Application of the renewal of the Malapa Permit for the period September 2014 – September 2017:

The Malapa project began in August of 2008 with the discovery of the site, with formal permitting from SAHRA occurring in September of the same year. Mapping of the deposit occurred immediately and prior to the removal of significant ex-situ rock and prior to in-situ work being conducted. Recovery of hominin and faunal fossils followed, with the majority of material originating from ex-situ mining debris, although a very limited amount of material was recovered from several in-situ blocks as reported in previous annual reports. Through 2012 limited excavations resulted in the recognition of the extent of the fossil bearing aspect of the site (as reported in previous annual reports), as well as established the geological context of the in-situ remains and allowed correlation of ex-situ material with in-situ situations. In 2013 it was decided to cease excavations in order to design, raise funds for, and develop infrastructure at the site in order to protect the exposed material and offer a platform for scientific endeavours. This pause also allowed completion of the study and publication of all fossil material that had been collected and prepared between 2008 – 2012 (see references and citations. SAHRA permit for construction of the site was applied for and received. During the course of 2013 and into 2014, the permitted structure was designed and built over the site of Malapa and signoff by the permit holder and University was made in mid-2014. Details of this structure, its footprint, engineering prints and surveys may be found in previous permit applications lodged with SAHRA. Excavation permissions and access to the site are under a long term (ten year) agreement between the landowner, the University and permit holder and this document is lodged in 2013 with SAHRA. Training of four excavation technicians has been underway in August and September and we are now in a position to open the excavations at the site. Excavation protocols for excavation are included in attached documentation.

Planned work 2014-2015:

Initial work will concentrate on detailed re-mapping of the area underneath the structure cover (initial mapping used a fixed, mounted theodolite as well as an automated laser theodolite). The present and planned mapping is being done using two methods – the fixed mounted theodolite reported in previous annual reports, as well as mapping using an Artec 3D white light scanner that has been successfully tested at the Rising Star (U.W. 101) excavation. The Artec 3D scanner gives photo realistic measurable surface models of the site at resolutions between 0.1 of a mm and 0.5 mm which are tied into the existing grid. A Ph.D. student – Mr. Ashley Kruger –

is, as part of his thesis, exploring technological advances that will maximize our capacity for high resolution mapping and recording. Physical xcavation will follow protocols detailed in attached documentation. The initial phase of work will be to remove the entirety of the presumed late 19th- early 20th Century miner disturbed sediments that cover much of the known site – disturbed sediments include the miners road fill, biogenic originating termite derived sediments, landslide sediments and slumpage, as well as loose rock. All material will be mapped as if in-situ. Even clearly ex-situ sediments will be mapped and fine sieved (1.2 mm mesh and wet sieving) as it has been found that they often contain abundant fossils originating from within the main pit, presumably now in ex-situ positions due to the above mentioned mining activity. It is anticipated that this clearing activity will take approximately 8 -12 months – thus taking the work into mid- to late 2015. In addition, a limited number of in-situ large blocks will (after mapping) be separated from the deposit, hoisted and taken for preparation in the laboratories of the Evolutionary Studies Institute at the University of the Witwatersrand . These blocks are identified for removal based upon two criteria – the presence of visible high value fauna or hominin material within them, or ease of removal based upon existing cracks. The removal of these blocks will, at present, involve only the increasing of existing cracks using a variety of leveraging means including hydraulics, wedges and other devices or instruments as may be necessary to increase existing cracks or faults in order to allow hoisting straps to be fixed around the blocks. After removal the newly exposed area will be mapped and added to the 3D database. Any in-situ excavations that take place in decalcified sediments will follow the protocols listed above. All planned work falls under the area covered by the shelter of the structure. It is anticipated that the above work will take the project through the next annual report period. Anticipation of the next stage of work is difficult as it is highly reliant upon the results of the first phase of work and what removal of the disturbed sediments and rocks reveals. At the point of completion of the clearing of the area underneath the structures roof and the subsequent mapping, a detailed plan of the cleaned area will be lodged with SAHRA thus complementing the previously submitted contour maps.

Publication plans

The Malapa project has a good track record of publication and all identifiable material recovered to date is already published or has been prepared for publication, submitted for publication or awaiting submission with a package of papers. These publications include morphological

analyses of the hominin and faunal material, taphonomic and forensic analyses of the same material as well as geological and spatial analyses. Furthermore, the published work includes significant public outreach writings and other forms of media communications including internet, documentary, radio and television news. Both scientific publications and public outreach are expected to continue. The publications to date are as follows, though in summary there are 25 refereed publications, 1 book, 19 conference abstracts and 35 plenary or keynote lectures. This body of work has garnered more than 1500 citations according to Google Scholar:

Community outreach:

The Malapa project has stimulated significant community outreach – including the highly successful Marapo casting programme which employs 15 individuals from the local community involved in the making of casts for sale to tourists, education organizations and museums. The programme is based out of Sterkfontein caves. Additionally the Malapa project has been involved in gifting programmes at major museums around the World, having gifted complete sets of fossil hominin casts to among other institutions the Smithsonian, the American Museum of Natural History, The Chicago Field Museum, the California Academy of Sciences, Duke University, Texas A&M, the Natural History Museum London, the Shanghai Museum, The Berlin Museum, the National Museums of Kenya, Tanzania and Ethiopia, the Turkana Basin Institute, Kenya, the Iziko Museum and Maropeng.

Social Media:

The Malapa site hosts a successful social media outreach programme including an active Facebook page “Australopithecus sediba” (963 members) and may be followed on Twitter at #malapa and #sediba. There are more than 110,000 unique pages featuring “Australopithecus sediba” according to Google and the Wikipedia pages on Malapa and Australopithecus sediba are kept updated. Television: The Malapa site has been featured in two major documentaries (60 Minutes “the Skull”) and National Geographic’s “The Two Million Year Old Boy”. A PBS/Nova documentary is presently being completed on the most recent research.

Tourism plans:

Low impact high quality tourism is being planned for the Malapa site and structure. It is envisioned that in phase one, the tourism will involve a single vehicle containing up to 10 tourists visiting the site for approximately 45 minutes once per day. The tour will be led by a qualified guide and tourists will have an opportunity to interact with the excavators and scientists

on-site, though from the safe perspective of the raised platform, thus protecting the site. Basic background for the storyline for the area and region will follow the FGASA recognized palaeoanthropological guidebook (Berger 2005) (The Principal Investigator is a FGASA recognized and certified trainer in the subject of Palaeoanthropology and is also a specialist guide and FGASA SKS in Palaeoanthropology (see attached certificates). An additional storyline specific to the site is being written by the Principal Investigator and will be submitted at a later date to SAHRA. This storyline will be based upon that presented in “The Skull in the Rock” (Berger and Aronson, 2012).

Field Schools : Two field schools were run during previous permitted periods involving mainly European students (2009 and 2010). Field schools are planned for 2015.

Security: At present security for the site is provided by its remoteness, a game fence around the entire property and general security measures including locked equipment stores and other means. In addition, a gate guard mans the single entry gate to the property – this person funded by the Principal Investigators resources. Grant applications are being made for two additional “roving’ guards to provide additional security to the greater property and Malapa structure.