 1
local Springbok cf. *Antidorcas marsupialis marsupialis*	talus (right) x 1
Indet.	talus (right) x 1
Isolated from above remains Sheep	distal humerus = medial & Lateral condyle (right) x 1 burnt specimen

IDENTIFICATION OF SKIN - N. AVENANT

Most probably that of duiker (*Sylvicapra grimmia*)

Reasons: length and structure of hairs (fine to slightly thicker)
colour of hairs (when washed)
thickness of duiker skin; more suitable than that of hyrax or hare

It could also be otter (second choice), but the hair is too long although the thickness and colour of the hair fits. It is well known that otters were used in traditional medicine, because of their association with water.

Difficulties with identification: Very little skin is left
Hairs break easily so that length estimate is difficult
Cannot find any scales on hair imprints therefore width has been influenced as the hairs have been eroded away

APPENDIX 4

IDENTIFICATION OF BEETLES FOUND WITH SKELETONS

Images of beetles

FOUND WITH KOF 32 (Information supplied by G. Goergen to T. van der Linde)

Cremastocheilini: Cetoniinae

***Lecanoderus cordicollis* (Waterhouse)**

First, a taxonomic remark *Lecanoderus cordicollis* (Waterhouse): Kolbe in 1907 erected the genus *Lacanoderus* and described two species on the basis of differences he found on the morphology of the pronotum and maxillae when comparing his specimens with *Trichoplus* species. A third and until now last *Lecanoderus* species was described with unchanged combination by van Son in 1936.

This taxonomic status changed when Krikken in 1984 placed these two genera in the Trichoplina according to his publication "A new key to suprageneric taxa in the beetle family Cetoniidae, with annoted lists of the known genera. *Zoologische Verhandelingen*, Leiden 210: 1-75". Therein, he recognized – without explicity giving names – 10 species for *Lecanoderus* and a single for *Trichoplus*. He also stated that he was preparing a revision for *Lecanoderus*. Though until known and to the best of my knowledge I have no evidence that this paper has ever been published, Krikken started systematically to replace *Trichoplus* by *Lecanoderus*. Personally I do not know what differentiation character(s) he is actually using.

Apparently Krikken's new arrangement has not been validated in more recent taxonomic catalogues as reflected by Marais, E. & E., Holm, 1992. (Type catalogue and bibliography of the Cetoniinae of Sub-Saharan Africa. Cimbebasia, Memoir 8: 125 pp.) and by KRAJ IK, M., 1999. (Cetoniidae of the world. Catalogue part 2. 96 pp.). Concordantly, these publications list the genus *Lecanoderus* with 3 species and *Trichoplus* with 8. In both papers your species is referred as *Trichopus cordicollis* Waterhouse, 1881. Curiously the original taxon of your species is still in use in Internet-databases (e.g. Species 2000), in which Krikken himself has been involved! I would be outmost pleased if Holm could somehow help us solve this taxonomic confusion, perhaps he has a better link to Krikken than me.

Distribution and biology:
According to available information all Trichoplina are endemic to southern Africa. Except for *T. vicinus* Péringuey, which occurs too in Rhodesia, all described species are confined to South Africa. As concerns biological data I will have to use the recurrent idiom "Very little is yet known about the habits of…" From the only known observations it seems –as for many Cremastocheilini- that the Trichoplina are too associated with social insects, more precisely they appear to be myrmecophylous. Kolbe (1907) stated that *T. schaumi* Westwood was found with *Plagiolepis custodiens*Sm. (Formicidae: Formicinae) and association with ants was also noted for *T. vicinus* Peringuey. The same author reported about the presence of glands that may play a role in the relationship with ants. However I would be really surprised if your very species displays necrophylism. We never know…

To give you conviction about your correct identification I added an illustration of your species in the attachment. The specimen was borrowed from the BMNH and ran under *Trichoplus cordicollis*. It appears, so far I know, to be the only species that bears carinae on the frons.

Information recorded on specimens identified as *L. cordicollis* (Waterhouse) Det J. Krikken, 1982:

AcLG805 No data on specimen
AcLG962 Ex unbaited pitfall traps near *Pentzia* sp.
AcLG1104 Ex unbaited pitfall traps near thornless cactus
AcLG1141 Ex unbaited pitfall traps near *E. ericoides*
AcLG1424 Cling to walls in large numbers

FOUND WITH KOF 09, 10, 20 & 27 (Identification supplied by T. van der Linde)

Scarabaeidae: Dynastinae

The majority of scarab beetles feed on dung, but they are known to feed on carrion, fungus and litter. The Dynastinae are rhinoceros beetles. The larva occur in humus or dung and pupate underground without forming a cocoon.

The beetles are nocturnal, and the adults do not generally feed.

Information from: Scholtz, Clarke H. & Holm, E. 1985. *Insects of southern Africa*. Durban: Butterworths

Figure 1. *Lecanoderus cordicollis* (Waterhouse), dorsal view

Figure 2. *Lecanoderus cordicollis* (Waterhouse), ventral view

Figure 3. *Lecanoderus cordicollis* (Waterhouse), lateral view

Figure 4. *Lecanoderus cordicollis* (Waterhouse), dorsal view of head and thorax

Figure 5. *Lecanoderus cordicollis* (Waterhouse), ventral view of head and thorax

Figure 6. Cocoon found in dung

APPENDIX 5

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CONTENTS

Copy of permit issued by SAHRA to Z.L. Henderson for the excavation of the burials

South African Heritage Resources Agency draft document: *What to do when graves are uncovered accidentally*

This includes: procedure for consultation - pages 3 & 9
general guidelines - page 5
extract from the Act - page 7

SOUTH AFRICAN HERITAGE RESOURCES AGENCY
111 HARRINGTON STREET, CAPE TOWN, 8000 PO BOX 4637, CAPE TOWN, 8000
TEL: (021) 462 4502 FAX: (021) 462 4509

9/2/

PERMIT
No. 80/02/04/076/81

Issued under Section 36(3) of the National Heritage Resources Act, Act No. 25 of 1999.
Permission is hereby given:

to: Dr Zoe Henderson,
of: the National Museum, P O Box 266,
for: excavation & removal of burials, perhaps from an Irish regiment, dating possibly to c. 1877-1932,
in: an old mine dump on De Beers Consolidated Mines,
at: Koffiefontein, at approximately 29 24 S, 25 00 E,
in: the Koffiefontein District, Free State Province.

The following conditions apply:

1. Adequate recording methods as specified in the Regulations and Guidelines pertaining to the National Heritage Resources Act must be used. Note that the position of the grave must be marked on a plan of the site, and the site marked on a 1:50 000 map.
2. A standard site record form must be lodged with the National Museum, Bloemfontein.
3. The recommendations for removal of graves and exhumations and for re-burial made in the NMC Policy for the Conservation of Immovable Property (Sections 12.1 - 12.2.31) must be observed as far as possible.
4. All remains recovered, including relics and artefacts, must be kept with the skeletal material and be accessioned and curated at the National Museum or reburied with the skeletal material.
5. A report on the excavation must be submitted to SAHRA on or before 1 June 2003.
6. Reprints of all published papers, or copies of theses or reports resulting from this work must be lodged with SAHRA.
7. 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.
8. 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.
9. It is the responsibility of the permit holder to fill in excavations and protect sites during and after excavation to the satisfaction of the SAHRA and the landowner.
11. SAHRA 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.
12. SAHRA reserves the right to cancel this permit upon notice to the permit holder.

This permit is valid until 1 June 2003.

for CHIEF EXECUTIVE OFFICER .....
Date: 15 May 2002 Place: Cape Town

SOUTH AFRICAN HERITAGE RESOURCES AGENCY

WHAT TO DO WHEN GRAVES ARE UNCOVERED ACCIDENTALLY

South African Heritage Resources Agency (SAHRA) staff and archaeologists, palaeontologists and historians in museums and universities are often confronted with the problem of what should be done when human skeletal material is found accidentally in unmarked graves. Under the new National Heritage Resources Act (Act No. 25 of 1999), the provisions are different from those applicable under the National Monuments Act. These guidelines assist you to follow the legal pathway.

1. First, establish the context of the burial.

A. Are the remains less than 60 years old? If so, they may be subject to provisions of the Human Tissue Act and to local, regional or municipal regulations, which vary from place to place. The finding of such remains must be reported to the police but are not protected by the National Heritage Resources Act.

B. Is this the grave of a victim of conflict (see 2B)? If so, it is protected by the National Heritage Resources Act (Section 36(3a)). (Relevant extracts from the Act and Regulations are included below.)

C. Is it a grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority? If so, it is protected by the National Heritage Resources Act (Section 36(3b)).

D. Are the human or hominid remains older than 100 years? If so, they are protected by the National Resources Heritage Act (Section 35(4), see also definition of 'archaeological' in Section 2).

2. Second, refer to the terms of the National Heritage Resources Act most appropriate to the situation, and to other Acts and Ordinances:

A(i) Human remains that are NOT protected in terms of the National Heritage Resources Act (i.e. less than 60 years old and not a grave of a victim of conflict or of cultural significance) are subject to provisions of the Human Tissue Act and to local and regional regulations.

* All finds of human remains must be reported to the nearest police station to ascertain whether or not a crime has been committed.
* If there is no evidence for a crime having been committed, and if the person cannot be identified so that their relatives can be contacted, the remains may be kept in an institution where certain conditions are fulfilled. These conditions are laid down in the Human Tissue Act (Act No. 65 of 1983).

In the event that a graveyard is to be moved or developed for another purpose, it is incumbent on the local authority to publish a list of the names of all the persons buried in the graveyard if there are gravestones, or simply a notification that graves in the relevant graveyard are to be disturbed. Such a list would have to be compiled from the names on the gravestones or from parish or other records. The published list would call on the relatives of the deceased to react within a certain period to claim the remains for reinterment. If the relatives do not react to the advertisement, the remains may be reinterred at the discretion of the local authority.

A(ii) It is illegal in terms of the Human Tissue Act for individuals to keep human remains, even if they have a permit, and even if the material was found on their own land.

A(iii) Provincial Ordinances (for example the Cape Provincial Exhumations Ordinance (Ordinance No. 12 of 1980) are also relevant. The purpose of the latter is "To prohibit the desecration, destruction and damaging of graves in cemeteries and receptacles containing bodies; to regulate the exhumation, disturbance, removal and re-interment of bodies, and to provide for matters incidental thereto".

* A "Cemetery" is defined as any land, whether public or private, containing one or more graves
* A "grave" includes "(a) any place, whether wholly or partly above or below the level of the ground and whether public or private, in which a body is permanently interred or intended to be permanently interred, whether in a coffin or other receptacle or not, and (b) any monument, tombstone, cross, inscription, rail, fence, chain, erection or other structure of whatsoever nature forming part of or appurtenant to a grave."
* No person shall desecrate, destroy or damage any grave in a cemetery, or any coffin or urn without written approval of the Administrator
* No person shall exhume, disturb, remove or re-inter any body in a cemetery without prior written approval of the Administrator
* Application must be made for such approval in writing, together with:
  - -a statement of where the body is to be re-interred
  - why it is to be exhumed
  - the methods proposed for exhumation
  - written permission from local authorities, nearest available relatives and the religious body owning or managing the cemetery, and where all such permission cannot be obtained, the application must give reasons why not
* The Administrator has the power to vary any conditions and to impose additional conditions
* Anyone found guilty and convicted is liable for a maximum fine of R200 and maximum prison sentence of six months

B. Human remains from the graves of victims of conflict, or any burial ground or part thereof which contains such graves and any other graves that are deemed to be of cultural significance may not be destroyed, damaged, altered, exhumed or removed from their original positions without a permit from the National Heritage Resources Agency. They are administered by the Graves of Conflict Division at the SAHRA offices in Johannesburg.
'Victims of conflict' are:

* those who died in this country as a result of any war or conflict but excluding those covered by the Commonwealth War Graves Act, 1992 (Act No. 8 of 1992),
* members of the forces of Great Britain and the former British Empire who died in active service before 4 August 1914,
* those who, during the Anglo Boer War (1899-1902) were removed from South Africa as prisoners and died outside South Africa, and,
* those people, as defined in the regulations, who died in the 'liberation struggle' both within and outside South Africa

C. Any burial that is older than 60 years, which is outside a formal cemetery administered by a local authority, is protected in terms of Section 36(3b) of the National Heritage Resources Act. No person shall destroy, damage, alter, exhume or remove from its original position remove from its original site or export from the Republic any such grave without a permit from the SAHRA.

There are some important new considerations applicable to B & C (above).
SAHRA may issue a permit to disturb a burial that is known to be a grave of conflict or older than 60 years, or to use, at a burial ground, equipment for excavation or the detection or recovery of metals.
(Permit applications must be made on the official form *Application for permit: Burial Grounds and Graves* available from SAHRA or provincial heritage resources authorities.) Before doing so, however, SAHRA must be satisfied that the applicant:

* has made satisfactory arrangements for the exhumation and re-interment of the contents of such a grave at the cost of the applicant,
* has made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such a grave and,
* has reached an agreement with these communities and individuals regarding the future of such a grave or burial ground.

Procedure for consultation
The regulations in the schedule describe the procedure of consultation regarding known burial grounds and graves. These apply to any one who intends to apply for a permit to destroy, damage, alter, remove from its original position or otherwise disturb any grave or burial ground older than 60 years that is situated outside a formal cemetery administered by a local authority. The applicant must make a concerted effort to identify the

descendants and family members of the persons buried in and/or any other person or community by tradition concerned with such grave or burial ground by—

* archival and documentary research regarding the origin of the grave or burial ground;
* direct consultation with local community organisations and/or members;
* the erection for at least 60 days of a notice at the grave or burial ground, displaying, in all the official languages of the province concerned, information about the proposals affecting the site, the telephone number and address at which the applicant can be contacted by any interested person and the date by which contact must be made, which must be at least 7 days after the end of the period of erection of the notice; and
* advertising in the local press.

The applicant must keep records of the actions undertaken, including the names and contact details of all persons and organisations contacted and their response, and a copy of such records must be submitted to the provincial heritage resources authority with the application.

Unless otherwise agreed by the interested parties, the applicant is responsible for the cost of any remedial action required.

If the consultation fails to result in agreement, the applicant must submit records of the consultation and the comments of all interested parties as part of the application to the provincial heritage resources authority.

In the case of a burial discovered by accident, the regulations state that when a grave is discovered accidentally in the course of development or other activity:

* SAHRA or the provincial heritage resources authority (or delegated representative) must, in co-operation with the Police, inspect the grave and decide whether it is likely to be older than 60 years or otherwise protected in terms of the Act; and whether any further graves exist in the vicinity.
* if the grave is likely to be so protected, no activity may be resumed in the immediate vicinity of the grave, without due investigation approved by SAHRA, or the provincial heritage resources authority; and
* SAHRA or the provincial heritage resources authority may at its discretion modify these provisions in order to expedite the satisfactory resolution of the matter. (In the case of burials that are accidentally discovered during building or other forms of disturbance of the soil, and that are apparently older than 60 or 100 years, a rapid response procedure is presently being implemented to allow the rescue of the burials).

D. Archaeological material, which includes human and hominid remains that are older than 100 years (see definition in section 2 of the Act), is protected by the National Heritage Resources Act (Section 35(4)), which states that no person may, without a permit issued by the responsible heritage resources authority - destroy, damage, excavate, alter or remove from its original site any archaeological or palaeontological material.

The implications are that anyone who has removed human remains of this description from the original site must have a permit to do so. If they do not have a permit, and if they are convicted of an offence in terms of the National Heritage Resources Act as a result, they may be liable to a maximum fine of R100 000, or five years' imprisonment, *or both*. (As indicated above, in the case of burials that are accidentally discovered during building or other forms of disturbance of the soil, and that are apparently older than 60 or 100 years, a rapid response procedure is presently being implemented to allow the rescue of the burials).

Third, treat human remains with respect:

a. Every attempt should be made to conserve graves *in situ*. Graves should not be moved unless this is the only means of ensuring their conservation.
b. The removal of any grave or graveyard or the exhumation of any remains should be preceded by an historical and archaeological report and a complete recording of original location, layout, appearance and inscriptions by means of measured drawings and photographs. The report and recording should be placed in a permanent archive.
c. Where the site is to be re-used, it is essential that all human and other remains be properly exhumed and the site left completely clear.
d. Exhumations should be done under the supervision of an archaeologist, who would assist with the identification, classification, recording and preservation of the remains,
e. No buried artefacts should be removed from any protected grave or graveyard without the prior approval of SAHRA. All artefacts should be re-buried with the remains with which they are associated. If this is not possible, proper arrangements should be made for the storage of such relics with the approval of SAHRA.
f. The remains from each grave should be placed in individual caskets or other suitable containers, permanently marked for identification.
g. The site, layout and design of the area for reinterment should take into account the history and culture associated with, and the design of, the original grave or graveyard.
h. Re-burials in mass graves and the use of common vaults are not recommended.
i. Remains from each grave should be re-buried individually and marked with the original grave markers and surrounds.
j. Grouping of graves, e.g. in families, should be retained in the new layout.
k. Material from the original grave or graveyard such as chains, kerbstones,

railing and should be re-used at the new site wherever possible.

l. A plaque recording the origin of the graves should be erected at the site of re-burial.

m. Individuals or groups related to the deceased who claim the return of human remains in museums and other institutions should be assisted to obtain documentary proof of their ancestry.

For further information contact the South African Heritage Resources Agency, PO Box 4637, Cape Town, 8000.

APPENDIX 1
Extract from the National Heritage Resources Act (Act No.25 of 1999), Section 35

Archaeology, palaeontology and meteorites

35. (1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

(2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

(3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.

(4) No person may, without a permit issued by the responsible heritage resources authority-

(a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;

(b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;

(c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or

(d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

(5) When the responsible heritage resources authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or palaeontological site is under way, and where no application for a permit has been submitted and no heritage resources management procedure in terms of section 38 has been followed, it may-

(a) serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order;

(b) carry out an investigation for the purpose of obtaining information on whether or not an archaeological or palaeontological site exists and whether mitigation is necessary;

(c) if mitigation is deemed by the heritage resources authority to be necessary, assist the person on whom the order has been served under paragraph (a) to apply for a permit as required in subsection (4); and

(d) recover the costs of such investigation from the owner or occupier of the land on which it is believed an archaeological or palaeontological site is located or from the person proposing to undertake the development if no application for a permit is received within two weeks of the order being served.

(6) The responsible heritage resources authority may, after consultation with the owner of the land on which an archaeological or palaeontological site or a meteorite is situated, serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.

(7) (a) Within a period of two years from the commencement of this Act, any person in possession of any archaeological or palaeontological material or object or any meteorite which was acquired other than in terms of a permit issued in terms of this Act, equivalent provincial legislation or the National Monuments Act, 1969 (Act

No. 28 of 1969), must lodge with the responsible heritage resources authority lists of such objects and other information prescribed by that authority. Any such object which is not listed within the prescribed period shall be deemed to have been recovered after the date on which this Act came into effect.

(b) Paragraph (a) does not apply to any public museum or university.

(c) The responsible authority may at its discretion, by notice in the Gazette or the Provincial Gazette, as the case may be, exempt any institution from the requirements of paragraph (a) subject to such conditions as may be specified in the notice, and may by similar notice withdraw or amend such exemption.

(8) An object or collection listed under subsection (7)-

(a) remains in the ownership of the possessor for the duration of his or her lifetime, and SAHRA must be notified who the successor is; and

(b) must be regularly monitored in accordance with regulations by the responsible heritage authority.

* * *

Burial grounds and graves

36.(1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

(3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority-

(a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or anyburial ground or part thereof which contains such graves;

(b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or

(c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.

(5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority-

(a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and (b) reached agreements with such communities and individuals regarding the future of such grave or burial ground.

(6) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority-

(a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and

(b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.

(7) (a) SAHRA must, over a period of five years from the commencement of this Act, submit to the Minister for his or her approval lists of graves and burial grounds of persons connected with the liberation struggle and who died in exile or as a result of the action of State security forces or agents provocateur and which, after a process of public consultation, it believes should be included among those protected under this section.

(b) The Minister must publish such lists as he or she approves in the Gazette.

(8) Subject to section 56(2), SAHRA has the power, with respect to the graves of victims of conflict outside the Republic, to perform any function of a provincial heritage resources authority in terms of this section.

(9) SAHRA must assist other State Departments in identifying graves in a foreign country of victims of conflict connected with the liberation struggle and, following negotiations with the next of kin, or relevant authorities, it may re-inter the remains of that person in a prominent place in the capital of the Republic.

APPENDIX 2

Extracts From the Regulations Applicable to the National Heritage Resources Act (Act No.25 of 1999).

Schedule B, Chapter IX : Application for Permit: Burial Grounds and Graves (Regulations for Section 36 (3))

Applicability

33. These regulations apply to any person applying for a permit to—

(a) *destroy, damage, alter, exhume or remove from its original position or otherwise disturb a grave of a victim of conflict, or any burial ground or part thereof which contains such graves;*

(b) destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority;

(c) bring into use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals;

Application requirements and procedure

34. (1) Permit applications must be made on the official form *Application for permit: Burial Grounds and Graves*, available from SAHRA or any provincial heritage resources authority.

(2) Permit applications must be submitted to the relevant provincial heritage resources authority.[1]

(3) The following must be supplied with the application—

(a) name and address, erf/stand/ farm number or geographical co-ordinates of the grave or burial ground and magisterial district;

(b) name, address, telephone and/or fax numbers of the planning authority for the place;

(c) details of the action/s for which application is made, in accordance with *Guidelines*;

(d) motivation for the proposed action/s, including supporting documentation and research, in accordance with *Guidelines*;

(e) details of the cost of the action/s;

(f) name, identity number, address, telephone and/or fax number, qualifications, relevant experience and signature of the person who will be responsible for the action/s;

(g) name, identity number, address, telephone and/or fax number and signature of the owner of the land on which the grave or burial ground is situated;

(h) in the case of the exhumation or removal of a grave, the name, identity number, address, telephone and/or fax number, qualifications, relevant experience and signature of the archaeologist who will supervise the work;

(i) in the case of destruction or damage of any burial ground or grave referred to in section 2 (a) of these regulations, details of arrangements for the exhumation and reinterment of the contents of such graves;

(j) in the case of any activity under section 2 (b) of these regulations,

(i) details of efforts made to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and

(ii) copies of agreements reached with such communities or individuals regarding the future of such grave or burial ground;

(k) name, identity number, address, telephone and/or fax number and signature of the applicant, if the owner is not the applicant;

(l) any other relevant information required by the provincial heritage resources authority.

(4) The provincial heritage resources authority may at its discretion refer an application to SAHRA or to experts in the field for comment and advice on any conditions that should be imposed in the permit.

Minimum qualifications and standards of practice

35. A permit will only be issued for exhumation or removal which is to be done—

(a) under the supervision of a qualified archaeologist;

(b) with due respect for any human remains and the customs and beliefs of any person or community concerned with such grave or burial ground and, when requested, in the presence of such person or community representative;

(c) after arrangements have been made for the re-interment of any human remains and the re-interment or curation of any other contents of such grave or burial ground, to the satisfaction of SAHRA;

(d) in accordance with any Guidelines.

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[1] Section 36 is ambiguous about whether the responsibility for permits vests with SAHRA or provincial heritage authorities. The original intention in the draft legislation was for this to be a provincial competence, in accordance with the principle that powers be devolved to the lowest competent level of government.

Schedule A, Chapter IX: Discovery of Previously Unknown Grave (Regs for Section 36(6))

Applicability

7.(1) These regulations apply when a grave, the existence of which was previously unknown, is discovered in the course of development or any other activity.

(2) Such grave must not be disturbed in any way after it is discovered except under authority of the provincial heritage resources authority.[2]

Investigation

8. (1) As soon as possible after notification of the discovery of the grave, the provincial heritage resources authority or its delegated representative must, in co-operation with the South African Police Service, inspect such grave and decide whether or not there is reason to believe—

(a) that the grave is likely to be older than 60 years or otherwise protected in terms of the Act; and

(b) that any further graves exist in the vicinity.

(2) If it is decided that the grave is likely to be so protected, no activity referred to in regulation 7 (1) may be resumed in the immediate vicinity of such grave or in the area in which additional graves are likely to be found, unless an investigation is undertaken by a person and in a manner approved by the provincial heritage resources authority to establish the facts of the matter.[3]

(3) If the investigation in regulation 8 (2) confirms that any grave is protected, the Act and the provisions in regulations 4, 5 and 6 shall apply in respect of any person who intends to disturb such grave; provided that the provincial heritage resources authority may at its discretion modify such provisions in order to expedite the satisfactory resolution of the matter.

Schedule A, Chapter VIII: Procedure for Consultation Regarding Burial Grounds and Graves ((Regulations for Section 36 (5))

Applicability

4.(1) These regulations apply to any person with the intention to apply for a permit to destroy, damage, alter, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority.

(2) The person in regulation 4(1) is hereafter referred to as the applicant.

Identification procedure

5.(1) The applicant must make a concerted effort to identify the descendants and family members of the persons buried in and/or any other person or community by tradition concerned with such grave or burial ground by—

(a) archival and documentary research regarding the origin of the grave or burial ground;

(b) direct consultation with local community organisations and/or members;

(c) the erection for at least 60 days of a notice at the grave or burial ground, displaying, in all the official languages of the province concerned, information about the proposals affecting the site, the telephone number and address at which the applicant can be contacted by any interested person and the date by which contact must be made, which must be at least 7 days after the end of the period of erection of the notice; and

(d) advertising in the local press.

(2) The applicant must keep records of the actions undertaken under regulations 5(1), including the names and contact details of all persons and organisations contacted and their response, and a copy of such records must be submitted to the provincial heritage resources authority with the application.

Consultation and agreement

6.(1) The applicant must consult any interested parties identified through the process in regulation 5 regarding the effect of the proposals on the grave or burial ground, with the aim of reaching agreement about the future of such grave or burial ground.

(2) Unless otherwise agreed by the interested parties, the applicant is responsible for the cost of any remedial action required in terms of an agreement under regulation 6 (1), whether modification of any proposals to retain the grave or burial ground, or excavation and re-interment of any grave, or any other reasonable action required by the interested parties.

(3) If the consulation under regulation 6 (1) fails to result in agreement, the applicant must submit records of the consultation and the comments of all interested parties as part of the application to the provincial heritage resources authority.

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[2] The intention is that the provincial heritage resources authority may thus authorise some form of minimal disturbance for the purposes of the investigation under 8 (2), without going through a whole permit application procedure.

[3] Note that in the wording of Ss 36 (6)(b) of the Act there is an unfortunate assumption that discovery leads to removal, which is not necessarily the case. There is an option here to leave the grave undisturbed, in which case further investigation will not be required. This could be useful if the "activity" is easily modified, e.g. ploughing a field. It also limits the onus on the authority to investigate the "reasonable likeliness" of the grave being significant, without shifting an unfair burden onto the discoverer - who may just have been going about his/her daily business and have neither the desire nor the means to go through an onerous procedure as a result.