



environmental affairs

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REPUBLIC OF SOUTH AFRICA

Ref: 16/5/7

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Ms Mechtild Rössler
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Dear Ms Rössler

SUBMISSION OF THE PROGRES REPORT FOR THE FOSSIL HOMINID SITES OF SOUTH AFRICA WORLD HERITAGE SITE (STERKFORTEIN, SWARTKRANS, KROMDRAAI, AND ENVIRONS COMPONENT) (C 915 BIS)

The World Heritage Committee Decision 41 COM 7B.72 (attached) hereby refers:

Decision 41 COM 7B.72 of the World Heritage Committee, amongst others, requested the State Party to submit to the World Heritage Centre, by **01 December 2017**, a Progress Report for examination by the World Heritage Committee at its 42nd session in 2018 addressing the following:

- (i) design specifications and an Environmental Impact Assessment (EIA) for the Phase 2 Western Basin Treatment Works;**
- (ii) detailed information on water management within the property (water quality targets and management framework of the property);**
- (iii) preparation of a Risk Prevention Strategy for the vulnerable fossil sites.**

The attached Progress Report for Fossil Hominid Sites of South Africa World Heritage Site (Sterkfontein, Swartkrans, Kromdraai, and Environs component) addresses the World Heritage Committee's concerns on the above mentioned issues. An updated progress report on (i) the appointment of a consortium of professional services provider (PSP) to undertake engineering design and optimisation for the proposed AMD Long-Term Solution project (ii) the management framework of the property and engagement with stakeholders will be submitted to the

SUBMISSION OF THE PROGRES REPORT FOR THE FOSSIL HOMINID SITES OF SOUTH AFRICA WORLD HERITAGE SITE (STERKFontein, SWARTKRANS, KROMDRAAI, AND ENVIRONS COMPONENT) (C 915 BIS)

World Heritage Centre by **01 February 2018**. Furthermore, an updated report on the state of conservation for the property will be submitted by **01 December 2018**.

In case you need more information or clarity on the above mentioned, please do not hesitate to contact the Director: World Heritage Management, Ms Thumeka Ntloko on Tel: 012 399 9531 or email tnitloko@environment.gov.za.

Yours Sincerely



Ms Nosipho Ngcaba

Director General

Department of Environmental Affairs

Letter signed by: Mr Shonisani Munzhedzi

Designation: Deputy Director-General: Biodiversity and Conservation

Date: 30/11/2017

**PROGRESS REPORT FOR THE FOSSIL HOMINID SITES OF SOUTH AFRICA WORLD HERITAGE SITE
(THE STERKFORTEIN, SWARTKRANS, KROMDRAAI AND ENVIRONS COMPONENT) (C 915 BIS)**



SOUTH AFRICA

BY THE GOVERNMENT OF THE REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF ENVIRONMENTAL AFFAIRS

**Report development in partnership with the Management Authority
(Gauteng Department of Economic Development) and the
Council for Scientific and Industrial Research (CSIR)**

December 2017

IDENTIFICATION OF THE PROPERTY

Name of property: Fossil Hominid Sites of South Africa World Heritage Site (the Fossil Hominid Sites of Sterkfontein, Swartkrans, Kromdraai and Environs component) (C 915 BIS)

State Party and Province(s): South Africa, Gauteng and North-West Provinces

Criteria: (iii) and (iv)

1 EXECUTIVE SUMMARY

This report is the State Party of South Africa's response to Decision **41 COM 7B.72** adopted at the 41st session of the World Heritage Committee (WHC) meeting (Krakow, 2017) and further acknowledges the recall of decision **39 COM 7B.44** adopted by the WHC at its 39th session (Bonn, 2015) in relation to the *Fossil Hominid Sites of Sterkfontein, Swartkrans, Kromdraai and Environs* (more commonly referred to as the Cradle of Humankind World Heritage Site) a component of the serial *Fossil Hominid Sites of South Africa*.

The water resources management framework of the site is driven by the National Department of Water and Sanitation (DWS). The water resources monitoring programme is implemented, managed and funded by the Gauteng Department of Economic Development (GDED) as the Management Authority and augments the water resources monitoring and management mandate of the DWS. The Management Authority has re-appointed the Council for Scientific and Industrial Research (CSIR) to implement the Water Resources Monitoring Programme for a 3-year period from October 2017 to September 2020. The Department of Environmental Affairs (DEA) exercises environmental oversight over the mine water treatment plants.

The DWS has commissioned an expansion of the Western Basin treatment works to a capacity of 50 to 70 ML/d. This has been linked to the Long-Term Solution (Phase 2) to address Acid Mine Drainage (AMD) on the Witwatersrand as approved in May 2016 by the Department of Water and Sanitation.

The State Party is committed to addressing the other concerns expressed in Decision **41 COM 7B.72** through the submission of an update report on the state of conservation of the property by **01 February 2018**.

2. RESPONSE TO THE DECISION OF THE WORLD HERITAGE COMMITTEE

Decision 41 COM 7B.72 of the World Heritage Committee requested a response from the State Party on the following discussion points (**see attached Annexure A**):

2.1. *Recalling Decision 39 COM 7B.44 adopted at its 39th session (Bonn, 2015)*

The State Party is pleased to state that the decision mentioned above has been fully complied with.

2.2. Requests the State Party to provide more detailed information on the water management within the property:

a. Water Quality Targets

The responsibility for the monitoring of the quality of mine water discharged from the mine and the setting of water quality targets for the area falls within the mandate of the DWS. The below **Table 2** values lists the current target water quality for treated and neutralised mine water. These values pertain to treated and neutralised mine water, where it is discharged from the treatment works, and not to the water flowing in the downstream reaches of the receiving drainages. The deviation evident between **Table 1** and **Table 2** (e.g. the different electrical conductivity and sulfate values) relate to factors such as the assimilative capacity of the receiving water resource, other water users, etc.

Table 1: Current target water quality for treated and neutralised mine water discharged to the environment as of 30 October 2017.

Water quality variable	Unit	Target value	Guideline 1 ⁽¹⁾	Guideline 2 ⁽²⁾
pH	$-\log_{10} a_{H^+}$	6.5 to 9.5	5.0 to 9.7	Background \pm 5%
Electrical conductivity	$\mu S/cm$	<4500	<1700	TDS ⁽⁴⁾
Turbidity	NTU	<30	<5	TSS ⁽⁵⁾
Sulfate ⁽³⁾	mg/L	<3000	<500	not specified
Aluminium ⁽³⁾ @ pH <6.5	mg/L	not reported	<0.3	<0.005
Aluminium @ pH >6.5	mg/L	not reported	<0.3	<0.01
Manganese ⁽³⁾	mg/L	<10	<0.5	<0.18
Iron ⁽³⁾	mg/L	<1	<2.0	Background \pm 10%
Uranium ⁽³⁾	$\mu g/L$	not reported	<30	not specified
Chromium VI	mg/L	not reported		<0.007
Chromium III	mg/L	not reported		<0.012

(1) Guideline for drinking water as per SANS (2015a; 2015b), for reference purposes

(2) Guideline for aquatic ecosystems as per DWAF (1996), for reference purposes

(3) Dissolved concentration

(4) Total dissolved solids (TDS) used as proxy for electrical conductivity. TDS not to change by >15% from the normal cycles of the water body under unimpacted conditions at any time of year

(5) Total suspended solids (TSS) used as proxy for turbidity. TSS background concentration <100 mg/L for all aquatic ecosystems, and any increase limited to <10% of background at a specific site and time

The 'standards' applied in the monitoring programme to date adhere to the standards formulated by the South African National Standard (SANS) for drinking water (SANS, 2015a; 2015b). These have been considered the most appropriate since the communities surrounding the world heritage property rely on their own boreholes for

portable water supply. The set of water quality guidelines developed in 1996 by the then Department of Water Affairs and Forestry (DWAF) provide amongst others for aquatic ecosystems (DWAF, 1996). These guidelines would be applied to the surface water drainages on the world heritage property, however their rigid application leaves no room for adaptability to different circumstances. The varying quality of groundwater from karst basin to karst basin on the world heritage property renders the application of the SANS and DWAF guidelines impracticable. Similarly, the compromised Bloubaan Spruit system cannot compete with the nearly pristine Skeerpoort River system regarding surface water quality.

The concept of Resource Water Quality Objectives (RWQOs) (DWAF, 2007), developed as a part of the Resource Quality Objectives (RQOs) process within the Resource Directed Measures (RDMs) strategy, provides the means to set drainage- or basin-specific water quality targets for the property to compensate against the perceived rigidity in applying the SANS and DWAF guidelines. The application of RWQOs does not require gazetting as such, but will provide the water quality input to the formal RQOs process (Hobbs and Gush, 2017).

The water resources monitoring programme will be enhanced by and benefit from the setting of different RWQOs which proposes that water quality targets (RWQOs) be set for each of the major tributaries and main stems in the Bloubaan and Skeerpoort drainage systems, as well as for each of the karst basins on the world heritage property. These would represent realistic targets tailored to the conditions that currently define the variability of water quality associated with each hydrologic or hydro geologic regime.

b. Water Management Framework

Stakeholder engagement is a key expectation of the current water resources monitoring programme (Hobbs and Gush, 2017). This is focused first and foremost on the institutional stakeholders such as the Department of Environmental Affairs (national and provincial) and the Department of Water and Sanitation (national and provincial) as well as local authorities, especially the Mogale City Local Municipality (MCLM) as the custodian of the Percy Stewart Wastewater Treatment Works.

The Department of Water and Sanitation is the authority responsible for the management of both surface and groundwater resources in the region. The Management Authority participates in and contributes to the regional water resources management framework by taking responsibility both technically and financially for the Cradle of Humankind World Heritage Site (COHWHS) water resources monitoring programme. This responsibility is discharged through the appointment of a Professional Service Provider (PSP) on a contract basis underwritten by a Service Level Agreement (SLA). The SLA defines a range of activities and suite of deliverables to be performed and produced in the course of a 'monitoring year' extending from April to March of the following year. The State Party, through its Inter-Ministerial Committee (IMC) on AMD and an Inter-Governmental Task Team (IGTT), the latter chaired by the Director-General of the DWS, is responsible for the management of mine water rising in the Western Basin upstream of the world heritage property. The Management Authority of the COHWHS is represented on the IGTT.

Following the outcome of the Gauteng Department of Economic Development's bid GT/GDED/092/2017, the CSIR was re-appointed to serve the water resources monitoring programme for a 3-year period from October 2017 to September 2020 to the value of R4 660 696.79. As set out in the Inception Report (Hobbs and Gush, 2017), this is a continuation of the programme that commenced in 2012 after a water resources situation assessment had developed an improved understanding of the water resources environment (Hobbs et al., 2011). The original situation assessment report was reviewed and favourably commented on by UNESCO's World Heritage Centre (WHC) as reflected in the World Heritage Committee draft decision 37 COM 7B.44 adopted at the 37th session (Phnom Penh, Cambodia, 16 to 27 June 2013). The programme has served as a basis for the compilation of two (2) State of Conservation (SOC) reports (RSA, 2014; 2016) submitted by the State Party to the WHC.

The DWS Chairs the Magaliesburg Catchment Management Forum (CMF), a voluntary association constituted in accordance with the National Water Act, 1998 (Act No 36 of 1998). This Act recognises that water is a scarce and unevenly distributed resource that requires integrated management and further encourages the coordination and facilitation of water resources management functions at regional and catchment level under the auspices of a Catchment Management Agency and subsidiary CMFs such as the Magaliesburg CMF. It also co-operates closely in managing the hydrogeological data generated in the course of the monitoring programme. The data is curated by the DWS in the National Groundwater Archive, and accessible to any interested party on request.

The latter provides for stakeholder participation in the issues affecting the water user communities, including those downstream of the Western Basin water treatment plant. Acceptance of the RWQOs by various authorities and stakeholders will require some measure of participation in the process in order to have any material effect. The degree to which the RWQOs can and will be achieved is necessarily a function of their uptake and enforceability as a component of RQOs.

Since the Cradle of Humankind is a serially listed world heritage site managed by three different departments, the Department of Environmental Affairs established a Joint Management Committee (JMC) to provide for cooperative governance as outlined in Chapter 3 of the Constitution of the Republic of RSA (No 108 of 1996). The purpose therefore is to enhance coordination of activities of the three Management Authorities when performing their delegated powers and duties.

A broader stakeholder consultation meeting was convened with Interested and Affected Parties (I&Ps) on 26 October 2015 in terms of Section 7(1) of the World Heritage Convention Act No.49 of 1999 (WHCA), in order to urgently establish the Management Authority. A Steering Committee to facilitate the State Party's required stakeholder consultation with I&Ps was established. In a letter dated 14 October 2017, the Minister of Environmental Affairs appointed the Member of Executive Council for the Gauteng Department of Economic Development, Environment, Agriculture and Rural Development as the Management Authority for the Cradle of Humankind World Heritage Site (COHWHS) in terms of Section 8 of the World Heritage Convention Act, 1999 (Act No. 49 of 1999).

Landowners are recognised as another important stakeholder grouping for the world heritage property. This grouping is to be engaged through the medium of audio-visual presentations held at convenient times (e.g. Saturdays) at a local in the study area (e.g. Sterkfontein Caves and Maropeng Visitor's Centres). These events will be communicated through the avenues generally employed by the Management Authority, such as email correspondence and advertising.

A third stakeholder grouping is the palaeo-anthropologists active on the property, and the associated Research institutions. The most prominent members of this stakeholder group are those associated with the Evolutionary Studies Institute at the University of Witwatersrand. It is envisaged that a presentation be made to this important stakeholder grouping on the recently acquired improved understanding of the water resources environment. Of particular interest in this regard is the groundwater regime and its intimate association with poor quality surface water in relation to the threat to a handful of the fossil sites, most notably Rising Star, in the Zwartkrans Basin, although it must again be stressed that there are currently no known fossil deposits, or any under excavation, that are in any true close proximity to contaminated water.

A final stakeholder grouping is the staff, and in particular the tour guides, at Sterkfontein Caves and Maropeng (the official visitor centre in the COHWHS). These individuals have the responsibility to communicate various aspects of the cave system to the visiting public, and the cave lake is an excellent feature on which to base a discussion of the local and regional water resources environment. The recently acquired improved understanding of this aspect will be conveyed to this group in order that they, in turn, can communicate this understanding at a very basic level to tourists. The first such briefing session is scheduled for November 2017.

An over-looked aspect of stakeholder engagement in its broadest sense is the publication of peer reviewed scientific articles in accredited scientific journals. These aim to disseminate the 'learning' acquired from the water resources monitoring programme to a wide audience. Examples of these are articles by Hobbs (2015a; 2017) and by Hobbs and De Meillon (in press). It is envisaged that a number of such articles will be produced on various aspects related to the water resources environment of the property. Opportunities to present material at appropriate local and international conferences/symposia will also be explored. Past examples hereof are Hobbs (2015b) and Hobbs and Mills (2012; 2015).

2.3. Risk Prevention Strategy

As per **Decision 41 COM 7B.72**, the State Party has been requested to prepare a risk prevention strategy for the vulnerable fossil sites and submit it to the World Heritage Centre, for review by the Advisory Bodies. Work is currently underway with the South African Heritage Resource Agency (SAHRA) to address the above request in the context of the cultural heritage resources for the world heritage property, and an update of this work will be provided in the State of Conservation Report due on 01 December 2018.

In regards to the abovementioned risk prevention strategy the State Party again wishes to re-iterate that there are currently no known fossil deposits, including any underground excavations, that are in contact with or in very

close proximity to contaminated water, either in the form of groundwater or surface water, nor have there been any historically. The relative distances between the known fossil bearing deposits within those paleontological sites deemed as vulnerable and the water resources (both groundwater and surface water) and the likelihood of contact between these deposits and the water resources (and proposed interventions in such events) will be further expanded upon in the forthcoming State of Conservation Report.

As a further layer of protection and risk management, aquatic ecosystem health surveys have been included in the water resources monitoring programme going forward (Hobbs and Gush, 2017). In the Bloubank Spruit catchment, these surveys will target sites in the Tweelopie and Blougat tributaries as well as the main stem where the CSIR has previously carried out such surveys. This will provide for a more acceptable comparison of 'old' and 'new' results. A suitable site in the Skeerpoort River catchment will be identified in order to provide a reference condition for karst spring water-dominated drainages. These surveys will contribute to a risk prevention strategy for the property.

The assessment of the ecological state of surface water resources at the predetermined sampling sites will be undertaken by assessing the status of the macro invertebrate community and instream habitat following methods prescribed by the River Eco-status Monitoring Programme (REMP) of the DWS. The South African Scoring System, version 5 (SASS5) (Dickens and Graham, 2002) is an ecological status assessment tool that involves the sampling of the instream aquatic macro-invertebrate community and the findings are compared against a reference condition of that water body type. It is recognised that the Skeerpoort River site will not provide a representative reference site for the Bloubank Spruit, as the latter has for many decades experienced anthropogenic impacts from its tributary headwater reaches. A site on the minor Flip-se-Gat tributary of the Tweelopie Spruit in the Krugersdorp Game Reserve, although not ideal, will serve this purpose. A limited historical record for this site exists. The Skeerpoort River site will provide a type locality for characterising the aquatic ecosystem in a near-pristine karst spring water-driven drainage.

SASS is a qualitative, multi-habitat, rapid, field-based method that requires identification of macro-invertebrates mostly to family level. Sensitivity weightings are used to calculate the biotic index. These have been pre-assigned to individual taxa according to the water quality conditions each taxon is known to tolerate. SASS has proved to be an efficient and effective means of assessing water quality impairment and general river health (e.g. Dallas, 1997; Chutter, 1998; Dickens and Graham, 2002). The state of habitat degradation is amongst the indicators for aquatic ecological health, and will be assessed using the Invertebrate Habitat Assessment System (IHAS) (McMillan, 1998) which is a measure of the SASS biotopes sampled (Dallas, 2007; Thirion, 2007).

2.3. Requests the State Party to submit the design specifications for the project and an Environmental Impact Assessment (EIA) as soon as they are available and by 1 December 2017 at the latest.

2.3.1. (a) Phase 1: Western Basin Works

Phase 1 of the Western Basin mine water treatment works entailed the commissioning by the DWS in mid-2012 of a retrofitted and refurbished high density sludge (HDS) mine water treatment plant with a capacity of 34 ML/d by mid-2013. This pump-and-treat facility represented a short-term intervention directed at managing the discharge of acidic mine water to the environment. A Directive issued by the DWS in November 2011 prescribed a target water quality for treated and neutralised mine water shown in **Table 1**.

Table 2: Target water quality for treated and neutralised mine water discharged to the environment as per DWS directive ref. 16/2/7/C231/G003 dated November 2011.

Water quality variable	Unit	Target value	Guideline 1 ⁽¹⁾	Guideline 2 ⁽²⁾
pH	$-\log_{10} a_{H^+}$	6.5 to 9.5	5.0 to 9.7	Background \pm 5%
Electrical conductivity	$\mu\text{S}/\text{cm}$	<3500	<1700	TDS ⁽⁴⁾
Sulfate ⁽³⁾	mg/L	<2500	<500	not reported
Aluminium ⁽³⁾	mg/L	<1	<0.3	<0.005
Manganese ⁽³⁾	mg/L	<10	<0.5	<0.018
Iron ⁽³⁾	mg/L	<1	<2.0	Background \pm 10%
Uranium ⁽³⁾	$\mu\text{g}/\text{L}$	<50	<30	not reported
(1) Guideline for drinking water as per SANS (2015a; 2015b)				
(2) Guideline for aquatic ecosystems as per DWAF (1996)				
(3) Dissolved concentration				
(4) Total dissolved solids (TDS) used as proxy for electrical conductivity. TDS not to change by >15% from the normal cycles of the water body under unimpacted conditions at any time of year				

Table 1 shows that the target value for most of the listed variables exceeds the guideline limits for both drinking water (SANS 2015a, 2015b) and aquatic ecosystems (DWAF, 1996). It is important to note that the target values pertain to treated and neutralised mine water where it is discharged from the treatment works, and not to the water flowing in the downstream reaches of the receiving drainages. In the direction of flow, these are the Tweelopie Spruit, the Riet Spruit and the Bloubank Spruit. As the latter two drainages traverse the southern portion of the world heritage property, it is inevitable that water with a strong mine water composition is manifested in the surface water discharge in this part of the property.

The pump-and-treat facility arrested raw mine water discharge to the environment, and produced a neutralised mine water discharge that resulted in an improvement in the downstream aquatic environment as determined by aquatic ecosystem health surveys. The treatment process, however, only partially reduces the salt load that is dominated by sulfate (~60% of total dissolved solids). This is a concern for the downstream receiving environment where the poor quality allogenic surface water infiltrates the karst aquifer in the south-western portion of the world heritage property. The State Party continues to monitor this impact

The current 34 ML/d capacity of the mine water treatment plant is currently inadequate to control the volume of decant generated in exceptionally wet summer rainfall seasons. As a result, the DWS, through its implementing agent for the short-term intervention, the Trans-Caledon Tunnel Authority (TCTA), has commissioned an expansion of the Western Basin treatment works to a capacity of 50 to 70 ML/d, supported by a mine water pumping rate of 60 ML/d.

2.3.1. (b). Phase 2: Western Basin Works

The second phase of the Western Basin treatment works project represents the implementation of the Long-Term Solution (LTS) approved by the Department of Water and Sanitation in May 2016 to manage Acid Mine Drainage (AMD) on the Witwatersrand.

The Request for Proposal (RFP) for the appointment of a Professional Service Provider (PSP) for consulting services with regards to the LTS closed on 21 April 2017. The compulsory briefing session held on 14 March 2017 was attended by 66 individuals representing 50 potential bidders. Requests for clarification were addressed in two (2) notices dated 22 and 30 March 2017 respectively. Adjudication has been concluded and the outcome is pending approval by the board of the Trans-Caledon Tunnel Authority (TCTA).

The pumping and treatment capacity of the Western Basin mine water treatment plant is currently 40 ML/d, and does not require increased capacity. The RFP scope of services requires of the PSP to "*Critically review the planning and design of AMD-LTS to confirm the decisions*", and be considerate of required treated water quality total dissolved solids (TDS) levels that reduce salinity to near portable standard. Further discussion of this aspect and of the associated Environmental Impact Assessment cannot occur until the PSP appointment process and review recommendations are finalised, and relevant stakeholders (including the Management Authority) have been engaged for their input.

The review will be considerate of treated water quality in ensuring that whatever quality is targeted, makes for a best case towards the envisaged end-use. In regard to the latter, TDS is the overriding factor in ensuring that a reduced salinity requirement (almost to that of portable water) becomes desirable irrespective of the end-use.

With regard to environmental considerations, the RFP scope of services provides for defining environmental authorisations required for, and environmental risks associated with, the recommended solution and alternatives (items 1.1.7 and 1.1.8, p. 68 of 132) in consultation with the EIA Practitioner. For example, discharges of ~40 ML/d into the unlined channel that conveys this water across the mine property to where it enters the environment, might pose a risk of erosion of the channel. The scope of services also requires the establishment of an independent environmental baseline before commencement of construction (sub-task 3.4, item (ii), p. 72 of 132), and that the operational environmental management programme (OEMPr) of the short-term solution be integrated with that of the LTS (sub-task 3.5, p. 76 of 132).

The parameters currently being monitored at the Western Basin AMD Treatment Facility are: pH, Temperature, Manganese, Acidity, Alkalinity, Turbidity, Levels, Rainfall, sulphate content and Electrical Conductivity.

The DWS has issued a Directive to the Trans-Caledon tunnel Authority (TCTA) in terms of Sections 19 and 20 of the National Water Act, 1998 (Act 36 of 1998) [NWA] authorising the disposal of treated mine water derived during the emergency works (immediate solution) to address Acid Mine Drainage (AMD) in the Western Basin into the Tweelopies (East) Spruit, Krugersdorp.

A process is underway to appoint a consortium of professional services provider (PSP) to undertake engineering design and optimisation for the proposed AMD Long-Term Solution project. Appointment of the PSP is targeted for November 2017 and the Terms of Reference are attached as **Annexure C**. Progress on the appointment of the PSP and their activities will be provided in the next State of Conservation Report.

The State Party commits to submitting the design specifications for the project and the Environmental Impact Assessment (EIA) for review by the Advisory Bodies as soon as they are available.

2.3.2. Environmental Impact Assessment

In October 2012, the TCTA applied for exemption from the Environmental Impact Assessment (EIA) regulations for the immediate intervention for acid mine drainage from the Witwatersrand Goldfields (Bobbins, 2015; TCTA, 2012). The Department of Environmental Affairs (DEA) exercises environmental oversight over the mine water treatment plants, of which there are now three, one in each of the Western, Central and Eastern basins of the Witwatersrand.

The Environmental Impact Assessment (EIA) Practitioner was appointed in July 2017 for the Witwatersrand Acid Mine Drainage Project Phase 2 (Long-Term Solution). A draft Inception Report was produced on 30 September 2017 and registration of the formal EIA with the competent authority is pending the proposed project design report. The EIA scoping report is expected to be drafted by mid-2018 and the EIA process is scheduled to take at least 12 months later and finalisation is aimed for the end of 2018. The final Inception Report will be provided with the next State of Conservation Report. The Advisory bodies will be afforded an opportunity to comment on the proposed project design as part of the EIA public participation process.

3. SIGNATURE OF THE AUTHORITY

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des Nations Unies
pour l'éducation,
la science et la culture

Organización
de las Naciones Unidas
para la Educación,
la Ciencia y la Cultura

Организация
Объединенных Наций по
вопросам образования,
науки и культуры

منظمة الأمم المتحدة
للتربية والعلم والثقافة

联合国教育、
科学及文化组织

**Culture Sector
Division for Heritage**

H. E. Mr Rapulane Sydney Molekane
Ambassador Extraordinary and
plenipotentiary of South Africa in
France
Permanent Delegate of South Africa to
UNESCO
Ambassade de l'Afrique du Sud
59, Quai d'Orsay
75343 PARIS Cedex 07

Ref.: CLT/HER/WHC/RSA/17/146/EM 31 July 2017

Dear Ambassador,

As you are aware, at its 41st session (Krakow, 2017), the World Heritage Committee examined the state of conservation of the following World Heritage property: **Fossil Hominid Sites of South Africa (South Africa) (C 915bis)**.

You will find attached in Annex I, the Committee Decision **41 COM 7B.72**, concerning this property. In this Decision, the Committee requested your authorities to submit by **1 February 2018**, a progress report, and by **1 December 2018**, an updated report on the state of conservation of the property, for examination by the World Heritage Committee at its 43rd session in 2019.

At its 39th session (Bonn, 2015), the Committee adopted a specific compulsory format for the submission of state of conservation reports by the States Parties. The format is included as Annex 13 of the *Operational Guidelines* and attached to this letter for ease of reference. You are kindly requested to use this format for the submission of the report on the aforementioned property, in one of the working languages of the *Convention*, English or French (Decision **39 COM 7**).

I would also like to call upon your authorities to do their utmost to comply with the above-mentioned statutory deadline for the submission of the report in order to ensure the best time available for exchange and dialogue between your authorities, the World Heritage Centre and the Advisory Bodies on the issues at stake before the next report to the Committee is produced.

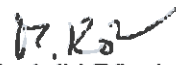
In addition to the examination of individual reports on the state of conservation of properties, the Committee also discussed more general conservation issues and adopted Decision **41 COM 7** to clarify its position on a number of current conservation issues and to provide guidance to States Parties in this regard. I therefore strongly encourage you to also consider this decision.

.../...

- 2 -

Thanking you for your continuous collaboration and support in the implementation of the *World Heritage Convention*, I remain.

Yours sincerely,



Mechthild Rössler
Director
World Heritage Centre

cc: National Commission of South Africa for UNESCO
ICOMOS
UNESCO Office in Harare
Department of Environmental Affairs and Tourism
ICCROM

ANNEX I

World Heritage Committee 41st session (Krakow, 2017)

Decision: 41 COM 7B.72

Fossil Hominid Sites of South Africa (South Africa) (C 915bis)

The World Heritage Committee,

1. Having examined Document WHC/17/41.COM/7B,
2. Recalling Decision **39 COM 7B.44**, adopted at its 39th session (Bonn, 2015),
3. Notes that the water monitoring programme has been effective in confirming that the main areas of high water pollution are located in the south west part of the property, but expresses concern that the polluted effluent from the current water treatment plant continues to present a high risk to fossil sites;
4. Also notes the arrangements for water management within the property, and reiterates its request to the State Party to provide more detailed information on:
 - a) Water quality targets,
 - b) The overall management framework of the property, including an update on the State Party's engagement with stakeholders;
5. Requests the State Party to prepare a risk prevention strategy for the vulnerable fossil sites and submit it to the World Heritage Centre, for review by the Advisory Bodies;
6. Welcomes the approval in principle given in May 2016 for the development of the second phase of the Western Basin treatment work project, which will improve the quality of water effluent, thus reducing the threat to the fossil remains, and also reiterates its request to the State Party to submit the design specifications for the project and an Environmental Impact Assessment (EIA) to the World Heritage Centre for review by the Advisory Bodies, as soon as they are available, and by 1 December 2017 at the latest, and before the parameters of the project have been determined and a construction contract awarded, in order that the review can inform the project;
7. Also requests the State Party to submit to the World Heritage Centre, by 1 February 2018, a progress report, and by 1 December 2018, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 43rd session in 2019.

ANNEX II

Format for the submission of state of conservation reports by the States Parties (Annex 13 of the Operational Guidelines)

Name of World Heritage property (State(s) Party(ies)) (Identification number)

1. Executive Summary of the report

[Note: each of the sections described below should be summarized. The maximum length of the executive summary is 1 page.]

2. Response to the Decision of the World Heritage Committee

[Note: The State(s) Party(ies) is/are requested to address the most recent Decision of the World Heritage Committee for this property, paragraph by paragraph.]

If the property is inscribed on the List of World Heritage In Danger

Please also provide detailed information on the following:

- a) Progress achieved in implementing the corrective measures adopted by the World Heritage Committee

[Note: please address each corrective measure individually, providing factual information, including exact dates, figures, etc.]

If needed, please describe the success factors or difficulties in implementing each of the corrective measures identified

- b) Is the timeframe for implementing the corrective measures suitable? If not, please propose an alternative timeframe and an explanation why this alternative timeframe is required.
- c) Progress achieved towards the Desired state of conservation for the removal of the property from the List of World Heritage In Danger (DSOCR)

3. Other current conservation issues identified by the State(s) Party(ies) which may have an impact on the property's Outstanding Universal Value [Note: this includes conservation issues which are not mentioned in the Decision of the World Heritage Committee or in any information request from the World Heritage Centre]

4. In conformity with Paragraph 172 of the Operational Guidelines, describe any potential major restorations, alterations and/or new construction(s) intended within the property, the buffer zone(s) and/or corridors or other areas, where such developments may affect the Outstanding Universal Value of the property, including authenticity and integrity.

5. Public access to the state of conservation report

[Note: this report will be uploaded for public access on the World Heritage Centre's State of conservation Information System (<http://whc.unesco.org/en/soc>). Should your State Party request that the full report should not be uploaded, only the 1-page executive summary provided in point (1.) above will be uploaded for public access].

6. Signature of the Authority



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Ref: 16/5/7

Enquiries: Thumeka Ntloko

Tel: +2712 399 9531 Email: tnloko@environment.gov.za
www.environment.gov.za

Ms Mechtild Rössler
Director: UNESCO World Heritage Centre
7, palace de Fontenoy
75352 Paris 07 SP
FRANCE

E-mail: k.Monteil@unesco.com

Dear Ms Rössler

SUBMISSION OF PROGRES REPORT FOR THE FOSSIL HOMINID SITES OF SOUTH AFRICA WORLD HERITAGE SITE (STERKFORTEIN, SWARTKRANS, KROMDRAAI, AND ENVIRONS COMPONENT) (C 915 BIS)

The World Heritage Committee Decision **41 COM 7B.72** (attached) hereby refers:

Decision 41 COM 7B.72 of the World Heritage Committee, amongst others, requested the State Party to submit to the World Heritage Centre, by **01 February 2018**, a Progress Report for examination by the World Heritage Committee at its 42nd session in 2018 addressing the following:

- (i) design specifications and an Environmental Impact Assessment (EIA) for the Phase 2 Western Basin Treatment Works;
- (ii) detailed information on water management within the property (water quality targets and management framework of the property);
- (iii) preparation of a Risk Prevention Strategy for the vulnerable fossil sites.

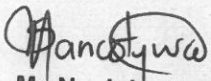
The attached Progress Report for Fossil Hominid Sites of South Africa World Heritage Site (Sterkfontein, Swartkrans, Kromdraai, and Environs component) addresses the World Heritage Committee's concerns on the above mentioned issues.

SUBMISSION OF THE PROGRES REPORT FOR THE FOSSIL HOMINID SITES OF SOUTH AFRICA WORLD HERITAGE SITE (STERKFORTEIN, SWARTKRANS, KROMDRAAI, AND ENVIRONS COMPONENT) (C 915 BIS)

An updated report on the State of Conservation for the property will be submitted by **01 December 2018**.

In case you need more information or clarity on the above mentioned, please do not hesitate to contact the Director: World Heritage Management, Ms Thumeka Ntloko on Tel: 012 399 9531 or email tnntloko@environment.gov.za.

Yours Sincerely



Ms Nosipho Ngcaba

Director General

Department of Environmental Affairs

Letter signed by: Ms Skumsa Mancotywa

Designation: Chief Director: Protected Areas System Management

Date: 31/01/2018

ANNEX I

World Heritage Committee 41st session (Krakow, 2017)

Decision: 41 COM 7B.72

Fossil Hominid Sites of South Africa (South Africa) (C 915bis)

The World Heritage Committee,

1. Having examined Document WHC/17/41.COM/7B,
2. Recalling Decision **39 COM 7B.44**, adopted at its 39th session (Bonn, 2015),
3. Notes that the water monitoring programme has been effective in confirming that the main areas of high water pollution are located in the south west part of the property, but expresses concern that the polluted effluent from the current water treatment plant continues to present a high risk to fossil sites;
4. Also notes the arrangements for water management within the property, and reiterates its request to the State Party to provide more detailed information on:
 - a) Water quality targets,
 - b) The overall management framework of the property, including an update on the State Party's engagement with stakeholders;
5. Requests the State Party to prepare a risk prevention strategy for the vulnerable fossil sites and submit it to the World Heritage Centre, for review by the Advisory Bodies;
6. Welcomes the approval in principle given in May 2016 for the development of the second phase of the Western Basin treatment work project, which will improve the quality of water effluent, thus reducing the threat to the fossil remains, and also reiterates its request to the State Party to submit the design specifications for the project and an Environmental Impact Assessment (EIA) to the World Heritage Centre for review by the Advisory Bodies, as soon as they are available, and by **1 December 2017** at the latest, and before the parameters of the project have been determined and a construction contract awarded, in order that the review can inform the project;
7. Also requests the State Party to submit to the World Heritage Centre, by **1 February 2018**, a progress report, and by **1 December 2018**, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 43rd session in 2019.

DEPARTMENT OF ENVIRONMENTAL AFFAIRS

NO. 1357

08 DECEMBER 2017

**WORLD HERITAGE CONVENTION ACT, 1999
(ACT NO. 49 OF 1999)****DECLARATION OF A MANAGEMENT AUTHORITY FOR THE FOSSIL HOMINID SITES OF SOUTH
AFRICA WORLD HERITAGE SITE (CRADLE OF HUMANKIND)**

I, Bomo Edith Edna Molewa, Minister of Environmental Affairs, hereby declare the Member of the Executive Council responsible for Economic Development, Environment, Agriculture and Rural Development in the Gauteng Province as the Management Authority responsible for the Cradle of Humankind World Heritage Site for a period of five years subject to a performance review, in terms of section 8 of the World Heritage Convention Act, 1999 (Act No.49 of 1999).

The Management Authority shall exercise those powers and duties referred to in section 13(1)(a), (b), (c), (d), (e), (g), (h), (i), (j), (k), (l), (m), (n), (p), (q), (r), (s) and section 13(2) of the World Heritage Convention Act, 1999.

In order for the Management Authority to be able to perform its duties, I furthermore declare that section 33, 35, 36, 37, 39, 40(1) and (2), and 42 of the World Heritage Convention Act, 1999 shall apply to the Management Authority.



**BOMO EDITH EDNA MOLEWA
MINISTER OF ENVIRONMENTAL AFFAIRS**

**PROGRESS REPORT FOR THE FOSSIL HOMINID SITES OF SOUTH AFRICA WORLD HERITAGE SITE
(THE STERKFORTEIN, SWARTKRANS,
KROMDRAAI AND ENVIRONS COMPONENT) (C 915 BIS)**



SOUTH AFRICA

BY THE GOVERNMENT OF THE REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF ENVIRONMENTAL AFFAIRS

**Report developed in partnership with the Management Authority
(Gauteng Department of Economic Development) and the
Council for Scientific and Industrial Research (CSIR)**

February 2018

IDENTIFICATION OF THE PROPERTY

Name of property: Fossil Hominid Sites of South Africa World Heritage Site (the Fossil Hominid Sites of Sterkfontein, Swartkrans, Kromdraai and Environs component) (C 915 BIS)

State Party and Province(s): South Africa and Gauteng, North-West and Limpopo Provinces

Criteria: (iii) and (iv)

1. EXECUTIVE SUMMARY

The *Fossil Hominid Sites of Sterkfontein, Swartkrans, Kromdraai and Environs* (more commonly referred to as the Cradle of Humankind World Heritage Site) is a component of the serial *Fossil Hominid Sites of South Africa*.

In accordance with Decision 41 COM 7B.72, the State Party submitted its 1st Progress report on 1 December 2017. This report constitutes the 2nd Progress report as requested on Decision 41 COM 7B.72, providing an update on the design specifications and Environmental Impact Assessment (EIA) of the Long-Term Solution (LTS) to manage acid mine drainage in the Western Basin, the water quality targets for the property, the overall management framework for the property including engagement with stakeholders and the preparation of a risk prevention strategy for the vulnerable fossil sites.

The status quo on the Long-Term Solution to manage acid mine drainage in the Western Basin and the water quality targets for the property, has not changed since the submission of the 1st Progress report on 1 December 2017. The Professional Service Provider (PSP) responsible for the Environmental Impact Assessment has been appointed. The appointment of the Professional Service Provider responsible for the Design component is currently pending. The Environmental Impact Assessment process will be informed by the outcomes of the Design process. The State Party commits to submitting the design specifications for the project and the Environmental Impact Assessment for review by the Advisory Bodies as soon as they are available.

The management framework for the property indicates the legislative context applicable for World Heritage management in the Republic of South Africa. The Member of Executive Council (MEC) for the

Gauteng Department of Economic Development, Environment, Agriculture and Rural Development (GDEDEARD) was on 08 December 2017 re-appointed as the Management Authority for the Cradle of Humankind World Heritage Site in terms of Section 8 of the World Heritage Convention Act, 1999 (see attached Government Gazette).

The State Party is in the process of rolling out a series of stakeholder engagements on the management activities of the property. Stakeholders, and in particular landowners in the area will be establishing an Advisory Forum and potential subsidiary fora for greater collaboration and engagement. It is also anticipated that through the stakeholder engagement process for the development of the Integrated Management Plan, new structures will be developed with other decision-making bodies to ensure better co-ordination, co-operation and collaboration at an operational level, with the aim of ensuring more effective management of the property.

The work regarding the development of the Risk Prevention strategy for the vulnerable fossil sites is underway and continuing. The current approach is to determine the risk of proximity and likelihood of contact with the groundwater using the elevation of a deposit and the maximum present-day elevation of the water table, with the water quality being an additional factor in the risk assessment. It is anticipated that the completed strategy will be submitted to the World Heritage Centre for review by the Advisory Bodies in June 2018.

2. RESPONSE TO THE DECISION OF THE WORLD HERITAGE COMMITTEE

Decision 41 COM 7B.72 of the World Heritage Committee requested a Progress Report from the State Party on the discussion points (**see attached Decision 41 COM 7B.72**) by 01 December 2017. In addition, Decision **41 COM 7B.72** further requested the State Party to submit a Progress Report by **01 February 2018** on the below :

- a) More detailed information on the water quality targets for the property;
- b) More detailed information on the overall management framework for the property, including an update on the State Party's engagement with stakeholders;
- c) The preparation of a risk prevention strategy for the vulnerable fossil sites for submission to the World Heritage Centre for review by the Advisory Bodies.

This document therefore constitutes the second Progress report on the above matters. It follows on from the first Progress report submitted to World Heritage Centre on 30 November 2017 and, amongst others, expands on the initial response to the matters raised in **Decision 41 COM 7B.72**.

The third deliverable of Decision 41 COM 7B.72 is a submission of an updated State of Conservation (SOC) by 01 December 2018. The essence of this document will comprise the incorporation of the water monitoring results generated since September 2016 the progress made by the the Department of Water and Sanitation (DWS) with the implementation of the Long-Term Solution (LTS), progress with regard to the development of a new Integrated Management Plan for the property including stakeholder engagement strategies, and the risk prevention strategy for the vulnerable fossil sites.

2.1. Requests the State Party to provide more detailed information on the water management within the property:

a. Water Quality Targets

As reported in the first Progress report (RSA, 2017), the setting of water quality targets for the property is an arduous process in regard to the measure of inter-governmental and stakeholder consultation that informs such activity. The State Party remains committed to the approach set out in the 1st Progress report but submits that it is too early to report more comprehensively on this process so shortly after said report. It is envisaged that a more comprehensive report back will be provided in the State of Conservation report due on 1 December 2018.

2.2. Requests the State Party to submit the design specifications for the project and an Environmental Impact Assessment (EIA) as soon as they are available and by 1 December 2017 at the latest

a. Phase 2: Western Basin Works

In the first Progress report, the State Party reported that the process for the appointment of a Professional Service Provider (PSP) for Phase 2 of the LTS to manage acid mine drainage in the Western Basin was targeted for November 2017.

The PSP responsible for the Environmental Impact Assessment (EIA) has been appointed, whilst the appointment of the PSP responsible for the design specifications component is currently underway. The Environmental Impact Assessment process will be informed by the outcomes of the Design process.

The State Party commits to submitting the design specifications for the project and the EIA for review by the Advisory Bodies as soon as they are available.

2.3. Requests the State Party to provide more detailed information on the overall management framework for the property, including an update on the State Party's engagement with stakeholders

The Fossil Hominid Sites of Sterkfontein, Swartkrans, Kromdraai and Environs component of the Fossil Hominid Sites of South Africa, has entered into a Memorandum of Understanding (MOU) with the South African Heritage Resources Agency (SAHRA) regarding the protection and management of the palaeontological heritage resources within the property.

To ensure that the management objectives, vision, and approaches are the same for the component properties that make up the serial property, the State Party has established the Fossil Hominid Sites of South Africa Joint Management Committee. Each of the properties comprising the serial property is required to have its own site specific Integrated Management Plan (IMP). Currently, the IMPs for the Makapan Valley and the Taung Skull Fossil Site component properties have been completed. The Joint Management Committee is currently in the process of developing an overall Joint Integrated Management Plan for the serial property.

The Member of Executive Council (MEC) for the Gauteng Department of Economic Development, Environment, Agriculture and Rural Development (GDEDEARD) was on 08 December 2017 appointed as the Management Authority for the Fossil Hominid Sites of Sterkfontein, Swartkrans, Kromdraai and Environs component (commonly referred to as the Cradle of Humankind World Heritage Site in terms of Section 8 of the WHCA (**see attached Government Gazette No. 41306**)).

The COHWHS component of the Fossil Hominid Sites of South Africa is currently managed in terms of the management framework and blueprint known as the COHWHS Master Plan. This extensive master plan is derived from the 1999 Integrated Environment Conservation Management Plan (IECMP) developed and submitted with the nomination dossier for the property in 1999.

The current management framework has carried through the special management features identified in the IECMP and additional management aspects for the property: the palaeontological and palaeo-anthropological sites, archaeological sites, ecology, aesthetics and visual character, dolomites, water resources, visitor management, land use management, infrastructure, communications and stakeholder engagement and so on. In addition, the Master Plan has introduced management aspects regarding the interpretation network for the property, public participation, community beneficiation, tourism and recreation, and institutional arrangements.

The State Party is in the process of rolling out a series of stakeholder engagements on the management activities of the property. Stakeholders, and in particular landowners in the area, have been given the option of establishing an Advisory Forum and potential subsidiary fora for greater collaboration and engagement. It is also anticipated that through the stakeholder engagement process for the development of the IMP, new structures will be developed with other decision-making bodies to ensure better co-ordination, co-operation and collaboration at an operational level, with the aim of ensuring more effective management of the property.

The Department of Environmental Affairs (DEA) will remain the Competent Authority for issuing Environmental Authorisations in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and the National Environmental Management: Protected Act, 2003 (Act No. 57 of 2003) in the property.

The State of Conservation report due by 1 December 2018 will provide greater detail regarding the IMP development and management frameworks for the property and overall progress in terms of the management of the site.

2.4. Requests the State Party to prepare a Risk Prevention Strategy for the vulnerable fossil sites and submit to the World Heritage Centre, for review by the Advisory Bodies:

As was indicated in the first Progress report, this progress report will broadly outline the proposed approach and methodology towards developing the Risk Prevention Strategy for the vulnerable fossil sites as requested.

The proposed approach and methodology has been discussed with and agreed to by the South African Heritage Resources Agency (SAHRA), which has the national mandate to ensure the conservation and

protection of the State Party's heritage resources, including its palaeontological and palaeo-anthropological heritage resources. The current approach is to determine the risk of proximity and likelihood of contact with the groundwater using the elevation of a deposit and the maximum present-day elevation of the water table, with the water quality being an additional factor in the risk assessment.

The State Party wishes to re-iterate that there are currently no known fossil deposits, including any under excavation, that are in contact with or in very close proximity to contaminated water, either in the form of groundwater or surface water, nor have there been any historically.

It is anticipated that the completed strategy will be submitted to the World Heritage Centre for review by the Advisory Bodies in June 2018.

3. OTHER CURRENT CONSERVATION ISSUES WHICH MAY HAVE AN IMPACT ON THE PROPERTY'S OUTSTANDING UNIVERSAL VALUE (OUV).

The State Party has not identified any other current conservation issues which may have an impact on the property's Outstanding Universal Value.

4. IN CONFORMITY WITH PARAGRAPH 172 OF THE OPERATIONAL GUIDELINES, NEW CONSTRUCTIONS WITHIN THE PROTECTED AREA ENVISAGED.

The State Party submits that there are no planned major restorations or constructions with potential to impact the property's Outstanding Universal Value.

5. PUBLIC ACCESS TO THE SOC REPORT

The State Party has no objection against the uploading of the State of Conservation report on the World Heritage Centre's State of Conservation Information System, thereby providing public access towards the report.

6. SIGNATURE OF THE AUTHORITY

