

# **Film permit application by Dr. Keneiloe Molopyane (Principle Investigator) and Prof. Lee R. Berger (co-permit holder) for filming in the Gladysvale Site, Cradle of Humankind UNESCO World Heritage Site, Gauteng, South Africa.**

Location – Gladysvale Cave (Also known as “American Cave”, “Uitkomst”, Melanie’s Cave)

See Proclamation Declaration (Figures 1 & 2) for Site Location

## **Purpose and concept of filming**

Gladysvale is well documented in the literature and its importance, history, key issues etc. are well documented in several SAHRA Management Reports. The goals of the Gladysvale project, permit number: 3317, are the re-opening of excavation at the important fossil bearing site of Gladysvale, situated in the heart of the Cradle of Humankind UNESCO World Heritage site in order to utilize modern methods of exploration, geological and geochronological analyses, mapping and preparation to test hypothesis generated by previous work at the site conducted during the 1940’s and 50’s as well as more extensive work by the junior applicant conducted during the 1990’s and early 21<sup>st</sup> Century (Berger, 1992; Berger *et al.*, 1993; Berger & Tobias, 1994). The purpose and concepts of filming at Gladysvale for the duration of the scientific expedition is to document the scientific process from start to finish with the aim of highlighting the journey of the scientific pursuit and discovery. We aim to ultimately increase the general public’s, both on a local and global stage, the perceived value of the palaeosciences related to the deep human journey. Such a pursuit is of value to the South African audience, to the significance of the Cradle of Humankind, South Africa, and can be viewed as valuable teaching material and resource for those interested in the science. The filming will primarily be for educational purposes only.

## **Area of site to be filmed**

The proposed excavation work will be confined to the outer deposits, the Main Chamber and Lower Chamber 1 (or the cave system reported in SAHRIS Site Inspection reports as “American Cave or Melanie’s Cave). No work will be conducted in Chamber 2, also known as “Long One”, the purported bat hibernaculum. The proposed filming will focus on these areas so as to capture and document the ongoing work conducted at Gladysvale Cave. With regards to the filming we intend to cover aspects such as:

Preparation for fieldwork – this includes Infrastructure development, site preparation and rehabilitation of existing infrastructure at Gladysvale Cave.

Initiation of on-site work - *ex-situ* removal of external and internal miners’ rubble to external model. Continued mapping, sampling of *in-situ* deposits to establish comparative sedimentology and obtain samples for dating.

Initiation of off-site preparation. Reporting back on laboratory work undertaken of the fossil material recovered from the Gladysvale project.

## Detailed filming plan:

Initiation of on-site work, described in the excavation permit application as phase 2. There are two primary goals associated with phase 2 that will be documented in the filming process. Firstly, the removal of a significant amount of the underground and above ground mining rubble, keeping this material's original location documented and moving it to an above ground model cave where it can be sorted and examined for scientific potential. Typically, these disturbed, *ex-situ* dumps of breccia are considered by modern scientists as having little value due to the fact they have been removed from their *in-situ* location. However, advances have made in sedimentological identification description, geochemistry, geochronology and mapping as demonstrated at sites like the 105 site that we can associate this material on a block-by-block basis with the *in-situ* layers from where it may have originated. The process of removing this material also typically reveals the *in-situ* localities from which they were derived by miners. The exposure of these *in-situ* deposits is critical for our work and future scientific work if we are to eventually establish the full scientific potential of this site. Thus, our work can turn *ex-situ* disturbed material into material of significant scientific value. The physical process of removal will follow that we conducted at the 105 site, where the blocks will be manually brought to the surface, block by block, by semi-skilled labours we hire and train from the region. This work is supervised by us and our highly trained staff. The method also ensures the block's original context is maintained and such methods minimise any potential damage to the site the removal of the material might cause. Every block is marked with a specific colour code while underground. This colour code associates the block with its original location. Every block is washed on the surface and examined by an on-site scientist and technicians who triage the material for later study. The blocks are then placed in a scale model of the cave laid out on the surface. This scale model we create from the blocks and dump material itself allows us to visualise the underground cave system, keeps material in association and begin to understand the mining process. The building of such a model also allows for future tourism potential where visitors to the site can visualise areas of the underground environment they cannot reach.

As most of the initial fossils to be recovered are likely to be encased in hard breccia, all fossil preparation methods will follow best practice and the gold standards developed by our teams. Herein lies another opportunity to document the scientific journey towards a discovery, and showcase fellow team members that play a critical role. By dedicating a series of episodes to the preparation process, we will showcase not only the process of discovery, but will deliberately highlight the potential of capacity building within palaeoscience and the surrounding community at large from the peri-urban areas in the Cradle of Humankind. Contributing to the transformation of the palaeosciences in Africa. There is precedence that such empowerment of local members of the surrounding community as skilled preparators of fossils can have long term and widespread impact. A good example of how this is evident is Zandile Ndaba. Zandile is a technician at the Centre for the Exploration of the Deep Human Journey. Zandile started at the University as a trainee Fossil Technician in 2010 using soft money funds from a small grant. Over the years her skills have extended from field excavations, to fossil casting to being recognized as one of the most skilled fossil preparators in the world. She has worked on such famous fossils as the Type specimen of *Australopithecus sediba* known as "Karabo" and has worked in public spaces demonstrating her skills to generations of young people. Through her skills and expertise in fossil preparation, Zandile is

internationally recognized as a valued contributor to retelling of the human story. She has shared her skills as an invited guest to both Kenya and the United States. Zandile was recently invited to the Perot Museum in Dallas, Texas for the opening of the Origins exhibit where she got to interact with preparators from the Museum share her fossil preparation experience with an international audience. Alongside her fellow colleagues, they continue to make an impact on the regional and global stage, and this demonstrates how the palaeosciences could have long term positive impact.

## Crew and equipment

The crew for the filming of the Gladysvale project will consist of both permit holders for Gladysvale and the Centre of the Deep Human Journey, Exploration team. Filming equipment to be used will be minimal and will require no additional structures/platforms to be built to facilitate this.

SUPERVISOR NAME	LOCATION	TYPE OF FILMING	CONTACT DETAILS
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Dirk van Rooyen	Wits University	Exploration and general filming.	<a href="mailto:dirklhsvr@gmail.com">dirklhsvr@gmail.com</a>
Bonita De Klerk	Wits University	General Filming	011 717 6696 <a href="mailto:Bonita.deklerk@wits.ac.za">Bonita.deklerk@wits.ac.za</a>

## Schedule of filming

We propose that the filming of the Gladysvale project would begin from the time the filming permit has been issued up until the time of the expiration of excavation permit 3317.

## References

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# Figures

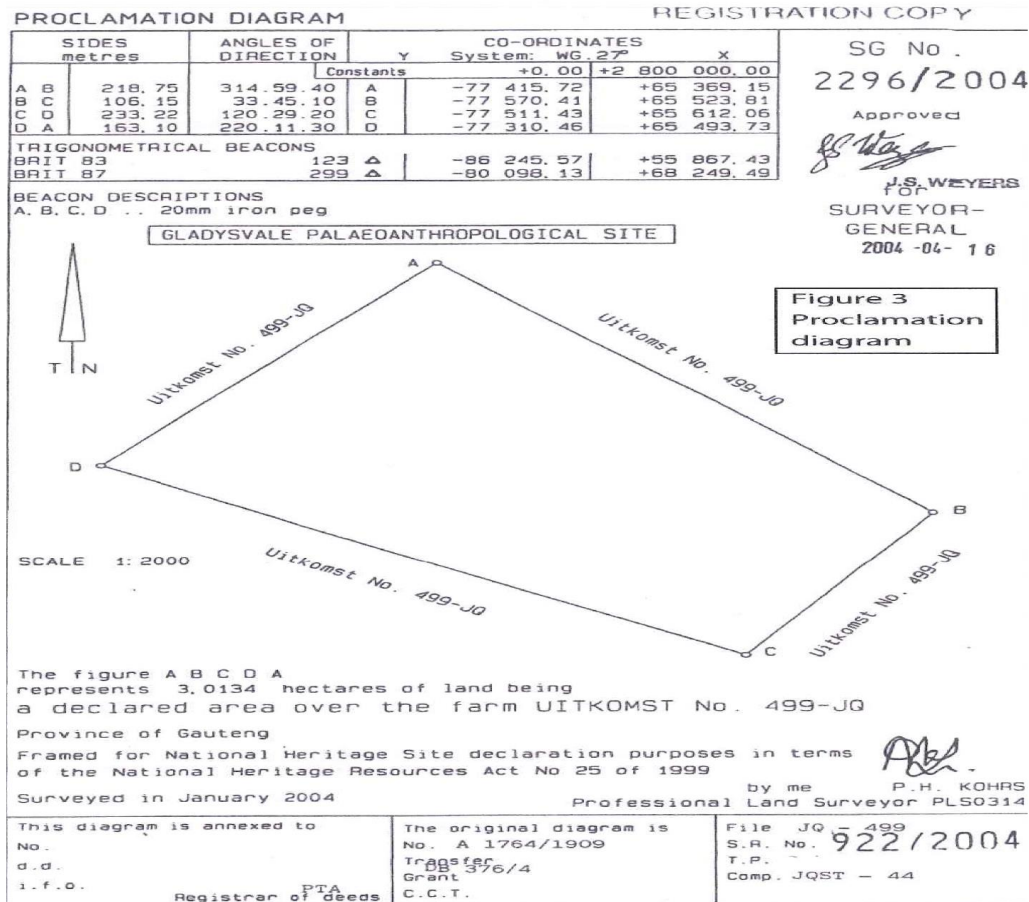


Figure 1: Proclamation diagram allocated to Gladysvale Cave, Cradle of Humankind.



Figure 2: Annotated map of Gladysvale Cave indicating the Proclamation Area, and proposed locations for ablutions and cave model site.