YOU'VE GOT TO BE JORCING!

TECHNICAL BEIGE PAPER NO.73

March 2026

Well, Andy has run out of excuses….

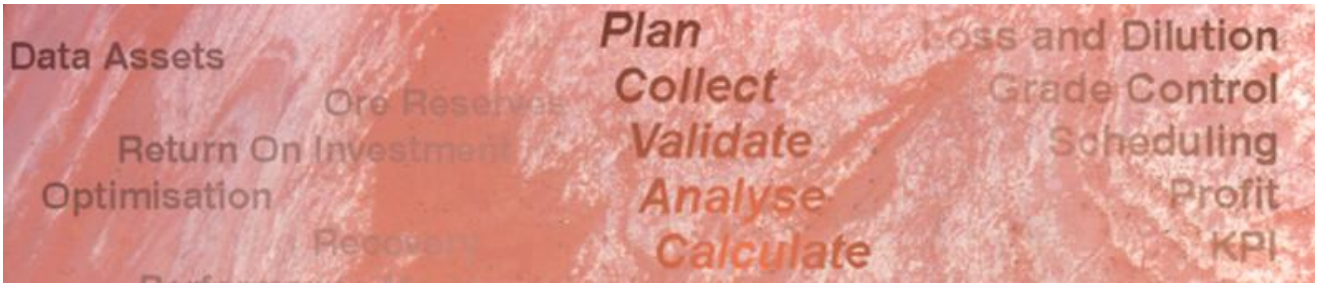
Prompted by the impending release of the latest revision of the **JORC Guidelines** (*Joint Ore Reserves Committee*) , and the AIG Seminar on Technical Master Data Management late last year, Andy is restarting his newsletter, which will include a series of technical beige papers on '**Understanding and Mastering Your Master Technical Data'**!

(Andy also apologises in advance to **Rod Dawney of Ausmec** for a habit he picked up from 20 years of the GeoPub newsletters)

Since its inception in 1971 the JORC code (*Just for Once, Report Correctly*) has been adopted or adapted by a number of countries for their own guidelines or statutory requirements.

With a focus on technical concepts, procedures and tips, and some not-so-technical stories relating to mining and exploration data management, resources and reserves, and related standards and procedures. the beige papers are a collection of 42 (and growing) short discussions. They also explore why, in light of the growing AI and related capabilities, the management of your technical data more important than ever. Andy offers some suggestions as to how to go about these tasks, in the hope you may find them useful and thought-provoking, or failing that, amusing.

With over 40 years in technical resources data management, mineral resource and ore reserve estimation, and having implemented over 120 technical database management systems across the entire mining life cycle in gold, iron ore, base metals, water, avocadoes and beer, Andy figures he may have something to contribute in this regard.



Started during the long cold winter of **COVID** (*Carefully Orchestrated Versions of Individual Detention*), the articles focus broadly on the many aspects of **Master Technical Data Management,** and its place with respect to the many new technologies that have appeared

over the past few years. They range from high-level overviews to detailed, 'hands on' technical tips and guides related to the management of all forms of technical data, along with related standards and procedures.

The articles, under the series title '**You've Got To Be JORCing'**, (*Jocular Outrageously Real Cacophony*) are presented in five broad categories as follows; **(Note** - example beige paper titles appear in **blue;** the plus sign indicates a series of articles) –

MASTER TECHNICAL DATA MANAGEMENT - IS IT IMPORTANT?

In many instances your technical data represents the entire, auditable basis for the subsequent resource analysis, production report, rehabilitation plan or JV takeover strategy that you have assembled the data for.

Exploration databases can be the single greatest asset of a junior company; they must be looked after.

To this end, companies should ensure the integrity of these databases (especially the juniors because often this will be its only major asset). The state and consolidation of this information can often be the difference between success and failure. In fact, many of the major deposits in Australia changed ownership before discovery, that is, previous explorers relinquished the ground after preliminary examination.

- *Goldman Sachs (2011)*

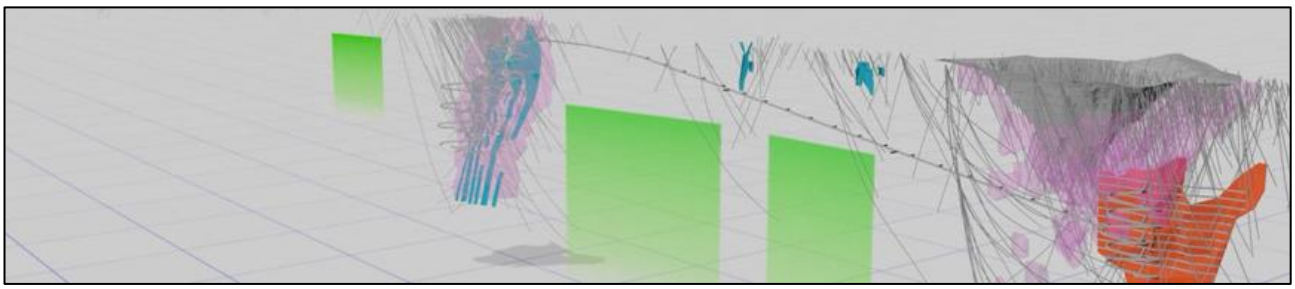
It is critically important, all JORCing (*Jeopardising Obsolete Reckless Calculations*) aside, in terms of maximising our confidence in the results, and reducing project risk that may result of ill-founded decisions.

'*The Real Advantages Of Embracing The JORC Guidelines*' (Note 10)

You've heard them all before –

- The Window Into Your Asset
- The Lens Between Your Data and The Resource
- The Single Point of Strewth
- Garbage In Garbage Out

Heed them!



THE MASTER WORKING DATA SET

We collect, assemble, validate, standardise and integrate technical data to create a data set that we can in turn scrutinize, analyse, interpret, summarise and categorise to help us answer questions, report stuff and make decisions regarding our various projects.

This assembled data set is our master technical data set, or more correctly (Andy reckons), **our master working data set**, the first of two master data sets that need to exist.

'*The Master Working Data Set – The Single Point of Truth*' (Note 77+)

THE MASTER SOURCE/ORIGINAL DATA SET

The second, the **master source/original data set**, is the collection of carefully preserved, untouched, as-received gospel data files that were used to create the master working data set above.

This is our audit trail, our 'show your proof or workings', our data provenance.

And perhaps more importantly, our 'get out of jail free' card if we discover we have created an MCU with the assembled working data set…. We can rebuild it!

'*The Master Source/Original Data Set – Not Only An Audit Trail*' (Note 78+)

SO WHAT IS TECHNICAL DATA?

We take a step back and look at what constitutes technical data; it's a lot more than just letters and numbers.

'So What Exactly IS "Master Technical Data"' (Note 12 +)

Andy (and GDD) recognise four use-based classes of technical data –

'Master Data-Use Classes - Its Way More Than Letters And Numbers' (Note 79)

- **Primary Data** – Yep, the letters and numbers data components.

- **Secondary Data** – The multimedia images and documents that can contribute significantly more data, and knowledge, to the Primary data above. They can be linked to and displayed against the Primary data, spatially or synchronously where appropriate.

'Using Spatial Objects in Your Database' (Note 28)

  - The importance and value ot these images, photos, videos and other multimedia files, document and maps has gained significantly with the advent of AI.

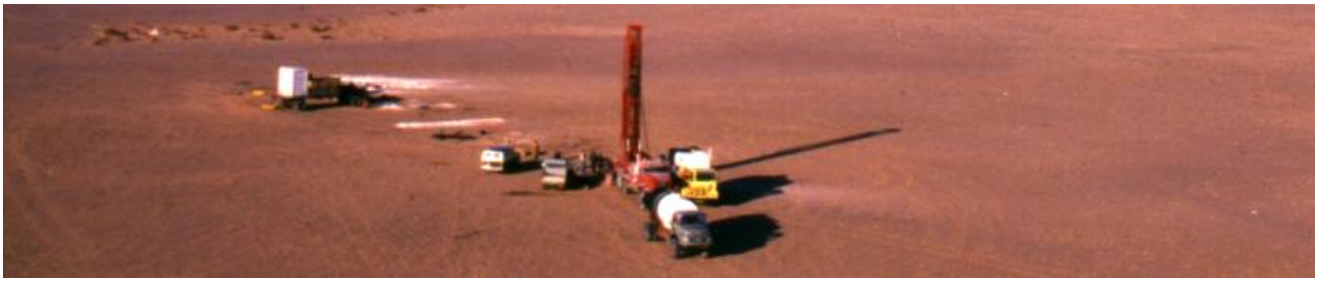
'Linked Objects - Making Use of ALL Your Data' (Note 15)

- **Tertiary Data** – Those documents and certificates that server to verify the data in the first two classes. These can also be linked directly to the data, verifying its provenance., creating inbuilt auditability of our data. Remember the JORC audit responsibilities here (*Justify Older Related Collections*)
- **Metadata** – (No, don't start me….) This is data and information associated with the data **records**; who created it and when, and its validation or project status for example.

TECHNICAL DATA MANAGEMENT PROCESSES

In this group of papers Andy looks at the various concepts, processes and tools involved in the three major phases of the Data Management Cycle – the Collection, Management and Analysis of our data.

'The Data Management Lifecycle' - Collect, Manage, Analyse (Note 76)



COLLECT

Collecting, acquiring, inheriting, or pilfering data, new and pre-loved, validating it and carefully preserving it as our **master source/original data**

'Generating Data File Catalogues – For Management And Audit Trails' (Note 14)

MANAGE

Cataloguing, identifying, previewing, categorising, and grouping the collected data.

'Historical Data Distillation and Migration Strategies' (Note 17+)

'Identifying, Assembling and Integrating Target Data Files in Large Data Collections' (Note 43)

Validating the data (again) and preforming data integrity checks, aimed at verifying it against the other data in the collection to find duplicates, mismatches or other MCU's as detailed above.

Standardising, vanillarising and integrating the data to add the bits that pass the pub test to our **master working data set**, at the same time preserving links back to their original source data records and files for audit purposes.

ANALYSE

Here Andy looks at some basic database and other tools used to analyse and extract value, or carefully chosen expletives, from the assembled master data set.

Recognising of course that from this point, a myriad of other software tools, intelligent or otherwise will be let loose on the data, by a broad array of professionals in their various disciplines, intelligent or otherwise.

'AI, Master Technical Data and the Need For Some Serious RI' (Note 16)

IN SEARCH OF STANDARDS

In these papers, Andy looks at several aspects, suggestions and recommendations regarding what many perceive as a simple 'do what I say' exercise.

As well as adding discipline and reducing risk, well-constructed standards and procedures (S&P's) can significantly reduce task times and improve outcomes by providing clarity / removing uncertainty in the execution of the tasks

'Establishing Technical Data Management Standards And Procedures' (Note 29)

STANDARDS AND PROCEDURES

Andy is big believer in making sure everyone does the same thing the same way, every time.

Clear, concise standards and procedures are the most effective way to do this, as long as they are accompanied by a big stick!

The use of the following of discussed for example –

- **Standard terms –** Call the same attribute the same name

'Standard Technical Terms – What's In A Name?' (Note 83)

- **Standard codes** – Assign the same observation result the same code
- **Logging guides** (with pictures….) – Call the same **stuff** the same name

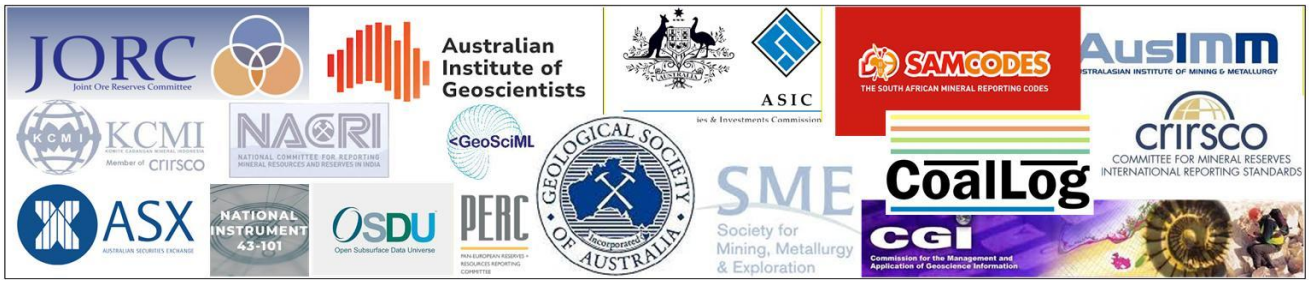
'Creating A Project Drillhole Logging Guide' (Note 63)

TECHNICAL DATA GOVERNANCE

The standards and procedures are, simplistically, the standards and procedures **for** the standards and procedures. They also include the appointment of data stewards, (who carry the big sticks…) and the alignment of the S&P's with the broader corporate or organisational goals.

Andy looks at the establishment of these, with examples, and cogitates how once again they can assist with JORC compliance *(Judicious Occupational Regimen Creation*) where relevant.

'Technical Data Governance Guidelines – The Standards and Procedures for Your Standards and Procedures!' (Note 30)



INDUSTRY AND GOVERNMENT STANDARDS AND GUIDELINES

Here Andy, using material assembled by an able and AIG hardened technical associate, looks at various types and aspects of guidelines provided by government and industry organisations aimed at trying to promote some

pragmatic and usable standards and guidelines covering different aspects of resources industry technical data

- Standard names and codes – e.g. IMA/RUFF/Mindat
- Standardised data formats – e.g. Government data submission guidelines
- Standardised everything; data schema, codes, usage, data integrity texting – e.g. CoalLog

TECHNICAL DATA ASPECTS NEEDING ATTENTION

There were several areas of concern identified / confirmed at the AIG Master Data Seminar that Andy believes need serious attention. These will form the basis for a number of his beige papers.

A couple of examples include –

- Standard terms and the requirement for their use –
  - E.g. Sample and analysis type terms. Confusion is rampant in the confusion of geological, physical sample types, sample purpose etc. and similarly with the assay and QAQC sample types, class, purpose, inserted where and by whom…

    'Managing Master Sample and Assay Information' (Note 59 ++)
  - Clarity of these is important not only for correctly performing the relevant QAQC data verification tests, but also in how and where the analysis result can be used.
- Correct use of established technical terms –
  - Less important, but confusing when misused.
  - E.g. Big Data, Metadata,
- Instantiation (visibility / observability) of the assembled master working data sets, and their links back to the source / original master data from whence they were hatched.
  - This one is critical for not only internal verification, but also JORC (*Jerry-Rigged Obfuscation Reality Conjuring*) audits and compliance,

- It is also a growing problem with the increasing reliance on ‘black box’ and AI data analysis extraction tools.

If you would like to receive the newsletter, let Andy know

And the cost? Simply that you agree to provide some constructive comments, additions, or constructive criticisms so Andy might see the error of his ways, and correct these sage tomes for a subsequent edition

Cheers,

Andy the Analogue Geologist
Technical Scribe and Scapegoat

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gPick ... Collect - Manage - Analyse

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