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## Plan Overview

*A Data Management Plan created using DMPonline*

**Title:** Lithostratigraphic architecture of the Ghanzi Group, Kalahari Copperbelt, Botswana, and its influence on deformation and mineralisation

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**Template:** Health Research Board DMP Template

**ID:** 169622

**Start date:** 01-02-2024

**End date:** 31-01-2026

**Last modified:** 31-01-2025

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# **Lithostratigraphic architecture of the Ghanzi Group, Kalahari Copperbelt, Botswana, and its influence on deformation and mineralisation**

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## **Data description and collection or re-use of existing data**

### **How will new data be collected or produced and/or how will existing data be re-used?**

Logging data will be collected in hand notebook. Samples will be collected to produce thin sections. Aerial magnetics, gravity, EM, assays etc are provided by Sandfire. Regional mapping data will be produced using a GIS software.

### **What data (for example the kind, formats, and volumes), will be collected or produced?**

- Drillhole log data and petrophysical log data, stored in database formats (e.g. Leapfrog) during project and exported as standard machine-readable logs in e.g. \*.csv format at end of project.
- Potential field geophysical data-sets of aerial magnetics, gravity or EM, typically in \*.grd format, or if needed \*.xyz.
- Scanned images as \*.tif or equivalent.
- Drillhole databases of typical interval data in a suitable format, for example \*.csv or industry-standard database (e.g. ACQUIRE)
- Regional mapping data in a number of standard GIS formats (shapefiles, geodatabases, tabular files). Field mapping data in an industry-standard format such as \*.shp, \*.tab or \*.dxf or any tabulated data format
- LIDAR scans of regional data provided as \*.xyz, \*.obj or equivalent format.

The project data, databases and model files will likely be on the order of 2 Terrabytes, and ample storage is available.

## **Documentation and data quality**

### **What metadata and documentation (for example the methodology of data collection and way of organising data) will accompany data?**

### **What data quality control measures will be used?**

## **Storage and backup during the research process**

## **How will data and metadata be stored and backed up during the research process?**

All work will be done on a high-end workstation which is already available and reserved for the project. A RAID-1 or RAID-6 configured dedicated Network-Attached-Storage (NAS) in the iCrag space will host the entirety of project files (already available). Day-to-day work-files will be synchronized off this NAS onto the workstation. The workstation and NAS are backed up daily to the iCrag fileserver, with the iCrag fileserver also mirrored to an off-site copy at DIAS in Dublin. All are behind firewall. Periodic images of the data may also be mirrored onto a tape drive at UCD if/when that is available. A flexible versioning control of active interpretation/modelling project files is available through the daily backup mechanism (VEEAM software).

## **How will data security and protection of sensitive data be taken care of during the research?**

## **Legal and ethical requirements, codes of conduct**

### **If personal data are processed, how will compliance with legislation on personal data and on security be ensured?**

### **How will other legal issues, such as intellectual property rights and ownership, be managed? What legislation is applicable?**

As per wholly funded project agreement templates the Foreground IP created by the industry partner during and on the project will be owned by the industry partner. Publication rights and academic teaching and research rights for UCD are obtained a priori as perpetual NERF licences to UCD. Publications will follow SFI policy. After the project, results and metadata will be stored in the institutional UCD repository as a base case.

### **What ethical issues and codes of conduct are there, and how will they be taken into account?**

## **Data sharing and long-term preservation**

### **How and when will data be shared? Are there possible restrictions to data sharing or embargo reasons?**

**How will data for preservation be selected, and where data will be preserved long-term (for example a data repository or archive)?**

All work will be done on a high-end workstation which is already available and reserved for the project. A RAID-1 or RAID-6 configured dedicated Network-Attached-Storage (NAS) in the iCRAG space will host the entirety of project files (already available). Day-to-day work-files will be synchronized off this NAS onto the workstation. The workstation and NAS are backed up daily to the iCRAG fileserver, with the iCRAG fileserver also mirrored to an off-site copy at DIAS in Dublin. All are behind firewall. Periodic images of the data may also be mirrored onto a tape drive at UCD if/when that is available. A flexible versioning control of active interpretation/modelling project files is available through the daily backup mechanism (VEEAM software).

**What methods or software tools are needed to access and use data?**

The benefit of working in databases and geomodelling platforms is that maintaining and organizing meta-data is part of the work. We will use Leapfrog, SKUA-GOCAD, MOVE and ioGAS for this mainly. Academic research licence agreements for softwares are in place and are compatible with the research project. Project outputs and interpretations will be exported as much as possible in non-binary industry-standard files, such as \*.csv, \*.dxf or heavily used files such as \*.shp \*.gdb or other mesh-formats such as \*.ts. Workflows and associated metadata will be captured in visual documentation (e.g. presentation/text editors).

**How will the application of a unique and persistent identifier (such as a Digital Object Identifier (DOI)) to each data set be ensured?**

**Data management responsibilities and resources**

**Who (for example role, position, and institution) will be responsible for data management (i.e. the data steward)?**

**What resources (for example financial and time) will be dedicated to data management and ensuring that data will be FAIR (Findable, Accessible, Interoperable, Re-usable)?**