



MINERAL & COAL DIGITAL DATA SUBMISSION STANDARDS 2011

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1 BACKGROUND

The minerals exploration industry in New Zealand generates a vast amount of geo-scientific and resource information each year. New Zealand Petroleum & Minerals, as a business unit within the Ministry of Economic Development, is responsible for the collection, preservation and dissemination of all statutory information submitted by permit operators. This duty makes a significant contribution to promoting effective and efficient mineral exploration.

Acknowledgement: Much of the technical information in this document is sourced from guidelines produced by the Australian Government Geoscience Information Committee (GGIC, formerly GGIPAC) for use in Australian Federal and State reporting guidelines. The Chief Government Geologists through GGIC have developed a National Standard in regards to mineral and petroleum exploration reporting. These standards include guidelines in relation to the submission of digital data.

2 LEGISLATION

The statutory information in accordance with Section 90 of the [Crown Minerals Act 1991](#) and the [Crown Minerals \(Minerals & Coal\) Regulations 2007](#).

Schedule 4 of the Crown Minerals (Minerals and Coal) Regulations 2007 states the information that must be included in reports on surveys undertaken in respect of prospecting, exploration or mining permit.

These regulations also establish format requirements (Part One, 8 to 11) by specifying that ***Documents must be provided to the Secretary electronically***, so as to achieve three broad objectives:

- to maximise the amount of digital data submitted to New Zealand Petroleum & Minerals
- to maximise usefulness of statutory digital data released to open file
- to minimise costs associated with acceptance, storage and release of digital information.

The intention of this document is to define the statement “*acceptable to the Secretary*” by detailing the preferred formats and compilation process to ensure that all critical metadata is captured and supporting data is included.

It is anticipated that this document will be reviewed annually by New Zealand Petroleum & Minerals and therefore provide an opportunity to amend and update formats/media to encompass the impact of any new and relevant technologies.

3 TECHNICAL REPORT AVAILABILITY

All information supplied by a permit operator under the Crown Minerals Act 1991 and relevant regulations is held confidential by New Zealand Petroleum & Minerals until one of the following occurs:

- the expiry of five years after the date on which the information was obtained by the permit holder; or
- the permit in respect of which the information was obtained and every subsequent permit in respect of that permit ceases to be in force.

We have implemented stringent processes to ensure the security of all confidential data.

At the end of the period of confidentiality all material becomes publicly available and can be freely accessed by explorers thus ensuring that exploration efforts are not duplicated and new models can be developed on the basis of earlier data.

Paper based collections have been scanned and made available for free downloading via the [New Zealand Petroleum & Minerals website](#). We anticipate this will be greatly enhanced by the uptake of digital lodgement.

4 ARCHIVAL PRACTICE

In the past technical reports have been submitted to New Zealand Petroleum & Minerals in both paper and digital formats and are archived differently.

Paper: stored and preserved by Ministry of Economic Development in accordance with the Public Records Act 2002 and as designated by the Chief Archivist.

Digital: managed by New Zealand Petroleum & Minerals using recognised digital archiving principles:

- monitoring the condition of the media upon which the data is stored to ensure long term integrity is maintained
- transcribing to new high density media before the old media deteriorate and reading equipment/drives become obsolete
- maintaining backup and disaster recovery strategies for digital data and applications
- providing environmental storage conditions as recommended by global standards.

5 SUBMISSION REQUIREMENTS

The standards have been designed to allow the future user maximum flexibility and ensure that critical metadata and supporting data such as authority / look-up tables are included. The issue of metadata is by far the most critical for digital data. In the past, companies submitted the metadata as part of the text of a printed report – the current Standard specifies that critical metadata are included in the “header” of the real data. The objective of including the metadata with the "real" data is to remove the reliance on having to search for other data packages (i.e. the report plus the digital data) to build a complete set of data.

While there are many data types used in industry that can be presented in digital form, seven common types have been identified as requiring templates to assist in the submission of digital data:

- **SL1 Data files for drill collars:** a format providing all necessary data involved in hole collar locations
- **SG1 Data files for surface geochemistry:** a full format allowing the inclusion of geographical location information along with the assay data.
- **DG1 Data files for downhole geochemistry:** is designed for the submission of either down-hole analysis or surface geochemistry results where a variable elevation (z component) is included (e.g. vertical channel sampling in a mine pit).
- **QG1 Data files for geochemistry QA/QC:** is designed to capture analyses of standards, duplicates and blanks of the surface or downhole samples in a separate file.
- **DS1 Data files for downhole surveys:** used for submission of down hole deviation survey data.
- **DL1 Data files for lithological logging data:** used for downhole lithology descriptions.
- **VL1 file verification listing:** a listing of all digital files in the exploration report.

Further details of these templates can be found in Appendices 1 and 2.

5.1 Technical report content

All digital text based reports of any kind should retain the well established structure and sequence of hardcopy (paper) reporting and must include the following information.

A title page that contains:

- the permit number
- the name of the permit holder (operator)
- the title of the report
- the author of the report
- the date of the report.

A detailed contents page listing:

- all figures, tables and plates
- all plans, maps, figures and any other attachments
- any appendices such as additional reports and tabular data

Copies of journal extracts or any published items should only be included if the author owns the copyright for the work. Otherwise copyright-protected material should be fully referenced with standard bibliographic information.

5.2 Data types

Table 1. Acceptable formats for digital reporting

Data Type	Description (examples only)	Format	Parameter	Suffix
Tabular Data	Point locations, geochemistry, heavy mineral, uphole data, velocity data, drilling data	Tab delimited ASCII	Standard as described in sections 5.2.1 and appendices 1 and 2	.txt
Report text	Documents, figures etc.	Portable Document Format (PDF)	Converted to text based PDF (i.e. not image based) from original digital version where possible. Document security method to be set to "No Security and preferably bookmarked.	.pdf
Maps, plans (including mine plans), figures and photos not embodied in report text	Files of maps, plans, Mine plans figures, core photographs, aerial photographs etc.	PDF (preferred)	As above	.pdf
		GEOTIFF/TIFF (colour)	Reproducible at 300 dpi, 24 bit	.tif
		JPEG	Q>95 reproducible at 300 dpi	.jpg
		GIF	8 bit	.gif
		PNG		.png
GIS data (including GIS layers used to construct Mine Plans)	GIS vector data	MapInfo tables ESRI shapefiles XML/GML	Must be accompanied by metadata describing the spatial reference system (Datum and projection if applicable). Only include data to which the Author owns copyright.	.tab + support files .shp + support files .xml
	GIS raster data (see also remotely sensed image formats)	ASCII grid ER Mapper JPEG GEOTIFF/TIFF		.asc .ecw / .ers .jpg (jgw) .tif (.tfw)
GIS projects	GIS project files	ESRI map documents	Data included in same directory as project file, or	.mxd .pmf

Data Type	Description (examples only)	Format	Parameter	Suffix
		MapInfo World files	organised into logical subdirectories. Links to data based on relative pathnames. Only include data to which the author owns copyright.	.wor
Geophysics (other than seismic)	Raw and processed located data, gridded data, magnetics, radiometrics, EM, DTM and gravity data	ASEG GDF2 ASEG GXF ER Mapper grid XML (including schema) GEOTIFF (real value)	Raw data should be accompanied by any observation logs and any ancillary data such as sound velocity profiles, calibration data etc	.gdf .gfx .grd, .ers .xml, .xsd .tif
Geophysical processing and other remotely sensed images	Images derived from geophysical/remote sensing surveys, e.g. TMI, Bouguer radiometrics, Landsat 5 or 7	GEOTIFF/TIFF (colour) GEOTIFF/TIFF (greyscale) Compressed ER Mapper JPEG GIF PDF PNG	Reproducible at 300 dpi, 24 bit Reproducible at 300 dpi, 8 bit Best quality (least lost) Quality as above 8 bit	.tif .tif .ecw .jpg .gif .pdf .png
Seismic data	Raw and Processed data	SEG Y SEGD		.sgy .sgd
	Navigation data	UKOOA P1/90 3D Bin Grid		.uka
	Stacking velocities	Western format		.wgf
	Processed sections	CGM, CGM+ format with metadata (line number, shotpoint number, ...) Geophysical Image formats as above		.cmg .tif, .jpg, .gif, .pdf, .png
Petrophysical and geophysical log data	Raw and processed wireline and MWD or LWD log displays	DLIS LIS LAS Delimited ASCII (format must be explained) WELLOGML (POSC standard)		.dlis .lis .las .asc

Data Type	Description (examples only)	Format	Parameter	Suffix
	Log plots	Adobe Acrobat TIFF (colour) TIFF (greyscale) JPEG GIF PNG	See section 5.2.2 Quality as above Quality as above Quality as above 8 bit	.pdf .tif .tif .jpg .gif .png
	Processed down-hole velocity data	SEG Y, preferably Rev.1		.sgy
3D mine and resource models	3D mine model data	Proprietary formats accepted until such time as industry or international formats adopted	Components of a mine model can be submitted as GIS files.	.asc .dxf, .dwg .grd, .ers .xml, .xsd
Video clips	Fly-throughs, ground truthing etc	Video standards MPEG AVI MP4 3GP	Preferred format MPEG, proprietary formats accepted until such time as industry or international standards are developed.	.mpg .avi .mp4 .3gp

5.2.1 Tabular data

This data includes point locations, geochemistry and drilling data. Data will be submitted as tab delimited ASCII files with a suffix of .txt. File format details are provided in Appendix 1.

The required file format for tabular data is a “flat file” rather than a “relational file” system. This allows more flexibility in the format and also reduces the need for relational keys between files. However, some datasets (particularly drill logs incorporating lithological, geochemical, structural and other data such as authority/lookup tables) may have to be submitted as a series of “linked flat files”, appropriately documented.

This format has been chosen because of its wide acceptance in industry as a standard format, the ease of creation from other formats, the availability of free software to read the files and its ability to be searched for words or phrases.

Where industry standards exist such as SDTS, UKOOA and ANZLIC they should be adhered to.

Where a local grid has been used, nationally recognised coordinates must be included in the data as well as the original local grid coordinates (refer 5.2.5).

Where lithology coding has been used a lithology coding dictionary must be provided.

Where assay data is included the original lab report must be appended to the PDF report.

5.2.2 Report text

The digital format for text reports and any appendices is Portable Document Format (PDF) in a version compatible with currently supported versions of Adobe Acrobat. This must be a text based not image based PDF. In most cases operators will need to convert the text from the native format (WORD, EXCEL etc) to PDF format. The report text (including table of contents) and any figures, tables, graphs, small maps or plans (up to A3, 420 x 297mm) that form part of the report should be embedded into a single PDF. Avoid use of any non-standard fonts as viewers of the documents may not have all the required fonts; Arial and Times Roman are usually the safe options.

The report should be bookmarked to reflect the contents page/pages and to assist navigation through the document. Links and references inside reports to external plans and images must clearly identify the title of the external reference. Supporting maps, plans and figures too large to include in the body of the main report must be referenced inside the report and must be submitted along with the report in the same directory as the PDF. The document security method must be set to "No Security so that a Bibliographic reference with the assigned report number can be inserted at the front of the document by New Zealand Petroleum & Minerals.

This format has been chosen because of its wide acceptance in industry as a standard format, the ease of creation from other formats, the availability of free software to read the files and its availability to be searched for words or phrases.

The commercial version of Adobe Acrobat is normally used to create PDF files however [cutepdf](#) provides free software which can convert documents to pdf.

5.2.3 Maps, plans, figures not embodied in Reports

Where it is not practical to include maps, plans and figures within a report they should be included in separate PDF or supported image format.

PDF's should be created from the original plot file. Where this is not possible due to PDF format limitations images could be left in their native form as either GEOTIFF/TIFF (colour) or JPEG (colour and greyscale).

5.2.4 Photographs and images not embodied in report text

Minimum resolution for photographs and images is 300dpi at their original scale. PDF is the preferred format for non-spatial images whilst geotiff is the preferred format for spatially referenced images.

Spatially referenced aerial photographs should be accompanied by spatial referencing information (see 5.2.5) either embedded in the image format or provided separately in the form of a world file. ***In all cases metadata describing the spatial reference system used must be supplied.***

5.2.5 Datum's and projections

GIS and location based data must be accompanied by metadata including a description of the spatial reference system used. Where a local exploration or mine grid has been used coordinates must also be provided in terms of an official datum or projection approved by the surveyor general and not solely in terms of a local exploration or mine grid.

Approved datum's include NZGD2000 and WGS84. NZGD49 will be accepted until such time as NZGD2000 is widely established as the industry standard.

Approved projections include New Zealand Transverse Mercator and New Zealand Geodetic Datum 2000 Meridional Circuits or a recognised international standard projection based on an approved datum. New Zealand Map Grid will be accepted until such time as it is no longer an established industry standard.

5.2.6 GIS data and projects

Currently, no one international standard exists for data in GIS format. However, the preferred formats for vector data are ESRI shape files (SHP), XML and MapInfo tab files (TAB). Where practical the symbology of the GIS displayed data should be provided (e.g. ESRI's layer files (LYR) or legend file (AVI) or for MapInfo's workspace file (WOR)).

GIS data must be accompanied by metadata (see Appendix 1 section 1). NZ spatial standards are currently being developed and the requirements will adhere with these standards in the future.

<http://www.linz.govt.nz/rcs/linz/pub/web/root/core/Topography/ProjectsAndProgrammes/geospatialmetadata/index.jsp>

GIS project files enable spatial data layers to be displayed in context to one another and constitute valuable tools for analysing the spatial relationship of information helping with the assessment of activities against work programme obligations. Where projects are submitted data must be included in the same directory as the project file, or organised into logical subdirectories. Links to the data must be based on relative pathnames so that they function even when the entire project and data are copied to another location.

Data submissions and projects must only include data to which the author owns copyright.

5.2.7 Geophysics and remotely sensed images

These are primarily derived from geophysical surveys and include TMI and Bouguer images. ***The submission of images does not exempt permit operators from submission of the geophysical data from which the images were derived.*** Other imagery includes satellite, multispectral scanner and orthoimagery. Sufficient information should be provided to allow correct spatial registration of images.

5.2.8 Geophysical data (other than seismic)

This data includes magnetic, gravity, radiometric and electromagnetic (including TEM, SIROTEM and airborne EM) surveys. For raw located data (i.e. corrected line data), the standard ASEG GDF2 format is required. For processed located data (i.e. gridded data) ASEG GXF or ER Mapper gridded data format is required.

For all ground based geophysical surveys the field notes collected must be appended to the survey report.

Much of the reference information required will be in the acquisition report which should be lodged with the data. Please note that acquisition reports must state all pertinent survey details such as line number, sample position, terrain clearance etc.

A processing report must also be submitted detailing each processing step taken including all corrections applied.

All original data files provided to the permit holder by the contractor must be submitted including the acquisition report.

5.2.9 Petrophysical and geophysical log data

Raw and processed wireline and MWD data should be submitted in DLIS, LIS, LAS, delimited ASCII formats or WELLOGML (POSC standard) formats. Composite logs, mudlogs and wireline plots should not be paginated, but submitted as a continuous plot in PDS, PDF or TIFF format.

Processed downhole velocity data should be submitted in SEG Y format.

5.2.10 Seismic data

International standards exist for seismic data and compliance with the following formats is required

Raw data – SEG D or SEG Y

Processed data – SEG Y

Navigation data – UKOOA P1/90

Processed sections – CGM or CGM+ complete with side panel information with the line number included within the file name. Other geophysical image formats are acceptable as listed in Table 1.

5.2.11 3D mine and resource models

Permit operators need to provide:

- Sufficient files and associated files to regenerate the models.
- Details of software and version used
- Model extents in NZTM and/or latitude/longitude
- Local Grid transformation data if required
- Model points, lines and surfaces preferably as ASCII .dxf files however other proprietary formats will continue to be accepted.

5.2.12 Video clips

Until such time as there are industry or international standards, proprietary formats will be accepted. Preferred formats are MPEG, MP4, 3GP and AVI.

5.3 Acceptable media

Choice should be appropriate to the volume of data submitted

- E-mail (files less than 10Mb)
- CD-ROM, no multisession, read only
- DVD-ROM, no multisession, read only
- DLT Tape
- LTO Tape
- External Hard Drive
- USB Memory stick

A digital copy of the digital data submitted should be kept by the permit operator for at least one year to cover the possibility of data corruption in transferring the data to New Zealand Petroleum & Minerals. **Media will not be returned to the permit operator.**

5.4 Acceptable language

Report text and data will be only accepted in English.

5.5 Media labelling

The media (disc/tapes) submitted must be labelled with the following information both on the disc/tape itself and on the cover:

- company name
- project/survey name
- permit number
- year
- table of contents if space permits.

5.6 Submission contents

All data submissions are to include a list of all the files included in the submission see template 7 in Appendix 2. This should take the form of a table of contents in ASCII format listing the contents of each data submission and should be included either on the media along with the data or supplied on separate media with the submission. For every file or folder (where a directory structure is used to aggregate common data types) the listing should contain:

- filename or Folder name
- short description of file or folder content
- data format.

Where space permits the listing should be included on or inside the media cover.

6 Data Delivery Address

Data submissions are to be delivered to:

Data Submission
New Zealand Petroleum & Minerals
PO Box 1473
Wellington

Or if the total files size of the data submission is less than 10 Mb it can be emailed as an attachment to:

nzpam@med.govt.nz

Subject: Data submission and relevant permit number

7 GLOSSARY

Abbreviation	Description	Used as
ALF	Airborne Laser Fluorescence	Geophysical technique
ANZLIC	Australia & New Zealand Land Information Committee	Organisation (see http://www.anzlic.org.au/)
ASCII	American Standard Code for Information Interchange	International Standard
AVO	Amplitude Versus Offset	Seismic technique
CDP	Common Depth Point	Seismic expression
CGM	Concatenated Graphics Metafile	File type
CMP	Common Mid Point	Seismic expression
DLIS	Digital Logging International Standard	International standard
EDCDIC	Extended Binary Coded Decimal Interchange Code	International standard
GDF2	General Data Format (Version 2)	National Standard
GEOTIFF	Geo-referenced Tagged Image File Format	File type
GIF	Graphics Interchange Format	File type
GML	Geography Markup Language	International standard
GXF	Grid Exchange Format	International standard
IP	Induced Potential	Geophysical technique
JPG, JPEG	Joint Photographic Experts Group	File type
LAS	Log ASCII Standard	International industry standard
LIS	Logging International Standard (binary format)	International industry standard
MWD	Measurement While Drilling	Logging technique
OGC	Open GIS Consortium	Organisation (see http://www.opengis.org)
P1/90	Navigation data standard format	International standard
PDF	Portable Document Format	File type
PDS	Schlumberger log file	File type
PNG	Portable Network Graphics	File type
POSC	Petrotechnical Open Software Consortium	Organisation (see http://www.posc.org)
PPDM	Public Petroleum Data Model	International standard database Model
SAR	Side Aperture Radar	Geophysical technique

Abbreviation	Description	Used as
SDTS	Spatial Data Transfer System	International standard
SEG	Society of Exploration Geophysicists	Organisation
SGML	Standard Generalized Markup Language	International standard
SP	Spontaneous Potential	Geophysical technique
TEM	Transient ElectroMagnetics	Geophysical technique
TIF, TIFF	Tagged Image File Format	File Type
TMI	Total Magnetic Intensity	Geophysical measurement
TWT	Two Way Time	Geophysical measurement
UKOOA	United Kingdom Offshore Operators Association	International organisation
UTM	Universal Transverse Mercator	/ map projection
VSP	Vertical Seismic Profile	Geophysical technique
XML	Extensible Markup Language	International standard
XMML	Exploration and Mining Markup Language	Standard under development by CSIRO

Appendix 1 Metadata and Templates

1. Metadata

Metadata are defined as "data about data" and should provide sufficient information about a dataset for it to be used again. The standard recommended by ANZLIC for metadata should be used where appropriate. However, some data require more information for intelligent use, and some data require specific metadata covered under other international standards.

Metadata are to be presented in a file header at the top of the file of related tabular Data. Details of the metadata file headers ("templates") are in the following sections.

The header templates are also available to download from the New Zealand Petroleum & Minerals website at

www.nzpam.govt.nz/cms/minerals/legislation

2. File Header Format

The required file header format has a generic numbering format for flexibility. The file header will be TAB delimited ASCII, The main rules with these file headers are:

1. The header record/line identifier (e.g. "H0100") and descriptor (e.g. "Permit_no") are mandatory for data supplied and will be placed in the first and second field positions respectively in each header record/line. Exceptions are the H1000 series in which only the header record/line identifiers appear, followed by the header data fields.
2. Header data fields will be delimited and allow for several separate pieces of information for each header type where necessary.
3. Numbering within a category will be consecutive.
4. Where a header row is not relevant to the type of data in the file, it should be omitted, e.g. H0800 series (assay information) and H1002 (assay code) would be omitted from a file of type SL1.

Users may add specific data fields in addition to the mandatory fields, to the data section of any appropriate template file. This will necessitate addition of header fields to the appropriate records of the H1000 series, corresponding to the additional data fields.

Table 2 Metadata file header information

Header Number	Header Field Title	Examples of Values
H0001	Date_generated	15.10.2010
H0002	Reporting_period_end_date	30.09.2010
H0100	Permit_Number	EP55555
H0101	Permit_Operator	Kereru Mining
H0102	Project_name	Rua
H0103	Prospect_name	Cathedral
H0104	Region	Coromandel
H0200	Start_date_of_data_acquisition	01.09.2010
H0201	End_date_of_data_acquisition	30.09.2010
H0202	Template_format	SL1
H0203	Number_of_data_records <i>(in this file)</i>	7
H0204	Date_of_metadata_update	15.10.2010
H0300	Related_data_filenames	<i>Label only, no data in this record</i>
H0301	Location_data_file	EP55555_2009_DrillCollars.txt
H0302	Downhole_lithology_data_file	EP55555_2009_Lithologs.txt
H0303	Downhole_geochem_data_file	EP55555_2009_DownholeGeochem.txt
H0304	Downhole_survey_data_file	EP55555_2009_DownholeSurveys.txt
H0305	Surface_geochem_data_file	EP55555_2009_SurfaceGeochem.txt
H0306	Lithology_code file	EP55555_2009_LithologyCodes.txt
H0307	Alteration data file	EP55555_2009_Alteration_data_file.txt
H0308	Other_data_file <i>(name appropriate to content)</i>	EP55555_2009_Variant_data_file.txt
H0309	Other_data_file <i>(name appropriate to content)</i>	EP55555_2009_Variant_data_file.txt
H0400	Drill_code <i>(All drilling codes used should be stated here. Where more than one type of drilling is used, an additional column stating the drilling type must be included in the H1000 and D series, i.e. identifying each row of data as applying to a particular drilling type.)</i>	RAB ACR DIA
H0401	Drill_contractor <i>(Drilling contractor used. If more than one, they should also be included in the H1000 and D series, i.e. identifying each row of data as applying to a particular driller.)</i>	Drill Faster Pty Ltd Drill Well Pty Ltd

H0402	Description <i>(Describe the drilling codes in the order they are shown in the H0400 record, with code/description paired and items separated by the standard delimiter.)</i>	RAB Rotary air blast ACR Aircore DIA Diamond bit – coring
H0500	Feature_type	Hole_collar
H0501	Geodetic_datum	NZGD2000
H0502	Vertical_datum <i>(If an arbitrary vertical datum has been used then this must be stated.)</i>	AHD
H0503	Coordinate_system <i>[Geographic Projected]</i>	Projected
H0504	Projection <i>(Detailed as at right for a projected coordinate system, “None for a geographic coordinate system.)</i>	NZTM
H0505	Surveying_instrument <i>(Where more than 1 instrument applicable to this particular template file is used, an additional column stating the instrument type must be included in the H1000 and D series, i.e. identifying each row of data as applying to a particular survey method.)</i>	GPS Differential Generic GPS Survey Grade
H0506	Surveying_company	Super Surveying Pty Ltd
H0600	Sample_code	DC CT CS
H0601	Sample_type <i>(Sample source type code/description pairs, in the order they are shown in the H0600 record.)</i>	DC Drill core CT Drill cuttings CS Core sludge
H0602	Sample_description <i>(Describe field and prelab dispatch sampling methods)</i>	Quarter core Half splits of cuttings
H0700	Sample_preparation_code <i>(Codes used for laboratory sample preparation for assaying.)</i>	S031
H0701	Sample_preparation_details <i>(Lab sample preparation code/description pairs. Where more than one laboratory is specified in H0801, list sample prep details in order of H0801 lab listing, assuming one sample prep. method per laboratory. If more than one sample preparation method per laboratory, results should be presented in separate files.)</i>	S031 Fine pulverise to 75μm
H702	Job_no <i>(Laboratory job number. Where more than one laboratory is used, show job numbers in the order</i>	G37215 ADL20406

	<i>corresponding to the laboratories in H0801.)</i>	
H0800	Analysis_code <i>(All laboratory assay codes used should be stated in the metadata. Where more than one type of assay is used the assay code must also be included in the H1002 row.)</i>	FA50 IC587
H0801	Analysis_company <i>(Lab code/name pairs, name including location. Where more than one laboratory is used, each laboratory name should be preceded by an abbreviation code which is then used in the H1007 record to identify assay_code against laboratory.)</i>	PLP Panea Laboratories, Auckland CAL Capital Laboratories, Wellington
H0802	Analysis_description <i>(Analysis code/description pairs, in order of codes specified in H0800.)</i>	FA50 Aqua regia digest, Fire assay determination IC587 HClO4 + HNO3 + HF digest, Inductively coupled plasma mass spectrometry determination
H0900	Comments <i>(Free text comments and remarks, enclosed in quotes.)</i>	“Various general comments, remarks, observations etc.
<i>H1000 onward</i>	<i>Note that, in the H1000 series, the record name is not shown after the H1nnn designator. Each record passes directly into field names, units etc.</i>	
H1000	<i>(Data field names)</i>	Xcoordinate Au SiO2 Zn
H1001	<i>(Units of measure for each dimensioned field –ensure that a delimiter is present as a placeholder for fields where this is null)</i>	metres ddd.ddddddddmmss.sss ppm %
H1002	<i>(Assay_code - specify for each analyte)</i>	FA50
H1003	<i>(Lower detection limit as units specified in H1001)</i>	0.01
H1004	<i>(Accuracy - specify for each dimensioned field using the units in H1001)</i>	0.01
H1005	<i>(Upper detection limit as units specified in H1001)</i>	1000
H1006	<i>(Preferred assay indicator (P) for preferred assay where several values are presented for a single sample, null for others. The preferred assay field should also be the first listed for that analyte.)</i>	P
H1007	<i>(Assay_company_ID: where more than one laboratory is used, a code specified in H0801 identifies assay_code against laboratory.)</i>	PLP

D	(Data)	

3. Description of File Templates for Tabular Data

All headers require the “Field type, e.g. “H0100”, to appear in the first field of each header row to enable transcription software to upload the metadata correctly.

All data records are to contain the character “D” in the first field to allow transcription software to distinguish data from metadata on upload.

An end of file marker “EOF” must immediately follow the last data record as the final line of the file.

Table 3 Templates

Template	Data Type	Mandatory dependant/related Templates	Dependent/related templates	Appendix 1 Examples
SL1	Surface point locations, drill collars		DG1, DL1, DS1 <i>(when downhole data collected)</i>	Example 1
SG1	Surface geochemistry		Lithology_code_file <i>(when lithology is specified for each sample)</i>	Example 2
DG1	Downhole geochemistry	SL1	Lithology_code_file <i>(when lithology is specified for each sample)</i>	Example 3
QG1	QA/QC file for capturing laboratory/field duplicates, standards and blanks.	SG1 &/or DG1		Example 4
DS1	Downhole directional survey	SL1		Example 5
DL1	Downhole lithological logs	SL1 Lithology_code_file		Example 6
VL1	File verification listing			Example 7

SL1: Surface point locations, drill collars

Drillhole collar and sample point locations require the additional parameters of **geodetic datum, coordinate system, projection and spatial accuracy** to ensure completeness, unambiguity and longevity of data. Detailed explanations of these concepts are available from a number of sources, and are outside the scope of this document.

H1001 should include the datum for the azimuth as a suffix to the units of measurement, i.e. _M (Magnetic) or _T (True).

SG1: Surface geochemistry

A complete file of surface geochemistry contains both location and assay data and will therefore require metadata on both the spatial and analytical components. Spatial metadata are treated as in the SL1 header template. The H0600, H0700 and H0800 series contain metadata related to sample collection, preparation and analysis respectively. H1002, H1003, H1005, H1006 and H1007 are brought into use for analytical metadata.

The H0800 record should contain the assay method code as specified by the laboratory, rather than that used by the client. Description of each analytical method in H0802 should specify sample digestion as well as final analytical determination method.

When an assay result for a particular analyte is below detection limit, it should be shown in the data record as zero "0", not detected "nd", or the negative of the detection limit e.g. "-10".

When an analyte was not assayed for a particular sample, it should be shown in the data record as null or not assayed "na".

Each file must be consistent in its usage of "below detection limit and "not assayed".

QA/QC data (laboratory/field duplicates, standards, blanks) should be included in a separate QA/QC file. See QG1 below.

DG1: Downhole geochemistry

Downhole geochemical data files require sample location data and metadata to be provided in separate files, i.e. in the SL1 file. In the DG1 file, only the drillhole identifier, sample code, downhole interval and assay data are provided for each sample in the data records, with pointers to the relevant SL1 file.

If downhole lithological logs (DL1) are not presented, it is recommended that the lithology of each sample be specified as an extra data field in the DG1 file.

QA/QC data (laboratory/field duplicates, standards, blanks) should be included in separate QA/QC file. See QG1 below.

QG1: QA/QC file for capturing laboratory/field duplicates, standards and blanks.

It is considered that in addition to the metadata covering analytical method, laboratory, sample preparation, units of measure, and upper and lower detection limits, all of which are required in the various geochemistry templates, inclusion of analytical results of named standards as well as results of analyses of duplicate samples and blanks will assist in evaluating the quality of the data

The QG1 Template has the same structure and metadata as the Geochemistry files (SG1 & DG1) but will include:

- Lab Job Number – as provided by analytical laboratory,
- QAQC type:
 - FDup = field duplicate submitted to laboratory
 - LDup = duplicate generated and reported by laboratory,
 - Standard = General and certified standards, and
 - Blank = Laboratory blanks
- Standard ID – name of standard be it certified a general standard, and
- Duplicated Sample Number (original sample number for field duplicate),

DS1: Downhole directional survey

H1001 should include the datum for the azimuth as a suffix to the units of measurement, i.e. _M (Magnetic) or _T (True).

DL1: Downhole lithological logs

Only the drillhole identifiers, depth intervals and lithological data are provided in this file, with pointers to the relevant SL1 file and lookup / authority / validation / namespace files. In most cases, lithologies are presented as abbreviation codes. A delimited ASCII file showing abbreviation code against full lithology name must be provided if this is the case, [Lithology_code_file](#).

VL1: File verification listing

APPENDIX 2

EXAMPLES

In Examples 1 to 7, fields in **bold** are mandatory and fields in *italics* are recommended

Example 1. SL1 Template 1. Surface locations. Example shows drilling using multiple drilling methods.

Filename EP55555_2010_DrillCollars.txt

```

H0001 Date_generated 15.10.2010
H0002 Reporting_period_end_date 30.09.2010
H0100 Permit_number EP55555
H0101 Permit_operator Kereru Mining
H0102 Project_name Rua
H0103 Prospect_name Cathedral
H0104 Region Waikato
H0200 Start_date_of_data_acquisition 01.09.2010
H0201 End_date_of_data_acquisition 30.09.2010
H0202 Template_format SL1
H0203 Number_of_data_records 7
H0204 Date_of_metadata_update 15.10.2010
H0300 Related_data_filenames
H0301 Location_data_file EP55555_2009_DrillCollars.txt
H0302 Downhole_lithology_data_file EP55555_2009_LithoLogs.txt
H0303 Downhole_geochem_data_file EP55555_2009_DownholeGeochem.txt
H0304 Downhole_survey_data_file EP55555_2009_DownholeSurveys.txt
H0400 Drill_code RAB DIA
H0401 Drill_contractor Drill Faster Pty Ltd Drill Well Pty Ltd
H0402 Description RAB Rotary Air Blast DIA Diamond Bit - Coring
H0500 Feature_located Hole_collar
H0501 Geodetic_datum WGS84
H0502 Vertical_datum AHD Arbitrary RL500 Nominal
H0503 Coordinate_system Geographic
H0504 Projection None
H0505 Surveying_instrument GPS Multi Base Wide Area Differential
H0506 Surveying_company Super Surveying Pty Ltd
H1000 Hole_ID Xcoordinate Ycoordinate Zcoordinate Maxdepth Collar_azimuth Collar_inclination Drill_code
H1001 ddmsss.sss ddmsss.sss metres metres degrees degrees
H1004 0.001 0.001 0.5 0.1 1 1
D RD01 1350804.553 -302927.212 243.5 88.6 0 -90 RAB
D RD/DD02 1350806.376 -302933.853 230.0 120.4 275 -73 RAB,DIA
D RD03 1350809.987 -302938.002 211.5 35.3 0 -90 RAB
D RD04 1350811.701 -302940.066 181.5 225.0 0 -90 RAB
D RD/DD05 1350815.552 -302943.949 279.0 186.6 36 -82 RAB,DIA
D DD06 1350816.153 -302948.508 222.0 105.4 0 -90 DIA
D RD07 1350818.454 -303050.351 211.5 12.5 0 -90 RAB
EOF

```

Example 2. SG1 Template 2. Complete surface geochemistry.

Filename EP55555_2010_SurfaceGeochem.txt

The example includes all methods of specifying "below detection limit or "not assayed ; files actually submitted must be consistent in usage of "below detection limit or "not assayed designators.

```

H0001 Date_generated          15.10.2010
H0002 Reporting_period_end_date 30.09.2010
H0100 Permit_number          EP55555
H0101 Permit_Operator        Kereru Mining
H0102 Project_name           Rua
H0103 Prospect_name          Cathedral
H0104 Region                  Waikato
H0200 Start_date_of_data_acquisition 01.09.2010
H0201 End_date_of_data_acquisition 30.09.2010
H0202 Template_format        SG1
H0203 Number_of_data_records 7
H0204 Date_of_metadata_update 15.10.2010
H0300 Related_data_filenames
H0305 Surface_geochem_comp_data_file EP55555_2009_SurfaceGeochem.txt
H0306 Lithology_code_file      EP55555_2009_LithologyCodes.txt
H0500 Feature_type            Surface_location
H0501 Geodetic_datum          NZGD2000
H0502 Vertical_datum          AHD Arbitrary RL500 Nominal
H0503 Coordinate_system       Projected
H0504 Projection              NZTM
H0505 Surveying_instrument    GPS Averaged Position
H0506 Surveying_company       Super Surveying Pty Ltd
H0600 Sample_code             RO SS
H0601 Sample_type             RO Rock outcrop / float SS Stream sediment
H0602 Sample_description      2kg grab samples Screened -80# ASTM 500g samples split to 250g for lab dispatch
H0700 Sample_preparation_code S031 R040
H0701 Sample_preparation_details S031 Pulverise to 50um R040 Tungsten steel ring mill pulverise to 70 um
H0702 Job_no                  ADL12345 02A1234
H0800 Analysis_code           FA3 IC587 AAS1
H0801 Analysis_company        PLP Phlogiston Laboratories, Perth AAL Aardvark Laboratories, Adelaide
H0802 Analysis_description     FA3 Aqua regia digest, fire assay / carbon rod determination IC587 HClO4+HNO3+HF digest, inductively coupled
plasma mass spectrometry determination AAS1 HClO4+HNO3+HF digest, atomic absorption spectrometry determination
H1000 Sample_ID              Sample_code  Lithology  Xcoordinate  Ycoordinate  Zcoordinate  Au      Au      Ca      Cu      Pb      Zn
H1001                      metres      metres      metres
H1002                      FA3      AAS1      IC587      IC587      IC587      IC587
H1003                      1        10       10       10       10       10
H1004                      10       20       0.1      1        1        10       5        5        5
H1005                      10000   500000   500000   200000   200000   200000
H1006                      P
H1007                      PLP      AAL      PLP      PLP      PLP      PLP
D      A111          RO      GRDI      512920    6626810   240     12      15      125000  75      15      30
D      A112          RO      SLST      513000    6626230   230     0       0       11420   10      0       10
D      A113          SS      514970    6625540   210     2       nd      1530   nd      nd      10

```

D	A114	SS		511110	6623680	180	4	-10	3770	15	10	25
D	A115	SS		513160	6625880	270	76	50	18460	30	85	160
D	A116	RO	LMST	513320	6624990	220				55	30	65
D	A117	RO	GBRO	513280	6624250	220	na	na	na	10	10	20
EOF												

Please note that site description and samples description are also recommended fields for this template. Due to page size restrictions these have not been shown here. The digital template examples found at www.nzpam.govt.nz/cms/minerals/legislation show how these fields can be added and used in this template.

Example 3. DG1 Template 3. Downhole geochemistry.

Filename EP55555_2010_DownholeGeochem.txt.

```

H0001 Date_generated          15.10.2010
H0002 Reporting_period_end_date 30.09.2010
H0100 Permit_number          EP55555
H0101 Permit_operator        Kereru Mining
H0102 Project_name           Rua
H0103 Prospect_name          Cathedral
H0104 Region
H0200 Start_date_of_data_acquisition 01.09.2010
H0201 End_date_of_data_acquisition 30.09.2010
H0202 Template_format        DG1
H0203 Number_of_data_records 7
H0204 Date_of_metadata_update 15.10.2010
H0300 Related_data_filenames
H0301 Location_data_file     EP55555_2009_DrillCollars.txt
H0303 Downhole_geochem_data_file EP55555_2009_DownholeGeochem.txt
H0600 Sample_code            DC CT CS
H0601 Sample_type            DC Drill core CT Drill cuttings CS Core sludge
H0602 Sample_description     Quarter core Half splits of cuttings Approx 100g sample of sludge
H0700 Sample_preparation_code S031 R040
H0701 Sample_preparation_details S031 Pulverise to 50um R040 Tungsten steel ring mill pulverise to 70 um
H0702 Job_no                  ADL12345 02A1234
H0800 Analysis_code          FA3 IC587 AAS1
H0801 Analysis_company       PLP Phlogiston Laboratories, Perth AAL Aardvark Laboratories, Adelaide
H0802 Analysis_description   FA3 Aqua regia digest, fire assay / carbon rod determination IC587HClO4+HNO3+HF digest,
inductively coupled plasma mass spectrometry determination AAS1 HClO4+HNO3+HF digest, atomic absorption spectrometry determination
H1000 Hole_ID                Depfrom      Depto      Sample_ID  Sample_code  Au      Au      Ca      Cu      Pb      Zn
H1001                      metres      metres
H1002                      FA3      AAS1      IC587      IC587      IC587      IC587
H1003                      1         10        10         10         10         10
H1004                      0.1       0.1       1         1         10         5         5         5
H1005                      10000     500000    500000    200000    200000    200000
H1006                      P
H1007                      PLP      AAL      PLP      PLP      PLP      PLP
D      RD111                12        14        A111      CT        12        15        125000    75        15        30
D      RD111                14        16        A112      CT        nd        nd        11420     10        nd        10
D      RD111                16        18        A113      CT        2         nd        1530     nd        nd        10
D      DD112                123.4     123.5     A114      DC        4         nd        3770     15        10        25
D      DD112                120.0     121.0     A115      CS        76        50        18460    30        85        160
D      DD112                273.0     273.7     A116      DC        na        na        na        55        30        65
D      DD112                354.6     355.1     A117      DC        na        na        na        10        10        20
EOF

```

Example 4: DG1 Template 3 Downhole Geochemistry

Filename EP55555_2010_CoalQuality.txt.

```

H0001 Date_generated          15.10.2010
H0002 Reporting_period_end_date 30.09.2010
H0100 Permit_number          EP55555
H0101 Permit_operator        Kereru Mining
H0102 Project_name           Rua
H0103 Prospect_name          Cathedral
H0104 Region                  Coromandel
H0200 Start_date_of_data_acquisition 01.09.2010
H0201 End_date_of_data_acquisition 30.09.2010
H0202 Template_format        DG1
H0203 Number_of_data_records 7
H0204 Date_of_metadata_update 15.10.2010
H0300 Related_data_filenames
H0301 Location_data_file     EP55555_2009_DrillCollars.txt
H0600 Sample_code            PLY
H0601 Sample_type            PLY Coal Ply
H0602 Sample_description     Approx 100g sample of Coal ply
H0700 Sample_preparation_code ASTM D2013
H0701 Sample_preparation_details ASTM D2013 Air dried and crushed
H0702 Job_no                 ADL12345 02A1234
H0800 Analysis_code          P      U
H0801 Assay_company          PLP Phlogiston Laboratories, Perth AAL Aardvark Laboratories, Adelaide
H0802 Analysis_description    Proximate and Ultimate analysis
H1000 Hole_ID Sample_ID FROM TO INT SAMPLE_TYPE Sulphur Swelling Moisture Volatiles Ash Fixed_Carbon
H1001      metres metres metres
H1002
H1003      0.1 0.1 0.1 0.1 0.1 0.1
H1004      0.1 0.1 0.1 0.1 0.1 0.1
H1005      100 100 100 100 100 100
H1006
H1007      PLP AAL PLP PLP PLP PLP
D RD111 B11-01 111.45 111.75 0.30 PLY 0.27 1 2.5 27.9 55 27.9
D RD111 B11-02 111.75 112 0.25 PLY 0.26 0.5 1.3 25.5 56.7 25.5
D RD111 B11-03 112 111.20 0.20 PLY 0.58 8.5 1.2 37.6 39.9 37.6
D DD112 B11-01 110.25 111.75 0.50 PLY 0.46 4.5 0.9 26.8 54.3 26.8
D DD112 B11-02 110.75 111 0.25 PLY 0.46 5 1.0 33.5 47.7 33.5
D DD113 B11-01 268.45 268.6 0.15 PLY 0.94 4 1.2 28.0 52.4 28
D DD113 B11-02 268.6 268.75 0.15 PLY 0.75 1 0.8 38.3 39.3 31.2
EOF

```

Example 5: QG1 Template 4. QA/QC file for geochemistry.

Filename EP55555_2010_QAQC_Geochem.txt

```

H0001 Date_generated          15.10.2010
H0002 Reporting_period_end_date 30.09.2010
H0100 Permit_no              EP55555
H0101 Permit_operator        Kereru Mining
H0102 Project_name           Rua
H0103 Prospect_name         Cathedral
H0104 Region
H0200 Start_date_of_data_acquisition 01.09.2010
H0201 End_date_of_data_acquisition 30.09.2010
H0202 Template_format       DG1
H0203 Number_of_data_records 7
H0204 Date_of_metadata_update 15.10.2010
H0300 Related_data_filenames
H0301 Location_data_file     EP55555_2009_DrillCollars.txt
H0303 Downhole_geochem_data_file EP55555_2009_DownholeGeochem.txt
H0600 Sample_code            AC
H0601 Sample_type            AC      Chips
H0602 Sample_description     1mChipsamples
H0700 Sample_preparation_code S031
H0701 Sample_preparation_details S031 Pulverise to 50um
H0702 Job_no                 S20058 S20059
H0800 Analysis_code          AR      BLEG
H0801 Analysis_company        PLP PhlogistonLaboratories, Perth AAL Aardvark Laboratories, Adelaide
H0802 Analysis_description    AR Aqua regia atomic absorption; BR Bulk cyanide leach extractable gold
H0900 Remarks                na-sample not assayed, below level of detection indicated by a minus sign.
H1000 LAB job No      Sample_ID  QAQC_Type  QAQC_descrp  Original_Sample  Ag      As      Au      Au1     Au2     Zn
H1001                ppm      ppm      ppm      ppm      ppm      ppm
H1002                AR      AR      AR      AR      BLEG    AR
H1003                0.1    5      1      1      1      1
H1006
H1007                PLP    PLP    PLP    AAL    AAL    PLP
D      S20058      123456      Ldup      0.1    -5     1     15    na     25
D      S20058      123467      Ldup      0.1    -5     4     10    na     20
D      S20058      StandKG1    127921    ST      20     100   10    1530  12     500
D      S20059      127928      Fdup      127940    0.1    -5     2     15    na     200
D      S20059      127969      Fdup      128144    0.1    -5     1     30    na     25
D      S20059      BL      -0.1    -5     -1    10    -1    -1
D      S20059      ST      StandBB1  25     300   10    10    10    300
EOF

```

Example 6. DS1 Template 5. Downhole directional survey.

Filename EP55555_2009_DownholeSurveys.txt

```
H0001 Date_generated          15.10.2010
H0002 Reporting_period_end_date 30.09.2010
H0100 Permit_number          EP55555
H0101 Permit_operator        Kereru Mining
H0102 Project_name           Rua
H0106 Region                  Cathedral
H0200 Start_date_of_data_acquisition 01.10.2010
H0201 End_date_of_data_acquisition 30.09.2010
H0202 Template_format        DS1
H0203 Number_of_data_records  4
H0204 Date_of_metadata_update 15.10.2010
H0300 Related_data_filenames
H0301 Location_data_file     EP55555_2009_DrillCollars.txt
H0304 Downhole_survey_data_file EP55555_2009_DownholeSurveys.txt
H0532 Surveying_instrument   Eastman multishot camera
H0533 Surveying_company      Drill FASTER Pty Ltd
H1000 Hole_ID                Depth  Inclination  Azimuth
H1001                      metres degrees  degrees_M
H1004                      0.1    0.1          0.1
D      DD112                 10.0   -89.9        285.2
D      DD112                 120.0  -87.3        276.0
D      DD112                 275.0  -82.1        273.4
D      DD112                 445.3  -79.7        268.9
EOF
```

Example 7. DL1 Template 6. Downhole lithological logs.

Filename EP55555_2009_Lithologs.txt

```

H0001 Date_generated      15.10.2010
H0002 Reporting_period_end_date  30.10.2010
H0100 Permit_number      EP55555
H0101 Permit_operator    Kereru Mining
H0102 Project_name      Rua
H0103 Prospect_name     Cathedral
H0104 Region            Waikato
H0200 Start_date_of_data_acquisiton 01.09.2010
H0201 End_date_of_data_acquisition  30.09.2010
H0202 Template_format   DL1
H0203 Number_of_data_records      7
H0204 Date_of_metadata_update     15.10.2010
H0300 Related_data_filenames
H0301 Location_data_file      EP55555_2009_DrillCollars.txt
H0302 Downhole_lithology_data_file  EP55555_2009_Lithologs.txt
H0306 Lithology_code_file     EP55555_2009_LithologyCodes.txt
H0400 Drill_code             RAB DIA
H0402 Description           RAB Rotary Air Blast DIA Diamond Bit - Coring
H1000 Hole_ID Depfrom Depto Drill_code Recovery Lithology Description
H1001      metres metres      %
H1004      0.1      0.1      5
D      RD111      0      2      RAB      90      SAND      Fine to medium grained sand, red-brown
D      RD111      2      4      RAB      85      SAND, CALC      Fine to medium grained sand 30%, red-brown, with calcrete 70%, off-white to buff
D      RD111      4      6      RAB      80      GRNT      Granite, weathered
D      DD112      123.4      123.7      DIA      100      LMST      Massive limestone with traces of pyrite and chalcopyrite
D      DD112      123.7      136.2      DIA      90      GBRO      Medium and coarse layered gabbro, layers 10 to 50 cm thick
D      DD112      136.2      136.4      DIA      20      FBRC      Clayey, highly weathered fault breccia
D      DD112      136.4      137.7      DIA      100      KOMT      Spinifex-textured komatiite with minor sulphides
EOF

```

Example 8: Sample Hardcopy File Verification Listing

Exploration Work Type	Filename	Format
<i>Office Studies</i>		
Literature search	<i>EL99999_2002_A_01_ReportBody.pdf</i>	pdf
Database compilation		
Computer modelling	EL99999_2002_A_01_ReportBody.pdf	pdf
Reprocessing of data		
General research	EL99999_2002_A_01_ReportBody.pdf	pdf
Report preparation	EL99999_2002_A_01_ReportBody.pdf	pdf
Other (specify)		
Airborne Exploration Surveys		
Aeromagnetics	EL99999_2002_A_03_Aeromag.gdf EL99999_2002_A_04_Aeromag.ecw EL99999_2002_A_05_Aeromag.ecw	<i>gdf, ecw</i>
Radiometrics		
Electromagnetics		
Gravity		
Digital terrain modelling		
Other (specify)		
Remote Sensing		
Aerial photography		
LANDSAT		
SPOT		
MSS		
Radar		
Other (specify)		
Ground Exploration Surveys		
<i>Geological Mapping</i>		
Regional		
Reconnaissance		
Prospect	EL99999_2002_A_02_ProspectGeology.tif	tif
Underground		
Costean		
<i>Ground geophysics</i>		
Radiometrics		
Magnetics		
Gravity		
Digital terrain modelling		
Electromagnetics		
SP/AP/EP		
IP		
AMT		
Resistivity		
Complex resistivity		
Seismic reflection		
Seismic refraction		

Well logging		
Geophysical interpretation		
Other (specify)		
<i>Geochemical Surveying</i>		
Drill sampling	EL99999_2002_A_09_DownholeGeochem.txt EL99999_2002_A_06_DrillCollars.txt	txt
Surface sampling	EL99999_2002_A_10_SurfaceGeochem.txt EL99999_2002_A_11_SurfaceLocations.txt EL99999_2002_A_13_SurfaceGeochem.txt EL99999_2002_A_15_SurfaceLocations.txt	Txt
Other (specify)		Txt
<i>Drilling</i>		
All drilling	EL99999_2002_A_06_DrillCollars.txt EL99999_2002_A_07_DrillCollars.txt EL99999_2002_A_08_Lithologs.txt EL99999_2002_A_12_Lithologs.txt EL99999_2002_A_14_DownholeSurveys.txt EL99999_2002_A_16_LithologyCodes.txt EL99999_2002_A_17_DrillingSummary.txt	Txt
File Verification Listing <i>(this file)</i>	EL99999_2002_A_18_FileListing.txt	Txt

Appendix 3 Checklist

Technical Reports:

- € A title page that contains
 - the permit number
 - the name of the permit holder (operator)
 - the Title of the activity
 - the Author of the activity
 - the Date of the report

- € A detailed contents page listing:
 - all figures, tables and plates
 - all plans, maps, figures and any other attachments
 - any appendices such as additional reports and tabular data

Media Contains:

- € Data successfully transferred to media
- € Annotated on media label
 - Company name
 - Project/survey name
 - Permit number
 - Year
 - Table of content if space permits

Meta Data:

- € Data submissions and projects must only include data to which the author owns copyright.

- € Data submitted must be in the original grid it was collected in. If this is not an official datum or projection approved by the surveyor general converted locations in an approved projection must also be included.

- € Tabular data:
 - ASCII files have been included formatted as in accordance with the Header templates described in Appendices 1 and 2.
 - Lithological code dictionary must be included for deciphering the lithology log.

- € GIS Data:
 - Must be accompanied by metadata describing the spatial reference system (Datum and projection);and
 - Data included in same directory as project file, or organised into logical subdirectories.

- € Geophysical Data:
 - Raw data should be accompanied by any observation logs and any ancillary data such as sound velocity profiles, calibration data etc.
 - A processing report has been supplied.