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**BASELINE STUDY & HERITAGE ASSESSMENT REPORT FOR
THE NEWSHELF 1186 (PTY) LTD'S GEDEX PROJECT,
IN BRAKPAN, GAUTENG**

For:

***Prime Resources (Pty) Ltd
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REPORT: APAC017/27

by:

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April 2017

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Although all efforts are made to identify all sites of cultural heritage (archaeological and historical) significance during an assessment of study areas, the nature of archaeological and historical sites are as such that it is always possible that hidden or subterranean sites, features or objects could be overlooked during the study. APELSER Archaeological Consulting can't be held liable for such oversights or for costs incurred as a result thereof.

Clients & Developers should not continue with any development actions until SAHRA or one of its subsidiary bodies has provided final comments on this report. Submitting the report to SAHRA is the responsibility of the Client unless required of the Heritage Specialist as part of their appointment and Terms of Reference

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SUMMARY

A Pelsers Archaeological Consulting (APAC) was appointed by Prime Resources (Pty) Ltd to conduct a Heritage Baseline Study & Impact Assessment for the Newshelf 1186 (Pty) Ltd's Gedex Project. The study area is located on the East Rand, in Brakpan Gauteng.

Background research indicated that there are some known Cultural Heritage Sites located in the larger geographical area, although there are no known sites in the specific study area. During the assessment a number of sites and features were identified, all related to earlier gold mining in the study area (Shaft 7 & Shaft 10 development areas). The results of the background research and physical assessment are discussed in the document, as well as the way forward in terms of possible mitigation measures that could be required.

From a Cultural Heritage Resources perspective it is recommended that the proposed development be allowed to continue, taking into cognizance the recommendations put forward at the end.

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1. INTRODUCTION

A Pelsers Archaeological Consulting (APAC) was appointed by Prime Resources (Pty) Ltd to conduct a Heritage Baseline Study & Impact Assessment for the Newshelf 1186 (Pty) Ltd's Gedex Project. The study area is located on the East Rand, in Brakpan Gauteng.

Background research indicated that there are some known Cultural Heritage Sites located in the larger geographical area, although there are no known sites in the specific study area. During the assessment a number of sites and features were identified, all related to earlier gold mining in the study area (Shaft 7 & Shaft 10 development areas).

The client indicated the location and boundaries of the study areas and the study concentrated on these portions. The specialists were accompanied during the fieldwork by a representative of the client and security personnel.

2. TERMS OF REFERENCE

The Terms of Reference for the study was to:

1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the portion of land that will be impacted upon by the proposed development;
2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;
3. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions;
4. Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources;
5. Review applicable legislative requirements;

3. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

3.1 The National Heritage Resources Act

According to the above-mentioned act the following is protected as cultural heritage resources:

- a. Archaeological artifacts, structures and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography

- c. Objects of decorative and visual arts
- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. Grave yards and graves older than 60 years
- h. Meteorites and fossils
- i. Objects, structures and sites of scientific or technological value.

The National Estate includes the following:

- a. Places, buildings, structures and equipment of cultural significance
- b. Places to which oral traditions are attached or which are associated with living heritage
- c. Historical settlements and townscapes
- d. Landscapes and features of cultural significance
- e. Geological sites of scientific or cultural importance
- f. Sites of Archaeological and palaeontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, palaeontological, meteorites, geological specimens, military, ethnographic, books etc.)

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment (AIA) only looks at archaeological resources. An HIA must be done under the following circumstances:

- a. The construction of a linear development (road, wall, power line, canal etc.) exceeding 300m in length
- b. The construction of a bridge or similar structure exceeding 50m in length
- c. Any development or other activity that will change the character of a site and exceed 5 000m² or involve three or more existing erven or subdivisions thereof

- d. Re-zoning of a site exceeding 10 000 m²
- e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures

Section 34 (1) of the mentioned act states that no person may demolish any structure or part thereof which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

A structure means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.

Archaeology, palaeontology and meteorites

Section 35(4) of this act deals with archaeology, palaeontology and meteorites. The act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial)

- 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 that assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
- e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency (SAHRA). In order to demolish such a site or structure, a destruction permit from SAHRA will also be needed.

Alter means any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or the decoration or any other means.

Human remains

Graves and burial grounds are divided into the following:

- a. ancestral graves
- b. royal graves and graves of traditional leaders
- c. graves of victims of conflict
- d. graves designated by the Minister
- e. historical graves and cemeteries
- f. human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

- a. destroy, damage, alter, exhume or remove from its original position of otherwise disturb the 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; or
- c. bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation, or any equipment which assists in the detection or recovery of metals.

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (Act 65 of 1983) and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations (Ordinance no. 12 of 1980)** (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated to) before exhumation can take place.

Human remains can only be handled by a registered undertaker or an institution declared under the **Human Tissues Act (Act 65 of 1983 as amended)**.

3.2 The National Environmental Management Act

This act states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made.

Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage

should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied.

4. METHODOLOGY

4.1 Survey of literature

A survey of available literature was undertaken in order to place the development area in an archaeological and historical context. The sources utilized in this regard are indicated in the bibliography.

4.2 Field survey

The field assessment section of the study was conducted according to generally accepted HIA practices and aimed at locating all possible objects, sites and features of heritage significance in the area of the proposed development. The location/position of all sites, features and objects is determined by means of a Global Positioning System (GPS) where possible, while detail photographs are also taken where needed.

4.3 Oral histories

People from local communities are sometimes interviewed in order to obtain information relating to the surveyed area. It needs to be stated that this is not applicable under all circumstances. When applicable, the information is included in the text and referred to in the bibliography.

4.4 Documentation

All sites, objects, features and structures identified are documented according to a general set of minimum standards. Co-ordinates of individual localities are determined by means of the Global Positioning System (GPS). The information is added to the description in order to facilitate the identification of each locality.

5. DESCRIPTION OF THE AREA

A Pelsers Archaeological Consulting (APAC) was appointed by Prime Resources (Pty) Ltd to conduct a Heritage Baseline Study & Impact Assessment for the Newshelf 1186 (Pty) Ltd's Gedex Project. The study area is located on the East Rand, in Brakpan Gauteng.

Newshelf 1186 (Pty) Ltd ("Newshelf") holds prospecting rights over areas previously mined in the East Rand Basin during the 1930s to 1950s. The Gedex open pit was mined during the early 2000s. Newshelf plans to apply for Mining Rights over the Gedex area for underground mining only. The Gedex Project is planned to be a small-scale mining operation, with a life of mine of 4 to 5 years.

The project will consist largely of re-equipping two existing incline shafts for the movement of men and materials at Gedex 7 shaft "7#" and the movement of ore and waste rock at Gedex 10 shaft "10#". The two shafts are shallow, and the area has been mined historically

from 60 to 150 mbs. Mining is planned to continue at approximately this depth. Hydropower will be used for drilling, utilising underground water. There will be no ventilation shafts or surface fans, only underground booster fans.

The Gedex shafts and mine void are dry as the Trans Caledon Tunnel Association (TCTA) is presently dewatering to maintain a constant water level. This water level is below the reefs at the Gedex shafts; currently at 153 mbs. Mining will occur approximately 25 m above the water level. The surface area at Gedex has been disturbed by previous mining activities as well as by illegal mining activities. Minimal surface infrastructure is planned at each shaft, incorporating an area of less than 2 ha at each shaft. Surface infrastructure at both shafts will include:

- Perimeter fence, gate and security office (for access control)
- Unpaved on-site roads (sealed using a chemical dust suppressant)
- A steel headgear (12 m in height at 7# and 21 m in height at 10#)
- Winder (the winder electrical equipment, hydraulics and driver's cabin will all be housed in shipping containers for ease of installation and decommissioning)
- Substation and power lines for connection to municipal supply
- Diesel generator sets (as standby)
- Diesel storage facility (bundled and covered)
- Potable water storage tank and pipeline for connection to municipal supply
- Ablution facilities (linked to municipal sewer)
- Concrete bank areas
- Covered loading areas
- A drop set operating tower
- Several railway loops for the handling of empty and full cars on a continuous basis
- General waste storage area (hard-standing area for covered bins / skips)
- Compressors (for the provision of compressed air to the necessary services and the refuge chambers underground)
- Stormwater diversion infrastructure (trenches, silt traps and flow diffusing infrastructure)
- Topsoil stockpile areas
- Explosives delivery area (enclosed)

In addition, 10# will have a 500T headgear bin to allow for storage of ore hoisted at night. Hoisting will be a 24 h operation while hauling will only occur for 12 h a day. The bin will be timber lined to reduce noise. 7# will have a covered employee drop off area and walkway. Connections for municipal water, electricity supply and sewage disposal will be from the nearest suburbs. A hoisting rate of 1 000 T of ore per day is expected at 10#. Waste rock hoisted from 10# will be trucked directly to a nearby crushing facility and no waste rock will be stored or deposited on the site. The crushing facility is approximately 800 m to the south east of 10#, which is approximately 1.5 km by road. A contractor will transport any waste rock directly from the headgear bin to the crushing facility.

Ore will be transported along the delineated haul route by 20 T trucks to the Modder East Operations (Modder East) in Springs for processing. The fleet will comprise of 3 to 4 haul trucks. Tailings material from the processing of the Gedex ore at the Modder East plant will be deposited on the existing tailings storage facility at Modder East. Hauling will be a 12h operation, limited to the daylight hours (06h00 - 18h00) including weekends.

There will be three 8 h shifts per day and 440 employees in total. Employees will be transported to 7# by bus from Modder East. A single bus seating 60 has been provided for. Change houses at Modder East will be used for the bulk of the Gedex employees. A small change house for call out and shaft personnel will be located at the Gedex shafts. The majority of the employees (± 270) will make up the morning shift which equates to 5 bus loads. It is an approximately 30 min roundtrip for the bus to travel from Modder East to 7#. The afternoon shift will consist only of shaft personnel which will require a single bus load and two bus load's will be sufficient to cater to the night shift personnel.

The suburb of Sherwood Gardens in Brakpan is located approximately 700 m away (from 10#) and Gedex will be linked to the suburb for municipal water, electricity supply and sewage disposal.

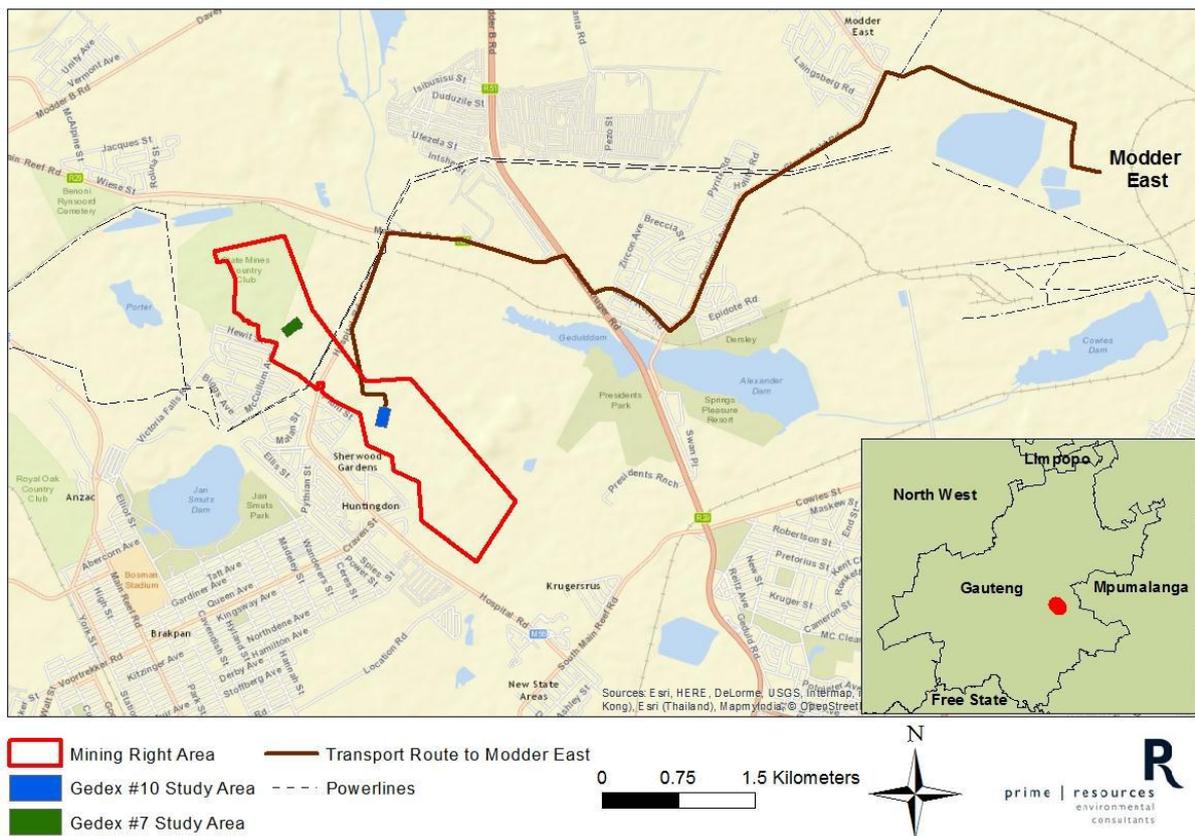


Fig.1: Location map of Gedex study area (Prime Resources).

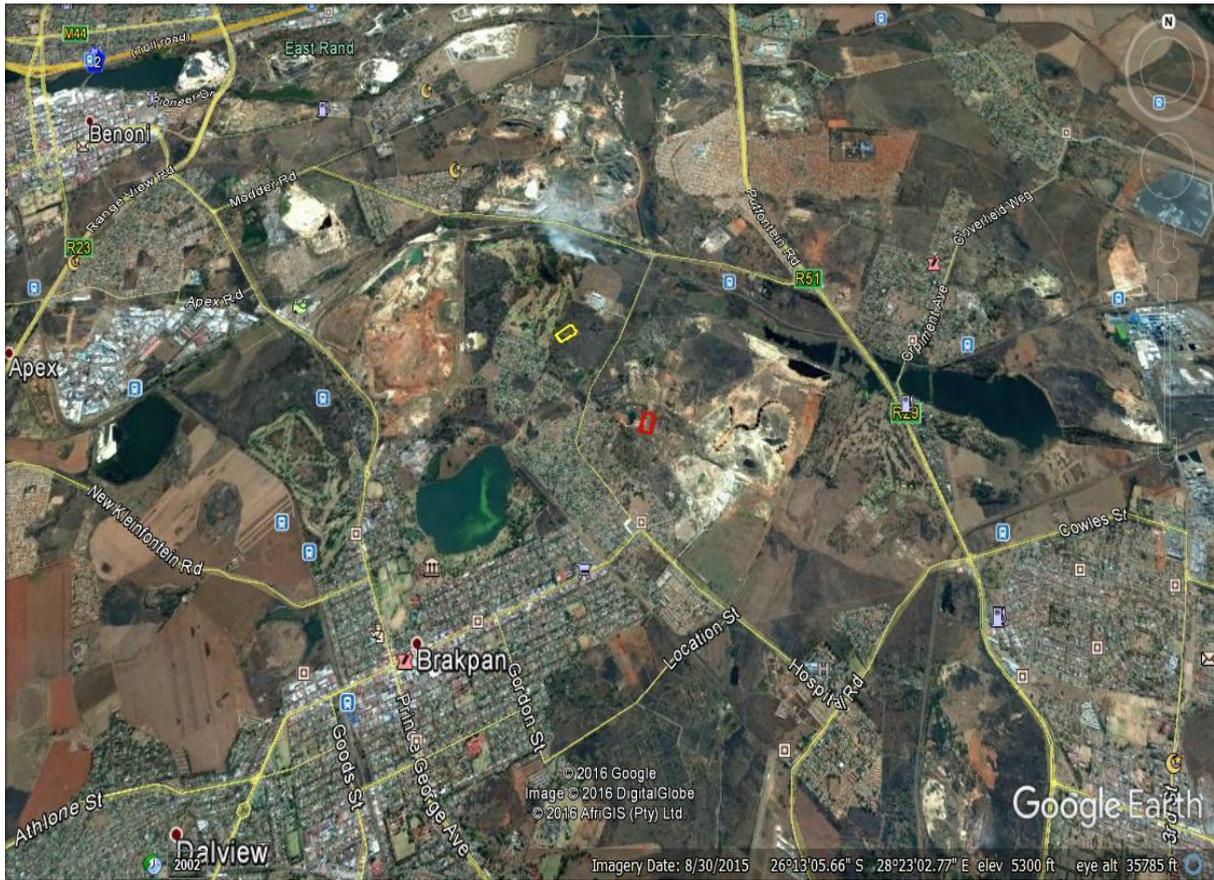


Fig.2: General location of the two Shaft areas in yellow & black (Google Earth 2016 – Image date 08/30/2015).



Fig.3: Closer view of Shaft 7 study area (Google Earth 2016 – Image date 05/26/2015).



Fig.4: Closer view of Shaft 10 study area (Google Earth 2016 – Image date 05/26/2015).



Fig.5: General view of the area around Shaft 7.



Fig.6: General view of a section of the area around Shaft 10.



Fig.7: General view of old opencast activities around the Shaft 10 bigger area.



**Fig.8: The Shaft 7 development area layout (courtesy Prime Resources).
Google Earth 2016 (Image date 05/26/2015).**



Fig.9: The Shaft 10 development area layout (courtesy Prime Resources). Google Earth 2016 (Image date 05/26/2015). The old mining compound/quarters are shown here as well.

6. DISCUSSION

The Stone Age is the period in human history when lithics (or stone) was mainly used to produce tools. In South Africa the Stone Age can be divided basically into three periods. It is important to note that these dates are relative and only provide a broad framework for interpretation. A basic sequence for the South African Stone Age (Lombard et.al 2012) is as follows:

- Earlier Stone Age (ESA) up to 2 million – more than 200 000 years ago
- Middle Stone Age (MSA) less than 300 000 – 20 000 years ago
- Later Stone Age (LSA) 40 000 years ago – 2000 years ago

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

No known Stone Age sites or artifacts are present in the area. The closest known Stone Age sites are those at Aasvoelkop, Melvillekoppies, Linksfield and Primrose (Bergh 1999: 4). If any Stone Age artifacts are to be found in the area then it would more than likely be single, out of context, stone tools. No Stone Age tools were identified in the study area during the assessment.

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artifacts. In South Africa it can be divided in two separate phases (Bergh 1999: 96-98), namely:

Early Iron Age (EIA) 200 – 1000 A.D
Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) however indicates that a Middle Iron Age should be included. His dates, which now seem to be widely accepted in archaeological circles, are:

Early Iron Age (EIA) 250 – 900 A.D.
Middle Iron Age (MIA) 900 – 1300 A.D.
Late Iron Age (LIA) 1300 – 1840 A.D.

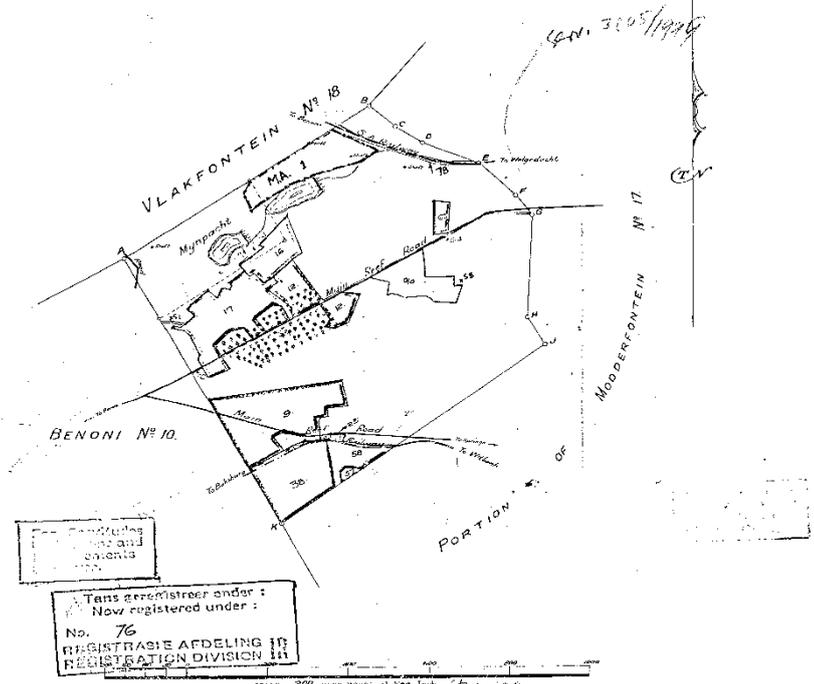
No Early Iron Age sites are known in the area (Bergh 1999: 6). The closest known LIA sites are at Melvillekoppies and Bruma Lake (Bergh 1999: 7).

The historical age started with the first recorded oral histories in the area. It includes the moving into the area of people that were able to read and write. The first Europeans to move through and into the area were the group of Cornwallis Harris in 1836 (Bergh 1999: 13). These groups were closely followed by the Voortrekkers after 1844 (Bergh 1999: 14). During the Anglo-Boer War of 1899 -1902, a Concentration Camp for Black inhabitants was established at Springs (Bergh 1999: 54), south of the study area.

Two maps dated to 1916 obtained from the Chief Surveyor General's database (www.csg.dla.gov.za) show that the farm was originally granted to one H.P.van der Walt by deed on the 11th of May 1869. Portion 1 (Document No.: 10547601) was surveyed in April 1916 for New Modderfontein G.M.Co Ltd and Portion 3 (Document No.: 10I7KPO1) was surveyed in April and May of the same year and framed for the purpose of obtaining a Certificate of Amalgamated Title in favor of Modderfontein "B" Gold Mines Ltd.

Form A. Diagram Form for an Original Farm Survey, or Original Survey of Portion of a Farm.

DES.	ANGLES.	(Y) CO-ORDINATES.	(X)		
AB	74° 30' 20"	A	+ 5253.029	+ 2711.032	DVM
BC	87° 49'	B	+ 5690.318	+ 2106.323	VMG
CD	87° 56'	C	+ 5620.144	+ 2042.818	GMS
DE	152° 24'	D	+ 5584.691	+ 1925.087	GM'
EF	129° 47'	E	+ 5574.807	+ 1835.342	GM6
FG	70° 07'	F	+ 5431.810	+ 1744.181	GM5
GH	20° 48'	G	+ 5374.789	+ 1703.459	GM4
HI	90° 18'	H	+ 5080.350	+ 1718.512	GM3
JK	83° 46'	J	+ 5002.032	+ 1673.760	GM2
KA	85° 26'	K	+ 4458.848	+ 2329.232	GM1



The above Figure lettered A B C D E F G H J K represents portion 1 of the Farm Modderfontein No 76 in extent 1200 Morgen 366 Square Rods of Land, situate in the District of Bekkersburg DENONI Ward Transvaal Colony, and bounded as indicated above.

The whole Farm was originally granted to H.F. van der Wall by Deed of Grant No. 2463 dated the 11th day of May 1869.

The Beacons were Pointed out by Surveyor C.F. Tompkins Due notice of this Survey has been given to all adjoining land owners and the beacons have been properly erected according to law. Surveyed on behalf of New Modderfontein G.M.C. L^{td} in April 1916.

by me
W.K. Lucas
Government Land Surveyor.

No. A 1241 Revisited. The numerical data of this Diagram are sufficiently consistent.

F. Leonard Edwards
of Diagram.

Surveyor-General's Office - Pretoria.

No protest confirmed.

W. Wood
Surveyor-General.

Surveyor-General's Office, Victoria.

Published in Government Gazette No. 1255 dated.

Fig.10: 1916 map of Portion 1 of Modderfontein 76IR (www.csg.dla.gov.za).

Shaft 7

The Shaft is located close to the (north of) the State Mines Country Club and is currently open and illegally accessed by informal miners. The area around the Shaft is used for informal refuse/rubble dumping, while one of the old structures close by is used by the ZCC as a church building. Most of the structural remains here have been vandalized and are in ruins and as a result has no Heritage Significance. Many of the old mining related buildings here consist only of foundations.

Shaft 10

This Shaft has been closed-off by Newshelf and cannot be accessed by illegal miners at this stage. Once again there are no well-preserved and significant cultural heritage resources close to the direct impact area of Shaft 10. Old open-cast mine workings, as well as various buildings and structures associated with Mine Compounds and Living Quarters are located some distance away from the Shaft area, but according to the Mine representative will not be impacted by the proposed new development activities. These mining related structures are also heavily vandalized and in the process of being torn down. Many of these also date to around the 1960's and 1970's and possibly later based on the bricks and tiles that can be seen. They therefore are less than 60 years of age.

The physical assessment of both areas (Shafts 7 & 10) did not reveal any cultural heritage resources of any significance in the direct footprint areas. However, an old map provided by Mr. Herbie Trow of the study area provided some information that needs to be considered in this case.

According to Mr. Trow this map (titled Brakpan Mines) date originally to December 1914 (first signed off), with the last signature dating to December 1952. It was more than likely updated yearly with new inclusions on it (in terms of shafts, borehole positions, structures and other mining related features). Mr. Trow indicated the positions of Shafts 7 & 10 on this map (see Map figure below). Around the Shaft areas are shown various features related to earlier mining activities such as timber yards, rail lines, the open-cast pits, mining compounds and living quarters as well as other features. Many of these are not visible on the ground currently (demolished, vandalized, overgrown) or on the latest aerial images (Google Earth) of the two areas. Two significant features shown on this map is the location of two so-called "Native Cemeteries". One is located to the north-east of Shaft 7 and the other north of Shaft 10. Both are located some distance from the impact areas. However, these cemetery locations (if they are indeed still in existence) will have to be taken cognizance of and no future developments and actions associated with the Gedex Project should be undertaken in these areas without a detailed assessment being conducted. The following is recommended in terms of the proposed developments:

1. No development in the areas where the two cemeteries are indicated on the 1914/1952 map without a detailed assessment undertaken in the approximate locations of these two features.
2. Should any historical remains/foundations and cultural material be uncovered during the development actions in the Shaft 7 & Shaft 10 areas then an expert should be called in to investigate and recommend on the way forward. This can include

historical refuse middens related to the late 19th to mid-20th century mining in the area, containing old bottles, porcelain and other objects, as well as unmarked/unknown burials.

No pre-historical sites, features or material were identified during the assessment. This could sometimes include Stone Age material (stone tools) as well as Iron Age stone-walled settlement remains and material such as pottery and metal objects. There are no known sites of this nature in the study area, and if any did exist here in the past it would be have been disturbed or totally disturbed by recent historical activities (first farming and then later mining-and urban development related). However the subterranean nature of archaeological and historical remains should always be considered.



Fig.12: The current open shaft at Shaft 7.



Fig.13: Building rubble dumped in the Shaft 7 area.



Fig.14: Ruins of old buildings in the Shaft 7 area.



Fig.15: More foundations at Shaft 7.



Fig.16: Further ruins & foundations near Shaft 7.



Fig.17: The closed-up shaft in the Shaft 10 location.



Fig.18: Foundations and ruins of old mining related structures close to Shaft 10.



Fig.19: The old open-cast mining near Shaft 10.



Fig.20: A view of the location of the old Mining living Quarters/compound.



Fig.22: Ruins and foundations related to the above.



Fig.23: A closer view of some of the structures here.

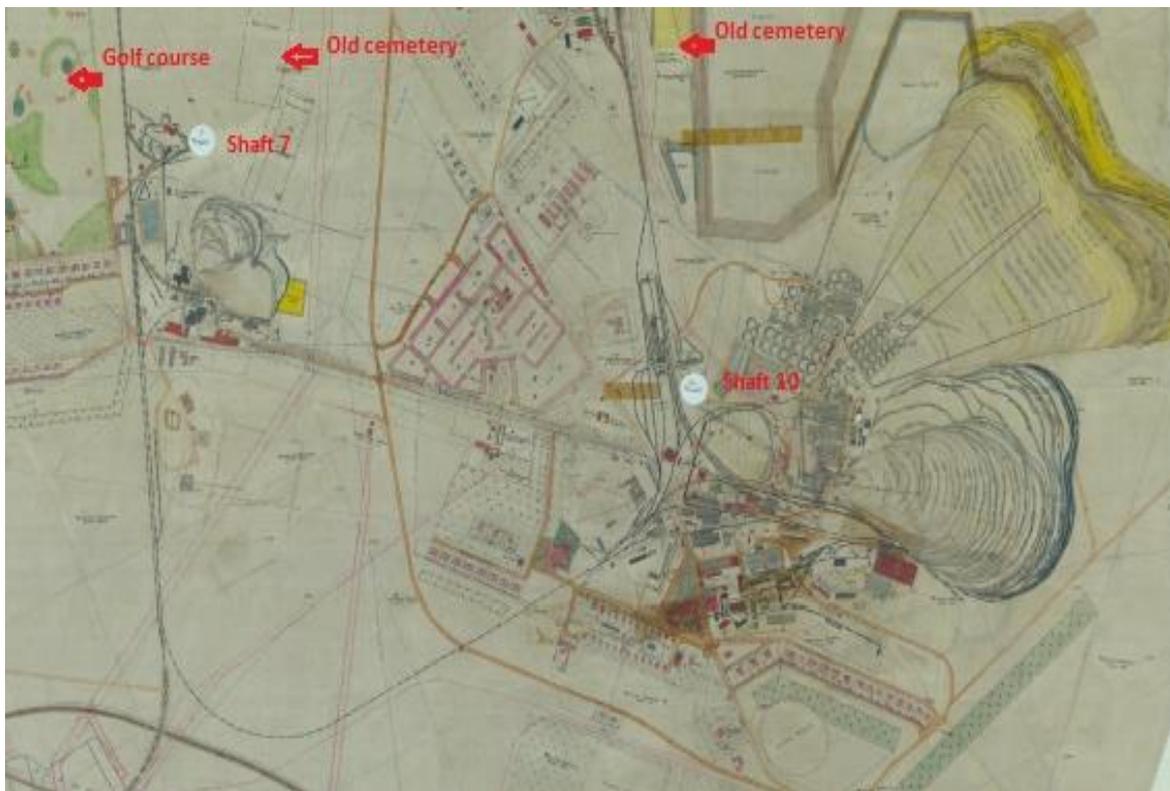


Fig.24: Old map of the area showing the current positions of Shafts 7 & 10, as well as the locations of the 2 cemeteries mentioned (map courtesy of Newshelf).

7. CONCLUSIONS AND RECOMMENDATIONS

A Pelser Archaeological Consulting (APAC) was appointed by Prime Resources (Pty) Ltd to conduct a Heritage Baseline Study & Impact Assessment for the Newshelf 1186 (Pty) Ltd's Gedex Project. The study area is located on the East Rand, in Brakpan Gauteng. In conclusion it is possible to say that the study was conducted successfully. Background

research indicated that there are no known cultural heritage (archaeological or historical) sites or features in the study area, although there are some known Stone Age & Iron Age sites in the larger geographical area further south and north of the study area.

The physical assessment of both areas (Shafts 7 & 10) did not reveal any cultural heritage resources of any significance in the direct footprint areas. However, an old map provided by Mr. Herbie Trouw of the study area provided some information that needs to be considered in this case. Mr. Trouw indicated the positions of Shafts 7 & 10 on this map. Around the Shaft areas are shown various features related to earlier mining activities such as timber yards, rail lines, the open-cast pits, mining compounds and living quarters as well as other features. Many of these are not visible on the ground currently (demolished, vandalized, overgrown) or on the latest aerial images (Google Earth) of the two areas. Two significant features shown on this map is the location of two so-called “Native Cemeteries”. One is located to the north-east of Shaft 7 and the other north of Shaft 10. Both are located some distance from the impact areas. However, these cemetery locations (if they are indeed still in existence) will have to be taken cognizance of and no future developments and actions associated with the Gedex Project should be undertaken in these areas without a detailed assessment being conducted.

The following is recommended in terms of the proposed developments:

1. No development in the areas where the two cemeteries are indicated on the 1914/1952 map without a detailed assessment undertaken in the approximate locations of these two features.
2. Should any historical remains/foundations and cultural material be uncovered during the development actions in the Shaft 7 & Shaft 10 areas then an expert should be called in to investigate and recommend on the way forward. This can include historical refuse middens related to the late 19th to mid-20th century mining in the area, containing old bottles, porcelain and other objects, as well as unmarked/unknown burials.

No pre-historical sites, features or material were identified during the assessment. This could sometimes include Stone Age material (stone tools) as well as Iron Age stone-walled settlement remains and material such as pottery and metal objects. There are no known sites of this nature in the study area, and if any did exist here in the past it would be have been disturbed or totally disturbed by recent historical activities (first farming and then later mining-and urban development related).

From a cultural heritage point of view the development should be allowed to continue taking the above recommendations into consideration. The subterranean presence of archaeological or historical sites, features or objects must however always be recognized. Should any be uncovered during the development process a heritage specialist/archaeologist should be called in to investigate and recommend on the best way forward. This could include previously unknown, low stone packed or unmarked graves.

8. REFERENCES

Aerial views of study area and development layouts: Google Earth 2016 & Prime Resources.

Background Information on Project & Project Area: Prime Resources 2017.

Mine Map: Provided by Mr.H.Trouw of Gold 1.

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APPENDIX A
DEFINITION OF TERMS:

Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artifacts, found on a single location.

Structure: A permanent building found in isolation or which forms a site in conjunction with other structures.

Feature: A coincidental find of movable cultural objects.

Object: Artifact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B
DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE:

Historic value: Important in the community or pattern of history or has an association with the life or work of a person, group or organization of importance in history.

Aesthetic value: Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.

Scientific value: Potential to yield information that will contribute to an understanding of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period

Social value: Have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.

Rarity: Does it possess uncommon, rare or endangered aspects of natural or cultural heritage.

Representivity: Important in demonstrating the principal characteristics of a particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province region or locality.

APPENDIX C SIGNIFICANCE AND FIELD RATING:

Cultural significance:

- Low: A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.
- Medium: Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also any important object found out of context.
- High: Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.

Heritage significance:

- Grade I: Heritage resources with exceptional qualities to the extent that they are of national significance
- Grade II: Heritage resources with qualities giving it provincial or regional importance although it may form part of the national estate
- Grade III: Other heritage resources of local importance and therefore worthy of conservation

Field ratings:

- i. National Grade I significance: should be managed as part of the national estate
- ii. Provincial Grade II significance: should be managed as part of the provincial estate
- iii. Local Grade IIIA: should be included in the heritage register and not be mitigated (high significance)
- iv. Local Grade IIIB: should be included in the heritage register and may be mitigated (high/medium significance)
- v. General protection A (IV A): site should be mitigated before destruction (high/medium significance)
- vi. General protection B (IV B): site should be recorded before destruction (medium significance)
- vii. General protection C (IV C): phase 1 is seen as sufficient recording and it may be demolished (low significance)

APPENDIX D
PROTECTION OF HERITAGE RESOURCES:

Formal protection:

National heritage sites and Provincial heritage sites – Grade I and II

Protected areas - An area surrounding a heritage site

Provisional protection – For a maximum period of two years

Heritage registers – Listing Grades II and III

Heritage areas – Areas with more than one heritage site included

Heritage objects – e.g. Archaeological, palaeontological, meteorites, geological specimens, visual art, military, numismatic, books, etc.

General protection:

Objects protected by the laws of foreign states

Structures – Older than 60 years

Archaeology, palaeontology and meteorites

Burial grounds and graves

Public monuments and memorials

APPENDIX E
HERITAGE IMPACT ASSESSMENT PHASES

1. Pre-assessment or Scoping Phase – Establishment of the scope of the project and terms of reference.
2. Baseline Assessment – Establishment of a broad framework of the potential heritage of an area.
3. Phase I Impact Assessment – Identifying sites, assess their significance, make comments on the impact of the development and makes recommendations for mitigation or conservation.
4. Letter of recommendation for exemption – If there is no likelihood that any sites will be impacted.
5. Phase II Mitigation or Rescue – Planning for the protection of significant sites or sampling through excavation or collection (after receiving a permit) of sites that may be lost.
6. Phase III Management Plan – For rare cases where sites are so important that development cannot be allowed.