BOLT'S FARM – KLINKERT'S PALAEONTOLOGICAL – EXCAVATION ANNUAL REPORT

Permit Number: 3172

SAHRIS Case ID: 15684

Authors of report: D. Gommery, L. Kgasi and N. Vilakazi (in collaboration with F. Sénégas)

Date of report: 16/12/2021

Name of SAHRA permit officers on permit: Elijah Dumisani Katsetse

Date of permit issue: Wenesday November 18, 2020

Report due date: 31 December 2021

Expiry date of permit: 31/12/2023

Permit Holder – as on permit (name and affiliation): Dr Dominique Gommery, CNRS – Human Evolution, UPR 2147 CNRS, 44 Rue de l'Amiral Mouchez, 75014, Paris, France.

Permit To (names and affiliations of researchers): Dr. Dominique Gommery, Centre de Recherche en Paléontologie – Paris (CR2P), CNRS-MNHN-SU, Sorbonne Université, Paris, France; Plio-Pleistocene Palaeontology Section, Ditsong National Museum of Natural History, Pretoria, South Africa; Palaeo-Research Institute (P-R I), University of Johannesburg (UJ), South Africa; HRU, Plio-Pleistocene Palaeontology Section, Ditsong National Museum of Natural History, P.O. Box 413, Pretoria 0001, South Africa ; Junior Curator Lazarus Kgasi, Plio-Pleistocene Palaeontology Section, Ditsong National Museum of Natural History, Pretoria, South Africa; Palaeo-Research Institute (P-R I), University of Johannesburg (UJ), South Africa; Dr. Nonhlanhla Vilakazi, Palaeo-Research Institute (P-R I), University of Johannesburg (UJ), South Africa; D. South Africa.

Name of locality/sites(s): Bolt's Farm-Klinkert's portion

Object ID's (or batch ID) reflected on the permit: Excavation (SAHRA Ref: 9/2/233/0032)

Executive Summary

Like in 2020, the global covid-19 pandemic forced us to change our plan concerning our field activities. In France, like in South Africa, there was a lockdown that lasted several months. International exchanges were limited and it was impossible for almost all French colleagues to travel to South Africa, except for D. Gommery who was authorised by his institution to go to South Africa for a short 3-week mission in October.

So we decided to continue mainly the site maintenance activities focusing especially on what was discussed during the last site inspection on the 7th December of 2020.

-Brad Pit (BPA, BPB, BPE).

Site maintenance activities.

A dry stone wall was required to delimit the excavation area in order to secure the site (proximity of a path used by the local community) and to keep out the rare cattle that sometimes graze in the area. This was accompanied by weeding of the area to limit regrowth following the summer rains (November-April) and to prepare the site for the short excavation scheduled for 2021. N. Vilakazi (UJ) and L. Kgasi (DNMNH) therefore organised the necessary activities with the help of local casualworkers.

A special attention was given to the eastern extremity of the natural trench of BPA. A gravel level of about 80 cm thick with loose sediment on the edges was removed to reveal *in situ* breccia witnesses and dolomite. Observations for the geological study of this part of the locus will begin in 2022.

Dating.

During the site maintenance activities, T. Makhubela (UJ) took samples from the northwestern area of the site which was cleaned and excavated superficially (in French "décapage") during the 2020 site maintenance activities. The summer rains (November 2020 - April 2021) cleaned up all the outcrops, including breccias and speleothems, making their study possible. This area was covered by an old dump (from the past mining activities), making it impossible to observe the extension of the infilling and its morphology. These first samples were taken to understand the relationship of this part with the rest of the site and also to trace its history. This last area is now called 'BPE' for Brad Pit Extension.

Excavation.

The October excavation focused on two areas of the BPA locus (northern part and test area of the natural trench) and on one area of the BPB locus (northern part). The excavation at BPA yielded 161 identifiable fossil remains and many indeterminate fragments. BPB yielded only a few indeterminate fragments.

Laboratory.

During the site maintenance and excavation, the team took some bags of sediment that had undergone an initial dry sieving. At the Preparation Laboratory at the Ditsong: National Museum of Natural History, this sediment was washed to remove the clay covering the fossils and sieved through different mesh sizes in order to recover the smallest fossil remains.

-Bridge Cave (BC).

Excavation.

The excavation was carried out at this site in October by L. Kgasi (DNMNH) and B. Kuhn (UJ). The topography of the excavation (infilling against a wall) requires specific skills (climbing) and the simultaneous presence of a small number of excavators. The rains of the previous years have begun to slightly damage the most superficial bones, hence the importance of having excavated in October 2021. The team had to be careful because of the presence of an African honeycomb near the excavation area.

The fossil remains were not catalogued during this mission because their preservation requires extensive cleaning and restoration before handling. They were packaged very delicately during their extraction and will be treated one by one. A large part of them belong to individuals of our new panther species. One upper canine root is of a very large size, much larger than those known from present-day male lions. The excavation revealed a potential skull of this panther (several upper teeth are visible as well as the occipital foramen and possibly the mandible). The skull was removed in one block and very carefully extracted in the laboratory for restoration. This operation will take a long time to be completed

-Waypoint 160 (WP).

Site maintenance activities.

This locus yielded the oldest fauna in the Cradle of Humankind, from the Lower Pliocene (tentatively dated to between 4.5 and 4 million years ago). It is mainly represented by microfaunal remains. The team faces two challenges here, firstly to increase the number of macrofaunal remains to improve our knowledge of the palaeoenvironmental data and biochronological dating, and secondly to have a better understanding of the infill in this locus (geology and history). In order to do this, the geological studies need to become one of our top priority, so the depositional evidence has to be accessible for observation. The accumulation of dead plant remains (leaves and branches) were removed from the western part of the locus by N. Vilakazi (UJ) and L. Kgasi (DNMNH) with the help of local workers, i.e. from the access slope to the lower part of the locus, which corresponds to the witness of the former fossil accumulation cone. This slope was brushed to remove the remaining soil so that the summer rains could clean the breccia, speleothems and wall. A large area above this slope (corresponding to part of the former miner's dump, removed in 2020) has also been cleaned and excavated superficially ("décapage"). This area will be the subject of further work in the coming months.

SAHRIS Object or Site Links:

SAHRIS Site links: <u>http://www.sahra.org.za/sahris/sites/922330032</u> <u>https://www.sahra.org.za/sahris/node/487636</u> <u>https://www.sahra.org.za/sahris/sites/default/files/permits/11596%20permit_excavation_K</u> <u>linkerts.pdf</u>

Location Details:

-Location name(s): Bolt's Farm, Sterkfontein 173 IQ (portion 32), Gauteng (9/2/233/0032)

-GPS coordinates:

Locus	HRU catalogue prefix	GPS coordinates (follow grid
		WGS 84)
Alcelaphine Site	AL	S26°02'05.3"; E27°42'45.7"
Baboon Cave	ВАВ	S26°01'58.1"; E27°42'41.2"
Brad Pit A	BPA	S26°02'02.8"; E27°42'44.2"
Brad Pit B	BPB	S26°02'02.6"; E27°42'43.8"
Bridge Cave	BC	S26°01'55.1"; E27°42'46.2"
Femur Dump	FD	S26°02'05.3"; E27°42'45.7"
Milo A	MA	S26°01'56.9"; E27°42'38.4"
Milo B	MB	S26°01'57.7"; E27°42'37.7"
Unati & Mpho Pit A	UMA	S26°01'57.0"; E27°42'36.6"
Unati & Mpho Pit B	UMB	S26°01'57.5"; E27°42'37.2"
X Cave	XC	S26°01'47.5"; E27°42'53.1"
Waypoint 160	WP	S26°02'02.0"; E27°42'50.0"

-Adequate mapping:



-Nearest town: Krugersdorp.

-Local District: Mogale City local Municipality /West Rand District Municipality.

-Magisterial District: Krugersdorp.

-Province: Gauteng.

-Formation/Subgroup/Group (for palaeontological specimens): Bolt's Farm Cave System.

-Approximate age of materials: Early Pliocene to terminal Early Pleistocene (approximately between 4.5 to 0.9 Ma).

List of all Participating Researchers:

-Provide a list of all participating researchers/excavators/technicians, but also local workers, involved in the project, their qualifications and their affiliated institutions (for excavations or collection the crew should be listed per season)

Excavation scientific team 2021.

- Dominique Gommery, PhD & HDR, Scientific PI & **co-permit holder**, Palaeontologist (primates), Centre de Recherche en Paléontologie Paris (CR2P), CNRS-MNHN-SU, Sorbonne Université, Paris, France ; HRU, Plio-Pleistocene Palaeontology Section, DNMNH, Pretoria, South Africa ; Palaeo-Research Institute (P-R I), University of Johannesburg (UJ), South Africa.
- Lazarus Kgasi, Junior Curator, **co-permit holder**, site maintenance, curation of the collection and fossil preparation, HRU, Plio-Pleistocene Palaeontology Section, Ditsong National Museum of Natural History, Pretoria, South Africa.
- Nonhlanhla Vilakazi, PhD, **co-permit holder**, palaeontologist (reptiles), Palaeo-Research Institute (PR-I), University of Johannesburg, South Africa.
- Brian Kuhn, PhD, palaeontologist (carnivores), Department of Geology, University of Johannesburg, Johannesburg, South Africa.

Excavation & site maintenance local casual workers 2021.

Site maintenance: Shimi Putuka, Tebogo Mokwena & Nelson Seshoene. Excavation: Nelson Seshoene, Thomas Mere & Mpho Mgelele.

Complete scientific team.

- Laura Bento Da Costa, PhD, Palaeontologist (rodents, primates), Centre de Recherche en Paléontologie Paris (CR2P), CNRS-MNHN-SU, Sorbonne Université, Paris, France.
- Lilian Cazes, assistant ingenior, photogrametry & photography, Centre de Recherche en Paléontologie Paris (CR2P), CNRS-MNHN-SU, Muséum National d'Histoire Naturelle (MNHN), Paris, France
- Sophie Fernandez, Scientific drawer, Centre de Recherche en Paléontologie Paris (CR2P), CNRS-MNHN-SU, Muséum National d'Histoire Naturelle (MNHN), Paris, France.
- Dominique Gommery, PhD & HDR, Scientific PI & **co-permit holder**, Palaeontologist (primates), Centre de Recherche en Paléontologie Paris (CR2P), CNRS-MNHN-SU, Sorbonne Université, Paris, France ; HRU, Plio-Pleistocene Palaeontology Section, DNMNH, Pretoria, South Africa ; Palaeo-Research Institute (P-R I), University of Johannesburg (UJ), South Africa.
- Teresa Kearney, PhD, mammologist (bats), Small Mammals section, Ditsong National Museum of Natural History, Pretoria, South Africa.
- Lazarus Kgasi, Junior Curator, **co-permit-holder**, site maintenance, curation of the collection and fossil preparation, HRU, Plio-Pleistocene Palaeontology Section, Ditsong National Museum of Natural History, Pretoria, South Africa.

Katja Koeppel (Kuhn), PhD, speleologist, University of Pretoria, Pretoria, South Africa.

- Jan Kramers, PhD, geochemist and dating ((Uranium, Thorium)-Helium), Department of Geology, University of Johannesburg, Johannesburg, South Africa.
- Brian Kuhn, PhD, palaeontologist (carnivores), Department of Geology, University of Johannesburg, Johannesburg, South Africa.
- Charlène Letenneur, Sophie Fernandez, Scientific drawer, Centre de Recherche en Paléontologie Paris (CR2P), CNRS-MNHN-SU, Muséum National d'Histoire Naturelle (MNHN), Paris, France.
- Thalassa Matthews, PhD, palaeontologist (amphibians), Natural History Department, IZICO, Cape Town, South Africa.
- Tebogo Makhubela, PhD, geochemist and dating ((Uranium, Thorium)-Helium), Department of Geology, University of Johannesburg, Johannesburg, South Africa.
- Bastien Mennecart, PhD, palaeontologist (ruminants), Natural History Museum Basel, Switzerland.
- Marco Pavia, PhD, palaeontologist (birds), Dipartimento di Scienze della Terra, Università degli Studi di Torino, Torino, Italia.
- Martin Pickford, PhD, palaeontologist (suidae), Centre de Recherche en Paléontologie Paris (CR2P), CNRS-MNHN-SU, Muséum National d'Histoire Naturelle (MNHN), Paris, France.
- Véronique Pois, PhD, photogrammetry, Centre Européen de Recherches Préhistoriques de Tautavel (CERPT) & Histoire Naturelle de l'Homme Préhistorique (HNHP)-UMR 7194, Université de Perpignan Via Domitia, Tautavel & Perpignan, France.
- Thibaud Saos, PhD, geologist (micro-sedimentology), Centre Européen de Recherches Préhistoriques de Tautavel (CERPT) & Histoire Naturelle de l'Homme Préhistorique (HNHP)-UMR 7194, Université de Perpignan Via Domitia, Tautavel & Perpignan, France.
- Johann Schnyder, PhD, geologist (sedimentology), Institut des Sciences de la Terre de Paris (ISTEP), Biominéralisations et Environnements Sédimentaires-UMR 7193, Sorbonne Université, Paris, France.
- Loïc Ségalen, PhD & HDR, Geochemist (isotopes), Dean of the department "Terre vivante et environment", Institut des Sciences de la Terre de Paris (ISTEP), Biominéralisations et Environnements Sédimentaires-UMR 7193, Sorbonne Université, Paris, France.
- Frank Sénégas, PhD, Palaeontologist (rodents, lagomorphs, insectivores, hyrax), Centre de Recherche en Paléontologie – Paris (CR2P), CNRS-MNHN-SU, Sorbonne Université, Paris, France; HRU, Plio-Pleistocene Palaeontology Section, DNMNH, Pretoria, South Africa; Palaeo-Research Institute (P-R I), University of Johannesburg (UJ), South Africa.
- Brigitte Senut, PhD & HDR equivalence, palaeontologist (macroscelids), Centre de Recherche en Paléontologie – Paris (CR2P), CNRS-MNHN-SU, Muséum National d'Histoire Naturelle (MNHN), Paris, France.
- Francis Thackeray, PhD, palaeontologist (primate & statistic), ESI, University of Witwatersrand, Johannesburg, South Africa.
- Renaud Vacant, assistant ingenior, casting and preparation, Centre de Recherche en Paléontologie Paris (CR2P), CNRS-MNHN-SU, Muséum National d'Histoire Naturelle (MNHN), Paris, France.
- Nonhlanhla Vilakazi, PhD, **co-permit-holder**, palaeontologist (reptiles), Palaeo-Research Institute (P-R I), University of Johannesburg (UJ), South Africa.

Curation of Materials:

-Name of institution (where the material will be accessioned or is accessioned and will be returned to): Plio-Pleistocene Palaeontology Section, Ditsong National Museum of Natural History.

-Name of curator: Mirriam Tawane.

-Contact details of the curator: tawanem@yahoo.com / tawane@ditsong.org.za

-Institutional address: Plio-Pleistocene Palaeontology Section, Ditsong National Museum of Natural History, P.O. Box 413, Pretoria, 0001, South Africa.

-How is the material being curated (number of boxes/bags, type of bags, accession list etc.)?; Curation of the fossil material follow the ICOM code of ethics of Natural History Museums (https://icom.museum/wp-content/uploads/2018/07/nathcode_ethics_en.pdf).

The blocks of breccia are stored on specific shelves (bought with French project funding) in the Ditsong Prep Lab of the Plio-Pleistocene Palaeontology section. All the blocks of breccia have a specific number. The material, prepared with acetic acid or/and mechanically or coming from the decalcified breccia, is stored in the HRU collection inside the Plio-Pleistocene Palaeontology section.

The mammalian microfauna (rodents, bats, insectivores, macroscelids) and the amphibians are stored together in two metallic cupboards (bought with French project funding) with a specific labelling because of the numeric importance and the very small size of the remains. The mammalian macrofauna, the reptiles and the birds are stored in five specific cupboards (bought by the DNMNH with specific funding from NRF). Each specimen has a field/accession number with the locus prefix and the number in the catalogue. All the specimens are separated in transparent plastic boxes of different size (Caubere type (http://caubere.fr/?lang=en) or bought in South Africa), in open boxes (models used in entomology department), or, if none of them are available, in high quality plastic bags with zip, such as Minigrip[®] models (<u>http://www.strati-concept.com/index1.html</u>).

Before being put definitely into the collection, the remains are separated according to taxonomic level (e.g. carnivores, primates, bovids, equids,...) in medium size plastic cupboards inside the HRU for the specialist of each group to study them. The specimens will join the definitive collections only when they are properly identified anatomically and taxonomically by the specialists. This system is used to avoid the mix of studied, unstudied and published material into the definitive collection.

Palaeontological Collections and Excavations:

Responsible person 1 Full name:	Dominique Gommery
Responsible person 2	Lazarus Kgasi
Full name:	
Responsible person 3	Nonhlanhla Vilakazi
Full name:	
Number of participants	Site maintenance: 2 researchers
	(excavation) + 1 researcher (dating
	sampling) + 3 local workers
	Exervation Fieldwork: 4 recorrelate
	(excavation) + 3 local workers
Duration of works	Site maintenance : $22-25/06/2021$, 6-
	10/09/2021. 15/09/2021
	Excavation Fieldwork: 12-14/10/2021
	Dating sampling: 15/09/2021.
Excavation equipment used	Small picks* (750 gr with wood handle; 500
	gr with wood or resin handle), steel or
	stainless forged spatulas* 40 mm,
	screwdrivers with flat point 2-6 mm,
	diameter 47.5 cm donth 0 cm) ctainless
	steel wire screen mesh size 6.14 and 3.93
	mm plastic buckets gloves Hilti optical
	level pol10 with tripod, telescopic levelling
	staff 4 m, measuring tape 5 and 8 m*, long
	tape open frame 30 m*, plumb lines*, GPS,
	compass-clinometer, coolera sail sq ready to
	hang 3.6 m, digital camera, army sandbags,
	ziplock plastic bags (* see <u>http://www.strati-</u>
	<u>concept.com/index1.html</u>), Topeline Weed
	Gard (<u>https://www.builders.co.za/Garden-</u>
	<u>%26-Outdoor-Living/Garden/Pest-</u>
	$\frac{\text{Controlly Weeds/Topinie-Weed-Gald-\frac{3}{281}}{\text{v}-10m\%29/n/000000000000170461}$
	rubber mats (pathways)
Description of work/methodology	The different fossiliferous deposits (loci)
	correspond to several entrance of a de-
	roofed single cave system. To expose the in
	situ breccia and speleothems but also the
	dolomitic walls of cave, the non-indurated
	material is excavated. It contains many
	gravels on the surface which correspond to
	the collapsed roof and part of wall of the

cave but also some trash from the mining
activity. The finest part (correspond mainly
to the decalcified breccia) is systematically
sieved.
The loci are impacted by the mining activity
during the beginning of the first half of the
20 th century. Some dumps could cover
partially the loci and must be moved. The
fossiliferous blocks of breccia are grouped
into a specific dump. The sediment is
separated from the rocks and systematically
sieved in order to retrieve the small fossils or
fragments
A landmark is plotted on <i>in situ</i> dolomite and
is used at the "level zero" of the site as
classically recognised in archaeological and
nalaeontological excavations. This landmark
does not change during the different
sessions of excavation and is indicated by a
specific "nail" used by the land and building
surveyors (follow international chart for
excavation) It allows the theodolite to get
the depth (7) With the field map (X and Y)
we have the coordinates of the different
structures and/or fossils of the locus. The
GPS position of the locus is taken on this
landmark and follows the reference grid
WGS 84 (the most used in Africa as for
topographic maps).
The aspect of the locus evolves during the
different sessions of excavation and the
field-map evolves too. Some photos are
taken during the excavation and are helpful
for future research. These photos will be
stored as archives for the site as well as the
different field maps.
It is impossible to have a permanent
excavation grid, so we use a temporary one
which can be set up every day with the same
references. This system allows us to have the
X and Y on the field-maps. The position of
the catalogued material is known.
Some pockets of fine sediments which
contain a greater abundance of remains are
found on the bottom of channels or cavities
of decalcified breccia. This sediment is
sieved on site with two different mesh size

			sieves. The fraction is sorted on site. Some smaller remains could exist and the finest fraction that went through the two meshes is transported to the DNMNH and sigued on
			smaller meshes (the smallest being 0.4mm).
			The material recovered from the finest
			fraction is sorted under the
			stereomicroscope.
Site management	and	conservation	Every year, after the rain season (October-
measures			April), the HRU team needs to cut the grass
			around the excavation (not just for aesthetic
			matter but also to prevent grass fires). The
			HRU team put some effort in the
			team tries to minimise the impact of
			excavation on the indigenous plants As
			requested, an important number of site
			management and conservation measures
			were taken and some tests were also
			performed before to continue. For example:
			the life expectancy of the cement with
			inclusion of local gravel, the life expectancy
			of a flexible UV-resistant material (Seed
			cover as Topeline weed Gard). The seed
			climatic events
			A dry stone wall was done to delimit the
			excavation area in order to secure the site
			(proximity of a path used by the local
			community) and to keep out the rare cattle
			that sometimes graze in the area.
			- Shading: Except during the fieldwork, the
			excavation is tarped with a flexible UV-
			resistant material (seed cover as Topeline
			Weed Gard), and secured with army-bags
			Concerning the cracks: To provent the
			erosion the excavation is tarned The
			existing cracks are monitored during the
			fieldwork, and, for the moment, they did not
			expand.
			-Concerning the excavation wall edges of
			deep and less deep excavations: The deep
			excavation wall will be secured with the
			construction of several small terraces in
			order to reduce the height of the wall. The
			summit of each terrace will be covered

temporarily with UV-resistant Seed cover
and army base (filled with local denosite)
and anny-bags (inied with local deposits)
and capped permanently with cement (with
inclusion of local gravel) to prevent erosion
and then covered with local stones to
prevent the excavators/visitors to walk on
them (after we receive the authorization
from the landowner or South-African
authorities such as SAHRA or/and the Cradle
of humankind World Heritage Site Authority
of the Gauteng Provincial Government). The
summit of the less deep excavation wall (less
than 1 m tall) will also be tarned temporarily
with LIV-resistant seed cover and army-bags
(filled with local denosits) and canned
normanontly with a thin (2-5 cm thick) and
20/20 cm large strip of company with local
zoy so chi large schp of cement with local
Stand we will make temperaty stand in the
-steps: we will make temporary steps in the
soft sediment and gravels for an easier
access to the excavation. Before we build
permanent steps, we must find the right
spot with exposed dolomite and make them
with concrete and stone. This could be done
after we obtain the agreement as for the
excavation wall egdes.
-Pathways: during the excavation seasons,
permanent pathways (rubber mats) will be
built for the excavators (to make sure that
they do not walk over eroded and cracked
breccias under risk of collapsing). These
mats avoid the slippery risks but can also be
moved following the progress of the
excavation. As for the steps. the permanent
pathways will be built with concrete and
stone after the agreement from the
landowners or South African Authorities
- Regular visit outside the field season: it
allows us to control the state of the tarn and
the army-bass (check the aspect and repow
them if necessary
them if hecessary).

Additional Content: -Site maintenance at Brad Pit (BPA, BPB & BPE).



Some views of the progress of work during the 2021 site maintenance in 2021 at Brad Pit.

-Site maintenance at Waypoint 160 (WP).



Some views of the progress of work during the 2021 site maintenance in 2021 at Waypoint 160 (WP).

Additional Documents:

-list of specimens recovered

Brad pit A (BPA) (in blue, material from excavation of October 2021)

N°	Туре	Taxon
BPA 1999	Calcaneum	Primate
BPA 2000	Fragment of maxilla	Primate
BPA 2001	Tooth root	Mammal
BPA 2002	Lower molar	Primate
BPA 2003 BPA 2004	Lower molar (m/3)	Primate
BPA 2005	Upper premolar	Primate
BPA 2006	Upper premolar	Primate
BPA 2007	Upper molar (M3/)	Primate
BPA 2008	Lower molar (m/3)	Primate
BPA 2009	Lower incisor	Primate
BPA 2010	Upper molar (M3/)	Primate
BPA 2011 BPA 2012	Upper molar Upper molar wormed	Primate
BPA 2012 BPA 2013	Upper ranine	Primate
BPA 2014	Fragment of maxilla with premolar	Carnivore
BPA 2015	Upper tooth	Carnivore
BPA 2016	Lower tooth	Carnivore
BPA 2017	Fragment of Lower tooth	Carnivore
BPA 2018	Fragment of Lower tooth	Carnivore
BPA 2019	Distal phalanx	Carnivore
BPA 2020 BPA 2021	Proximal phalanx	Carnivore
BPA 2022	Proximal part of metapod	Carnivore
BPA 2023	Distal part of metapod	Carnivore
BPA 2024	Sesamoide	Carnivore ?
BPA 2025	Sesamoide	Carnivore ?
BPA 2026	Sesamoide	Carnivore ?
BPA 2027	Patella	Carnivore
BPA 2028	Secamoide	Carnivore ?
BPA 2029 BPA 2030	Sesamoide	Carnivore ?
BPA 2031	Upper molar	Carnivore
BPA 2032	Vertebrae	Snake
BPA 2033	Mandible	Lizard
BPA 2034	Distal part of tibia	Bovidae
BPA 2035	Upper incisor	Primate
BPA 2036	Proximal phalanx	Primate
BPA 2037 BPA 2038	Proximal part of Proximal phalanx	Carnivore
BPA 2039	Proximal part of radius	Primate
BPA 2040	Distal par tof humerus	Primate
BPA 2041	Fragment of calcaneum	Mammal
BPA 2042	Shaft	Bird ?
BPA 2043	Proximal part of metapod	Primate ?
BPA 2044	Proximal part of metapod	Primate ?
BPA 2045 RDA 2046	Proximal part of metapou	Mammal
BPA 2040 BPA 2047	Proximal part of rib	Mammal
BPA 2048	Tarso-metatarsal	Bird
BPA 2049	Distal part of tibia	Mammal
BPA 2050	Calcaneum	Mammal
BPA 2051	Proximal part of phalanx	Bird
BPA 2052	Median phalanx	Bovidae
BPA 2053	Caudal vertebrae	Carnivoro
BPA 2054 BPA 2055	Magnum ?	Bovidae ?
BPA 2056	Trapezium	Carnivore
BPA 2057	Magnum	Carnivore
BPA 2058	Medain cuneiform	Carnivore
BPA 2059	External cuneiform	Carnivore
BPA 2060	Carpal/tarsal ?	Mammal
BPA 2061	Scapula	Mammal
BPA 2002	Tarsal	Forcupine
BPA 2064	Fragment of horn-bone	Bovidae
BPA 2065	Maxilla	Lizard
BPA 2066	Mandible	Lizard
BPA 2067	Vertebrae	Snake
BPA 2068	Vertebrae	Snake
BPA 2069	Vertebrae	Snake
BPA 2070	vertebrae	Snake
DFA 20/1		carnivore

BPA 2072	Lower tooth
BPA 2073	Incisor
BPA 2074	Canine
BPA 2075	Lower premolar
BPA 2076	Fragment of dent
BPA 2077	Lower molar
BPA 2079	Lower molar
BPA 2080	Upper premolar
BPA 2081	Lower premolar (p/4)
BPA 2082	Lower premolar (p/3)
BPA 2083	Lower molar
BPA 2084	Upper molar
BPA 2085	Canine
BPA 2086	Decidual upper tooth
BPA 2087	Decidual upper tooth
BPA 2088	Lower molar
BPA 2089	Decidual lower tooth
BPA 2090	Decidual lower tooth
BPA 2092	Upper molar
BPA 2093	Upper incisor (I1/)
BPA 2094	Upper premolar (P3/ gauche)
BPA 2095	Lower molar
BPA 2096	Lower molar
BPA 2097	Lower molar
BPA 2098	Decidual incisor
BPA 2099	Upper incisor (11/)
BPA 2100 BPA 2101	Upper incisor
BPA 2101 ΒΡΔ 2102	Enamel of upper incisor
BPA 2102	Incisor wormed
BPA 2104	Decidual incisor
BPA 2105	Upper molar
BPA 2106	Lower premolar (p/4)
BPE 2107	Upper molar
BPA 2108	Decidual upper incisor
BPA 2109	Lower molar
BPA 2110 RDA 2111	Decidual lower canine
BPA 2112	Lipper molarusée
BPA 2113	Wormed decidual lower canine
BPA 2114	Fragment of canine
BPA 2115	Lateral upper incisor (I2/)
BPA 2116	Upper premolar (P3/)
BPA 2117	Lower molar wormed
BPA 2110 BPA 2119	Lower premolar
BPA 2120	Decidual upper tooth
BPA 2121	Fragment of upper molar
BPA 2122	Lower canine
BPA 2123	Incisor crown
BPA 2124	Fragment of upper molar
BPA 2125	Distal phalanx
BPA 2126	Incisor
BPA 2127	Upper molar
BPA 2128 RDA 2120	
BPA 2129 ΒΡΔ 2130	Fragment of upper molar
BPA 2131	Fragment of mandible
BPA 2132	Tarso-metatarsal
BPA 2133	Distal phalanx
BPA 2134	Distal phalanx
BPA 2135	Distal part of metapod
BPA 2136	Sesamoide
BPA 2137	Enamel tragment
BPA 2130 BPA 2130	Provimal part of humerus
BPA 2139 BPA 2140	Distal part of ulna
BPA 2141	Fragment of dent
BPA 2142	Distal part of metapod
BPA 2143	Fragment of premolar
BPA 2144	Tarso-metatarsal
BPA 2145	Calcaneum
BPA 2146	Calcaneum
БРА 2147 ВВА 2149	Sesamoide
BPA 2140	Sesamoide
BPA 2150	Sesamoide
BPA 2151	Sesamoide
BPA 2152	Sesamoide

Carnivore Carnivore Carnivore Carnivore Carnivore Primate Primate? Primate Lizard (Agamidae) Bird Primate Primate Carnivore Mammal Bovidae Primate Primate ? Carnivore Bovidae Bovidae Bovidae Bird Mammal Mammal Mammal Mammal Mammal Mammal Mammal Mammal

BPA 2153	Scute fragment
BPA 2154	Proximal part of metapod
BPA 2155	Vertebrae caudale
BPA 2156	Calcaneum
BPA 2157	Decidual upper tooth
DPA 2150	Warmad control upper insister (11/)
BPA 2159 BPA 2160	Distal part of metapod
BPA 2160	Vertebral body of lumbar vertebrae
BPA 2162	Fragment of sternum
BPA 2163	Scapula
BPA 2164	Fragment of skull
BPA 2165	Fragment of astragalus
BPA 2166	Vertebrae
BPA 2167	Intern cuneiform
BPA 2168	Molar
BPA 2169	I horacic vertebrae
BPA 2170	Fragment of incisor
BPA 21/1 BDA 2172	Provimal part of ulpa
BPA 2172	Sacral vertebrae
BPA 2174	Fragment of tooth
BPA 2175	Cervical vertebrae
BPA 2176	Astragalus
BPA 2177	Phalanx
BPA 2178	Rib head
BPA 2179	Proximal part of median phalanx
BPA 2180	Vertebrae epiphyseal disc
BPA 2181	Epiphyseal part of proximale de radius
BPA 2182	Proximal part of numerus
BPA 2105 RPΔ 2184	Carpo-tarsal
BPA 2185	Carpo-tarsal
BPA 2186	Carpo-tarsal
BPA 2187	Carpo-tarsal
BPA 2188	Carpo-tarsal
BPA 2189	Astragalus
BPA 2190	Proximal phalanx
BPA 2191	Median phalanx
BPA 2192	Distal part of phalanx
BPA 2193	Distal part of phalanx
BPA 2194 BPA 2195	Median phalany
BPA 2195	Proximal phalanx
BPA 2197	Phalanx
BPA 2198	Proximal phalanx
BPA 2199	Distal part of phalanx
BPA 2200	Phalanx
BPA 2201	Phalanx
BPA 2202	Phalanx
BPA 2203	Phalanx
BPA 2204 BPA 2205	Distal part of phalany
BPA 2205	Distal part of phalanx
BPA 2207	Proximal part of Phalanx
BPA 2208	Fragment of Phalanx
BPA 2209	Fragment of Phalanx
BPA 2210	Fragment of Mandible
BPA 2211	Fragment of Mandible
BPA 2212	Fragment of Mandible
	Free starts and and the start of the start o
BPA 2213	Fragment of Mandible
BPA 2213 BPA 2214	Fragment of Mandible Fragment of Mandible
BPA 2213 BPA 2214 BPA 2215 BPA 2216	Fragment of Mandible Fragment of Mandible Fragment of Mandible Fragment of Mandible
BPA 2213 BPA 2214 BPA 2215 BPA 2216 BPA 2217	Fragment of Mandible Fragment of Mandible Fragment of Mandible Fragment of Mandible Fragment of Mandible
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BPA 2213 BPA 2214 BPA 2215 BPA 2216 BPA 2217 BPA 2218 BPA 2219 BPA 2220	Fragment of Mandible Fragment of Mandible Fragment of Mandible Fragment of Mandible Fragment of Mandible Fragment of Mandible Fragment of Mandible
BPA 2213 BPA 2214 BPA 2215 BPA 2216 BPA 2217 BPA 2218 BPA 2219 BPA 2220 BPA 2221	Fragment of Mandible Fragment of Mandible
BPA 2213 BPA 2214 BPA 2215 BPA 2216 BPA 2217 BPA 2217 BPA 2218 BPA 2219 BPA 2220 BPA 2221 BPA 2222 BPA 2222	Fragment of Mandible Fragment of Mandible
BPA 2213 BPA 2214 BPA 2215 BPA 2215 BPA 2216 BPA 2217 BPA 2218 BPA 2219 BPA 2220 BPA 2220 BPA 2221 BPA 2222 BPA 2223 BPA 2223	Fragment of Mandible Fragment of Mandible
BPA 2213 BPA 2214 BPA 2215 BPA 2215 BPA 2216 BPA 2217 BPA 2219 BPA 2220 BPA 2220 BPA 2222 BPA 2222 BPA 2223 BPA 2224 BPA 2225	Fragment of Mandible Fragment of Mandible
BPA 2213 BPA 2214 BPA 2215 BPA 2215 BPA 2216 BPA 2217 BPA 2218 BPA 2219 BPA 2220 BPA 2220 BPA 2220 BPA 2222 BPA 2222 BPA 2223 BPA 2224 BPA 2225 BPA 2226	Fragment of Mandible Fragment of Mandible
BPA 2213 BPA 2214 BPA 2215 BPA 2215 BPA 2216 BPA 2217 BPA 2218 BPA 2219 BPA 2220 BPA 2220 BPA 2220 BPA 2222 BPA 2222 BPA 2223 BPA 2224 BPA 2225 BPA 2225 BPA 2226 BPA 2227	Fragment of Mandible Fragment of Mandible
BPA 2213 BPA 2214 BPA 2215 BPA 2216 BPA 2217 BPA 2218 BPA 2219 BPA 2220 BPA 2220 BPA 2220 BPA 2222 BPA 2222 BPA 2223 BPA 2224 BPA 2225 BPA 2225 BPA 2226 BPA 2227 BPA 2228	Fragment of Mandible Fragment of Mandible
BPA 2213 BPA 2214 BPA 2215 BPA 2216 BPA 2217 BPA 2218 BPA 2219 BPA 2220 BPA 2220 BPA 2220 BPA 2221 BPA 2222 BPA 2222 BPA 2223 BPA 2224 BPA 2225 BPA 2225 BPA 2227 BPA 2228 BPA 2228	Fragment of Mandible Fragment tof Mandible
BPA 2213 BPA 2214 BPA 2215 BPA 2215 BPA 2216 BPA 2217 BPA 2218 BPA 2219 BPA 2220 BPA 2220 BPA 2221 BPA 2222 BPA 2222 BPA 2223 BPA 2224 BPA 2225 BPA 2225 BPA 2226 BPA 2227 BPA 2228 BPA 2229 BPA 2230	Fragment of Mandible Fragment Mandible Fragment of Mandible Fragment Mandible Fragment Mandible Fragment Mandible Fragment Mandible Fragment Mandible
BPA 2213 BPA 2214 BPA 2215 BPA 2216 BPA 2217 BPA 2218 BPA 2219 BPA 2220 BPA 2220 BPA 2221 BPA 2222 BPA 2222 BPA 2223 BPA 2224 BPA 2225 BPA 2225 BPA 2225 BPA 2227 BPA 2227 BPA 2228 BPA 2229 BPA 2230 BPA 2231	Fragment of Mandible Fragment for Mandible Fragment for Mandible Fragment for Mandible Fragment for Mandible Fragment for Mandible Fragment for Mandible Fragment tor Mandible Fragment thoracic vertebrae Vertebrae
BPA 2213 BPA 2214 BPA 2215 BPA 2215 BPA 2216 BPA 2217 BPA 2218 BPA 2219 BPA 2220 BPA 2220 BPA 2221 BPA 2222 BPA 2222 BPA 2223 BPA 2224 BPA 2225 BPA 2225 BPA 2226 BPA 2227 BPA 2228 BPA 2229 BPA 2230 BPA 2231 BPA 2231 BPA 2231	Fragment of Mandible Fragment for Mandible Vertebrae Vertebrae

Turtle Carnivore Mammal Mammal Primate Carnivore ? Primate Primate Primate Mammal Mammal Primate ? Primate ? Bird Carnivore Lagomorpha Mammal Primate Porcupine ? Carnivore ? Mammal Bovidae Mammal Mammal Bovidae Mammal Bovidae Mammal Carnivore Carnivore Bovidae Mammal Mammal Mammal Mammal Mammal Mammal Primate Primate Primate Primate Primate Primate Primate Primate Primate ? Primate Primate Bird Bird Bird Bird Primate Primate Primate Primate Primate Macroscelidae Shrew Shrew Shrew Shrew Mammal Mammal Snake Snake Macroscelidae Bird

BPA 2234	Distal phalanx
BPA 2235	Patella
DFA 2233	Fatena
BPA 2236	Sesamolde
BPA 2237	Sesamoide
BPA 2238	Sesamoide
BPA 2239	Sesamoide
DT A 2235	Casaraaida
BPA 2240	Sesamoide
BPA 2241	Sesamoide
BPA 2242	Premolar
RPA 22/3	Mandihle ede
DI A 2245	Mariano cuc
BPA 2244	Median phala
BPA 2245	Median phala
BPA 2246	Lower molar (
RPA 22/17	Lower molar (
BPA 2248	Lower molar
BPA 2249	Lower molar
BPA 2250	Lower premol
BPA 2251	Lower canine
	Datalla
	Fatella
BPA 2253	Scapho-lunar
BPA 2254	Proximal phale
BPA 2255	Calcaneum
BPA 2256	Distal nartCal
	Drovimal
DrA 223/	Froximal part
BPA 2258	Proximal phale
BPA 2259	Proximal part
BPA 2260	Proximal nhal
DDA 2261	Dictal part of
DFA ZZOL	Distal part of I
BPA 2262	Distal part of I
BPA 2263	Distal part of I
BPA 2264	Median nhala
BPA 2265	Median phala
DI A 2205	
BPA 2266	Proximal part
BPA 2267	Patella
BPA 2268	Cuboid
BPA 2269	Caudal verteb
RPA 2270	Distal part of I
DFA 2270	
BPA 2271	Calcaneum
BPA 2272	Molar
BPA 2273	Distal part of I
RDA 227/	Linner nremol
DFA 2274	opper premo
BPA 2275	Lower molar (
BPA 2276	Incisor
BPA 2277	Upper canine
BPA 2278	Fragment of d
RDA 2270	Distal part of
DFA 2275	
BPA 2280	spinous proce
BPA 2281	Vertebrae cau
BPA 2282	Côte
BPA 2283	Proximal part
000 2200	Drovimal phat
BPA 2284	Proximal priat
BPA 2285	Proximal phai
BPA 2286	Proximal phale
BPA 2287	Median phala
BPA 2288	Median phala
RDA 2280	Provimal part
DFA 2209	Proximal part
DPA 2290	ivietapod
BPA 2291	Proximal part
BPA 2292	Metapod
BPA 2293	Metapod
BPA 2294	Proximal part
	Erogmont of
BPA 2295	Fragment of to
BPA 2296	Distal part of I
BPA 2297	Distal part of I
BPA 2298	Caudal verteb
EDA 2200	Drovimal nart
DFA 2233	Proximal part
BPA 2300	Proximal part
BPA 2301	Fragment of c
BPA 2302	Proximal part
RPA 2302	Fragment of a
DI A 2303	Fragment of S
BPA 2304	⊢ragment of s
BPA 2305	Proximal part
BPA 2306	Astragalus
BPA 2307	Carno-tarcal
	Drovinal nart
DPA 2308	Proximal part
BPA 2309	Proximal part
BPA 2310	Proximal part
BPA 2311	Proximal nhal
	CONTRACT MUTCHING
DDA 2212	Provimal nast
BPA 2312	Proximal part
BPA 2312 BPA 2313	Proximal part Tasal bones as

ble edentelous n phalanx n phalanx molar (m/3) molar (m/3) premolar (p/3) al phalanx partCalcaneum al part of metapod al phalanx al part of metapod al phalanx part of metapod part of metapod part of metapod n phalanx , n phalanx al part of metapod vertebrae part of humérus part of metapod premolar wormed molar (m/3) ent of dent part of metapod is process of thoracic vertebrae orae caudale nal part of proximal phalanx nal phalanx . nal phalanx , nal phalanx n phalanx n phalanx nal part of metapod nal part of metapod nal part of metapod ent of tooth part of radius part of radius vertebrae al part of metapod al part of tibia ent of cervical vertebrae al part of tibia juvenile ent of shaft juvenile ent of shaft juvenile al part of metapod nal part of metapod nal part of ulna juvenile nal part of ulna nal phalanx nal part of metapod ones associated molar (m/3)

Bird Primate Mammal Mammal Mammal Mammal Mammal Mammal Carnivore Carnivore Bovidae Carnivore Primate Primate Primate Primate Primate Primate Carnivore ? Carnivore Carnivore Carnivore Bovidae ? Carnivore ? Carnivore Carnivore ? Carnivore Carnivore Carnivore Carnivore Carnivore Carnivore Carnivore Carnivore Carnivore Mammal Primate Primate Lagomorpha Mammal Primate Primate Primate Primate Bovidae Bovidae Mammal Mammal Mammal Primate Primate Primate Primate Primate Primate Primate? Primate Primate? Mammal Mammal Mammal Bovidae Mammal Carnivore Mammal Carnivore ? Lagomorpha? Primate Mammal Mammal Mammal Mammal Mammal Mammal Mammal Primate Primate Carnivore Carnivore Primate Primate

BPA 2315	Metapod and phalanx associated
BPA 2316	Incisor
BPA 2317	Tooth root
BPA 2318	Incisor Distal part of tibia
BPA 2319 BPA 2320	Proximal part of femur
BPA 2321	Upper incisor (12/)
BPA 2322	Upper incisor (12 /)
BPA 2323	Proximal phalanx
BPA 2324	Proximal part of metapod
BPA 2325	Scapula
BPA 2326	Distal part of median phalanx
BPA 2327	Caudal vertebrae
BPA 2328 BDA 2329	Proximal part of radius
BPA 2329	Distal part of proximal phalanx
BPA 2331	Vertebral body of thoracic vertebrae
BPA 2332	Taphonomic sample
BPA 2333	Carpal
BPA 2334	Carpal
BPA 2335	Proximal part of femur
BPA 2336	Proximal part of metapod
BPA 2337 BPA 2338	Côte
BPA 2339	Proximal phalanx
BPA 2340	Fragment of astragalus
BPA 2341	Fragment of lower premolar
BPA 2342	Fragment of dent
BPA 2343	Fragment of enamel
BPA 2344	Fragment of distal phalanx
BPA 2345	Distal part of radius
BPA 2346	Proximal part of proximal phalanx
BPA 2347 BPΔ 2348	Phalanx
BPA 2349	Distal part of metapod
BPA 2350	Metapod
BPA 2351	Distal part of femur
BPA 2352	Femur head
BPA 2353	Proximal part of proximal phalanx
BPA 2354	Distal part of metapod
BPA 2355	Proximal part of metapod
BPA 2350	Indet
BPA 2358	Caudal vertebrae
BPA 2359	Proximal part of radius
BPA 2360	Indet.
BPA 2361	Diaphyse de radius
BPA 2362	Fragment of thoracic vertebrae
BPA 2363	Proximal part of metapod
BPA 2364	RID nead
BPA 2365	Proximal part of metapod
BPA 2367	Fragment of skull
BPA 2368	Proximal part of phalanx
BPA 2369	Fragment of vertebral body
BPA 2370	Astragalus
BPA 2371	Caudal vertebrae
BPA 2372	Fragment of skull
BPA 2373	Proximal phalanx
BPA 2375	Calcaneum
BPA 2376	Distal part of metapod
BPA 2377	Tarso-metatarsal
BPA 2378	Proximal part of fibula
BPA 2379	Cuboid
BPA 2380	Fragment of trochlea of humerus
BPA 2381	Proximal part of radius
BPA 2382 BPA 2383	Cuboold r Distal nhalany
BPA 2384	Distal part of phalanx
B PA 2385	Lower incisor
BPA 2386	Lower incisor
BPA 2387	Incisor decidual
BPA 2388	Distal phalanx
BPA 2389	Dorsal vertebrae
BPA 2390	Lower incisor
BPA 2391	upper premoiar
DPA 2392	Dhalany
	Phalanx Metanod iuvenile
BPA 2393 BPA 2394	Phalanx Metapod juvenile Phalanx

Carnivore Carnivore Mammal Bovidae Primate Primate Primate Primate Primate Primate Bird Carnivore Mammal Bovidae Mammal Bovidae Mammal Chelonian Carnivore Carnivore Primate Mammal Mammal Mammal Carnivore Carnivore Carnivore Carnivore Rhinocerotidae Carnivore Carnivore Carnivore Primate Bird Mammal Primate Primate ? Primate Primate ? Primate Primate ? Primate Indet. Mammal Bird Mammal Mammal Mammal Carnivore Mammal Suidae Primate ? Mammal Mammal Mammal Primate Mammal Mammal Carnivore Carnivore Mammal Mammal Bird Carnivore Carnivore Primate Carnivore Carnivore Carnivore Bovidae Primate Primate Primate Primate Mammal Bovidae Primate Primate Primate ? Primate Mammal

BPA 2396	Proximal part of Phalanx
BPA 2397	Distal part of metapod
BPA 2398	Fragment of lower premolar
BPA 2399	Fragment of distal part of metapod
BPA 2400	Proximal part of metapod
BPA 2401	Proximal part of phalanx
BPA 2402	Proximal part of metapod
BPA 2403	Proximal part of metapod
BPA 2404	Distal part of phalany
	Provimal part of provimal phalany
DPA 2405	Proximal part of proximal pridiarix
BPA 2400	Proximal part of metapou
BPA 2407	Distal part of metapod
BPA 2408	Distal part of median phalanx
BPA 2409	Fragment of condyle of femur
BPA 2410	Fragment of skull
BPA 2411	Indet.
BPA 2412	Molar
BPA 2413	Fragment of mandible
BPA 2414	Fragment of mandible
BPA 2415	Fragment of maxilla
BPA 2416	Fragment of maxilla
BPA 2417	Isolated upper teeth
BPA 2418	Fragment of mandible
BPA 2419	Fragment of mandible
BPA 2420	Fragment of mandible
BPA 2421	Fragment of mandible
BPA 2422	Fragment of mandible
BPA 2423	Fragment of mandible
BPA 2424	Fragment of mandible
BDA 2424	Fragment of mandible
BDA 2425	Fragment of mandible
BPA 2420	Fragment of mandible
DFA 2427	Fragment of mandible
BPA 2428	
BPA 2429	Fragment of mandible
BPA 2430	Fragment of mandible
BPA 2431	Fragment of mandible
BPA 2432	Fragment of mandible
BPA 2433	Fragment of mandible
BPA 2434	Fragment of mandible
BPA 2435	Fragment of mandible
BPA 2436	Fragment of mandible
BPA 2437	Fragment of mandible
BPA 2438	Fragment of mandible
BPA 2439	Fragment of mandible
BPA 2440	Fragment of mandible
BPA 2441	Fragment of mandible
BPA 2442	Fragment of mandible
BPA 2443	Fragment of mandible
BPA 2444	Fragment of mandible
BPA 2445	Fragment of mandible
BPA 2446	Fragment of mandible
BPA 2447	Fragment of mandible
BPA 2448	Fragment of mandible
BPA 2//9	Fragment of mandible
BPA 2450	Fragment of mandible
RDA 2451	Fragment of mandible
DFA 2431 DDA 3453	Fragment of mandible
DPA 2433	
DPA 2454	Fragment of mandible
BPA 2455	Fragment of mandible
BPA 2456	Fragment of mandible
BPA 2457	Fragment of mandible
BPA 2458	Isolated lower teeth

Carnivore Primate Bovidae Bovidae Mammal Bovidae ? Primate Primate Mammal Carnivore Primate Primate Carnivore Primate Mammal Mammal Lagomorpha Macroscelidae Macroscelidae

-written permission from affected landowners At the end of this report -a geographic map (at least 1:10 000 or 1:50 000), clearly indicating the location of the site (for specific locality excavation permits)



1:10 000



-a map and detailed diagram of the local stratigraphy and specific site stratigraphy must be included (for specific locality excavation permits)



Brad Pit (BPA, BPB & BPE)

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Waypoint 160.



-detailed high quality photographs of collection/excavation points or localized and recovered specimens.



Views of the excavation at Brad Pit during the October 2021 Fieldwork season.



Some fossil remains found at BPA. From left to right, top line (lizard mandible, shrew mandible), middle line (carnivore median phalanx, carnivore calcaneum), bottom line (fragment of primate maxilla, various foot bones found associated).



Views of the excavation at Brad Pit during the October 2021 Fieldwork season.

-pdf copies of publications and theses in connection with this permit (if "in press, in review, submitted or in prep", indicate the journal it is planned to be published in):

- VILAKAZI N., GOMMERY D. & KGASI L. (2020). Fossil Acrodonta from Brad Pit A (Bolt's Farm Cave System), South Africa. *Annals of the Ditsong National Museum of Natural History* **9**, 48-53.
- KUHN B.F., KGASI L. & GOMMERY D. (accepted). Fossil rarities from the Bolt's Farm fossil localities, Gauteng, South Africa. Annals of the Ditsong National Museum of Natural History 10.

For information:

KUHN B. F., SALESA M., ANTÓN M., ARGANT A., RANDOLPH-QUINNEY P., KGASI L. & GOMMERY D. (in prep.). A New Species of Panthera, From the Bridge Cave fossil deposits, Bolt's Farm, Gauteng, South Africa. *Journal of Vertebrate Paleontology*.

From: Charlene Klinkert [mailto:charlene@sterkfonteinfarms.co.za] Sent: Monday, 05 October 2020 08:09 To: Lazarus Kgasi <lkgasi@ditsong.org.za> Subject: RE: Renewal Letter

Good morning

Permission granted

Regards

Charlene Klinkert



Cell Email Contact Fax Web

Charlene Klinkert - Director

079 749 7210 / 082 632 9526 charlene@sterkfonteinfarms.co.za 010 010 0110 086 660 5865 www.sterkfonteinfarms.co.za

Sterkfontein Poultry (Pty) Ltd

Reg No. 1998/017340/07 | VAT No. 4670179623

PO BOX 551, RANT EN DAL, 1751 email: admin@sterkfonteinfarms.co.za

From: Lazarus Kgasi [mailto:lkgasi@ditsong.org.za] Sent: 02 October 2020 12:57 PM To: charlene@sterkfonteinfarms.co.za Cc: Charlene Klinkert; 'Dominique GOMMERY' Subject: Renewal Letter

Dear Mrs Klinkert

I trust this email finds you well and safe.

Our excavation permit is up for renewal and we were requesting a permission letter to continue to excavate at Bolts Farm area(your property). Ditsong Museum in Pretoria (formerly Transvaal Museum) in collaboration with CNRS from Paris France wishes to continue doing research on this very important property, our research is very important in understanding our past life and educational purpose, like the exhibitions.

Looking forward to hearing from you.

Thank you in advance.

Kind regards,

Lazarus Kgasi Junior Curator



National Museum of Natural History 432 Paul Kruger Street Pretoria, 0002 Republic of South Africa Ikgasi@ditsong.org.za www.ditsong.org.za P O Box 413 Pretoria, 0001 Republic of South Africa Tel: +27 12 492 5807

Voted "Best Museum" in the Pretoria News 2018 Readers' Choice Awards

1 sur 2

12/10/2020 à 08:58