A Pelser Archaeological Consulting
Comprehensive and Professional Solutions for all Heritage Related Matters
CK 2006/014630/23 **VAT NO.: 4360226270**

FINAL REPORT ON THE ARCHAEOLOGICAL INVESTIGATION OF A HISTORICAL ASH DUMP ASSOCIATED WITH THE MODDERFONTEIN EXPLOSIVES FACTORY (AECL) TO BE IMPACTED BY THE WESTLAKE VIEW INDUSTRIAL DEVELOPMENT, NEAR MODDERFONTEIN GAUTENG

For:

IMPERIO (PTY) LTD
POSTNET SUITE 120, PRIVATE BAG X10010
EDENVALE

REPORT: **APAC013/26b**

A.J. Pelser
Professional Member of ASAPA
Professional Member of SASCH

Report: ***May 2013***

P.O.BOX 73703
LYNNWOOD RIDGE
0040
Tel: 083 459 3091
Fax: 086 695 7247
Email: pelseranton@gmail.com

Member: AJ Pelser BA (UNISA), BA (Hons) (Archaeology), MA (Archaeology) [WITS]

©Copyright
APELSER ARCHAEOLOGICAL CONSULTING
The information contained in this report is the sole intellectual property of APELSER ARCHAEOLOGICAL CONSULTING. It may only be used for the purposes it was commissioned for by the client.

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

SUMMARY

APELSER ARCHAEOLOGICAL CONSULTING was contracted by Imperio (Pty) Ltd (IMPROVON) to conduct the Phase 2 Archaeological Investigation of a historical ash dump associated with the historic Modderfontein Explosives Factory. This site forms part of a Historical Landscape associated with Modderfontein, is located close to the Longmeadow Business Estate in Edenvale, and will be impacted on by the Westlake View Commercial development.

The site was identified and recorded by Dr. Johnny van Schalkwyk as part of a review of cultural heritage resources in the Modderfontein area during 2006, as well as an HIA for the Modderfontein Heritage Village development (for Heartland Properties) by Rocco Bosman in 2010. During February 2013 Anton Pelser was requested by Improvon to conduct a short assessment of the area where the development will be conducted, and to confirm the existence of and significance of the ash dump. This was subsequently done and it was then recommended that the phase 2 work be undertaken before development activities could commence

An Excavation Permit was subsequently applied for and issued by SAHRA (**Permit ID: 217, Case ID: 1587**). Archaeological excavations were conducted during mid-March 2013. This document constitutes a Final Excavation report on the work done, while also recommending that a Destruction Permit for the site be provided by SAHRA and that development could commence.

CONTENTS

FINAL REPORT ON THE ARCHAEOLOGICAL INVESTIGATION OF A HISTORICAL ASH DUMP ASSOCIATED WITH THE MODDERFONTEIN EXPLOSIVES FACTORY (AECL) TO BE IMPACTED BY THE WESTLAKE VIEW INDUSTRIAL DEVELOPMENT, NEAR MODDERFONTEIN GAUTENG

INTRODUCTION

APELSER ARCHAEOLOGICAL CONSULTING was contracted by Imperio (Pty) Ltd (IMPROVON) to conduct the Phase 2 Archaeological Investigation of a historical ash dump associated with the historic Modderfontein Explosives Factory. This site forms part of a Historical Landscape associated with Modderfontein, is located close to the Longmeadow Business Estate in Edenvale, and will be impacted on by the Westlake View Commercial development.

The site was identified and recorded by Dr. Johnny van Schalkwyk as part of a review of cultural heritage resources in the Modderfontein area during 2006, as well as an HIA for the Modderfontein Heritage Village development (for Heartland Properties) by Rocco Bosman in 2010. During February 2013 Anton Pelser was requested by Improvon to conduct a short assessment of the area where the development will be conducted, and to confirm the existence of and significance of the ash dump. This was subsequently done and it was then recommended that the phase 2 work be undertaken before development activities could commence

An Excavation Permit was applied for and issued by SAHRA (**Permit ID: 217, Case ID: 1587**). Archaeological excavations were conducted during mid-March 2013.

Two formal excavations were conducted, as well as a number of shovel tests and a collection of surface material on the site. Cultural material recovered included ceramics, glass, metal artifacts, faunal (animal bones) remains and others. The results of the detailed analysis of this material will be discussed in the Archaeological Investigation section of this document.

AIMS

The aims of archaeological investigation of the Westlake View Historical Ash Dump were the following:

1. to recover as much cultural material as possible from the site in order to determine a time-frame of utilization,

2. through the analysis of the material contribute to our body of knowledge on the Modderfontein Explosives Factory (AECL) early history

3. to minimize the negative impact of the proposed development on the site by recovering a representative sample of material from it that could be preserved for future generations

METHODOLOGY

Background Research – This included using various research reports on the area, as well as other sources on the Modderfontein Explosives Factory and its history.

Photographic – During the physical fieldwork photographs of the site and all the test pits and formal excavations were taken, as well as individual artifacts found.

Mapping

The extent of the site was determined during the earlier assessment done by Pelser, while the location of each shovel test and formal excavation was also determined through the taking of GPS coordinates. A map of the area was produced on Google Earth. Determining the exact extent of the actual midden was difficult due to the damage caused by the road running through a section of it, as well as the dense grass and tree cover on portions of it. The estimated extent was determined by the furthest points on the site where scatters of cultural material were identified. An area of around 130m x 110m for the midden location was determined in this manner.

Archaeological Investigations

Two formal excavations (Excavation 1 & 2) was measured out and conducted on the midden, while a number of "shovel test pits" were done in other areas where material were visibly present and exposed by roadworks. A collection of material present on the surface of the site was also undertaken.

Analysis & Documentation/Curation of cultural material

All the cultural material recovered were documented photographically and analyzed in detail. The material will also then bagged and numbered as per Museum requirements for curation purposes. In this case the Ditsong Museum of Cultural History (old National Cultural History Museum) in Pretoria has provided permission for the material to be housed in the Archaeology Collection of this National Museum.

BACKGROUND TO THE PROJECT

During February 2013 APELSER ARCHAEOLOGICAL CONSULTING cc was contracted by Improvon to conduct a short assessment of a site that they wanted to develop (Westlake View) for commercial purposes (warehousing). The property where the development was to take place is on a portion of the farm Modderfontein 35IR, near to their Longmeadow Business Estate in Edenvale. They obtained the property from Heartland Properties for the purposes of development, and were aware of the existence of the historical ash dump associated with the historical Modderfontein Explosives Factory landscape.

The aims of the assessment were to determine the extent of the historical site, its significance as well as the impact of the proposed development on it. Recommendations on possible mitigation measures also had to be made. The survey was done and it was determined that the site would be impacted on by the development and that the site was significant due to its relationship with the Modderfontein Heritage area, as well its age (older than 60 years of

age). It was therefore recommended by Pelser that the site should be mitigated before the development commences and that a permit from SAHRA for this purpose should be obtained. Improvon agreed and then appointed APAC to obtain the required permit and undertake the archaeological mitigation work. Once the permit was issued by SAHRA the fieldwork was conducted and completed during March 2013.

Figure 1: Aerial view of location of site (Google Earth 2013 – Image date 28/11/2012).

Figure 2: Location of midden on the property showing estimated extent. The position of the test pits and formal excavations are shown here as well (Google Earth 2013 – Image Date 28/11/2012).

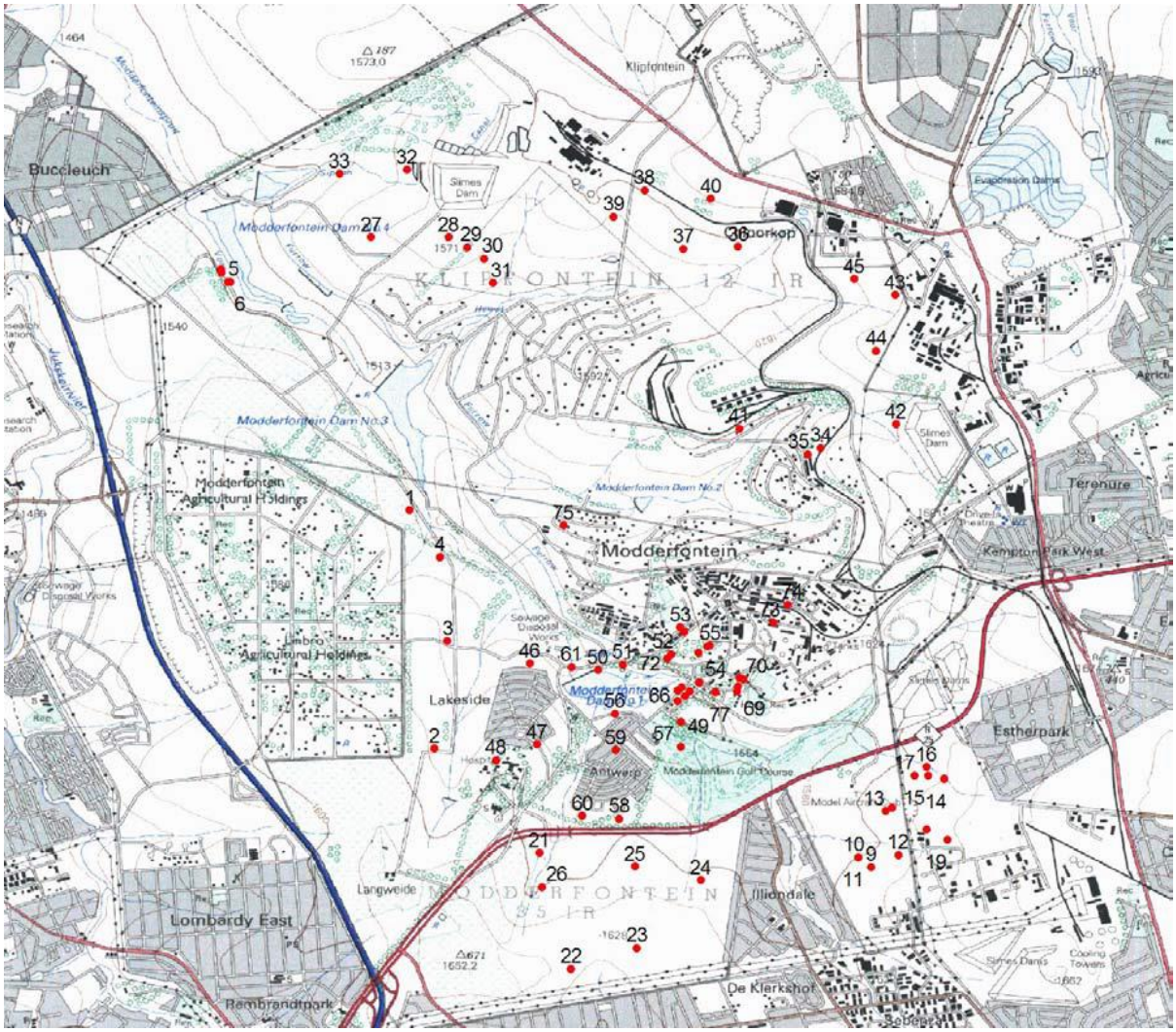

Figure 3: Topographic map of location of site (From Van Schalkwyk 2006: 11). The ash midden investigated is numbered 2 on the map.

SHORT HISTORICAL BACKGROUND

The history of the Modderfontein (AECI) Explosives Factory and Modderfontein Area is well documented, and for this preliminary report it will suffice to provide only a short background in order to place the ash dump within a specific historical context.

Modderfontein was established in 1894, in answer to the urgent need of the gold mining industry for explosives to mine below ground. The Zuid-Afrikaansche Fabrieken voor Ontplofbare Stoffen Beperk, a company formed expressly to supply dynamite to the mines, was the brainchild of President Paul Kruger. Construction started in April 1895 under the supervision of the first factory manager Frans Hoenig, an Austrian who was seconded from the Nobel explosives factory at Pressburg in Hungary (Modderfontein Centenary 1996: 2). For the factory to be built, it had to be located far away – a full day's wagon ride – from the hub of activity and people in Johannesburg for fear of explosions. Four explosive factories were built and by 1924 the formation of African Explosives and Industries (later African Explosives and Chemical Industries - AECI) breathed new life into the factory. Development commended on a scale which merited the title of the "biggest commercial explosives factory

in the world". Aptly described as one of the greatest industrial developments of the 20th century in South Africa, the plant became a world leader in explosives and chemical technology (Van Schalkwyk 2006:5).

Besides the factory, housing had to be provided for factory personnel together with other amenities such as shops, a church, a school, sports facilities, a compound to house the Black labour force and a location to house married Black employees, a stable for company horses and draught animals, etc. and a hospital. Prior to the erection of housing the early German employees lived in tents. In the early days, the workforce was made up of many nationalities. Trained factory personnel were recruited from the various countries in Europe and Dr Frans Hoenig decided that it would be wise to house them in separate villages. These small settlements were named after their countries of origin: Holland, Italy, Berea (made up of a small contingent of South Africans) and Hamburg (Germany). Each village had its own water supply, stables and community center. High Street, Main Street and Mixed Pickles Avenue (now Antwerp Avenue) were also provided with houses of various sizes to suit the status of the various levels of management. Of these, 'Italy' and 'Berea' survive. 'Hamburg' became' Antwerp' during the First World War and in 1919 'Holland' disappeared when a detonator factory was established on the site. A magnificent mansion was built for the factory manager with all the necessary buildings and amenities that go with such an establishment (now Frans Hoenig Haus)[Van Schalkwyk 2006:5].

Although the personnel consisted of different nationalities, it was the German craftsmen who were responsible for much of the original construction on the property. From the neat pointed brickwork and elaborate wooden eaves of the older buildings to the many fir trees, Modderfontein resembled a country town in Germany or Austria. The layout shows a planned community with a mix of housing aesthetically laid-out, with large open areas taken up by trees, lanes, woods and some communal facilities. Today this historical village retains a residential function, but is greatly expanded and modernized with only one of the eight original blocks of housing remaining (Van Schalkwyk 2006: 5).

The final report will expand on this background, while the cultural material recovered from the excavations will be analyzed against this background.

ARCHAEOLOGICAL INVESTIGATIONS

Mapping & Recording of Site

One of the aims of the short assessment of the site was to determine the approximate extent of the midden. This was done by walking through the area and trying to identify the furthest extent of where cultural material were located, as well as through other indicators such as vegetation (khakibos and others) that normally grows on disturbed areas such as middens. Dense grass and tree cover on certain sections, as well as the damage caused by the road cutting through a section of the midden, made determining the exact extent of the midden difficult. However, based on the furthest points where cultural material was observed an estimated extent of 130m x 110m was determined. The exact position of the main midden deposit was however impossible to determine and the original midden might have been much smaller in size.

Each test pit and formal excavation conducted was also recorded via GPS and plotted on an aerial image of the site. The dirt road cuts through a section of the midden, exposing sections of the midden and material made excavation and collection work easier. It was these areas that were focused on during the archaeological fieldwork session. With only a limited amount of time available (3 days) to undertake the work, and because of dense grass and tree cover in certain sections, it also made more sense excavating in this area as the depth of the archaeological deposit could be better determined and a representative sample of material could be collected.

Figure 4: Aerial view of area and site showing approximate extent, as well as location of each test pit and excavation. Note the dirt road cutting through a section (Google Earth 2013 – Image Date 28/11/2012).

Excavations

Three Shovel Test Pits were done in areas where the road cuts through the site and where cultural material was visible on the surface. No excavations were measured out and a shovel was used to cut a trench into the side wall of the road, roughly 0.50m wide. The soil removed in this fashion was then sieved in order to recover any possible material. Material found includes porcelain, glass and metal artifacts. It should be mentioned that in only one of the cases were it found that the road has visibly disturbed intact deposits (where Excavation 2 was eventually located) and the material found in Shovel Test Pit 1 & 2 were loose inside the soil that were scraped and pushed to form the side walls of the road. This material most likely came from the midden area where the road is now located, but most of this material would have been removed during the road "construction".

Figure 4: STP1.

Figure 5: STP2.

Figure 6: STP3.

Figure 7: Some of the material found in STP3.

Two formal excavations were measured out on the site. The first one (Excavation 1) was done on a section of the site where there was no tree cover (open, grass-covered section). A 2m x 1m trench was excavated. The deposit in this excavation consisted of around 10cm of dark brown colored topsoil below the grass cover, in which most of the cultural material recovered was found. Below that very little material was recovered from a very hard, compacted, greyish colored layer. The excavation was stopped at a depth of around 25cm below the grass covered level.

Figure 8: The location of Excavation 1.

Figure 9: Excavation 1 completed.

Excavation 2 was measured out in the same area as STP3, as a fairly large amount of cultural material was recovered from here and a clear ash dump deposit was visible. The excavation was 1.20m x 1.00m in size, measured inwards from the edge of the road up to a row of trees which limited the size of the excavation trench. A large amount of material, including ceramics, glass, various metal artifacts, bone and others were recovered from Excavation 2.

The stratigraphy in the excavation consisted of around 20cm (Layer 1) of dark brown colored top soil containing small amounts of material similar to that from Excavation 1, followed by approximately 40cm (Layer 2) of ash, charcoal and cultural material. A final layer of 20cm (Layer 3) of yellow and red soil is found beneath that (containing very few artifacts) before a hard gravel level is reached. Because of tree roots and the hard compacted nature of the soil

the bottom of the excavation could not be leveled completely, hence the bumpy nature visible in the photos of the excavation.

Figure 10: The location of Excavation 2 in the same area as STP3. The ashy deposit is visible.

Figure 11: Cultural material visible at the bottom of the pit. A piece of willow pattern decorated porcelain and a glass bottle stopper is visible.

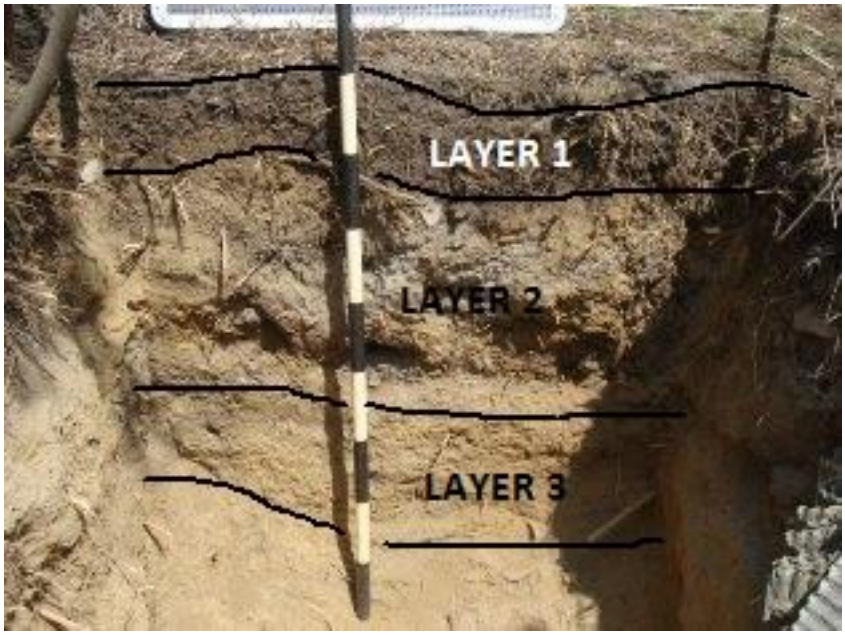

Figure 12: View of the stratigraphy in Excavation 2.
The depth of the excavation is around 0.80m.

Analysis of Cultural Material

As the material from the STP's was not in situ and loosely located within the soil forming the side walls of the road, the material was not separately analyzed per STP. Cultural material from the general surface of the site was handled separately though.

Surface material

Material collected from the general surface of the site included metal objects, glass, ceramics and faunal (animal bones) remains.

Metal

Only 2 fragments of food tins and a roof-type washer was recovered from the surface of the site.

Glass

Glass objects dominated the surface material. A total of 32 fragments of various medicine, liquor (beer) and other household-related containers were recovered. These fragments are relatively small and undiagnostic (no rims, bases, tops) and could not be used to date the material. It is however very likely that many if not most date to very recent times and represent modern-day discard at the site.

Two sections (fitting) of cut-glass, decorative, bowl was also found on the surface. It could be a sugar bowl or fruit bowl remnant and possibly dates to the late 19th century (Bosomworth 1992: 128). Three fragments of milk-glass vessels were also found. Two of these (1 light green and the other white) are also cut (fluted type decoration) and represents plates.

Eight (8) pieces of glass (bottle bases, rim/neck and body pieces) representing Chesebrough and Pond's vessels were also recovered. The one piece has the partial words "Chesebrough..ANFG..." embossed on it. This stands for the Chesebrough Manufacturing Company. Chesebrough Manufacturing Company was an oil business which produced petroleum jelly or vaseline which was marketed with the brand name Luxor. It was founded in 1859. Robert Augustus Chesebrough, a chemist who started the company, was interested in marketing oil products for medicinal needs. He produced the first petroleum jelly by refining rod wax through the use of heat and filtration. He named vaseline from the German word for water, (wasser), and the Greek for oil (olion). Vaseline was patented in the United States in 1872 and England in 1877 (www.wikipedia.co.za) .

In 1870 Robert Chesebrough began selling a product derived from petroleum residue, Vaseline Petroleum Jelly. Chesebrough's first manufacturing plant for vaseline was in Perth Amboy, New Jersey. In 1881 Chesebrough Manufacturing began operating under Standard Oil but resumed independent operations in 1911. Additional production sites were built in Pittsburgh, Pennsylvania, and in 1924, London, England. Chesebrough Manufacturing Company distributed its product throughout the United States and England during the early and mid-20th Century. It was listed on the New York Stock Exchange and grouped with other oil-related stocks such as Standard Oil and its subsidiaries, and Continental Oil. Chesebrough and Pond's Creams (a company that started around the same time period as Chesebrough) merged in June 1955 and in 1987, Chesebrough-Ponds were acquired by Anglo-Dutch Company Unilever. Although difficult to determine the bottle piece found could therefore date to before the merger in 1955, and possibly to the late 19th/early 20th century. (www.wikipedia.co.za).

Another interesting glass fragment found on the surface was a section of a "Ball Special" preserving jar, with the embossed wording on it partially preserved. This could date to the late 19th/early 20th century as well (See Lastovica & Lastovica 1990: 62), although the fragment is too small to date accurately as one would need more maker's marks and trade registration numbers to do this.

Ceramics

This category included both undecorated and decorated pieces of porcelain and stoneware. One piece of a glazed tile was also recovered.

Seven pieces of white, undecorated, porcelain plates and saucers were sampled from the surface, while 8 decorated plate, saucer and cup fragments were also picked up. Because the pieces are relatively small, and the decorations are only partial (no motifs can really be determined), dating the sample is difficult based on this. At the most it can be stated that the pieces date to between the late 19th and mid 20thcenturies, although some pieces could be even more recent. One small piece with blue-on-white so-called "Willow pattern" decoration is typical of late 19th century (Victorian) porcelain decoration, and is often found at sites dating to this time period (Pelser et.al. 1998: 100).

Faunal Remains

The last category of material recovered is a small sample (5 pieces) of unidentifiable animal bones, mostly retrieved from loose soil heaps next to the road cutting through the site.

Figure 13: Metal objects from the surface.

Figure 14: Glass bowl pieces. This could date to the Late 19th century.

Figure 15: Chesebrough, Ball Special & Pond's Creams Glass bottle fragments.

Figure 16: Milk-glass fragments. Decorated plates & Pond's container.

Figure 17: Decorated porcelain from the surface of the site. The small piece in the center bottom contains Willow Pattern decoration and could date to the late 19th/early 20th century.

Shovel Test Pits 1 - 3

Although three individual shovel test pits (STP's) were done in various spots, the material that was recovered was not found in in situ conditions. The pits were done in areas where material was visible on the surface (on the soil walls that were created when the road was "constructed" through a section of the midden). The material recovered in this fashion was therefore not analyzed as separate samples from different stratified layers of the midden, but as a single sample.

Metal

This category was the best represented in the STP's, although the largest portion is made up off metal fragments. 108 metal fragments of food tins, metal piping, nails and other unidentified objects were recovered. One (1) unidentified lead object was also recovered.

Identifiable objects included part of a window latch, 1 brass/copper pocket watch sovereign case cover, 2 aluminum bottle caps and a toy truck. The pocket watch/sovereign case piece could date to the late 19th/early 20th century (Longbridge 1975: no page). The toy truck looks like a Model T type truck, and came from STP3 in the area where Excavation 2 was conducted.

Glass

This category contained 25 fragments of glass representing medicinal, household and liquor (beer) bottles and other containers. Four (4) pieces of blue colored glass from medicinal (such as castor oil, or poison bottles), was also collected. This could also date to the late 19th/early 20th century (Lastovica & Lastovica 1990: 47). A bottle neck/top piece, with a wide mouth opening was also found. This was probably a sauce bottle. Two pieces of a milk-glass vessel

(Pond's Cream or Vaseline) similar to those found on the general surface, as well as a small piece of thin, fine glass (wine glass) was recovered from the test pits as well.

Ceramics

The ceramics from the Shovel Test Pits included 7 pieces of white, undecorated porcelain or iron stone. One represents the base of a plate, while another is part of the rim and body of a cup. A single salt glazed stoneware piece was also found. It is possibly part of a preserving jar or a ginger beer bottle and most likely date to the late 19th/early 20th century (Lastovica & Lastovica 1990: 29). Similar material has been found by the author of this report at other sites dating to this time period (Pelser et.al. 1998: 38; 103).

Faunal remains

The sample numbered 42 pieces of unidentifiable bone, of which some had been burnt and shows cut marks and saw marks (butchery origin). Analyzing these fragments will unfortunately not assist in determining the types of animals that contributed to the sample and the diet of the individuals who discarded these bones, but it is possible to say that both domestic and non-domestic animals (hunted) could have formed part of the meat diet during the late 19th/early 20th centuries.

Miscellaneous

The only object in this category is a piece of a leather shoe. The age cannot be determined.

Figure 18: Metal objects from STP1-3.
Note the window latch and pocket watch cover.

Figure 19: Metal toy truck.

Figure 20: Sauce bottle top, milk-glass contained & medicine bottle pieces.

Figure 21: Porcelain and stoneware from STP1-3.

Figure 22: Burnt & cut bone found.

Figure 23: Piece of a leather shoe found.

Excavation 1

Material recovered from this excavation was separated into a Surface Layer and Layer 1. The surface layer material is basically objects that were recovered mostly during the cleaning of the upper surface of the excavation (grass and root removal). Once this level was cleaned and a harder soil level was reached Layer 1 was taken down to the bottom. The aim was to see if there is any difference (in type and age) between the material from the two layers, but after analysis it is clear that this is not the case and that there is no distinct change.

Surface Layer

Metal

This category contained 3 nail or screw fragments; 3 unidentified metal pieces (possibly from food tins); 1 ring-like metal object and 1 aluminum bottle cap (screw-on). Last mentioned has the wording **Castle Brand** with three castle towers as trade name on it. According to Lastovica & Lastovica this could possibly come from a bottle that contained Castle Brand Hat Polish for Straw Hats & c. The company was registered in Newcastle & London in England (1990: 66). It could date to the late 19th/early 20th century, although the screw top cap might be much younger.

Glass

The sample consisted of 76 fragments of tops, necks and body pieces, representing household, medicinal, liquor (beer, wine, rum), food and other bottles. Most of the pieces look fairly modern, although there might also be pieces with an earlier origin.

Ceramics

Only 6 very small, undecorated, porcelain fragments were recovered, possibly from plates, saucers and/or cups.

Miscellaneous

The only object in this category was a piece of a leather shoe.

Layer 1

Metal

Eight (8) fragments of nails, screws and tins were recovered from Layer 1.

Glass

The material from this layer is similar to that found in the surface layer, and consisted of 52 pieces. Many of these pieces would fit the ones found in the upper level.

Ceramics

Only three small undecorated porcelain pieces were recovered from this layer.

Miscellaneous

Two (2) pieces of a leather shoe, similar to the piece found in Layer 1, was recovered here.

Figure 24: Various objects from the Surface Layer of Excavation 1. Note the Castle Brand cap and Bovril bottle fragment (bottom right of picture).

Excavation 2

This excavation was located in the same area as STP 3 after it was clear that there was a reasonable material deposit present here. The formal excavation revealed a relatively large amount of cultural material dating to between the late 19th /early 20th centuries and more recent times. The analysis of the material will be discussed below. Although 3 layers were discerned in the stratigraphy of the excavation, the material was mixed and disturbed as a result of tree root action and the sample was handled as one entity.

Metal

The largest part of the sample consisted of (a fairly large) amount of metal fragments of corrugated iron sheeting, food tins, wire, pieces of nails and screws and other unidentifiable objects. The sample was not counted.

Various parts of an old bicycle were also recovered. This included the steps, handle-bar and seat section, parts of the frame and parts of the rim of the wheel. Remnants of the rubber tyre were also preserved. A brass radiator (or something similar) and related parts were recovered also.

Various smaller and identifiable metal objects were found. This included a large (industrial?) gear section; part of the door of a coal stove; a water pipe section; a piece of copper pipe and a large nail or spike. Light fittings (for light bulbs) and an electrical plug fitting was also present. Lead, aluminum and other metal bottle caps and lids were part of the metal sample. Some of these were screw-on caps for oil or similar cans, while there were also 7 fragments of a preserving jar lid (such as Consol or the Ball Special jars). A lead seal/cap had a partial trade name visible **"...rths Roll Films**" (possibly part of a canister of camera film), while there was an aluminum bottle lid with the words **Chateau Brandy** on it, and one with the wording **Sedgwick & Co. Johannesburg**. Last mentioned could be part of a Sedgwick's Old Brown Sherry bottle. Sedgwick's OBS was launched in 1916 in South Africa.

Other identifiable metal objects found include 3 metal rings and 3 washers; 2 copper screws; 3 pieces of metal mesh/gauze; 1 piece of lead (possibly remnants of a bullet); 2 aluminum canisters (1 could possibly be a camera film container); 1 belt buckle; a section of a grater (cheese?); the base of an enamel cup; a sodawater syphon gas canister and 2 small spanners that formed part of a tool-set. A brass pocket watch cover (that could date to the late 19th/early 20th century), with an image of a steam locomotive as decoration engraved on it was one of the more interesting items found in the excavation. A spent rifle cartridge with a headstamp with the letters K25 on it was also found. The K is for Kynoch, but the caliber and age of the cartridge could not be determined.

Glass

Most of the glass sample from Excavation 2 is made up of fragments. This included bottle tops, necks and bases. Medicinal, household and liquor bottles are represented, as well as cosmetics (such as Pond's and others). One of the necks still has its metal cap, with the words **"Wellcome Chemical Works. Over 270 Highest Award"** embossed on it. Wellcome Chemical Works started in Dartford, England, during the First World War (www.etsy.com).

The base of another bottle has the words **H.J.Heinz & Co**. on it. This is of course a tomato sauce bottle. A number of fragments of one or more Ball Special preserving jars were also part of the glass sample. Eleven pieces, including parts of the base, stem and rim/body of a wine glass was recovered, as well as a glasses lense. The top part of a cut glass stopper of a liquor decanter was also recovered, and could possibly date to the late 19th century (Army & Navy Stores Catalogue 1902).

A number of other glass objects from Excavation 1 provide a good range for the age of the sample. A **Holbrook & Co**. bottle stopper is typical of these Worcestershire sauce bottles of the late 19th/early 20th century (Lastovica & Lastovica 1990: 65). A bottle body and base section with **Yardley London** on it indicates that this was a perfume bottle. Although Yardley started in the late 18th century, it is of course still in operation, and this bottle possibly dates to between the late 19th and mid20th century. Two complete **Chesebrough Manufacturing Co. New York** Vaseline bottles were also found in the excavation. It is similar to one found on the surface of the site and discussed in detail earlier in the report. A **Chamberlain** cough mixture bottle provides further evidence of the age of the bottle and probably the sample. On the bottles' base the words **TALANA** is embossed. Due to a shortage of glass during the First World War a Mr. Newton formed a syndicate in Durban to manufacture medicine bottles from remelted broke glass. The company was established as Glass Ltd in Orange Grave, Durban in June 1917 with Otto Siedle as chairman. Then, early in 1918, Glass Ltd closed down in Durban and formed a new company at Talana near Dundee where coal and sand were more readily available. In 1919 Siedle's company and South African Breweries amalgamated to form Union Glass Ltd (Lastovica & Lastovica 1990: 23). In 1954, Union Glass at Talana was acquired by Consolidated Glass (Consol). The bottle thus postdates 1918, but was probably not manufactured and used after 1954.

One milk glass perfume bottle and a milk glass lid of another vessel were also found in the excavation.

Ceramics

A fairly large amount of ceramics was found in Excavation 1. This included 29 pieces of undecorated porcelain plates, saucers, cups and other vessels. Six (6) pieces of an unglazed stoneware flower pot and 4 pieces of a glazed pot was also recovered, as well as a piece of local (non-European) pottery. Last mentioned is typical of the Later Iron Age and its presence is either evidence of earlier occupation of the area (although there are no evidence for it) or the fact that someone used a locally made pot in their house. One other stoneware object that found was a disc-like object with a hole in the center. It is similar to a spindle-whorl.

Three pieces of a porcelain plate, with dark blue decorated rim and the words **Made in Japan** were found. The age could not be determined. Twenty-seven (27) other decorated porcelain pieces were recovered. The pieces represent plates, saucers, cups and bowls and have a variety of decoration motifs. The types of decoration include various flower patterns, single red, blue or yellow bands, gold/gilted lines. Some of these are typical of the Victorian era (late 19th century), although there might be some more recent types. Similar pieces are shown in Victorian catalogues (Bosomworth 1992: 167-193), while excavations at other historical sites dating to this time period has revealed similar pieces (Pelser et.al. 1998: 99-101). Seven (7) pieces of a plate with typical Willow Pattern decoration (also typical of the time period, although it could also date to more recent times) were also found.

A small porcelain (box-like) object was also found. The function and age is unknown, but the letter **S** is embossed on the bottom inside of the object. It could have been part of a toy set. Finally, a salt glazed stoneware ink bottle, typical of the late 19th/early 20th century was recovered. It is typical of that time period and the white color indicates that it contained red ink (Lastovica & Lastovica 1990: 56).

Bone

Faunal remains included mostly unidentifiable fragments, although there are a few identifiable pieces that probably came from domestic animals such as cattle, sheep and chicken. Some bones have been burnt and has clear cut and saw marks. The 79 pieces in the sample is too small to warrant a detailed archaeo-zoological analysis.

Miscellaneous

This category consisted of a variety of objects. The largest percentage of the sample was 31 pieces of at least 2 different leather shoes, while 1 mother-of-pearl button, 1 large plastic comb and 7 pieces of (modern?) a plastic butter or margarine container was also found. Interesting items included 7 pieces of a vinyl 78-speed or seven-single album (music) and 1 plastic toy duck, a plastic doll's leg and part of a plastic doll's head. The ages of last mentioned items could not be determined.

Figure 25: Remains of bicycle from Excavation 2.

Figure 26: Possible car radiator.

Figure 27: Metal objects, including a gear section and part of a coal stove.

Figure 28: Various metal objects.

Figure 29: Metal lids, canisters and other objects from Excavation 2.

Figure 30: More metal objects. Note the sodawater gas canister top left and brass pocket watch cover top right.

Figure 31: Detail of pocket watch cover decoration.

Figure 32: Ball Special bottle, various medicine Bottle pieces and a Heinz sauce bottle base.

Figure 33: Pieces of a wine glass.

Figure 34: Chamberlain bottle, Holbrook & Co
Bottle stopper, Yardley bottle and Vaseline bottle.
The round ball-like object was part of the stopper of a decanter.

Figure 35: Flower pot pieces, piece of local
Non-European pottery and disc-like ceramic object.

Figure 36: Decorated porcelain pieces.

Figure 37: More decorated pieces.

Figure 38: Glazed stoneware ink bottle and an unknown porcelain object.

Figure 39: Faunal remains from Excavation 2.

Figure 40: Pieces of leather shoes.

Figure 41: Pieces of vinyl.

Figure 43: Other miscellaneous objects from the excavation.

All the cultural objects recovered will be curated by the Ditsong Museum of Cultural History in Pretoria and kept in storage in the Museum's Archaeological Collection.

CONCLUSIONS AND RECOMMENDATIONS

In conclusion it is possible to say that the archaeological investigation of the historical midden located in the area of the proposed West Lake View development was conducted successfully. The extent of the site was determined and a number of test pits and formal excavations conducted in order to obtain a representative sample of cultural material. The site has been impacted on by a dirt access road through a section of the site, and this impact gave the archaeologists the opportunity to excavate and collect material from the site.

Based on the analysis of the material recovered from the general surface of the site, Shovel Test Pits and two formal excavations it is possible to say that the refuse dump dates to between the late 19th/early 20th centuries, while there are some more recent material (mid 20th to more recent times) as well. The material was mixed, with no clear layering indicating earlier and later deposits. Tree root action and other disturbance probably played a role here as well. It is also believed that a different scenario would not have been encountered anywhere else on site due to these factors. Furthermore, time constraints, with only three days available for the work, limited the number of possible excavations. However, even with these constraints it is still believed that a representative sample of cultural material from the formation of the dump to its more recent use was recovered.

The cultural material found included both general household and residential objects, as well as more industrial material. Although the status of the individuals or community that contributed to the material sample is difficult to determine, it seems that both a higher status

and middle class group contributed and that a wide community dumped material here over the years of its existence.

Finally, it can therefore be recommended that a Destruction Permit for the site be issued and that the development actions can continue. It is however also recommended that during the development actions if any complete objects (bottles, ceramic vessels and other interesting material) are recovered that these be collected and kept by the developer for later sampling by the archaeologist and eventual curation at the Ditsong Museum of Cultural History in Pretoria.

REFERENCES

Aerial views of the site location, extent and position of Test Trenches and Excavations: Google Earth 2013 – Imagery Date: 2012/11/28.

Bosman, R. 2010. **Modderfontein Village Development Heritage Impact Assessment.** Unpublished Report RB Architects and Heritage Specialist Practitioners. For: Heartland Properties February 2010.

Bosomworth, Dorothy (an introduction by). 1992. **The Victorian Catalogue of Household Goods**. Studio Editions: London.

Edwardian Shopping. A Selection from the Army and Navy Stores Catalogues 1898-1913. Compiled and Introduced by R.H.Langbridge. 1975. David & Charles: London.

Lastovica, E & Lastovica, A. 1990. **Bottles & Bygones. A Guide for South African Collectors**. Don Nelson: Cape Town.

Pelser, A. & A.C. van Vollenhoven. 1998. **The Daily Activities at the Northernmost Outpost of Steinaecker's Horse as reconstructed through archaeology**. Research by the National Cultural History Museum.Vol.7 1998. pp. 27-46.

Pelser, A, van Schalkwyk J. & F.Teichert. 1998. **Excavation of a Late 19th/Early 20th Century Rubbish Dump in Minnaar Street, Pretoria**. Research by the National Cultural History Museum. Vol.7 1998. pp. 93-119.

Pelser, A.J. 2013. **A Report on a Desktop Study and site assessment of a Historic Ash Dump associated with the Modderfontein (AECI) Dynamite Factory, located on Modderfontein 35 IR to be impacted by the Westlake View Development.** Unpublished Report APAC013/06. For: IMPROVON. February 2013.

Republic of South Africa. 1999. **National Heritage Resources Act** (No 25 of 1999). Pretoria: the Government Printer.

Republic of South Africa. 1998. **National Environmental Management Act** (no 107 of 1998). Pretoria: The Government Printer.

Yesterday's Shopping. The Army & Navy Stores Catalogue 1907. Introduced by Alison Adburgham. 1969. David & Charles: Devon.

Van Schalkwyk, J.A., Meyer, C.J., Pelser, A. & I.Plug. **Images of the social life and household activities at Melrose House**. Research by the National Cultural History Museum. Vol.4. 1995. pp. 81-100.

Van Schalkwyk, J.A. 2006. **Review of Cultural Heritage Resources in the Modderfontein Area, East of Johannesburg, Gauteng**. Unpublished Report National Cultural History Museum 2006K151. For: Oryx Environmental. December 2006.

ACKNOWLEDGEMENTS

I would like to acknowledge the following people and institutions for their help with and assistance during the project:

1. IMPROVON/Imperio for recognizing the importance of having the historic site assessed and archaeologically investigated. This includes all staff and Management involved in the project

2. The South African Heritage Resources Agency (SAHRA) for issuing the required Excavation Permit, and finally,

3. Me. J.Halvatzis for her assistance during the fieldwork and excavations