

# Digital data submission

## Templates and requirements

Liliana Stoian | 16/05/2024

[energymining.sa.gov.au](http://energymining.sa.gov.au)



# Acknowledgement of Country

As guests here on Kurna land, we acknowledge everything this department does impacts on Aboriginal country, the sea, the sky, its people and their spiritual and cultural connection which have existed since the first sunrise. Our responsibility is to share our collective knowledge, recognise a difficult history, respect the relationships made over time, and create a stronger future. We are ready to walk, learn and work together.

*Ngaityalngadlu taikunthitya yalaka*

*Yantupinarna Kurna yartangka, ngadlu tampinhi tupa yaintyu pirku wapinhi, wiwunthi yaitya yarta, yarlu, ngayirda, miyurnakuma parnaku tuwila tapa purruna tarraitpayinhi. Muna tirtu parrka-parrka wanti.*

*Ngadluku taingi ngutu yungkurinhi, tampinhi yurni ngantanhi pukingka, niipurna pintyathi mankurrititya, taingintya tarrkarri pintyanhi.*

*Nata ngadlu padnitha, tirkatha Kuma kumangka warpulayi-utha.*



# Overview of the current system

GSSA templates for data submission:

Examples

Instructions

Requirements

Checklist



# Overview

- Using National Standards for the submission of digital exploration data: prepared by Government Geoscience Information Committee (GGIC) in consultation with all states and territories
- Using Mineral exploration reporting MG13 produced by DEM with minerals regulatory guidelines for South Australia



## AUSTRALIAN REQUIREMENTS FOR THE SUBMISSION OF DIGITAL EXPLORATION DATA

VERSION 4.5 – FEBRUARY 2018

*Prepared by*

**Government Geoscience Information Committee (GGIC)  
on behalf of the  
Geoscience Working Group (GWG)**



# Overview of Geological Data

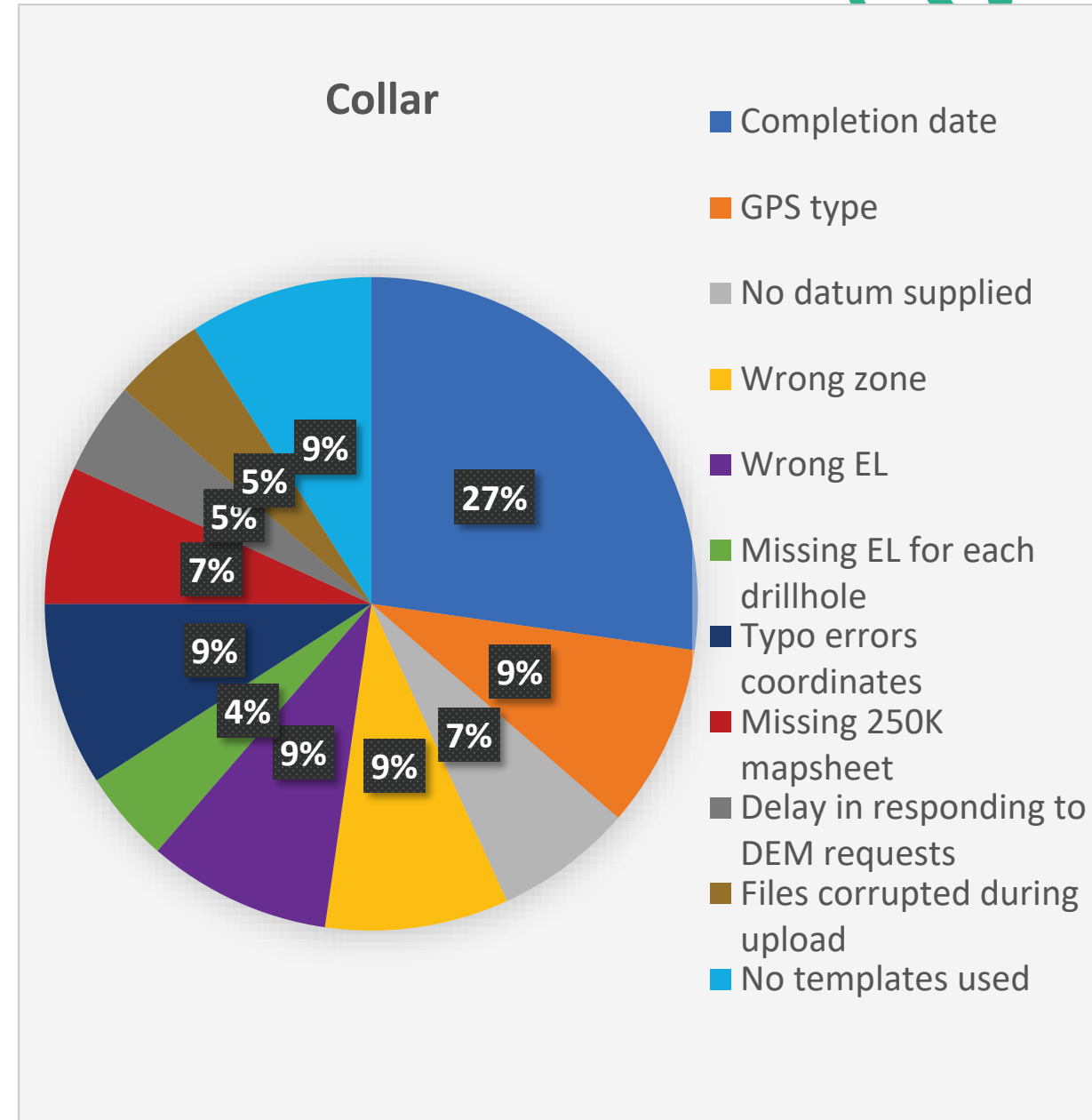


- Digital templates for data submission have been around since 2003-2004
- Templates contain both header sections and data tables
- Mineral Reporting Template (MRT) software developed for generating header file is outdated (2012) and some users find it difficult to use it
- Templates for collar file, downhole geochemistry, downhole survey, surface geochemistry, lithology, petrophysics etc. have been provided on request over the years (format CSV, Excel, txt). Two previous training sessions on data submission were conducted in 2017 and 2018.
- Most companies are using the templates from other states which have their own requests for data submission
- Data get complex: new technology, new processing, large file size, software incompatibility between industry and government
- There has been improvement in data submission over the last 5 years, but a lot of data received from recent reporting (Annual Technical Report, ADI, Surrenders, Partial Surrender) still require editing and some files are sent back to companies to fix it and resubmit it :
  1. Missing information/data
  2. Contain errors
  3. Not using standard templates for data submission
  4. Discrepancy between data from ATR and appendices (wrong drillholes etc.)
  5. Sometimes the lithology logs are submitted in handwritten format!

# Common omissions/errors in data submission

## Drilling data

- Templates not used (usually header is missing), or the collar file is not submitted – drilling information is found only the in text of the ATR
- Wrong Zone number (in South Australia there are only Z52, Z53 and Z54)
- Missing tenement number (EL) if drilling program was completed on multiple tenements
- Completion date for each drilling not supplied
- Inconsistency with labelling the Hole\_Id (one name in technical report, other name in digital data, other name when samples are submitted to the Core Library)
- For multiple drilling methods (e.g., RC and DIA), missing the precollar depth interval
- Downhole survey not submitted
- Elevation not submitted
- GPS type used for coordinates is not specified

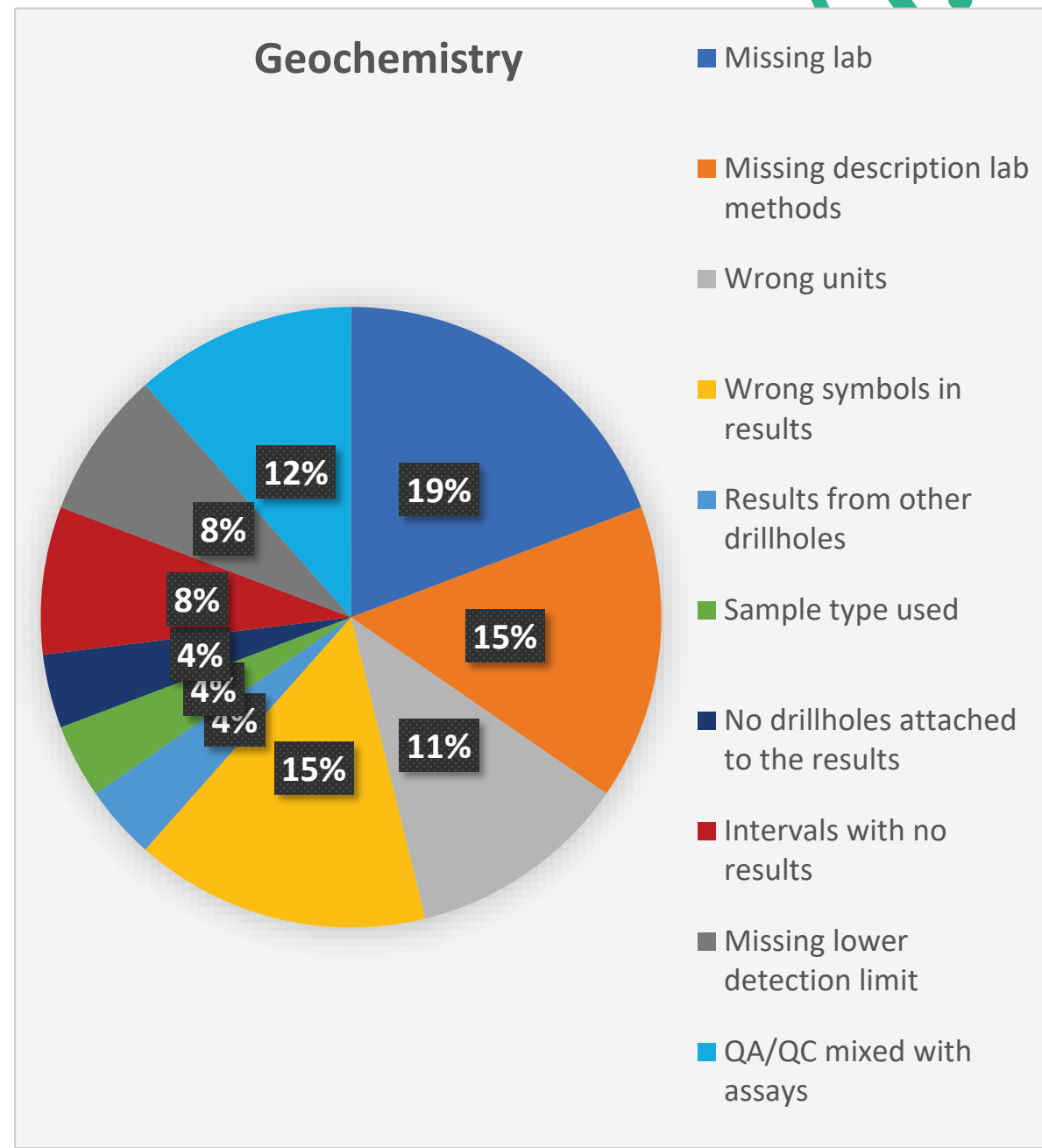


# Common omissions/errors in data submission

OFFICIAL

## Downhole geochemistry/Surface geochemistry

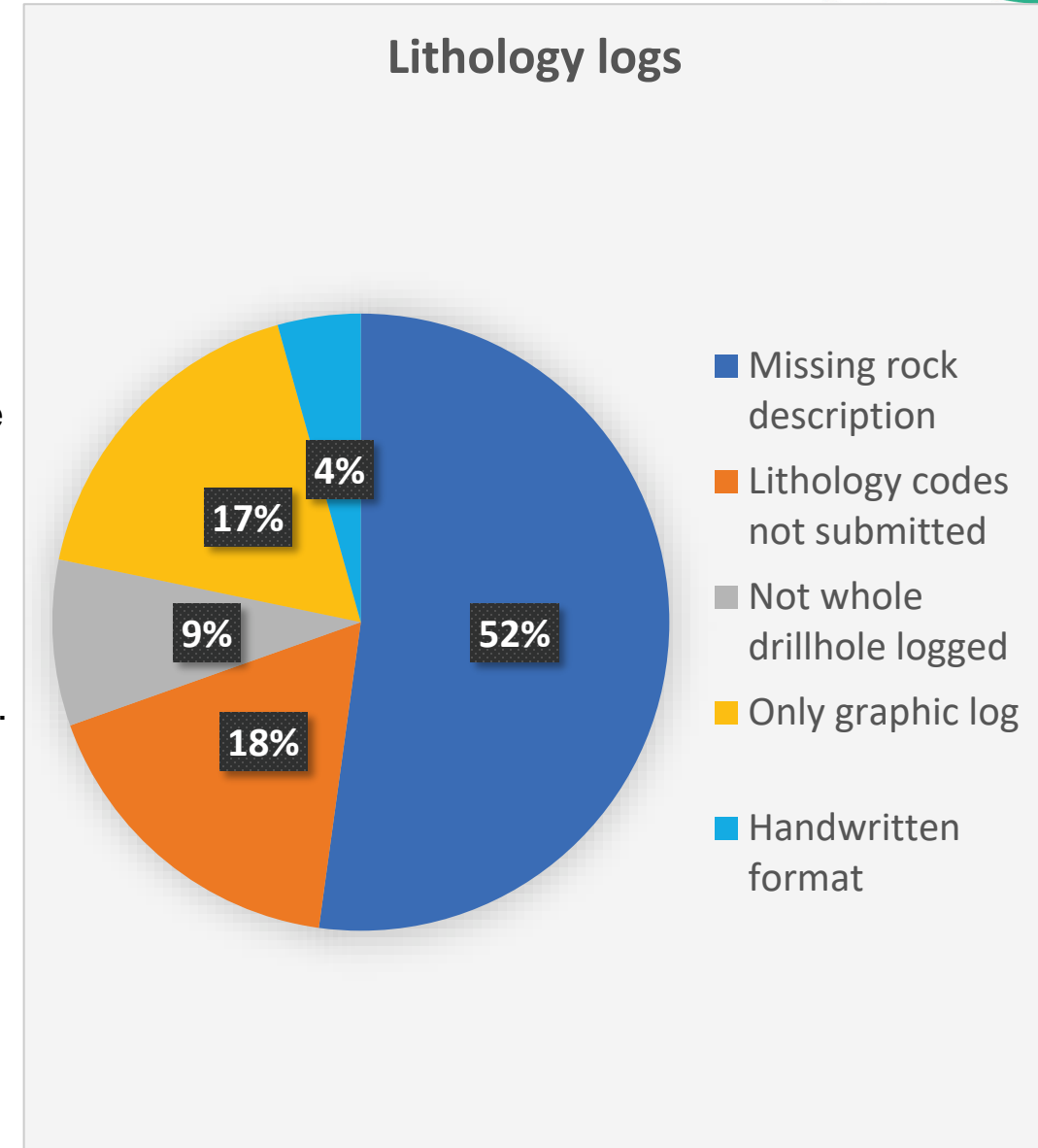
- Templates not used
- Using wrong units (ppm instead of ppb; or pct instead of %)
- Typo errors - zero '0' versus letter 'O' (e.g. Si02 instead SiO2; or in the results using letter 'O' instead of zero '0')
- Depth interval for analysed samples exceeds the depth of the drillhole. Are the results attached to the correct drillhole?
- Missing some analytical results (e.g. laboratory is doing whole rock analysis, and the results are reported only for selected analytes). Request the laboratory analysis reports to be attached to the ATR to cross check and validate the analytical results.
- 'NULL', 'NA', 'ND', <LOD in the results: leave it blank if not analysed or replace it with numbers (e.g., <0.01 if lower detection limit is 0.01)
- If multiple Job\_no or Batch\_no are used, each result must have Job\_no/Batch\_no.
- Missing laboratory name, sample types, lower detection limit for each methods/analytes, accuracy
- Surface geochemistry: samples types not specified (e.g. soil, calcrete, rock outcrop, vegetation etc.)



# Common omissions/errors in data submission

## Downhole logs: lithology, stratigraphy, petrophysics, structure, vein, mineralisation

- Templates not used (e.g. only graphic logs)
- Occasionally receiving lithology logs in handwritten format – page scanned and saved as pdf and attached to the ATR
- List of codes for the lithology logs not supplied
- Rock description for each interval logged is missing – it is mandatory in South Australia. In the Comments column add rock description (could be detailed or not). Do not use the codes in the Description column. Avoid abbreviations. Rock description is required for both sedimentary rocks and the basement.
- Not logging the whole drillhole (e.g. missing the top and logging starting when reaching the basement). For intervals not logged mention this (e.g. 0m-50m interval not logged)
- Downhole MagSus: missing SI units and instrument used
- For downhole stratigraphic units: don't write 'COVER' and/or 'BASEMENT', use the correct stratigraphic name.





# What's New

Digital templates have been updated with the DEM requirements for digital data submission, available in excel format, containing:

- Instructions
- Explanatory Notes for each header
- GSSA list of codes to use where applicable (drilling methods, sample codes, petrophysics codes, units, laboratory names, 250k mapsheets, drilling status, survey method for coordinates, geodetic datum, approved lithology codes and description)
- Templates with examples for collar (SL1), downhole geochemistry (DG1), downhole survey (DS1), downhole lithology (DL1), quality control (QG1), surface geochemistry (SG1), surface pXRF (SG1 modified), downhole geochemistry pXRF (DG1 modified)
- For downhole petrophysics, structure, vein, mineralization use the DL1 format

GSSA Petrophysics Codes and Description	
PETROPHYS_TYPE_CODE	PETROPHYS_TYPE_DESC
CAL	Caliper
COND	Conductivity
DBD	Density - Bulk
DEN	Density
DLS	Density - Long Spaced
DSG	Density - Short Spaced
GAM	Natural Gamma
GAPI	Natural Gamma - API
GCPS	Natural Gamma - CPS
GDTC	Natural Gamma - Deadtime Corrected
GEU	Gamma eU308
GPU	Gamma pU308
IDEP	Induction - Deep
IMED	Induction - Medium
IND	Induction
ISHT	Induction - Short
ISHW	Induction - Shallow
NEPI	Neutron Count - Epithermal
NEU	Neutron Count
POR	Porosity
RSP	Resistivity - Point
RES	Resistivity
RLN	Resistivity - Long Normal or 64N
RSD	Resistivity - Sand
RSH	Resistivity - Shale
RSN	Resistivity - short normal or 16N
SP	Self Potential
TEMP	Temperature
MSUS	Magnetic Susceptibility
SG	Specific Gravity (density)

# What's New

A DG1 modified template was created for the results submitted to the Core Library from core inspections

New set of instructions for core photos submission

Request to submit the original laboratory results with ATR and other data which contain geochemistry

Mining and Exploration Regulation System (MERS) Project (late 2024): will have an Assessment Team for all ATR and other reporting (Todd Mckenzie, Nella Pomari, Phil Heath for all geophysics data and Liliana Stoian for all geological data)

The templates for digital data submission have been updated and we encourage mineral exploration company to start using them. We welcome feedback and note we tried to align with the NSW style as we had feedback that people liked these.

More information about the MERS Project :

<https://www.energymining.sa.gov.au/industry/minerals-and-mining/maps-data-and-online-tools/mining-and-exploration-regulation-system-mers-project>



# What data must be placed in the templates



**All data** collected from current active tenement(s), surrenders, partial surrenders: drilling, downhole geochemistry, downhole survey, petrophysics, lithology, stratigraphy, geotechnical, pXRF, surface geochemistry etc.

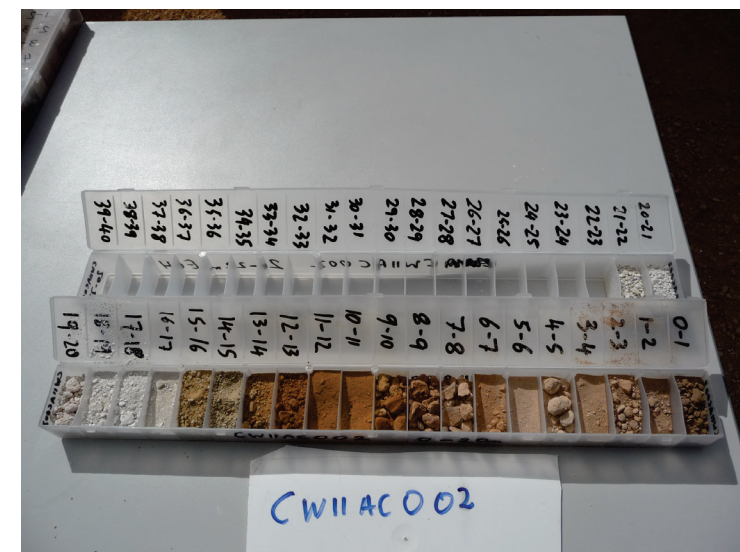
## **Drillholes submitted to the Core Library:**

- Use sample submission form from Core Library – no changes
- Additional data for drillholes (downhole geochemistry, lithology, downhole survey, petrophysics, pXRF, other analysis) to be placed in the correct templates

## **Core photographs**

- Core photos labelling: suggesting each photo to be labelled with Hole\_ID\_depth from\_depth to\_specify if dry (d) or wet (w). E.g. VUD002\_888.4\_894.52m\_w.
- Note: loading core photos is time consuming as each photo must be opened to check the depth range, tray number.
- A summary table for core photos is beneficial containing a list of drillholes, how many photos were taken (w, d), date, name of photographer, EL number, Project Name.
- Send high resolution photographs, crop them if needed to remove the background.
- Photos from cuttings: usually in small trays, zoom in to take several photos showing some details
- Core photos are uploaded on SARIG and open to everyone to view them, zoom in for details – high resolution is preferred

# Core photos examples



# Core Library Sample Removal and Results

## Sample Removal Conditions

For samples removed under the provision of the Mining Act 1971, the 'Sample Removal Conditions' require you to submit results of all work on these samples as soon as they become available, and in any case within six months of Sample Removal. For mineral exploration holes, this information should be sent in digital format compliant with South Australia's mineral exploration reporting guidelines, by email to the following address: [corelibraryresults@sa.gov.au](mailto:corelibraryresults@sa.gov.au)

## Comments

- All results (e.g. geochemistry, pXRF, petrophysics measurements, petrology/mineralogy etc.) from core inspections will be captured in database as **Open File** (the drillholes inspected at the Core Library are Open File, and all associated rock samples and results are also Open File)
- If you send the results from Core Library sample removal as part of your Annual Technical Report to DEM:Exploration@sa.gov.au, you also need to send a copy to the [corelibraryresults@sa.gov.au](mailto:corelibraryresults@sa.gov.au)
- Note that the results from Core Library sample removal are **Open File**, but the rest of your data (your current drilling program/sampling and expenditure, technical report from your current, active tenement) is kept confidential for 5 years.
- The results from Core Library sample removal should contain core inspection number(s), sample number (which is the number allocated at the core inspection), drillhole number, drillhole name, depth from, depth to, sample type, results.



# Example Core Library Results Received



```

H0400 Drill_code      DIA
H0600 Sample_code     DIA
H0601 Sample_type     DIA Drill core
H0602 Sample_description re-sampling of core from historic hole DDH SC1 (SARIG #15090) in Whyalla Core Library
H0700 Sample_preparation_code
H0701 Sample_preparation_details crush 1/4 core, riffle 150g subsample & stage pulverise to 80% -38 micron
H0800 Assay_code        XRF      GRAV
H0801 Assay_company     ALS
H0802 Assay_description Iron ores by fusion/XRF, LOI@1000C, FeO by titration, Davis Tube Recovery (DTR) on 20g
H0900 Remarks "na = not assayed nd = not detected assay_type H = head assay (1m & 2m combined intervals) C =
H1000 Hole_ID Depth_From Depth_To assay_type DTR_mass_recovery Al2O3 As Ba CaO
H1001 metres metres % % % % % % % % % % %
H1002 weight XRF XRF XRF XRF XRF XRF XRF XRF XRF XRF XRF
H1003 0.001 0.01 0.001 0.001 0.01 0.001 0.001 0.001 0.001 0.001 0.001 0.01
D DDHSC1 161.7 162 H na 5.83 0.007 nd 5.52 0.034 nd nd 0.004 22.04
D DDHSC1 162 163 H na 0.71 0.005 nd 3.59 0.018 nd nd nd 14.76
D DDHSC1 163 164 H na 1.62 0.004 nd 4.79 0.047 nd nd nd 22.27
D DDHSC1 164 165 H na 2.35 0.003 nd 4.78 0.057 nd nd nd 30.51
D DDHSC1 165 166 H na 2.11 0.005 0.017 4.47 0.030 nd nd nd 19.04
D DDHSC1 166 167 H na 2.21 0.006 nd 12.65 0.037 nd nd nd 16.34
D DDHSC1 167 168 H na 2.06 0.004 nd 2.90 0.037 nd nd nd 24.97
D DDHSC1 168 169 H na 1.78 0.004 nd 5.05 0.050 nd nd nd 26.58
D DDHSC1 169 170 H na 1.48 0.004 nd 7.28 0.031 nd nd nd 24.37
D DDHSC1 170 171 H na 3.20 0.006 nd 4.41 0.028 nd nd nd 17.76
D DDHSC1 171 172 H na 5.65 0.010 nd 3.19 0.021 nd nd 0.003 15.86
D DDHSC1 172 173 H na 13.20 0.005 0.029 0.27 0.006 nd 0.001 0.008 8.84
D DDHSC1 173 174 H na 11.65 0.008 0.023 1.52 0.007 nd 0.003 0.013 12.90
D DDHSC1 174 175 H na 5.34 0.007 nd 6.04 0.015 nd nd 0.004 16.11
D DDHSC1 175 176 H na 2.17 0.005 nd 10.60 0.019 nd nd nd 20.79
D DDHSC1 176 177 H na 1.72 0.003 nd 9.80 0.023 nd nd 0.001 20.92
D DDHSC1 177 178 H na 2.11 0.004 nd 7.72 0.035 nd nd nd 16.92
    
```

nd = not detected  
na = not assayed

Check with Lab:  
If nd is below the limit of detection replace it with <0.001 etc.

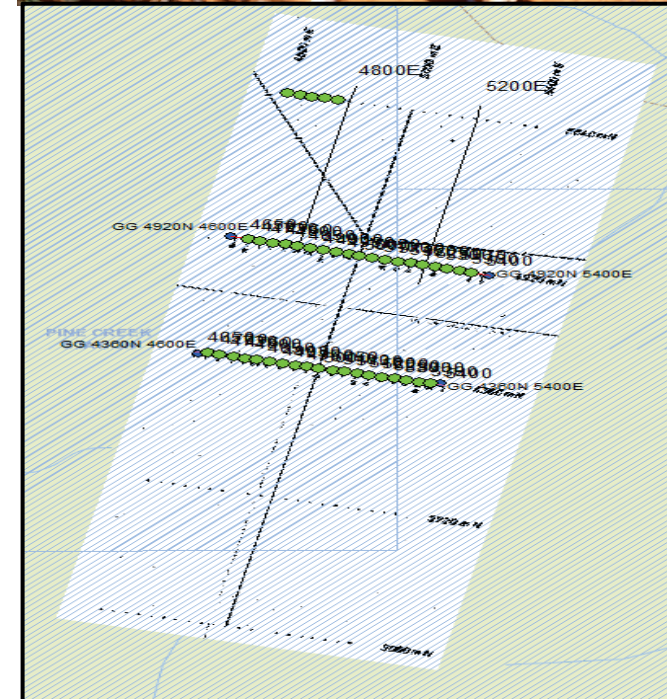
For na : delete na and leave the cells blank

Missing: Sample ID from Core Library

# Historic drillholes and associated data

## Data review on your tenements and finding historic drillholes not captured on SARIG

1. Using SL1 template follow all requirements to fill in the header section:
  - a. Tenement number under which these historic drillholes were drilled (e.g. EL1111) – do not add your current active EL number to historic drillholes
  - b. Tenement Holder and Tenement Operator at that time (e.g. Utah Exploration)
  - c. Type of drilling
  - d. Final depth, azimuth, dip
  - e. Envelope number
2. For coordinates:
  - a. If the legacy data uses different coordinate systems, convert all coordinates to a standardised system for consistency (GDA2020). This is crucial for integration with modern mapping technologies and compatibility with other datasets.
  - b. Specify if the drillholes were georeferenced from existing plans and historic envelopes, or the coordinates were obtained from using GPS in the field – specify which GPS was used and accuracy of measurements.
3. Using DG1 template for geochemistry results



# Checklist Collar File

- ✓ Use the correct template SL1 for collar file
- ✓ Tenement holder, Tenement operator
- ✓ Tenement number (s)
- ✓ Project name
- ✓ 250k mapsheet number
- ✓ Drilling method(s); rig type(s)
- ✓ Surveying instrument
- ✓ Drillhole(s) name(s) ; number of records
- ✓ MGA coordinates (zone, datum – GDA2020)
- ✓ Commencement and completion date for each drillhole
- ✓ Declination and azimuth
- ✓ Collar elevation
- ✓ Final depth
- ✓ Status, Prospect name
- ✓ Other relevant information (e.g. basement intersection; water table; precollar depth, sample recovery, target commodity etc.)



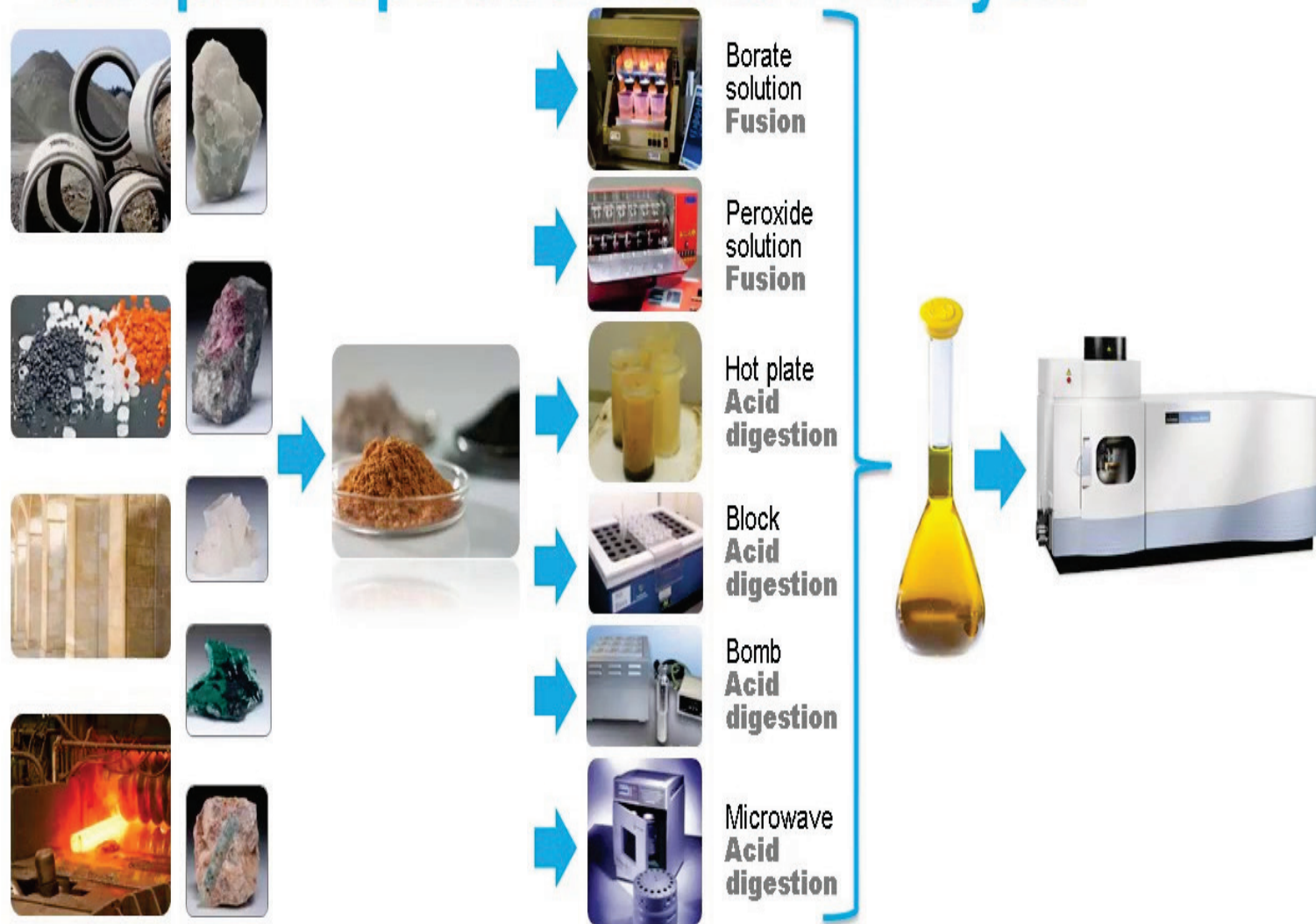


# Checklist Downhole Geochemistry



- ✓ Use the correct template DG1 for downhole geochemistry
- ✓ Tenement holder, Tenement operator
- ✓ Tenement number (s)
- ✓ Project name
- ✓ 250k mapsheet number
- ✓ Number of records
- ✓ Laboratory name(s)
- ✓ Laboratory report number(s) - Job no, batch number(s)
- ✓ Sample code and type
- ✓ Drillhole(s), Sample ID, intervals, elements/compounds assayed
- ✓ Units, detection limits
- ✓ Laboratory method code with sample preparation and analytical method description

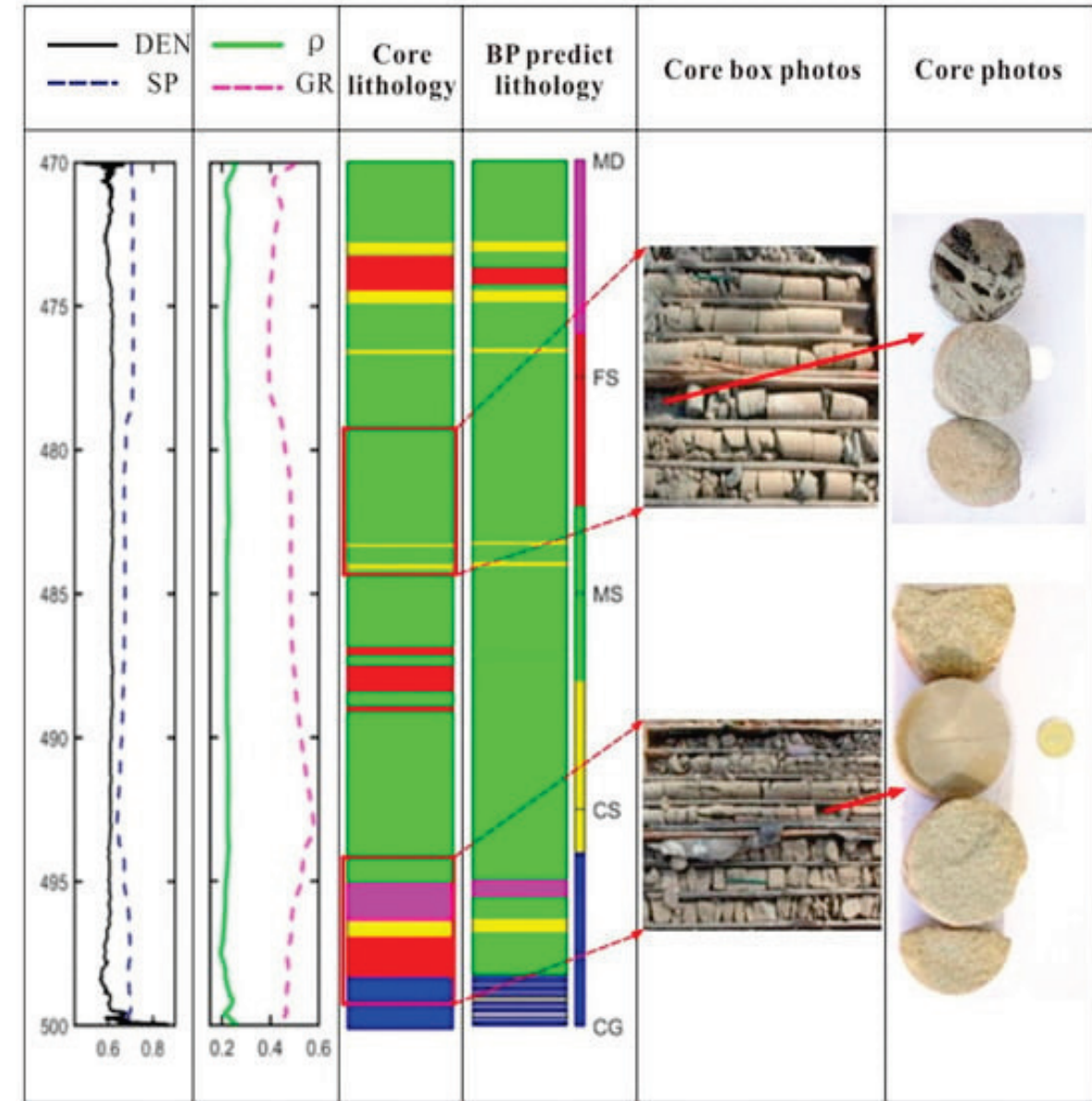
## Sample Preparation for ICP Analysis



# Checklist Downhole Lithology Logs



- ✓ Use the correct template DL1 for downhole geochemistry
- ✓ Tenement holder, Tenement operator
- ✓ Tenement number (s)
- ✓ Project name
- ✓ 250k mapsheet number
- ✓ Number of records
- ✓ Hole ID, interval – depth from, depth to
- ✓ Major lithology, confidence (?)
- ✓ Minor lithology, confidence (?)
- ✓ Mandatory to include Rock Description for each interval logged, avoid abbreviations. Records can't be created without lithology description.
- ✓ Other information: colour, vein, alteration, weathering, oxidation, texture, porosity etc. can be included.
- ✓ Always provide a list with the lithology/geology codes used



CG- conglomerate, CS- coarse sandstone, MS- medium sandstone, FS- fine

# Checklist Surface Geochemistry/pXRF

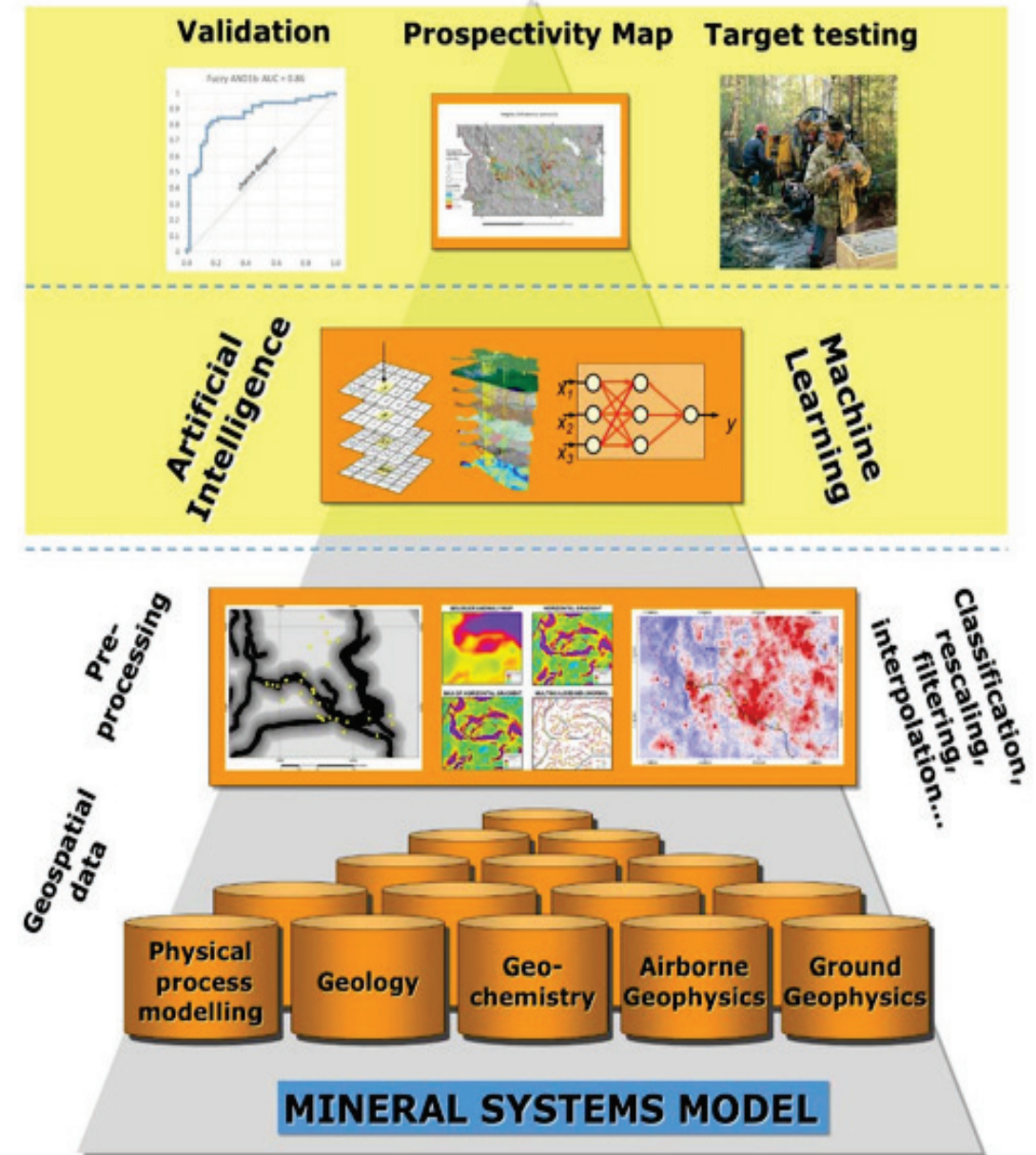
- ✓ Use the correct template SG1 for surface geochemistry
- ✓ Tenement holder, Tenement operator
- ✓ Tenement number(s)
- ✓ Project name
- ✓ 250k mapsheet number
- ✓ Number of records
- ✓ Laboratory method code with sample preparation and analytical method description
- ✓ MGA coordinates (zone, datum – GDA2020)
- ✓ Laboratory name(s)
- ✓ Laboratory report number(s) - Job no, batch number(s)
- ✓ Sample code and type
- ✓ Location, Zone, GPS, elements/compounds assayed
- ✓ Units, detection limits, accuracy



# Summary

- Templates for submission of digital data have been updated following NSW style and we recommend to use them for all tenements in South Australia. They will be available on DEM website.
- If you are a tenement manager for multiple companies in South Australia, inform your clients and share the updated templates
- Use check list for each file to avoid delay in processing and validation of your data and ATR
- Do not use templates from other states as they have slightly different requirements
- Keep consistency with data submission to avoid duplication or entering wrong results
- Check with DEM and our database team if need more information about the templates and which one to use for your data

**Thank you!**



# Disclaimer

The information contained in this presentation has been compiled by the Department for Energy and Mining (DEM) and originates from a variety of sources. Although all reasonable care has been taken in the preparation and compilation of the information, it has been provided in good faith for general information only and does not purport to be professional advice. No warranty, express or implied, is given as to the completeness, correctness, accuracy, reliability or currency of the materials.

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# Geophysical data submission

## Mineral exploration reporting

Philip Heath, Principal Geophysicist

May 2024

[energymining.sa.gov.au](http://energymining.sa.gov.au)



# Acknowledgement

As guests on Aboriginal land, the Department for Energy and Mining acknowledges everything this department does impacts on Aboriginal country, the sea, the sky, its peoples, and the spiritual and cultural connections which have existed since the first sunrise. Our responsibility is to share our collective knowledge, recognise a difficult history, respect the relationships made over time, and create a stronger future. We are ready to walk, learn and work together.

We also acknowledge that the Gawler Phase 2 (GP2) - Next Generation Mineral Systems Mapping project was carried out on Native Title land. We commend the efforts put forward by the Antakirinja Matu-Yankunytjatjara Aboriginal Corporation (AMYAC) board towards land access discussions and Traditional Owners (TOs') who worked with us during the survey for heritage protection and cultural safety.





# MG13

<https://sarigbasis.pir.sa.gov.au/WebtopEw/ws/samref/sarig1/image/DDD/MRGMG13.pdf>



# From MG13

## Report examples:



## 4.2.3 Geophysics

Describe the airborne and ground-based geophysical exploration (excluding downhole surveys which should be addressed under drilling, Section 4.2.6). Where appropriate, the following should be included.

### 4.2.3.1 Airborne surveys (excluding remote sensing)

Within the text/appendixes of the report include:

- Standard scale maps (as per Section 4.3.2) showing survey locations and flight lines, together with any cultural features which may affect results (e.g. power lines).
- Processed data map(s) tied to a nationally recognised map grid (MGA2020 (GDA2020) preferred) and at the same scales as other presented maps (e.g. geological map) to enable easy comparison.
- Details of data processing techniques used.
- Interpretations of results – discussions of what constitutes an anomaly, and the relation of anomalies to geochemistry, geology and drilling results.
- Separate reports on the results and interpretations of surveys as an appendix.
- Specifications of surveys and instruments (as below) so that another operator can extend or reinterpret the survey:
  - survey specifications – survey type, date, contractor, parameters recorded, instruments used, line orientation, line and tie spacing and, where applicable, mean terrain clearance and aircraft type
  - instrument specifications – instrument type, design, power, units of measurement (preferably SI), order of accuracy and mode of recording data (i.e. analog or digital)
  - other information – conversion factors for units outside the SI system, data on terrain conditions, nature of the ground, quality of electrical contacts, and extent of drifts (to aid in any extension or reinterpretation of the survey).
- Survey company logistics report detailing data acquisition operations and processing.
- All drift/diurnal/tie corrections applied, and calibration constants and null values defined.
- Calibration parameters and procedures, and any quality control data.



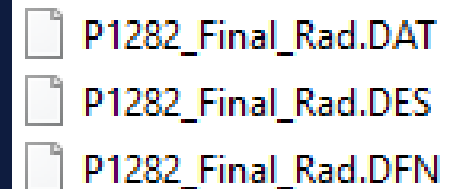
# From MG13

As digital files accompanying the report (as per the *Australian requirements for the submission of digital exploration data*) include:

- field data (Australian Society of Exploration Geophysicists, ASEG, GDF2 format or fixed column ASCII with a header)
- gridded data (ER Mapper format)
- final located data (ASEG GDF2 format or fixed column ASCII with a header)
- survey company logistics report detailing data acquisition operations and processing
- 256 channel radiometrics data where acquired.

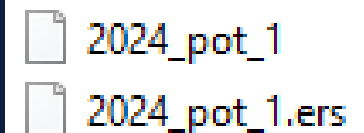
Airborne surveys that cover more than one tenement are to be submitted as one complete survey (including original raw data as received from the survey company, and survey company logistics report). Attach a covering letter stating **all tenement numbers the survey covers**.

ASEG-GDF2 example:



P1282\_Final\_Rad.DAT  
P1282\_Final\_Rad.DES  
P1282\_Final\_Rad.DFN

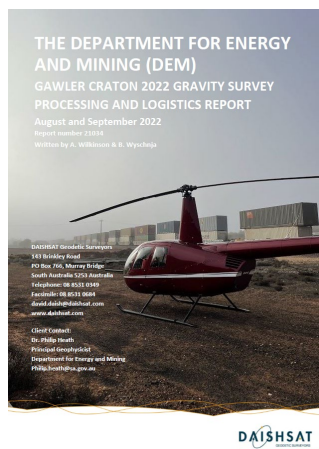
ER Mapper example:



2024\_pot\_1  
2024\_pot\_1.ers

# From MG13

## Reports:



## Example gravity file (part):

	A	B	C	D	E	F	G
1	Pt	Line	Stn	Date	Day	Time	GDA94_La
2	6701	0	6701	#####	234	10:22:55	-26 32 56.8
3	6701	0	6701	#####	234	10:25:31	-26 32 56.8
4	6701	0	6701	#####	234	16:27:23	-26 32 56.8
5	6701	0	6701	#####	234	16:30:57	-26 32 56.8
6	20014640	2001	4640	#####	234	12:11:34	-26 35 13.3
7	20014640	2001	4640	#####	234	16:07:17	-26 35 13.3
8	20014645	2001	4645	#####	234	12:24:28	-26 35 11.7

...

### 4.2.3.2 Gravity surveys

Within the text/appendixes of the report include:

- Located basic data (tabulated or as line profiles), including station number, latitude/longitude or MGA2020 position (specify datum – GDA2020 preferred), AHD elevation, observed gravity (specify datum) and terrain correction (if calculated).
- Processed data map(s) tied to a nationally recognised map grid (MGA2020 (GDA2020) preferred) and at the same scales as other presented maps (e.g. geological map) to enable easy comparison.
- Standard scale maps (as per Section 4.3.2) showing survey location, gravity station position and base station position.
- Survey company logistics report detailing data acquisition operations and processing.
- Base station information – details of base stations established/used should include:
  - name (e.g. isogal station)
  - location (i.e. latitude/longitude or easting/northing; specify datum – GDA2020 preferred)
  - observed gravity value used to tie into national gravity network (specify datum)
  - method of tie to control (i.e. 'ABABA')
  - description of locality, including sketch map and description of monumentation (photos are often useful).
- If a floating grid, i.e. not tied into the national network, then provide:
  - base station assumed gravity value
  - description of locality, including sketch map and description of monumentation (photos are often useful).

# From MG13

## 4.2.3.3 Other geophysical surveys – including those conducted using a drone platform

Within the text/appendixes of the report include:

- Standard scale maps (as per Section 4.3.2) showing survey locations, traverse lines and/or stations, together with any cultural features which may affect results.
- Processed data map(s) tied to a nationally recognised map grid (MGA2020 (GDA2020) preferred) and at the same scales as other presented maps (e.g. geological map) to enable easy comparison.
- Details of data processing techniques used.
- Interpretations of results – discussions of what constitutes an anomaly, and the relation of anomalies to geochemistry, geology and drilling results.
- Separate reports on the results and interpretations of surveys as an appendix.
- Specifications of surveys and instruments (as below) so that another operator can extend or reinterpret the survey:
  - survey specifications – survey type, date, contractor, parameters recorded, instruments used, line orientation, line and tie spacing, and station spacing
  - instrument specifications – instrument type, design, power, units of measurement (preferably SI), order of accuracy and mode of recording data (i.e. analog or digital)
  - other information – conversion factors for units outside the SI system, data on terrain conditions, nature of the ground, quality of electrical contacts, and extent of drifts (to aid in any extension or reinterpretation of the survey).
- Survey company logistics report detailing data acquisition operations and processing.
- All corrections applied, and calibration constants and null values defined.
- Calibration parameters and procedures, and any quality control data.

- IP
- Resistivity
- Ground mag
- Ground rad
- Ground EM
- GPR
- MT
- Passive seismic

# From MG13

As digital files accompanying the report (as per the *Australian requirements for the submission of digital exploration data*):

- field data (ASEG GDF2 format or fixed column ASCII with a header)
- gridded data (ER Mapper format)
- final located data (ASEG GDF2 format or fixed column ASCII with a header).

All geophysical survey data (including airborne surveys) should be submitted with the **annual technical report**. Digital data must conform with requirements as outlined by the *Australian requirements for the submission of digital exploration data*.



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