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**PRELIMINARY 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: APAC013/26a

***A.J. Pelsers
Professional Member of ASAPA
Professional Member of SASCH***

Report: *March 2013*

P.O.BOX 73703

LYNNWOOD RIDGE

0040

Tel: 083 459 3091

Fax: 086 695 7247

Email: pelseranton@gmail.com

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

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

A handwritten signature in black ink, appearing to read "J. Peber". The signature is written in a cursive style with a small dash at the end.

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, and is located close to 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 (Heartland Properties) by Rocco Bosman in 2010. During February 2013 Anton Pelsler 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 report constitutes a preliminary report on the work done, while also recommending that a Destruction Permit for the site be provided by SAHRA and that development could commence. A Final Report (as per SAHRA permit requirements) will be drafted as soon as detailed analysis of the cultural material recovered has been completed.

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**PRELIMINARY REPORT ON THE ARCHAEOLOGICAL INVESTIGATION OF
LATE IRON AGE STONE WALLED SITES
IMPACTED ON BY THE PROPOSED FORT WEST MIXED HOUSING
DEVELOPMENT, NEAR PRETORIA
TSHWANE MUNICIPAL AREA, 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, and is located close to 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 (Heartland Properties) by Rocco Bosman in 2010. During February 2013 Anton Pelsler 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 detailed analysis of this material will be discussed in a Final Excavation Report once completed.

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 Pelsler, 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.

Archaeological Investigations

Two formal excavations (Excavation 1 & 2) was measured out and conducted on the midden, while a number of so-called “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 will be documented photographically and analyzed in detail. The material is 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 Pelsler 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.

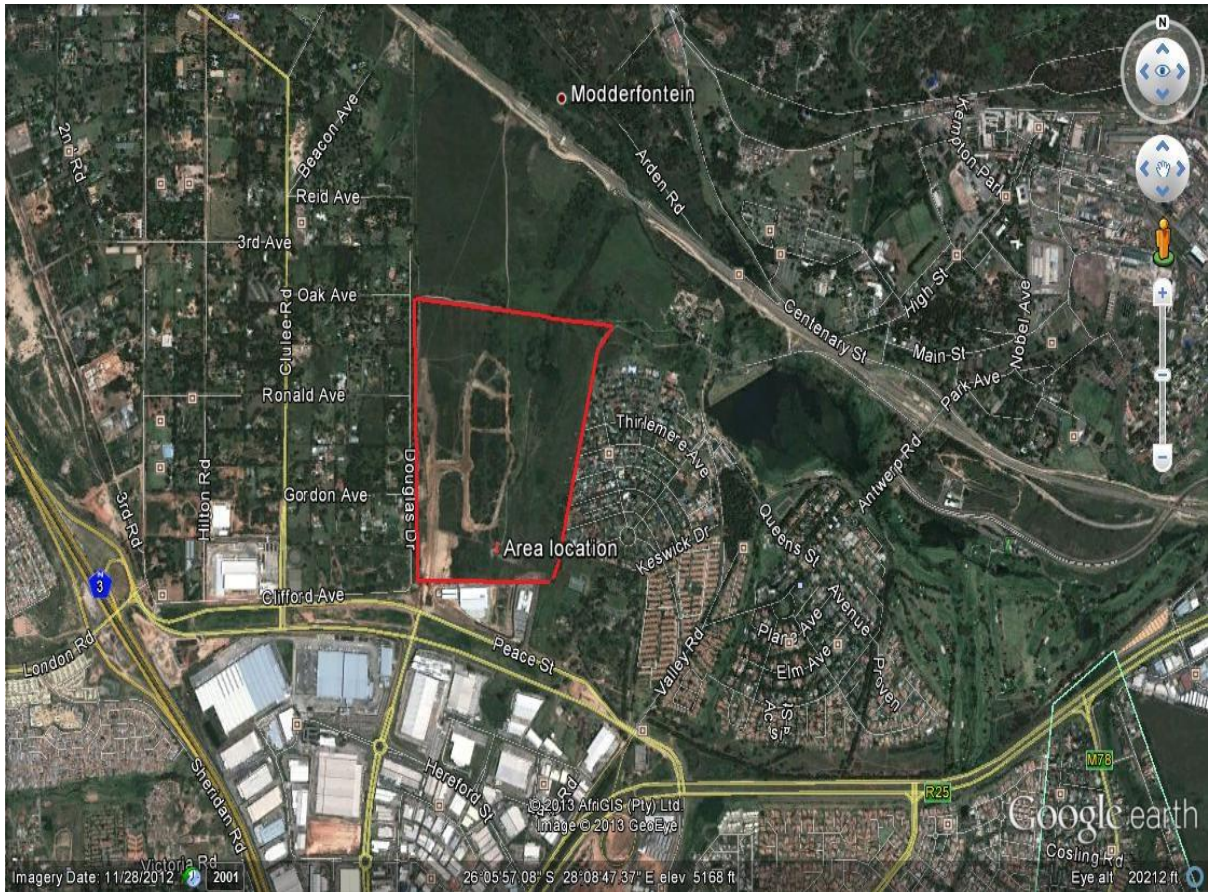


Figure 1: Aerial view of location of site (Google Earth 2013 – Image date 28/11/2012).



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).

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 Ontploffbare 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.

Each test pit and formal excavation conducted was also recorded via GPS and plotted on an aerial image of the site. It should be noted here that a dirt road cuts through a section of the midden, exposing sections of the midden and material which made excavation and collection work easier. It was these areas that were focused on during the archaeological fieldwork session.



Figure 3: 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 so-called Shovel Tests were undertaken 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.



Figure 4: Test trench 1.



Figure 5: Test trench 2.



Figure 6: Test trench 3.



Figure 7: Some of the material found in Test trench 3.

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 35cm.



Figure 8: The location of Excavation 1.



Figure 9: Excavation 1 completed.

Excavation 2 was measured out in the same area as Test trench 3, as a fairly large amount of cultural material was recovered from here and a clear ash dump deposit was visible. The excavation measured 1.20m x 1.00m in size. A large amount of material, including ceramics, glass, various metal artifacts, bone and others were recovered from Excavation 2. It seems (based on preliminary observations that) that material dating to between the 1920's-1940's dominate, although some earlier late 19th to early 20th century material is also present.

The layering in the excavation consists of around 20cm of dark brown colored top soil containing some material, followed by approximately 40cm of ash, charcoal and cultural material. A final layer of 20cm of yellow and red soil is found beneath that (containing very few artifacts) before a hard gravel level is reached.



Figure 10: Excavation 2.



Figure 11: Cultural material visible at the bottom of the pit.



Figure 12: View of the stratigraphy in Excavation 2.

Analysis of Cultural Material

The cultural material recovered (including material collected from the general surface of the site) include ceramics, glass, metal, bone and others. The detailed analysis of the material is currently being undertaken and once done and interpreted will be included in the Final Excavation Report.

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

Reporting

A Final Excavation Report, containing the results of the archaeological investigations and the interpretation of the finds, will be drafted and submitted to the client and the South African Heritage Resources Agency (SAHRA) as per permit requirements. Final recommendations will be included in this report. It is however recommended that a Destruction Permit is issued based on this preliminary report as all the requirements of the permit has been adhered to.

CONCLUSIONS AND RECOMMENDATIONS

In conclusion it can be stated that the archaeological investigations of the site has been conducted successfully. A fairly large sample of representative material was recovered as a result that will assist with the dating and interpretation of the site. Although the site will be destroyed by the proposed development, the impact has been mitigated satisfactorily and information and material has been collected for preservation in perpetuity.

It is therefore 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.

A Final Excavation Report will be drafted and submitted to both the client and SAHRA as required once the detailed analysis of the material has been completed.

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